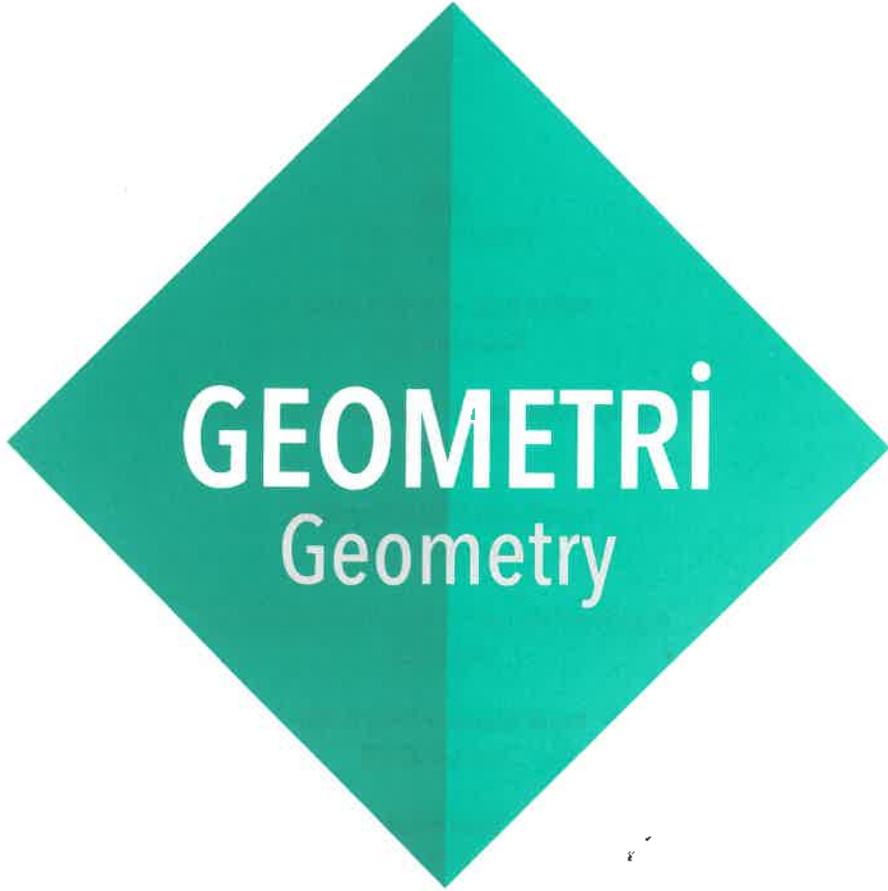


► YÖS



► PUZA YAYINLARI

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ÖNSÖZ

Herhangi bir bilgiyi belleğe sağlıklı olarak yerleştirebilmek için en bilinen ve en çok güvenilen yöntem tekrar yapmaktır. Kısa süreli bellekteki bir bilginin uzun süreli belleğe kaydolup geri çağırımının gerçekleşebilmesi için sistemli tekrar yapmak şarttır. Kitabımızdaki konular bu amaç doğrultusunda soru tiplerine ve özelliklerine göre gruplandırılmıştır. Konuya ait tüm özellikler tek tek ele alınmıştır. Ölçülmek istenen bilgi ile ilgili sorular, farklı açılardan sorularak bilginin pekiştirilmesi sağlanmıştır. Böylece öğrenciler bölümdeki soruların çözülmesi için tüm konunun bitmesini beklemeden öğrenilen soru tiplerinin çözümüne başlayabileceklerdir.

Kitabımızı referans alacak değerli meslektaşlarımız da konunun bitimini beklemeden, konunun anlatılan kısmından öğrencilerine ödev verebileceklerdir. Kitaptaki tüm sorular bilgilerin tümevarım yöntemi ile öğrenilmesi için basit soru tiplerinden karmaşık soru tiplerine adım adım geçiş yapılacak şekilde düzenlenmiştir. Bölüm sonu testlerinde üst düzey analiz gerektiren sorulara yer verilmiştir.

Değerli öğretmenlerimize ve sevgili öğrencilerimize yararlı olması dileğiyle...

Uğur PUZA

FOREWORD

The most confident and well known way to put any kind of information into the memory safely is to repeat. For calling back the recorded information into the long term memory that is actually in the short term memory, systematic repetition is essential. The subjects in our book are classified according to the question types and attributes in parallel to this purpose. All the attributes regarding that topic have been considered one by one respectively.

The questions that are related to the information to be tested, are asked from various points of views to consolidate the information. As a result the students have the chance to start solving questions of all question types directly without waiting for the completion of the chapter for solving the questions. Our colleagues have also chance to give their students homework from the completed part without waiting for the full completion of the related chapter. All questions in the book are organized with the induction method that start with the simpler question types and improve into more complex question types. In the chapter final tests there are also question types that require higher level analysis skills. With our best wishes that this work will be useful to both our teachers and dear students...

Uğur PUZA

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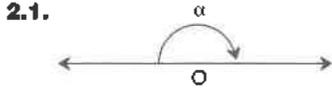


AÇILAR
ANGLES

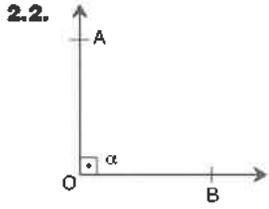
TANIMLAR | Definitions

1.  AB doğrusu (*straight*)
-  [AB ışını (*ray*)
-  [AB] doğru parçası (*line segment*)

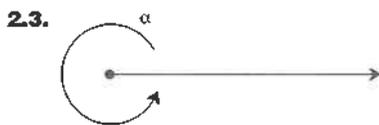
2. AÇI ÇEŞİTLERİ (Types of Angles)



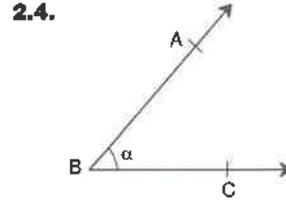
Doğru Açı
Straight Angle
 $\Rightarrow \alpha = 180^\circ$



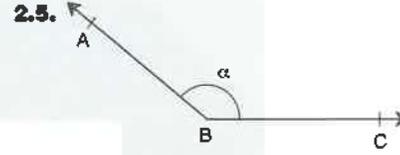
Dik Açı
Right Angle
[OA \perp [OB
 $\Rightarrow \alpha = 90^\circ$



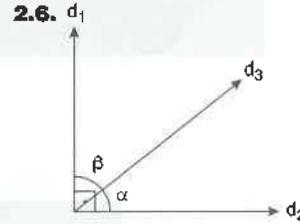
Tüm Açı
Prigon
 $\Rightarrow \alpha = 360^\circ$



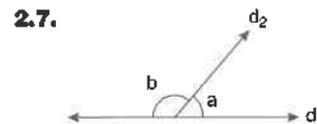
Dar Açı
Acute Angle
 $0^\circ < \alpha < 90^\circ$



Geniş Açı
Obtuse Angle
 $90^\circ < \alpha < 180^\circ$



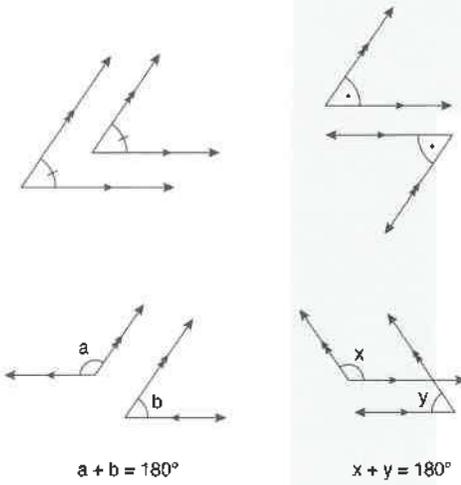
Tümler Açı
(Complementary Angles)
 $d_1 \perp d_2$
 $\alpha + \beta = 90^\circ$



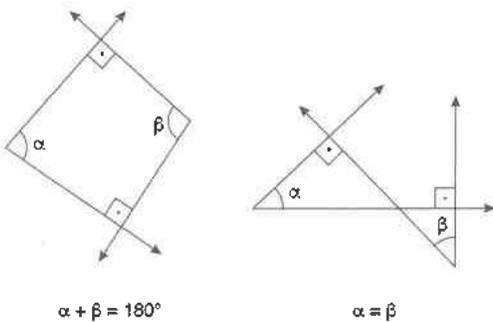
Bütünler Açı
(Supplementary Angles)
 $a + b = 180^\circ$

3.  $d_1 \cap d_2 = \emptyset$
 $d_1 \parallel d_2$ Paralel
 Paralel

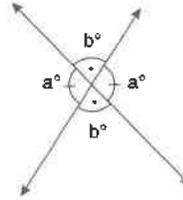
4. Paralel doğrular eş veya bütünlüdür.
 Parallel lines are equal or supplementary angles.

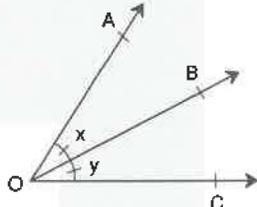


5. Dik doğrular eş veya bütünlüdür.
 Perpendicular lines are equal or supplementary angles.



6. Ters Açılar (Vertically Opposite Angles)

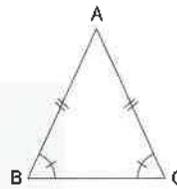


7.  [OB açıortay
 [OB bisector
 $\Rightarrow x = y$

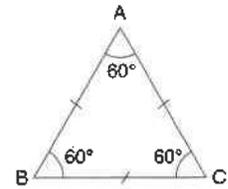
PUZAYYANILARI

8. ÜÇGEN ÇEŞİTLER

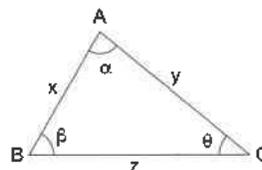
Types of Triangles



İkizkenar üçgen
 (isosceles triangle)



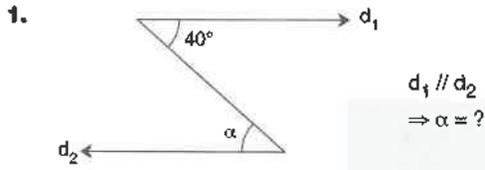
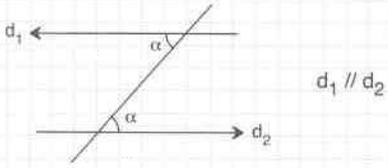
Eşkenar üçgen
 (equilateral triangle)



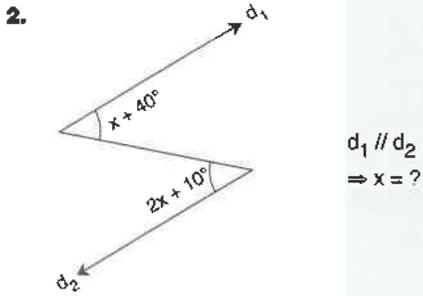
Çeşitkenar üçgen
 (scalene triangle)

$x \neq y \neq z$
 $\alpha \neq \beta \neq \theta$

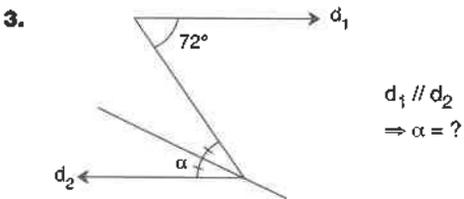
ÖZELLİK | Property 1



40

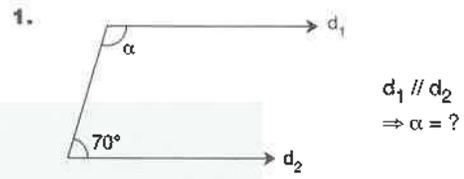
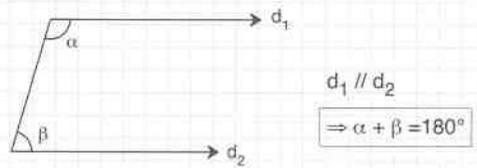


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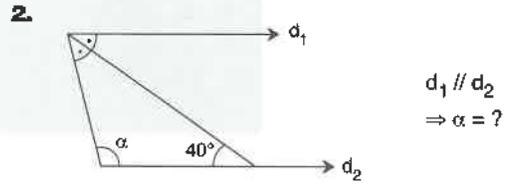


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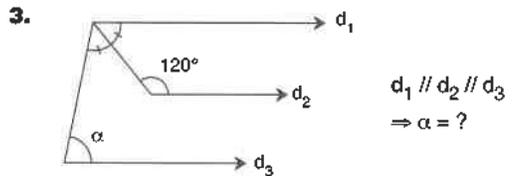
ÖZELLİK | Property 2



110

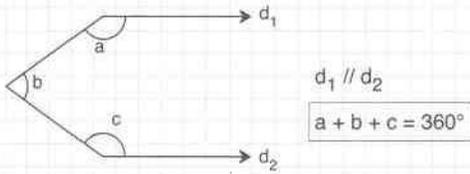


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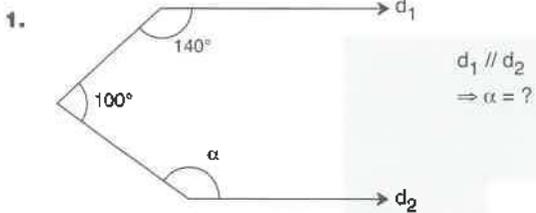
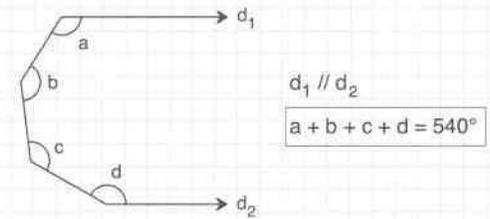


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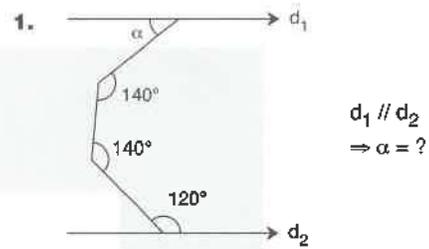
ÖZELLİK | Property 3



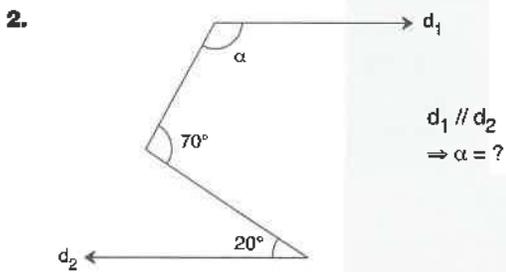
ÖZELLİK | Property 4



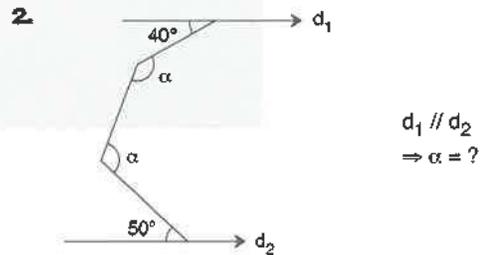
120



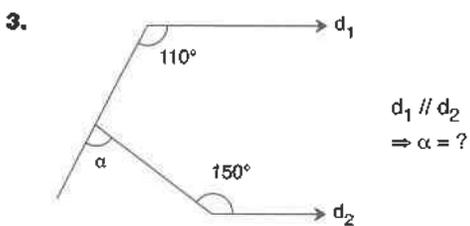
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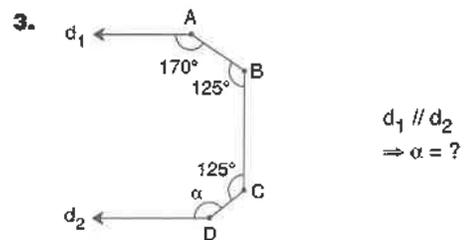
130



135

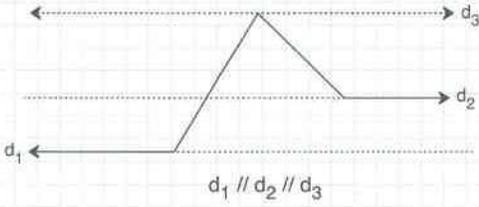


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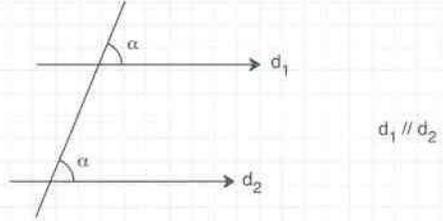


120

ÖZELLİK | Property 5



ÖZELLİK | Property 6



1.

$d_1 // d_2$
 $\Rightarrow \alpha = ?$

1.

$d_1 // d_2$
 $d_3 // d_4$
 $\Rightarrow \alpha = ?$

90

140

PİZA YAYINLARI

2.

$d_1 // d_2$
 $\Rightarrow \alpha = ?$

2.

$d_1 // d_2$
 $\Rightarrow \alpha = ?$

145

80

3.

$d_1 // d_2$
 $\Rightarrow \alpha = ?$

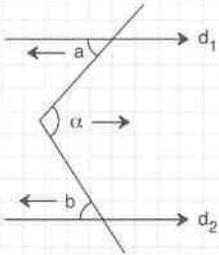
3.

$d_1 // d_2$
 $\Rightarrow \alpha = ?$

150

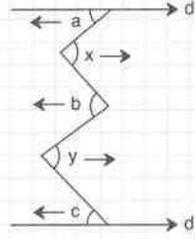
70

ÖZELLİK | Property 7

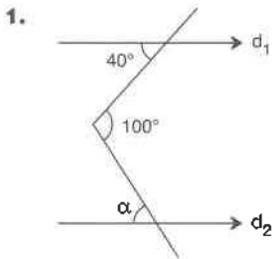


$$d_1 \parallel d_2 \\ \Rightarrow \alpha = a + b$$

ÖZELLİK | Property 8

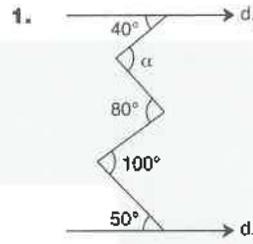


$$d_1 \parallel d_2 \\ a + b + c = x + y$$



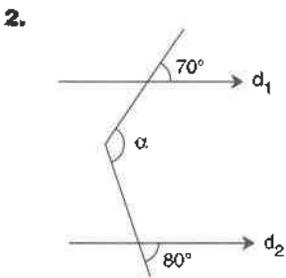
$$d_1 \parallel d_2 \\ \Rightarrow \alpha = ?$$

60



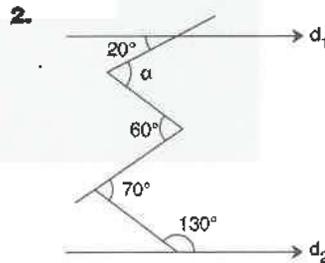
$$d_1 \parallel d_2 \\ \Rightarrow \alpha = ?$$

70



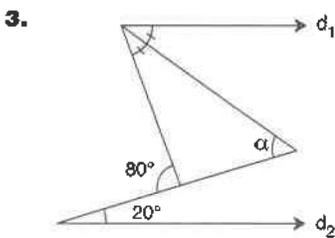
$$d_1 \parallel d_2 \\ \Rightarrow \alpha = ?$$

150



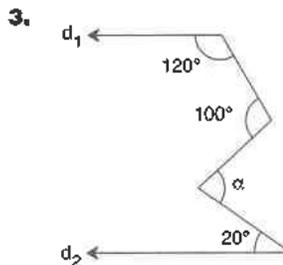
$$d_1 \parallel d_2 \\ \Rightarrow \alpha = ?$$

60



$$d_1 \parallel d_2 \\ \Rightarrow \alpha = ?$$

50

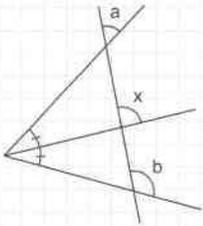


$$d_1 \parallel d_2 \\ \Rightarrow \alpha = ?$$

60

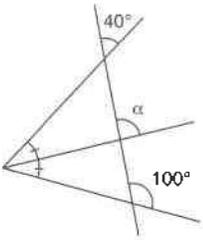
AÇILAR

ÖZELLİK | Property 9



$$x = \frac{a+b}{2}$$

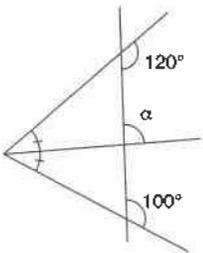
1.



$$\Rightarrow \alpha = ?$$

70

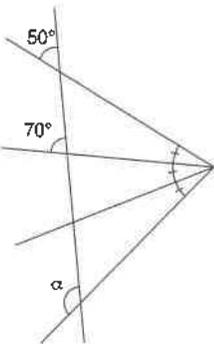
2.



$$\Rightarrow \alpha = ?$$

80

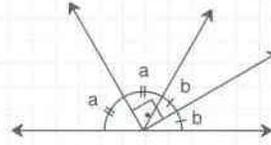
3.



$$\Rightarrow \alpha = ?$$

110

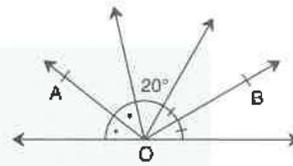
ÖZELLİK | Property 10



$$2a + 2b = 180^\circ$$

$$a + b = 90^\circ$$

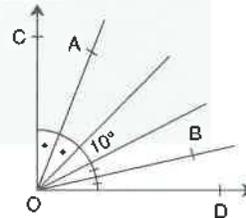
1.



$$\Rightarrow m(\widehat{AOB}) = ?$$

100

2.

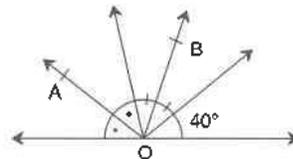


$$[CO] \perp [OD]$$

$$\Rightarrow m(\widehat{AOB}) = ?$$

50

3.



$$\Rightarrow m(\widehat{AOB}) = ?$$

70

ÖRNEK SORU TÜRLERİ | EXAMPLARY QUESTION TYPES

1. $\Rightarrow x = ?$

24

5. $\Rightarrow x = ?$

10

2. $d_1 \parallel d_2$
 $d_3 \parallel d_4$
 $\Rightarrow \alpha = ?$

30

PUZAYAYINLARI

6. $\Rightarrow y = ?$

25

3. $\Rightarrow \alpha = ?$

36

7. $d_1 \parallel d_3$
 $d_2 \parallel d_4$
 $\Rightarrow x = ?$

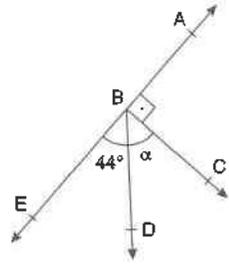
50

4. $d_1 \parallel d_3$
 $d_2 \parallel d_4$
 $\Rightarrow \alpha = ?$

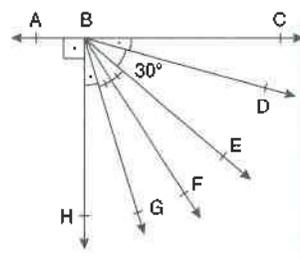
85

8. $d_1 \parallel d_3$
 $d_2 \parallel d_4$
 $a + b = 45^\circ$
 $\Rightarrow a - b = ?$

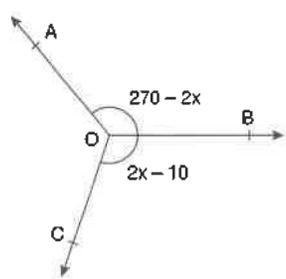
35

1.  $AE \perp [BC]$
 $m(\widehat{EBD}) = 44^\circ$
 $m(\widehat{CBD}) = \alpha$
 $\Rightarrow \alpha = ?$

A) 20 B) 22 C) 24 D) 36 E) 46

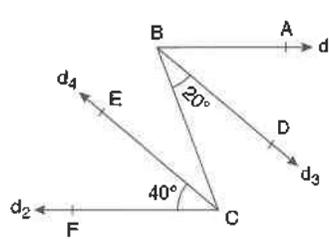
2.  $AC \perp [BH]$
 $m(\widehat{CBD}) = m(\widehat{HBG})$
 $m(\widehat{GBF}) = m(\widehat{FBE})$
 $m(\widehat{EBD}) = 30^\circ$
 $\Rightarrow m(\widehat{CBF}) = ?$

A) 15 B) 30 C) 45 D) 60 E) 75

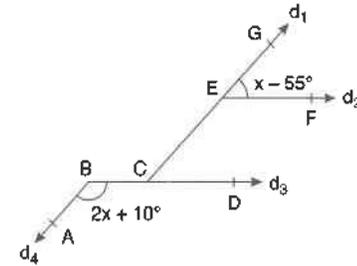
3. 

$m(\widehat{AOB}) = 270 - 2x$
 $m(\widehat{BOC}) = 2x - 10$
 $\Rightarrow m(\widehat{AOC}) = ?$

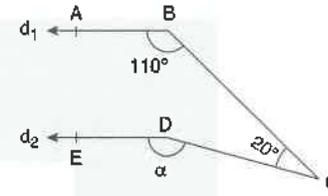
A) 90 B) 100 C) 110 D) 120 E) 130

4.  $d_1 \parallel d_2$
 $d_3 \parallel d_4$
 $m(\widehat{DBC}) = 20^\circ$
 $m(\widehat{ECF}) = 40^\circ$
 $\Rightarrow m(\widehat{ABC}) = ?$

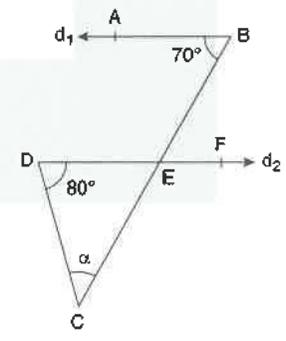
A) 30 B) 40 C) 60 D) 70 E) 80

5.  $d_1 \parallel d_4$
 $d_2 \parallel d_3$
 $m(\widehat{GEF}) = x - 55^\circ$
 $m(\widehat{ABC}) = 2x + 10^\circ$
 $\Rightarrow x = ?$

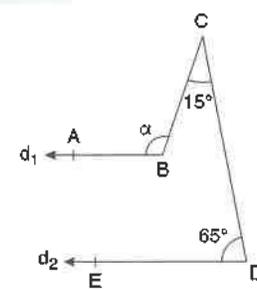
A) 15 B) 45 C) 60 D) 75 E) 85

6.  $d_1 \parallel d_2$
 $m(\widehat{ABC}) = 110^\circ$
 $m(\widehat{BCD}) = 20^\circ$
 $m(\widehat{EDC}) = \alpha$
 $\Rightarrow \alpha = ?$

A) 50 B) 70 C) 80 D) 110 E) 130

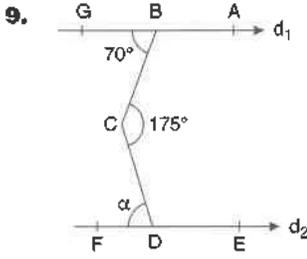
7.  $d_1 \parallel d_2$
 $m(\widehat{ABC}) = 70^\circ$
 $m(\widehat{EDC}) = 80^\circ$
 $m(\widehat{BCD}) = \alpha$
 $\Rightarrow \alpha = ?$

A) 30 B) 40 C) 45 D) 50 E) 55

8.  $d_1 \parallel d_2$
 $m(\widehat{BCD}) = 15^\circ$
 $m(\widehat{EDC}) = 65^\circ$
 $m(\widehat{ABC}) = \alpha$
 $\Rightarrow \alpha = ?$

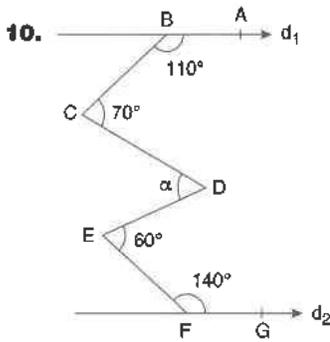
A) 70 B) 80 C) 100 D) 110 E) 120

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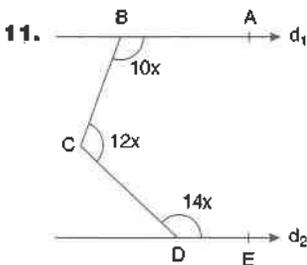
$d_1 \parallel d_2$
 $m(\widehat{BCD}) = 175^\circ$
 $m(\widehat{GBC}) = 70^\circ$
 $m(\widehat{CDF}) = \alpha$
 $\Rightarrow \alpha = ?$

- A) 85 B) 95 C) 100 D) 104 E) 105



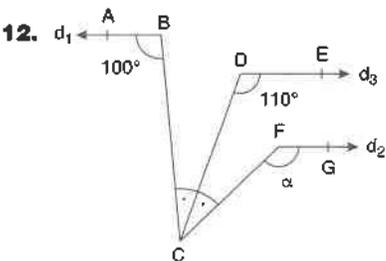
$d_1 \parallel d_2$
 $m(\widehat{ABC}) = 110^\circ$
 $m(\widehat{BCD}) = 70^\circ$
 $m(\widehat{DEF}) = 60^\circ$
 $m(\widehat{EFG}) = 140^\circ$
 $m(\widehat{CDE}) = \alpha$
 $\Rightarrow \alpha = ?$

- A) 10 B) 20 C) 30 D) 40 E) 50



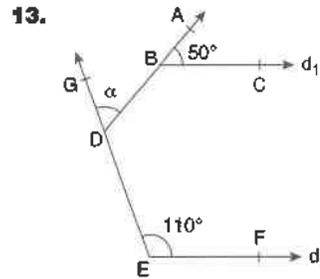
$d_1 \parallel d_2$
 $m(\widehat{ABC}) = 10x$
 $m(\widehat{BCD}) = 12x$
 $m(\widehat{CDE}) = 14x$
 $\Rightarrow m(\widehat{CDE}) = ?$

- A) 30 B) 70 C) 80 D) 110 E) 140



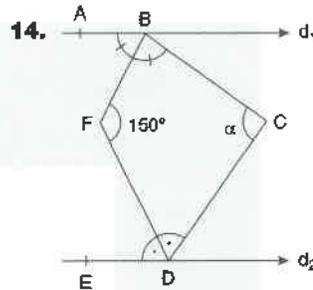
$d_1 \parallel d_2 \parallel d_3$
 $m(\widehat{ABC}) = 100^\circ$
 $m(\widehat{CDE}) = 110^\circ$
 $m(\widehat{BCD}) = m(\widehat{DCF})$
 $m(\widehat{CFG}) = \alpha$
 $\Rightarrow \alpha = ?$

- A) 110 B) 120 C) 130 D) 140 E) 150



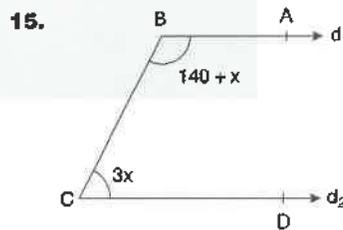
$d_1 \parallel d_2$
 $m(\widehat{ABC}) = 50^\circ$
 $m(\widehat{GEF}) = 110^\circ$
 $m(\widehat{GDA}) = \alpha$
 $\Rightarrow \alpha = ?$

- A) 20 B) 30 C) 40 D) 50 E) 60



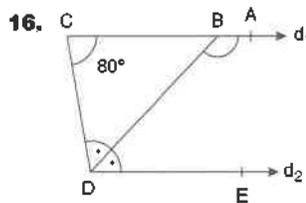
$d_1 \parallel d_2$
 $m(\widehat{ABF}) = m(\widehat{FBC})$
 $m(\widehat{FDE}) = m(\widehat{CDF})$
 $m(\widehat{BFD}) = 150^\circ$
 $m(\widehat{BCD}) = \alpha$
 $\Rightarrow \alpha = ?$

- A) 60 B) 70 C) 100 D) 110 E) 130



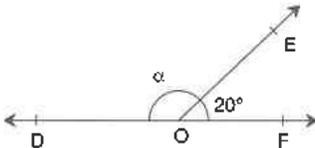
$d_1 \parallel d_2$
 $m(\widehat{ABC}) = 140 + x$
 $m(\widehat{BCD}) = 3x$
 $\Rightarrow x = ?$

- A) 5 B) 10 C) 11 D) 12 E) 13

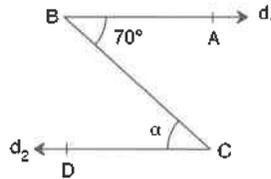


$d_1 \parallel d_2$
 $m(\widehat{ACD}) = 80^\circ$
 $m(\widehat{CDB}) = m(\widehat{BDE})$
 $m(\widehat{ABD}) = ?$

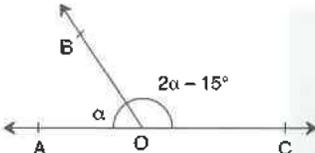
- A) 50 B) 70 C) 100 D) 130 E) 150

1.  $m(\widehat{EOF}) = 20^\circ$
 $\Rightarrow m(\widehat{DOE}) = \alpha = ?$

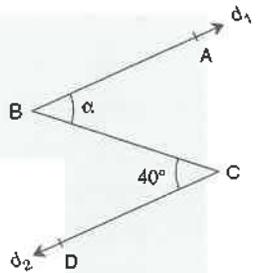
A) 20 B) 70 C) 120 D) 140 E) 160

5.  $d_1 // d_2$
 $m(\widehat{ABC}) = 70^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

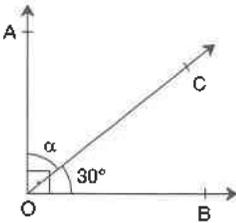
A) 20 B) 30 C) 70 D) 100 E) 110

2.  $m(\widehat{AOB}) = \alpha$
 $m(\widehat{BOC}) = 2\alpha - 15^\circ$
 $\Rightarrow \alpha = ?$

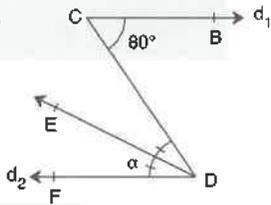
A) 50 B) 55 C) 60 D) 65 E) 75

6.  $d_1 // d_2$
 $m(\widehat{BCD}) = 40^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

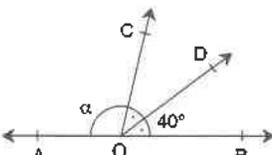
A) 20 B) 40 C) 50 D) 60 E) 140

3.  $[OA \perp OB$
 $m(\widehat{COB}) = 30^\circ$
 $\Rightarrow m(\widehat{AOC}) = \alpha = ?$

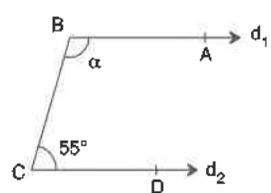
A) 20 B) 30 C) 50 D) 60 E) 150

7.  $d_1 // d_2$
 $m(\widehat{BCD}) = 80^\circ$
 $\Rightarrow m(\widehat{CDE}) = m(\widehat{EDF}) = \alpha = ?$

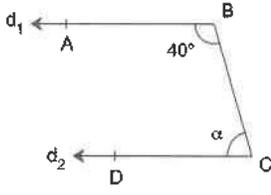
A) 5 B) 10 C) 40 D) 50 E) 100

4.  $m(\widehat{COD}) = m(\widehat{DOB}) = 40^\circ$
 $\Rightarrow m(\widehat{AOC}) = \alpha = ?$

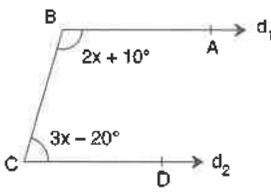
A) 40 B) 80 C) 90 D) 100 E) 140

8.  $d_1 // d_2$
 $m(\widehat{BCD}) = 55^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

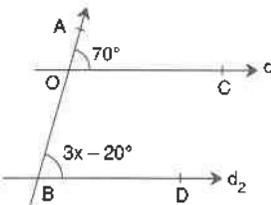
A) 125 B) 115 C) 75 D) 60 E) 55

9.  $d_1 // d_2$
 $m(\widehat{ABC}) = 40^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

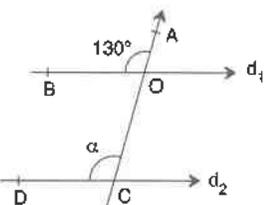
A) 40 B) 50 C) 90 D) 130 E) 140

10.  $d_1 // d_2$
 $m(\widehat{ABC}) = 2x + 10^\circ$
 $m(\widehat{BCD}) = 3x - 20^\circ$
 $\Rightarrow x = ?$

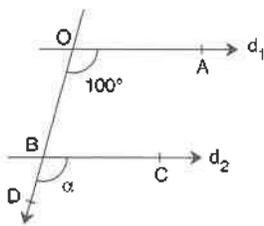
A) 30 B) 34 C) 38 D) 40 E) 42

11.  $d_1 // d_2$
 $m(\widehat{AOC}) = 70^\circ$
 $m(\widehat{ABD}) = 3x - 20^\circ$
 $\Rightarrow x = ?$

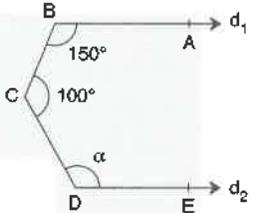
A) 30 B) 70 C) 80 D) 110 E) 140

12.  $d_1 // d_2$
 $m(\widehat{AOB}) = 130^\circ$
 $\Rightarrow m(\widehat{ACD}) = \alpha = ?$

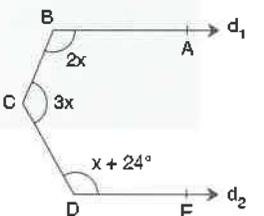
A) 130 B) 110 C) 100 D) 50 E) 40

13.  $d_1 // d_2$
 $m(\widehat{AOD}) = 100^\circ$
 $\Rightarrow m(\widehat{DBC}) = \alpha = ?$

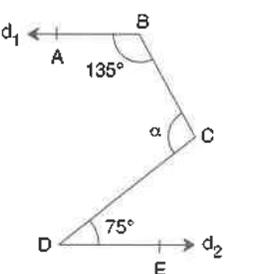
A) 110 B) 100 C) 80 D) 70 E) 50

14.  $d_1 // d_2$
 $m(\widehat{ABC}) = 150^\circ$
 $m(\widehat{BCD}) = 100^\circ$
 $\Rightarrow m(\widehat{CDE}) = \alpha = ?$

A) 60 B) 70 C) 100 D) 110 E) 130

15.  $d_1 // d_2$
 $m(\widehat{ABC}) = 2x$
 $m(\widehat{CDE}) = x + 24^\circ$
 $\Rightarrow m(\widehat{BCD}) = 3x = ?$

A) 56 B) 60 C) 108 D) 168 E) 170

16.  $d_1 // d_2$
 $m(\widehat{ABC}) = 135^\circ$
 $m(\widehat{CDE}) = 75^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 75 B) 80 C) 105 D) 120 E) 135

1.

$m(\widehat{AOC}) = m(\widehat{COD})$
 $m(\widehat{DOE}) = m(\widehat{EOB})$
 $\Rightarrow m(\widehat{COE}) = ?$

A) 30 B) 60 C) 90 D) 120 E) 150

2.

$m(\widehat{AOC}) = m(\widehat{COD})$
 $m(\widehat{DOE}) = 40^\circ$
 $m(\widehat{EOF}) = m(\widehat{FOB})$
 $\Rightarrow m(\widehat{COF}) = ?$

A) 50 B) 60 C) 100 D) 110 E) 130

3.

$m(\widehat{AOC}) = m(\widehat{COD})$
 $m(\widehat{DOE}) = 70^\circ$
 $m(\widehat{EOF}) = m(\widehat{FOB})$
 $\Rightarrow m(\widehat{COF}) = ?$

A) 80 B) 115 C) 125 D) 135 E) 140

4.

$d_1 // d_2$
 $m(\widehat{ABC}) = x + 30^\circ$
 $m(\widehat{BCD}) = 2x - 15^\circ$
 $\Rightarrow x = ?$

A) 35 B) 45 C) 50 D) 55 E) 60

5.

$d_1 // d_2$
 $d_3 // d_4$
 $m(\widehat{ABC}) = 50^\circ$
 $\Rightarrow m(\widehat{DEF}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 70

6.

$[EF] // [BC]$
 $m(\widehat{EAB}) = \alpha$
 $m(\widehat{ABC}) = 40^\circ$
 $m(\widehat{FAC}) = \beta$
 $m(\widehat{ACB}) = 70^\circ$
 $\Rightarrow \beta - \alpha = ?$

A) 30 B) 40 C) 50 D) 60 E) 70

7.

$d_1 // d_2$
 $d_3 // d_4$
 $m(\widehat{AOB}) = 50^\circ$
 $\Rightarrow m(\widehat{EDC}) = \alpha = ?$

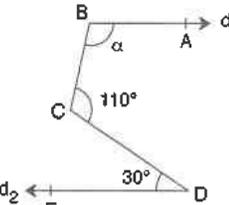
A) 130 B) 100 C) 60 D) 50 E) 40

8.

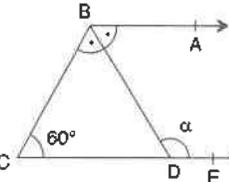
$d_1 // d_2$
 $m(\widehat{ABC}) = 100^\circ$
 $m(\widehat{BCD}) = 140^\circ$
 $\Rightarrow m(\widehat{CDE}) = \alpha = ?$

A) 100 B) 110 C) 120 D) 130 E) 140

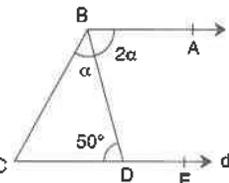
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9.  $d_1 // d_2$
 $m(\widehat{BCD}) = 110^\circ$
 $m(\widehat{CDE}) = 30^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

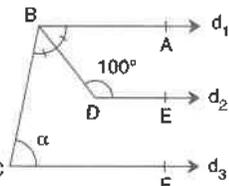
A) 90 B) 100 C) 120 D) 130 E) 140

10.  $d_1 // d_2$
 $m(\widehat{ABD}) = m(\widehat{CDB})$
 $m(\widehat{BCD}) = 60^\circ$
 $\Rightarrow m(\widehat{BDE}) = \alpha = ?$

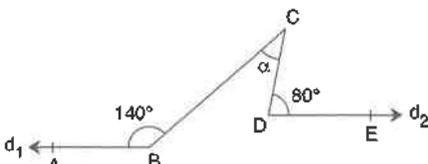
A) 100 B) 110 C) 120 D) 130 E) 140

11.  $d_1 // d_2$
 $m(\widehat{ABD}) = 2 \cdot m(\widehat{CBD})$
 $m(\widehat{BDC}) = 50^\circ$
 $\Rightarrow m(\widehat{BCD}) = ?$

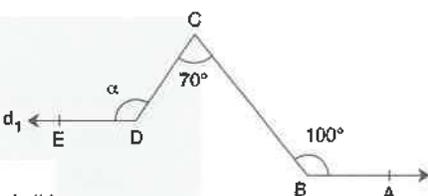
A) 30 B) 50 C) 75 D) 105 E) 115

12.  $d_1 // d_2 // d_3$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{BDE}) = 100^\circ$
 $\Rightarrow m(\widehat{BCF}) = \alpha = ?$

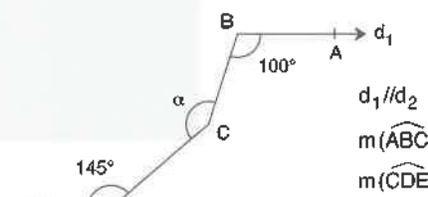
A) 10 B) 20 C) 30 D) 40 E) 50

13.  $d_1 // d_2$
 $m(\widehat{ABC}) = 140^\circ$
 $m(\widehat{CDE}) = 80^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

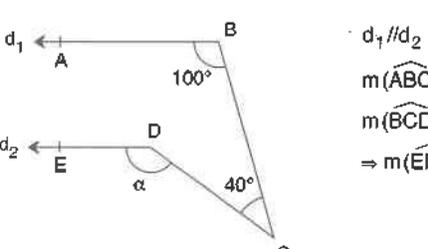
A) 30 B) 40 C) 50 D) 60 E) 70

14.  $d_1 // d_2$
 $m(\widehat{ABC}) = 100^\circ$
 $m(\widehat{BCD}) = 70^\circ$
 $\Rightarrow m(\widehat{CDE}) = \alpha = ?$

A) 150 B) 120 C) 110 D) 100 E) 90

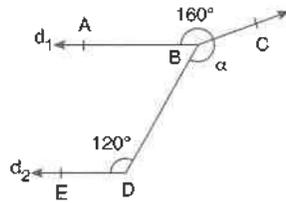
15.  $d_1 // d_2$
 $m(\widehat{ABC}) = 100^\circ$
 $m(\widehat{CDE}) = 145^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 155 B) 145 C) 135 D) 125 E) 115

16.  $d_1 // d_2$
 $m(\widehat{ABC}) = 100^\circ$
 $m(\widehat{BCD}) = 40^\circ$
 $\Rightarrow m(\widehat{EDC}) = \alpha = ?$

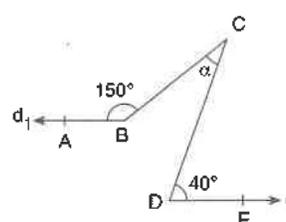
A) 40 B) 70 C) 100 D) 130 E) 140

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1. 

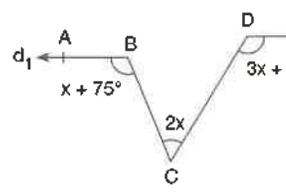
$d_1 \parallel d_2$
 $m(\widehat{ABC}) = 160^\circ$
 $m(\widehat{EDB}) = 120^\circ$
 $\Rightarrow m(\widehat{DBC}) = \alpha = ?$

A) 100 B) 110 C) 120 D) 140 E) 150

2. 

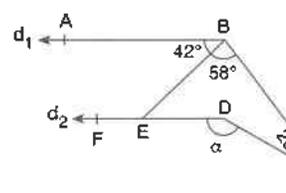
$d_1 \parallel d_2$
 $m(\widehat{ABC}) = 150^\circ$
 $m(\widehat{CDE}) = 40^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

3. 

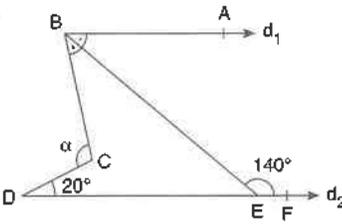
$d_1 \parallel d_2$
 $m(\widehat{ABC}) = x + 75^\circ$
 $m(\widehat{BCD}) = 2x$
 $m(\widehat{CDE}) = 3x + 35^\circ$
 $\Rightarrow x = ?$

A) 20 B) 25 C) 30 D) 35 E) 40

4. 

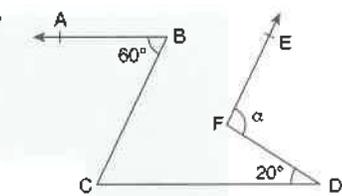
$d_1 \parallel d_2$
 $m(\widehat{ABE}) = 42^\circ$
 $m(\widehat{EBC}) = 58^\circ$
 $m(\widehat{BCD}) = 20^\circ$
 $\Rightarrow m(\widehat{FDC}) = \alpha = ?$

A) 130 B) 124 C) 120 D) 116 E) 110

5. 

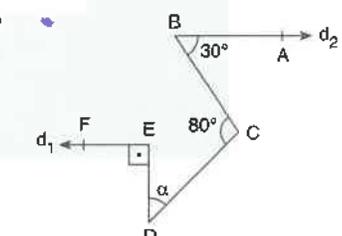
$d_1 \parallel d_2$
 $m(\widehat{ABE}) = m(\widehat{CBE})$
 $m(\widehat{CDF}) = 20^\circ$
 $m(\widehat{BEF}) = 140^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 70 B) 80 C) 85 D) 90 E) 100

6. 

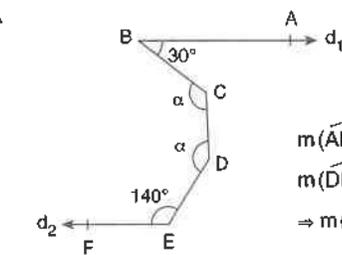
$[BC] \parallel [FE]$
 $[BA] \parallel [CD]$
 $m(\widehat{ABC}) = 60^\circ$
 $m(\widehat{CDF}) = 20^\circ$
 $\Rightarrow m(\widehat{DFE}) = \alpha = ?$

A) 40 B) 50 C) 80 D) 100 E) 120

7. 

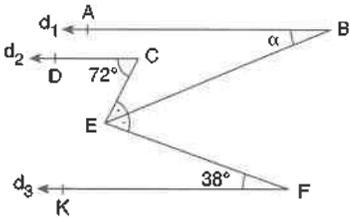
$d_1 \parallel d_2$
 $[DE] \perp [EF]$
 $m(\widehat{ABC}) = 30^\circ$
 $m(\widehat{BCD}) = 80^\circ$
 $\Rightarrow m(\widehat{CDE}) = \alpha = ?$

A) 30 B) 40 C) 50 D) 60 E) 70

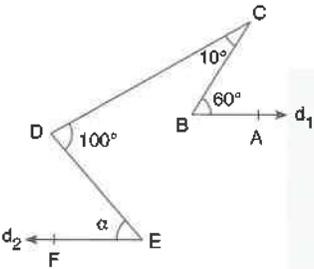
8. 

$d_1 \parallel d_2$
 $m(\widehat{ABC}) = 30^\circ$
 $m(\widehat{DEF}) = 140^\circ$
 $\Rightarrow m(\widehat{BCD}) = m(\widehat{CDE}) = \alpha = ?$

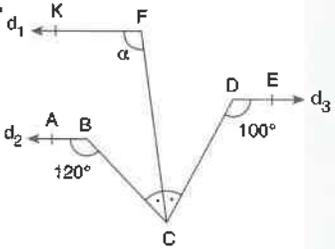
A) 130 B) 125 C) 120 D) 115 E) 110

9.  $d_1 \parallel d_2 \parallel d_3$
 $m(\widehat{DCE}) = 72^\circ$
 $m(\widehat{EFK}) = 38^\circ$
 $\Rightarrow m(\widehat{ABE}) = \alpha = ?$

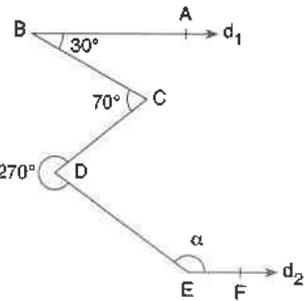
A) 12 B) 15 C) 17 D) 19 E) 21

10.  $d_1 \parallel d_2$
 $m(\widehat{ABC}) = 60^\circ$
 $m(\widehat{BCD}) = 10^\circ$
 $m(\widehat{CDE}) = 100^\circ$
 $\Rightarrow m(\widehat{DEF}) = \alpha = ?$

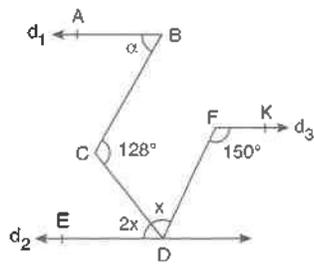
A) 40 B) 50 C) 60 D) 70 E) 80

11.  $d_1 \parallel d_2 \parallel d_3$
 $m(\widehat{EDC}) = 100^\circ$
 $m(\widehat{ABC}) = 120^\circ$
 $m(\widehat{BCF}) = m(\widehat{FCD})$
 $\Rightarrow m(\widehat{KFC}) = \alpha = ?$

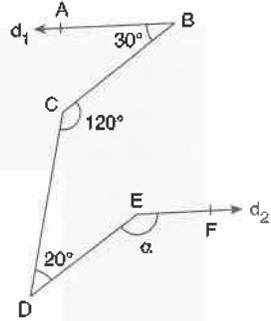
A) 60 B) 80 C) 100 D) 120 E) 140

12.  $d_1 \parallel d_2$
 $m(\widehat{ABC}) = 30^\circ$
 $m(\widehat{BCD}) = 70^\circ$
 $m(\widehat{CDE}) = 270^\circ$
 $\Rightarrow m(\widehat{DEF}) = \alpha = ?$

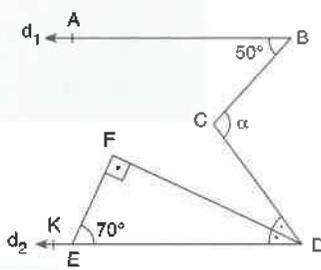
A) 120 B) 130 C) 145 D) 165 E) 170

13.  $d_1 \parallel d_2 \parallel d_3$
 $m(\widehat{BCD}) = 128^\circ$
 $m(\widehat{DFK}) = 150^\circ$
 $m(\widehat{CDF}) = x$
 $m(\widehat{CDE}) = 2x$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

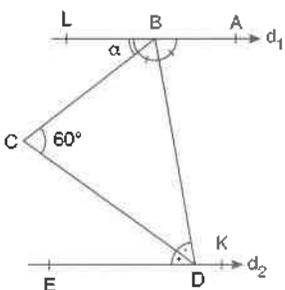
A) 28 B) 32 C) 38 D) 40 E) 42

14.  $d_1 \parallel d_2$
 $m(\widehat{ABC}) = 30^\circ$
 $m(\widehat{BCD}) = 120^\circ$
 $m(\widehat{CDE}) = 20^\circ$
 $\Rightarrow m(\widehat{DEF}) = \alpha = ?$

A) 100 B) 110 C) 120 D) 130 E) 140

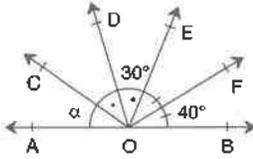
15.  $d_1 \parallel d_2$
 $[EF] \perp [FD]$
 $m(\widehat{ABC}) = 50^\circ$
 $m(\widehat{FED}) = 70^\circ$
 $m(\widehat{CDF}) = m(\widehat{FDK})$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 90 B) 80 C) 70 D) 60 E) 50

16.  $d_1 \parallel d_2$
 $m(\widehat{BCD}) = 60^\circ$
 $m(\widehat{CBD}) = m(\widehat{DBA})$
 $m(\widehat{EDC}) = m(\widehat{CDB})$
 $\Rightarrow m(\widehat{CBL}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 60 E) 80

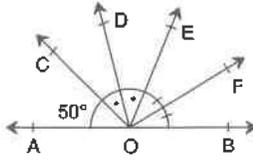
1.



$$\begin{aligned} m(\widehat{COD}) &= m(\widehat{DOE}) = 30^\circ \\ m(\widehat{EOF}) &= m(\widehat{FOB}) = 40^\circ \\ \Rightarrow m(\widehat{AOC}) &= \alpha = ? \end{aligned}$$

- A) 40 B) 50 C) 55 D) 60 E) 70

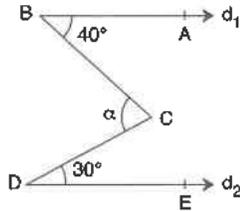
2.



$$\begin{aligned} m(\widehat{AOC}) &= 50^\circ \\ m(\widehat{COD}) &= m(\widehat{DOE}) \\ m(\widehat{EOF}) &= m(\widehat{FOD}) \\ \Rightarrow m(\widehat{DOF}) &= ? \end{aligned}$$

- A) 50 B) 60 C) 65 D) 70 E) 90

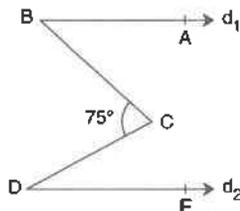
3.



$$\begin{aligned} d_1 // d_2 \\ m(\widehat{ABC}) &= 40^\circ \\ m(\widehat{CDE}) &= 30^\circ \\ \Rightarrow m(\widehat{BCD}) &= \alpha = ? \end{aligned}$$

- A) 30 B) 40 C) 50 D) 70 E) 110

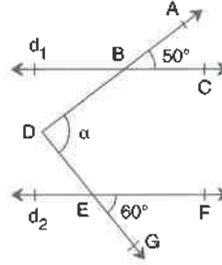
4.



$$\begin{aligned} d_1 // d_2 \\ 2m(\widehat{ABC}) &= 3m(\widehat{CDE}) \\ m(\widehat{BCD}) &= 75^\circ \\ \Rightarrow m(\widehat{CDE}) &= ? \end{aligned}$$

- A) 15 B) 30 C) 45 D) 50 E) 55

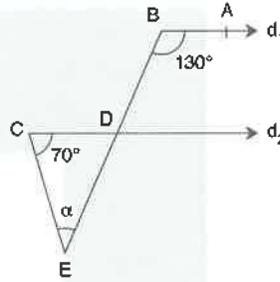
5.



$$\begin{aligned} d_1 // d_2 \\ m(\widehat{ABC}) &= 50^\circ \\ m(\widehat{FEG}) &= 60^\circ \\ \Rightarrow m(\widehat{ADG}) &= \alpha = ? \end{aligned}$$

- A) 50 B) 55 C) 60 D) 100 E) 110

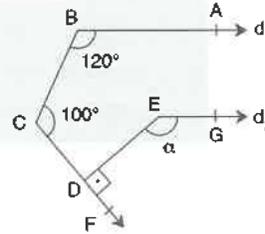
6.



$$\begin{aligned} d_1 // d_2 \\ m(\widehat{ABE}) &= 130^\circ \\ m(\widehat{DCE}) &= 70^\circ \\ \Rightarrow m(\widehat{CEB}) &= \alpha = ? \end{aligned}$$

- A) 50 B) 60 C) 70 D) 80 E) 90

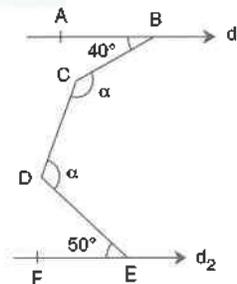
7.



$$\begin{aligned} d_1 // d_2 \\ [ED] \perp [CF] \\ m(\widehat{ABC}) &= 120^\circ \\ m(\widehat{BCF}) &= 100^\circ \\ \Rightarrow m(\widehat{DEG}) &= \alpha = ? \end{aligned}$$

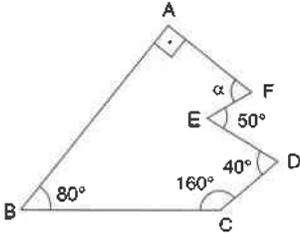
- A) 130 B) 100 C) 60 D) 50 E) 40

8.

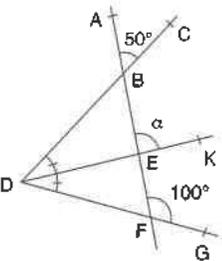


$$\begin{aligned} d_1 // d_2 \\ m(\widehat{ABC}) &= 40^\circ \\ m(\widehat{DEF}) &= 50^\circ \\ \Rightarrow m(\widehat{BCD}) &= m(\widehat{CDE}) = \alpha = ? \end{aligned}$$

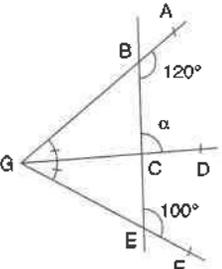
- A) 115 B) 125 C) 135 D) 145 E) 150

9.  $m(\widehat{EDC}) = 40^\circ$
 $m(\widehat{ABC}) = 80^\circ$
 $m(\widehat{FED}) = 50^\circ$
 $m(\widehat{BCD}) = 160^\circ$
 $[FA] \perp [AB]$
 $\Rightarrow m(\widehat{AFE}) = \alpha = ?$

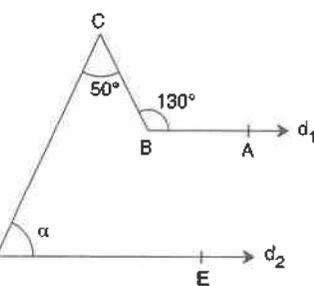
A) 40 B) 50 C) 60 D) 70 E) 80

10.  $m(\widehat{ABC}) = 50^\circ$
 $m(\widehat{AFG}) = 100^\circ$
 $m(\widehat{CDK}) = m(\widehat{KDG})$
 $\Rightarrow m(\widehat{AEK}) = \alpha = ?$

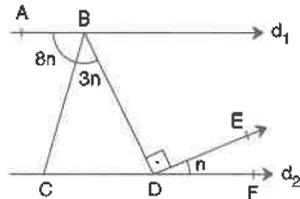
A) 60 B) 70 C) 75 D) 80 E) 85

11.  $m(\widehat{ABE}) = 120^\circ$
 $m(\widehat{BEF}) = 100^\circ$
 $m(\widehat{AGD}) = m(\widehat{DGF})$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

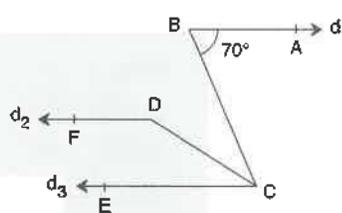
A) 110 B) 100 C) 80 D) 60 E) 50

12.  $d_1 // d_2$
 $m(\widehat{ABC}) = 130^\circ$
 $m(\widehat{BCD}) = 50^\circ$
 $\Rightarrow m(\widehat{CDE}) = \alpha = ?$

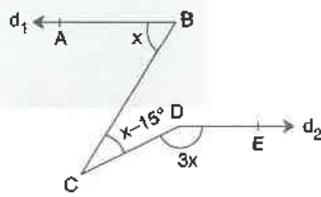
A) 130 B) 100 C) 90 D) 80 E) 70

13.  $d_1 // d_2$
 $[BD] \perp [DE]$
 $m(\widehat{EDF}) = n$
 $m(\widehat{ABC}) = 8n$
 $m(\widehat{CBD}) = 3n$
 $\Rightarrow n = ?$

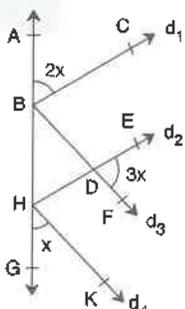
A) 9 B) 20 C) 25 D) 30 E) 35

14.  $d_1 // d_2 // d_3$
 $4m(\widehat{BCD}) = 3m(\widehat{DCE})$
 $m(\widehat{ABC}) = 70^\circ$
 $\Rightarrow m(\widehat{CDF}) = \alpha = ?$

A) 130 B) 140 C) 150 D) 160 E) 170

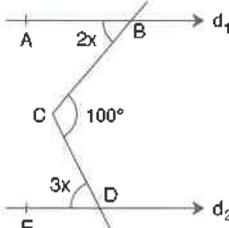
15.  $d_1 // d_2$
 $m(\widehat{ABC}) = x$
 $m(\widehat{BCD}) = x - 15^\circ$
 $m(\widehat{CDE}) = 3x$
 $= x = ?$

A) 45 B) 50 C) 55 D) 60 E) 65

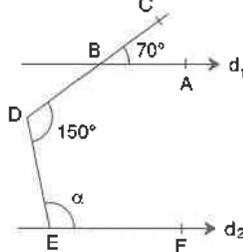
16.  $d_1 // d_2$
 $d_3 // d_4$
 $m(\widehat{ABC}) = 2x$
 $m(\widehat{EDF}) = 3x$
 $\Rightarrow m(\widehat{GHK}) = x = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

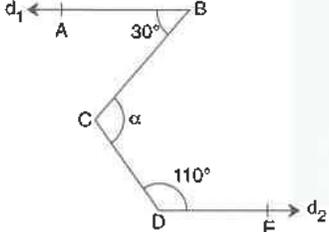
PUZAYINLARI

1.  $d_1 // d_2$
 $m(\widehat{ABC}) = 2x$
 $m(\widehat{CDE}) = 3x$
 $m(\widehat{BCD}) = 100^\circ$
 $\Rightarrow x = ?$

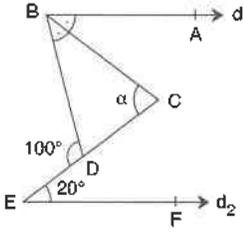
A) 10 B) 15 C) 20 D) 25 E) 30

2.  $d_1 // d_2$
 $m(\widehat{CBA}) = 70^\circ$
 $m(\widehat{BDE}) = 150^\circ$
 $\Rightarrow m(\widehat{DEF}) = \alpha = ?$

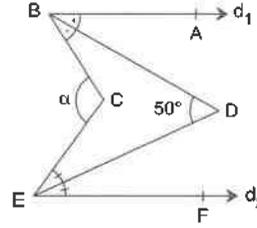
A) 40 B) 60 C) 80 D) 100 E) 110

3.  $d_1 // d_2$
 $m(\widehat{ABC}) = 30^\circ$
 $m(\widehat{CDE}) = 110^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

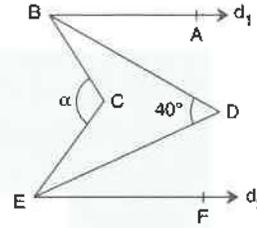
A) 140 B) 130 C) 120 D) 110 E) 100

4.  $d_1 // d_2$
 $m(\widehat{ABC}) = m(\widehat{CBD})$
 $m(\widehat{BDE}) = 100^\circ$
 $m(\widehat{CEF}) = 20^\circ$
 $\Rightarrow m(\widehat{BCE}) = \alpha = ?$

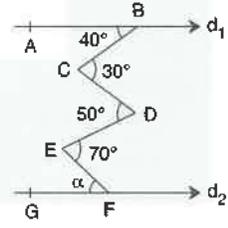
A) 90 B) 80 C) 70 D) 60 E) 50

5.  $d_1 // d_2$
 $m(\widehat{ABD}) = m(\widehat{CBD})$
 $m(\widehat{CED}) = m(\widehat{DEF})$
 $m(\widehat{BDE}) = 50^\circ$
 $\Rightarrow m(\widehat{BCE}) = \alpha = ?$

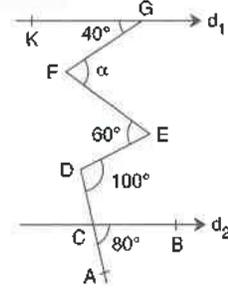
A) 25 B) 50 C) 75 D) 90 E) 100

6.  $d_1 // d_2$
 $m(\widehat{ABC}) = 2m(\widehat{CBD})$
 $m(\widehat{CEF}) = 2m(\widehat{DEC})$
 $m(\widehat{BDE}) = 40^\circ$
 $\Rightarrow m(\widehat{BCE}) = \alpha = ?$

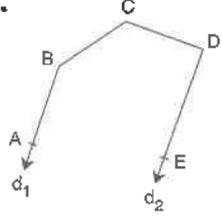
A) 20 B) 40 C) 60 D) 80 E) 120

7.  $d_1 // d_2$
 $m(\widehat{ABC}) = 40^\circ$
 $m(\widehat{BCD}) = 30^\circ$
 $m(\widehat{CDE}) = 50^\circ$
 $m(\widehat{DEF}) = 70^\circ$
 $\Rightarrow m(\widehat{EFG}) = \alpha = ?$

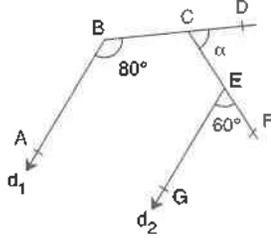
A) 10 B) 20 C) 30 D) 40 E) 50

8.  $d_1 // d_2$
 $m(\widehat{KGF}) = 40^\circ$
 $m(\widehat{FED}) = 60^\circ$
 $m(\widehat{EDC}) = 100^\circ$
 $m(\widehat{BCA}) = 80^\circ$
 $\Rightarrow m(\widehat{GFE}) = \alpha = ?$

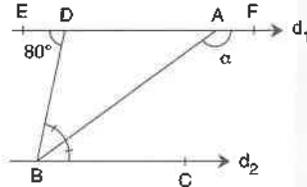
A) 50 B) 60 C) 70 D) 80 E) 90

9.  $d_1 // d_2$
 $3m(\widehat{ABC}) = 4m(\widehat{BCD}) = 6m(\widehat{CDE})$
 $\Rightarrow m(\widehat{BCD}) = ?$

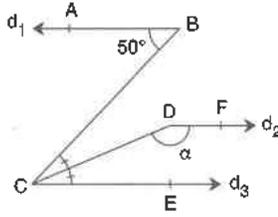
A) 40 B) 80 C) 120 D) 160 E) 200

10.  $d_1 // d_2$
 $m(\widehat{ABD}) = 80^\circ$
 $m(\widehat{FEG}) = 60^\circ$
 $\Rightarrow m(\widehat{DCF}) = \alpha = ?$

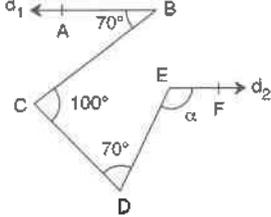
A) 35 B) 30 C) 25 D) 20 E) 10

11.  $d_1 // d_2$
 $m(\widehat{EDB}) = 80^\circ$
 $m(\widehat{DBA}) = m(\widehat{ABC})$
 $\Rightarrow m(\widehat{FAB}) = \alpha = ?$

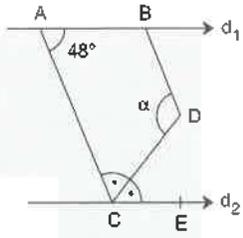
A) 100 B) 110 C) 120 D) 130 E) 140

12.  $d_1 // d_2 // d_3$
 $m(\widehat{ABC}) = 50^\circ$
 $m(\widehat{BCD}) = m(\widehat{CDE})$
 $\Rightarrow m(\widehat{CDF}) = \alpha = ?$

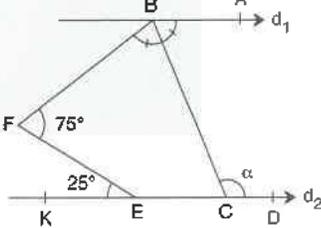
A) 130 B) 145 C) 155 D) 165 E) 175

13.  $d_1 // d_2$
 $m(\widehat{ABC}) = m(\widehat{CDE}) = 70^\circ$
 $m(\widehat{BCD}) = 100^\circ$
 $\Rightarrow m(\widehat{DEF}) = \alpha = ?$

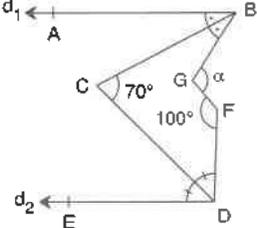
A) 100 B) 110 C) 120 D) 130 E) 140

14.  $d_1 // d_2$
 $[AC] // [BD]$
 $m(\widehat{BAC}) = 48^\circ$
 $m(\widehat{ACD}) = m(\widehat{DCE})$
 $\Rightarrow m(\widehat{BDC}) = \alpha = ?$

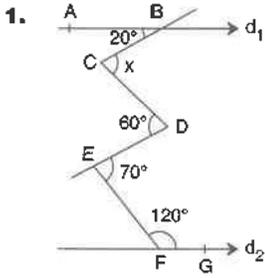
A) 48 B) 66 C) 98 D) 104 E) 114

15.  $d_1 // d_2$
 $m(\widehat{FEK}) = 25^\circ$
 $m(\widehat{BFE}) = 75^\circ$
 $m(\widehat{FBC}) = m(\widehat{CBA})$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 50 B) 60 C) 105 D) 115 E) 125

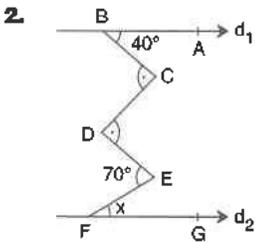
16.  $d_1 // d_2$
 $m(\widehat{ABC}) = m(\widehat{CBG})$
 $m(\widehat{FDC}) = m(\widehat{CDE})$
 $m(\widehat{GFD}) = 100^\circ$
 $m(\widehat{BCD}) = 70^\circ$
 $\Rightarrow m(\widehat{BGF}) = \alpha = ?$

A) 30 B) 35 C) 45 D) 55 E) 60



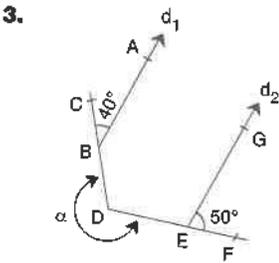
$d_1 // d_2$
 $m(\widehat{ABC}) = 20^\circ$
 $m(\widehat{CDE}) = 60^\circ$
 $m(\widehat{DEF}) = 70^\circ$
 $m(\widehat{EFG}) = 120^\circ$
 $\Rightarrow m(\widehat{BCD}) = x = ?$

- A) 60 B) 70 C) 80 D) 100 E) 110



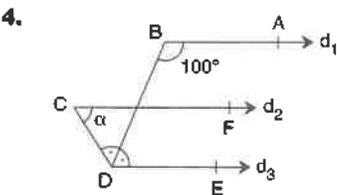
$d_1 // d_2$
 $m(\widehat{ABC}) = 40^\circ$
 $m(\widehat{BCD}) = m(\widehat{CDE})$
 $m(\widehat{DEF}) = 70^\circ$
 $\Rightarrow m(\widehat{EFG}) = x = ?$

- A) 20 B) 30 C) 40 D) 70 E) 110



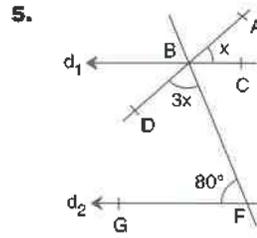
$d_1 // d_2$
 $m(\widehat{ABC}) = 40^\circ$
 $m(\widehat{GEF}) = 50^\circ$
 $\Rightarrow m(\widehat{CDF}) = \alpha = ?$

- A) 90 B) 180 C) 240 D) 270 E) 290



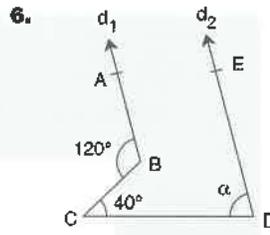
$d_1 // d_2 // d_3$
 $m(\widehat{ABD}) = 100^\circ$
 $m(\widehat{CDB}) = m(\widehat{BDE})$
 $\Rightarrow m(\widehat{FCD}) = \alpha = ?$

- A) 110 B) 90 C) 70 D) 60 E) 20



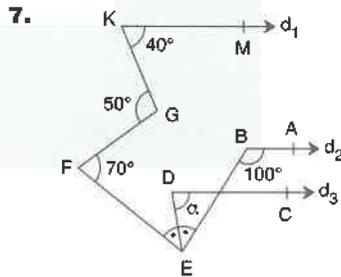
$d_1 // d_2$
 $m(\widehat{DBF}) = 3m(\widehat{ABC})$
 $m(\widehat{BFG}) = 80^\circ$
 $\Rightarrow m(\widehat{ABC}) = x = ?$

- A) 25 B) 20 C) 18 D) 15 E) 10



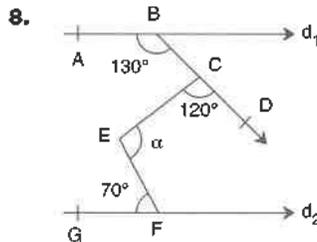
$d_1 // d_2$
 $m(\widehat{ABC}) = 120^\circ$
 $m(\widehat{BCD}) = 40^\circ$
 $\Rightarrow m(\widehat{EDC}) = \alpha = ?$

- A) 60 B) 70 C) 80 D) 90 E) 110



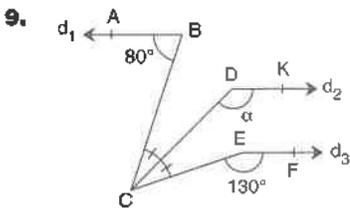
$d_1 // d_2 // d_3$
 $m(\widehat{MKG}) = 40^\circ$
 $m(\widehat{KGF}) = 50^\circ$
 $m(\widehat{GFE}) = 70^\circ$
 $m(\widehat{FED}) = m(\widehat{DEB})$
 $m(\widehat{ABE}) = 100^\circ$
 $\Rightarrow m(\widehat{EDC}) = \alpha = ?$

- A) 90 B) 80 C) 70 D) 60 E) 50



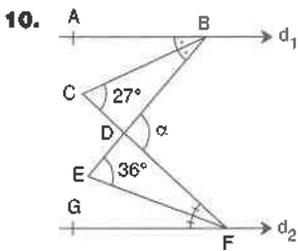
$d_1 // d_2$
 $m(\widehat{ABD}) = 130^\circ$
 $m(\widehat{DCE}) = 120^\circ$
 $m(\widehat{EFG}) = 70^\circ$
 $\Rightarrow m(\widehat{CEF}) = \alpha = ?$

- A) 90 B) 80 C) 70 D) 60 E) 50



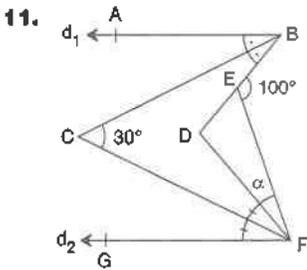
$d_1 // d_2 // d_3$
 $m(\widehat{ABC}) = 80^\circ$
 $m(\widehat{CEF}) = 130^\circ$
 $m(\widehat{BCD}) = m(\widehat{DCE})$
 $\Rightarrow m(\widehat{CDK}) = \alpha = ?$

- A) 105 B) 110 C) 115 D) 120 E) 125



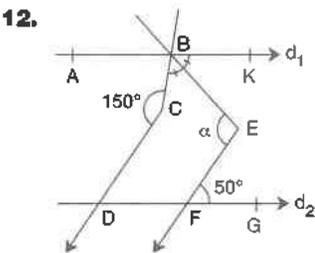
$d_1 // d_2$
 $m(\widehat{ABC}) = m(\widehat{CBE})$
 $m(\widehat{CFE}) = m(\widehat{EFG})$
 $m(\widehat{BCF}) = 27^\circ$
 $m(\widehat{BEF}) = 36^\circ$
 $\Rightarrow m(\widehat{BDF}) = \alpha = ?$

- A) 38 B) 42 C) 63 D) 72 E) 81



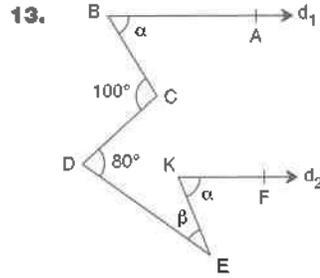
$d_1 // d_2$
 $m(\widehat{ABC}) = m(\widehat{CBD})$
 $m(\widehat{DFC}) = m(\widehat{CFG})$
 $m(\widehat{BEF}) = 100^\circ$
 $m(\widehat{BCF}) = 30^\circ$
 $\Rightarrow m(\widehat{DFE}) = \alpha = ?$

- A) 30 B) 35 C) 40 D) 45 E) 50



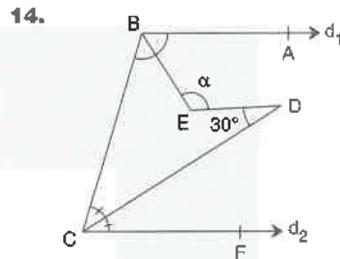
$d_1 // d_2$
 $[CD] // [EF]$
 $m(\widehat{BCD}) = 150^\circ$
 $m(\widehat{EFG}) = 50^\circ$
 $m(\widehat{CBE}) = m(\widehat{EBK})$
 $= m(\widehat{BEF}) = \alpha = ?$

- A) 120 B) 110 C) 100 D) 90 E) 80



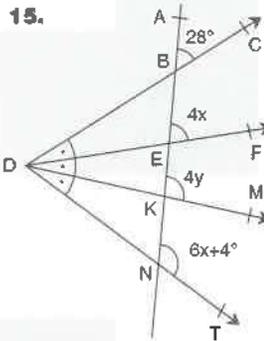
$d_1 // d_2$
 $m(\widehat{BCD}) = 100^\circ$
 $m(\widehat{CDE}) = 80^\circ$
 $m(\widehat{ABC}) = m(\widehat{EKF}) = \alpha$
 $\Rightarrow m(\widehat{DEK}) = \beta = ?$

- A) 20 B) 25 C) 30 D) 35 E) 40



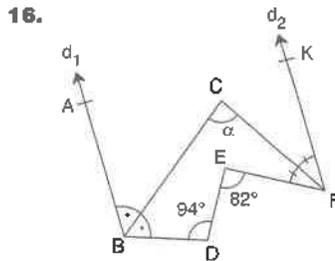
$d_1 // d_2$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $m(\widehat{BCD}) = m(\widehat{DCF})$
 $m(\widehat{EDC}) = 30^\circ$
 $\Rightarrow m(\widehat{BED}) = \alpha = ?$

- A) 90 B) 100 C) 110 D) 120 E) 130



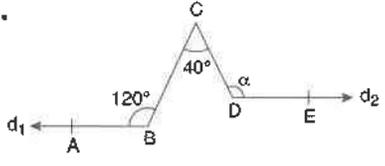
$m(\widehat{CDF}) = m(\widehat{FDM}) = m(\widehat{MDT})$
 $m(\widehat{ABC}) = 28^\circ$
 $m(\widehat{AEF}) = 4x$
 $m(\widehat{AKM}) = 4y$
 $m(\widehat{ANT}) = 6x + 4^\circ$
 $= y = ?$

- A) 10 B) 11 C) 12 D) 13 E) 14

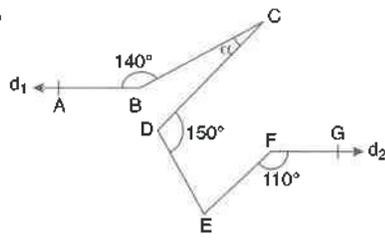


$d_1 // d_2$
 $m(\widehat{BDE}) = 94^\circ$
 $m(\widehat{DEF}) = 82^\circ$
 $m(\widehat{ABC}) = m(\widehat{CBD})$
 $m(\widehat{KFC}) = m(\widehat{CFE})$
 $\Rightarrow m(\widehat{BCF}) = \alpha = ?$

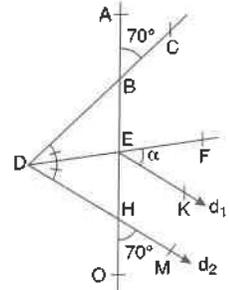
- A) 80 B) 82 C) 84 D) 86 E) 90

1.  $d_1 // d_2$
 $m(\widehat{ABC}) = 120^\circ$
 $m(\widehat{BCD}) = 40^\circ$
 $\Rightarrow m(\widehat{CDE}) = \alpha = ?$

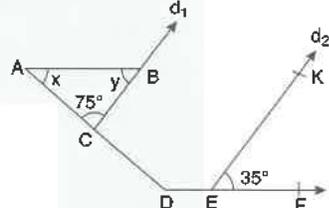
A) 70 B) 80 C) 90 D) 100 E) 110

5.  $d_1 // d_2$
 $[DC] // [EF]$
 $m(\widehat{ABC}) = 140^\circ$
 $m(\widehat{EFG}) = 110^\circ$
 $m(\widehat{CDE}) = 150^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

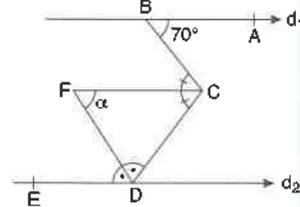
A) 20 B) 30 C) 40 D) 50 E) 60

2.  $d_1 // d_2$
 $m(\widehat{ABC}) = 70^\circ$
 $m(\widehat{MHO}) = 70^\circ$
 $m(\widehat{CDF}) = m(\widehat{FDB})$
 $\Rightarrow m(\widehat{FEK}) = \alpha = ?$

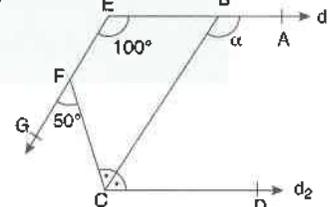
A) 10 B) 20 C) 30 D) 50 E) 70

6.  $d_1 // d_2$
 $[AB] // [DE]$
 $m(\widehat{ACB}) = 75^\circ$
 $m(\widehat{KEF}) = 35^\circ$
 $m(\widehat{DAB}) = x$
 $\Rightarrow m(\widehat{ACB}) = y = ?$

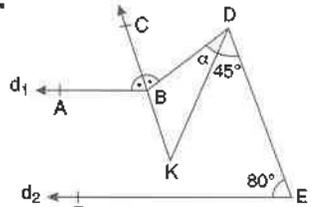
A) 25 B) 30 C) 35 D) 40 E) 45

3.  $d_1 // d_2$
 $m(\widehat{ABC}) = 70^\circ$
 $m(\widehat{CDF}) = m(\widehat{FDE})$
 $m(\widehat{BCF}) = m(\widehat{FCD})$
 $\Rightarrow m(\widehat{CFD}) = \alpha = ?$

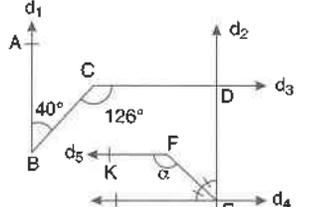
A) 45 B) 50 C) 55 D) 60 E) 65

7.  $d_1 // d_2$
 $m(\widehat{AEG}) = 100^\circ$
 $m(\widehat{GFC}) = 50^\circ$
 $m(\widehat{FCB}) = m(\widehat{BCD})$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

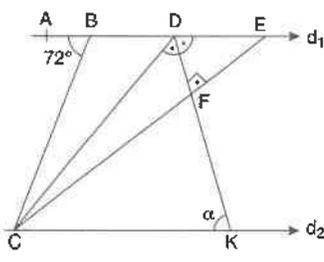
A) 50 B) 70 C) 100 D) 115 E) 120

4.  $d_1 // d_2$
 $[DE] // [KC]$
 $m(\widehat{ABC}) = m(\widehat{CBD})$
 $m(\widehat{KDE}) = 45^\circ$
 $m(\widehat{DEF}) = 80^\circ$
 $\Rightarrow m(\widehat{BDK}) = \alpha = ?$

A) 35 B) 40 C) 45 D) 50 E) 55

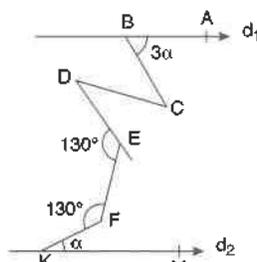
8.  $d_1 // d_3 // d_5$
 $m(\widehat{ABC}) = 40^\circ$
 $m(\widehat{BCD}) = 126^\circ$
 $m(\widehat{DEF}) = m(\widehat{FEG})$
 $\Rightarrow m(\widehat{KFE}) = \alpha = ?$

A) 94 B) 104 C) 117 D) 127 E) 137

9. 

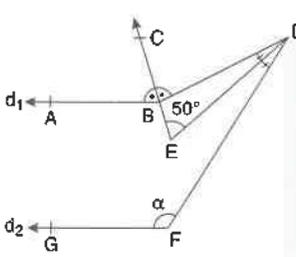
A) 68 B) 70 C) 72 D) 74 E) 76

$d_1 // d_2$
 $m(\widehat{CDK}) = m(\widehat{KDE})$
 $[DF] \perp [CE]$
 $m(\widehat{ABC}) = 72^\circ$
 $m(\widehat{BCD}) = 2m(\widehat{DCE})$
 $\Rightarrow m(\widehat{DKC}) = \alpha = ?$

13. 

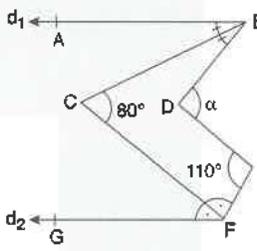
A) 10 B) 20 C) 30 D) 40 E) 50

$d_1 // d_2$
 $[BC] // [DE]$
 $m(\widehat{ABC}) = 3\alpha$
 $m(\widehat{DEF}) = 130^\circ$
 $m(\widehat{EFD}) = 130^\circ$
 $\Rightarrow m(\widehat{FKM}) = \alpha = ?$

10. 

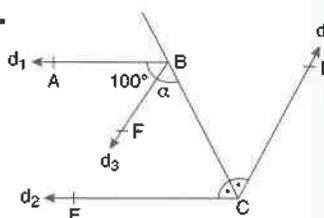
A) 70 B) 80 C) 90 D) 100 E) 110

$d_1 // d_2$
 $m(\widehat{ABC}) = m(\widehat{CBD})$
 $m(\widehat{BDE}) = m(\widehat{EDF})$
 $m(\widehat{CED}) = 50^\circ$
 $\Rightarrow m(\widehat{DFG}) = \alpha = ?$

14. 

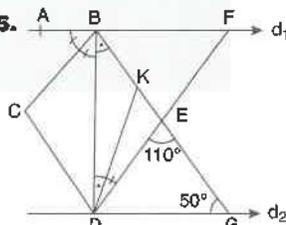
A) 60 B) 70 C) 80 D) 90 E) 100

$d_1 // d_2$
 $m(\widehat{BCF}) = 80^\circ$
 $m(\widehat{DEF}) = 110^\circ$
 $m(\widehat{ABC}) = m(\widehat{CBD})$
 $m(\widehat{EFC}) = m(\widehat{CFG})$
 $\Rightarrow m(\widehat{BDE}) = \alpha = ?$

11. 

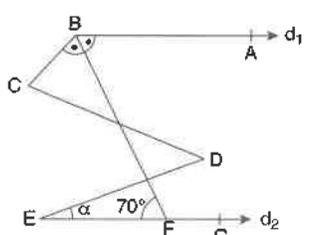
A) 40 B) 45 C) 50 D) 55 E) 60

$d_1 // d_2$
 $d_3 // d_4$
 $m(\widehat{ABF}) = 100^\circ$
 $m(\widehat{ECB}) = m(\widehat{BCD})$
 $= m(\widehat{FBC}) = \alpha = ?$

15. 

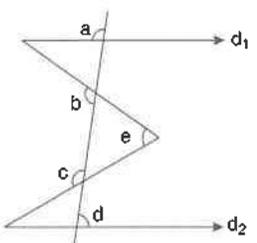
A) 90 B) 80 C) 70 D) 60 E) 50

$d_1 // d_2$
 $m(\widehat{DEG}) = 110^\circ$
 $m(\widehat{EGD}) = 50^\circ$
 $m(\widehat{DBG}) = m(\widehat{BDK})$
 $m(\widehat{ABC}) = m(\widehat{CBD}) = m(\widehat{KDF})$
 $\Rightarrow m(\widehat{CBG}) = ?$

12. 

A) 15 B) 25 C) 30 D) 35 E) 40

$d_1 // d_2$
 $m(\widehat{ABF}) = m(\widehat{CBF})$
 $m(\widehat{BCD}) = m(\widehat{CDE})$
 $m(\widehat{BFE}) = 70^\circ$
 $\Rightarrow m(\widehat{DEG}) = \alpha = ?$

16. 

A) 100 B) 90 C) 80 D) 70 E) 60

$d_1 // d_2$
 $a + b + c + d = 460$
 $\Rightarrow e = ?$



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	D	B	C	D	E	A	B	E	B	E	D	E	A	B	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	D	D	D	C	B	C	A	E	C	A	A	B	D	D	D

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	C	B	D	A	A	C	B	C	D	B	B	A	C	E

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	D	C	E	C	B	B	C	B	C	B	A	B	A	A

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	C	D	B	E	B	A	C	A	C	C	D	A	B	C	B

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	E	D	E	D	A	D	C	D	E	C	A	E	D	E

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	D	E	A	C	B	B	C	B	C	C	A	D	D	C

TEST 8

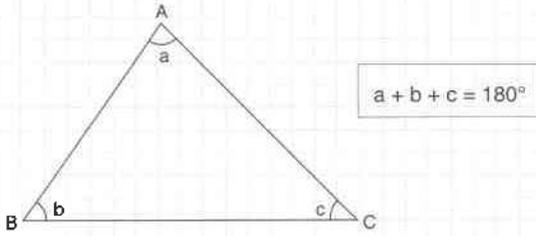
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	C	A	B	C	D	E	C	D	A	E	B	D	B	A



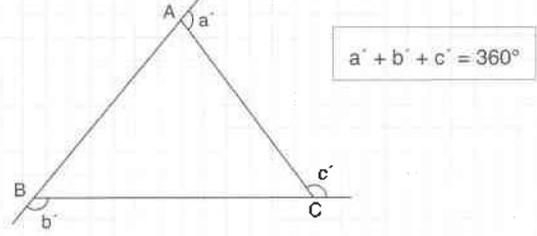
ÜÇGENDE AÇILAR
ANGLES OF TRIANGLE

ÜÇGENDE AÇILAR

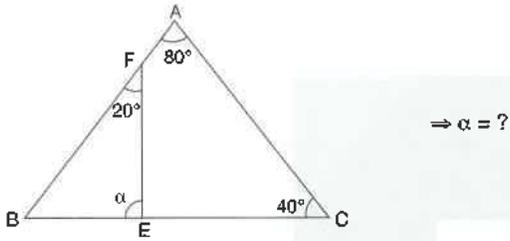
ÖZELLİK | Property 1



ÖZELLİK | Property 2

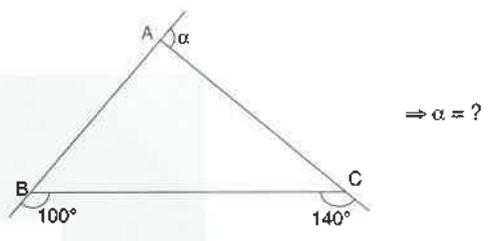


1.



100

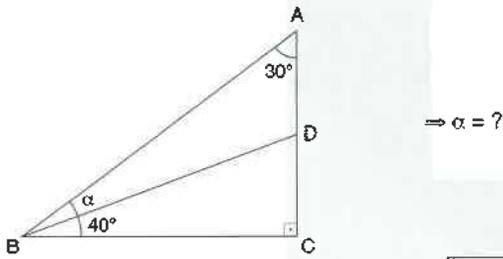
1.



120

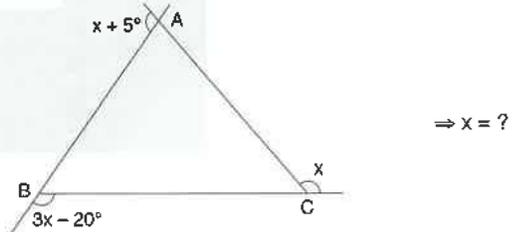
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2.



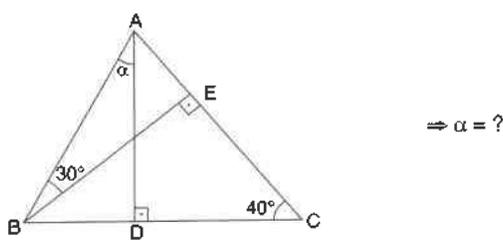
20

2.



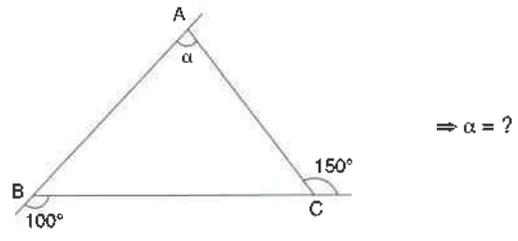
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3.



10

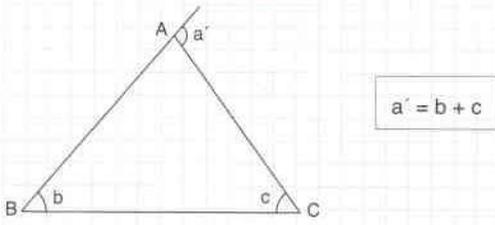
3.



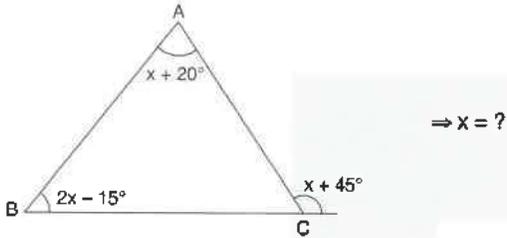
70

ANGLES OF TRIANGLE

ÖZELLİK | Property 3

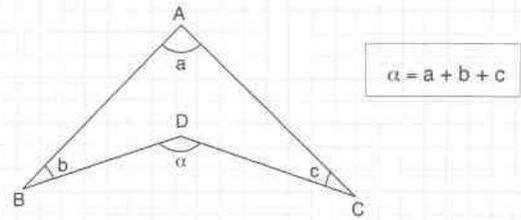


1.

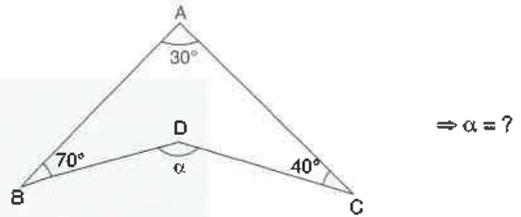


20

ÖZELLİK | Property 4



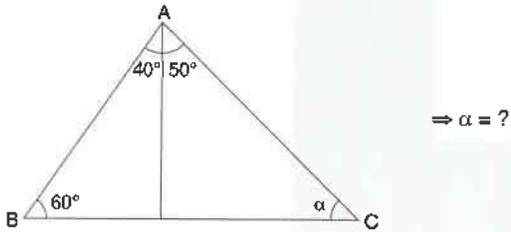
1.



140

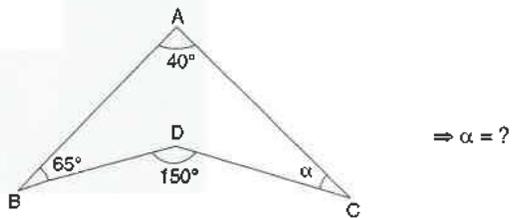
PUZZA YAYINLARI

2.



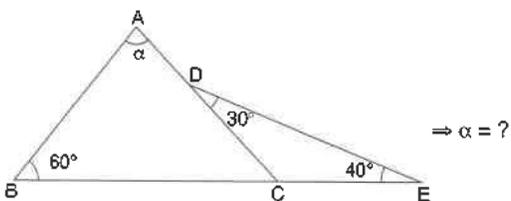
30

2.



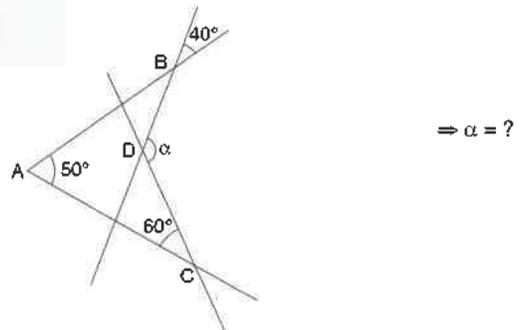
45

3.



50

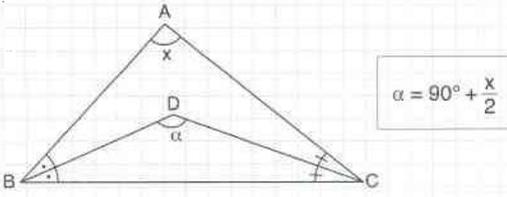
3.



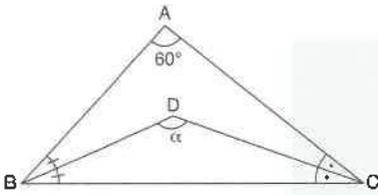
150

ÜÇGENDE AÇILAR

ÖZELLİK | Property 5



1.

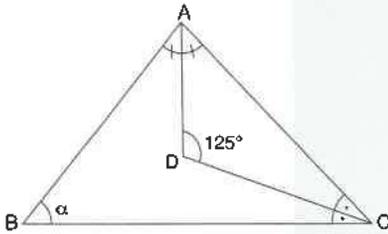


$\Rightarrow \alpha = ?$

120

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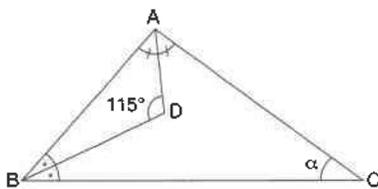
2.



$\Rightarrow \alpha = ?$

70

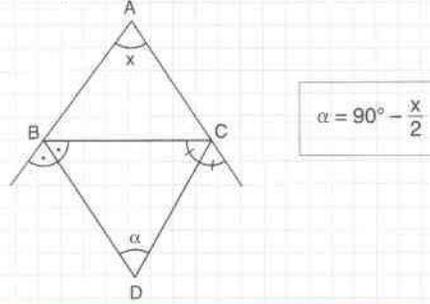
3.



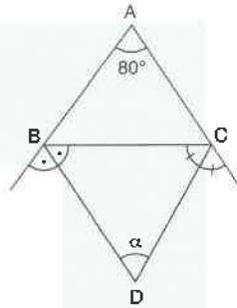
$\Rightarrow \alpha = ?$

50

ÖZELLİK | Property 6



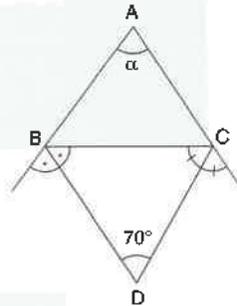
1.



$\Rightarrow \alpha = ?$

50

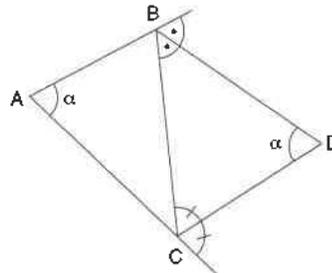
2.



$\Rightarrow \alpha = ?$

40

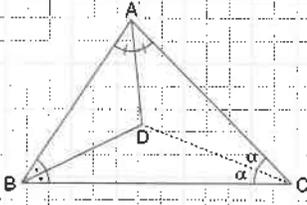
3.



$\Rightarrow \alpha = ?$

60

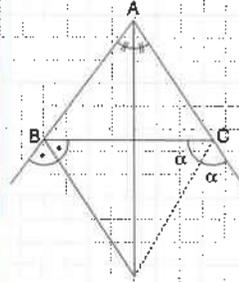
ÖZELLİK | Property 7



Üçgenin iç açıortayları, üçgenin iç bölgesinde bir noktada kesişir.

The interior angle bisectors are intersected at a point inside of the triangle.

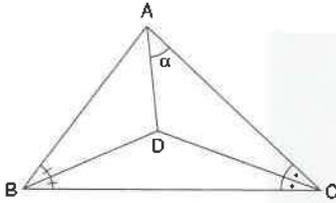
ÖZELLİK | Property 8



Bir üçgende iki açının dış açıortayları ile diğer açının iç açıortayı üçgenin dışında bir noktada kesişir.

The exterior angle bisectors of two angle and interior angle bisector of the other angle intersected at a point outside of the triangle.

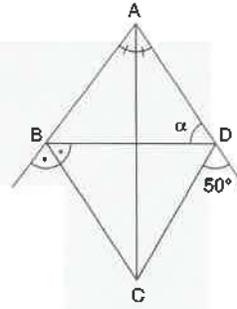
1.



$$m(\widehat{BAC}) = 70^\circ \\ \Rightarrow \alpha = ?$$

35

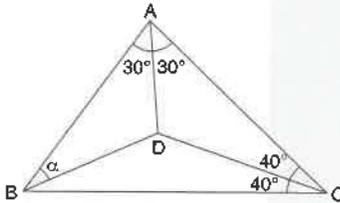
1.



$$\Rightarrow \alpha = ?$$

80

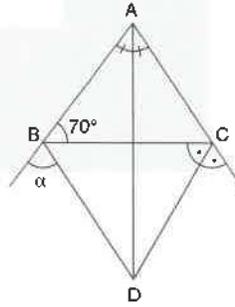
2.



$$\Rightarrow \alpha = ?$$

20

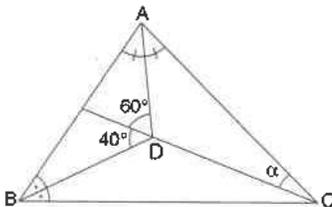
2.



$$\Rightarrow \alpha = ?$$

55

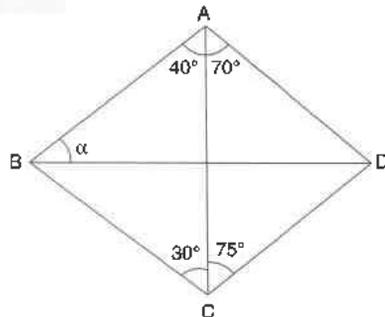
3.



$$\Rightarrow \alpha = ?$$

10

3.

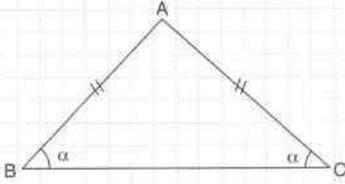


$$\Rightarrow \alpha = ?$$

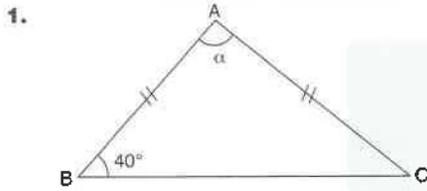
55

ÜÇGENDE AÇILAR

ÖZELLİK | Property 9

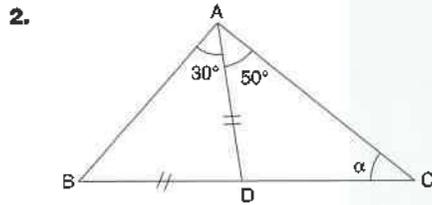


İkizkenar üçgen
Isosceles triangle
 $|AB| = |AC|$
 $m(\widehat{B}) = m(\widehat{C}) = \alpha$



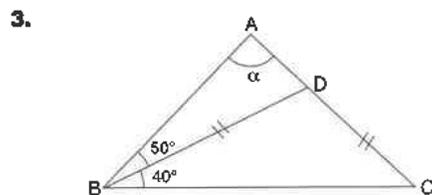
$$\Rightarrow \alpha = ?$$

100



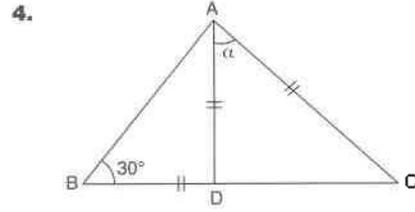
$$\Rightarrow \alpha = ?$$

70



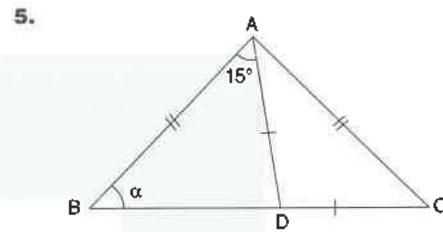
$$\Rightarrow \alpha = ?$$

50



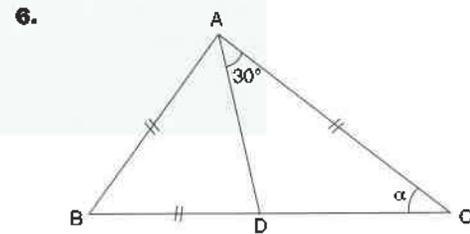
$$\Rightarrow \alpha = ?$$

60



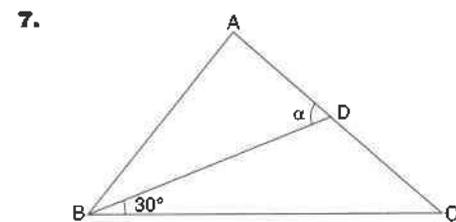
$$\Rightarrow \alpha = ?$$

55



$$\Rightarrow \alpha = ?$$

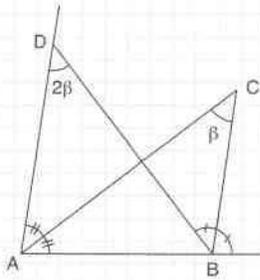
40



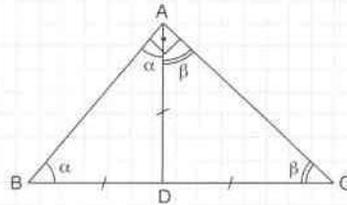
$$\begin{aligned} |AB| &= |AC| \\ |AD| &= |BD| \\ \Rightarrow \alpha &= ? \end{aligned}$$

100

ÖZELLİK | Property 10

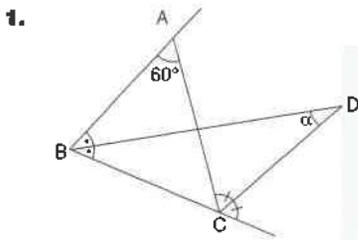


ÖZELLİK | Property 11



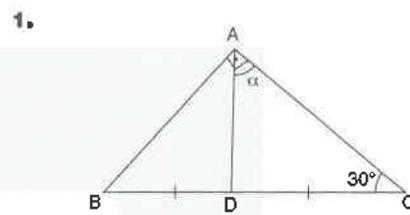
$$2\alpha + 2\beta = 180^\circ$$

$$\alpha + \beta = 90^\circ$$



$$\Rightarrow \alpha = ?$$

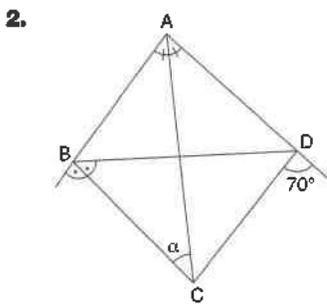
30



$$\Rightarrow \alpha = ?$$

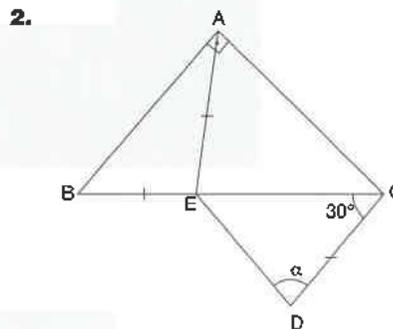
30

PUZAYAYINLARI



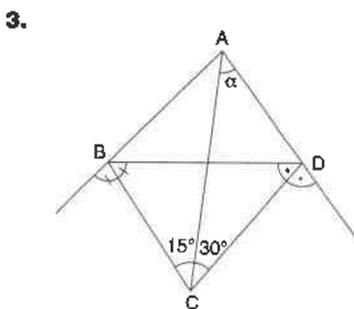
$$\Rightarrow \alpha = ?$$

20



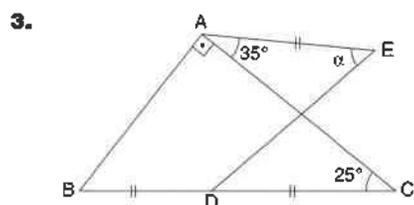
$$\Rightarrow \alpha = ?$$

75



$$\Rightarrow \alpha = ?$$

45

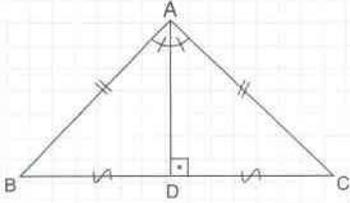


$$\Rightarrow \alpha = ?$$

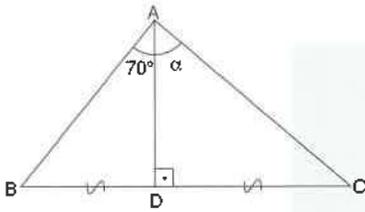
60

ÜÇGENDE AÇILAR

ÖZELLİK | Property 12



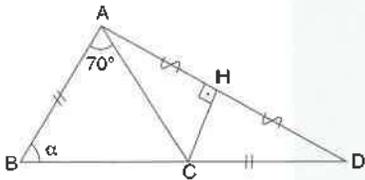
1.



$\Rightarrow \alpha = ?$

70

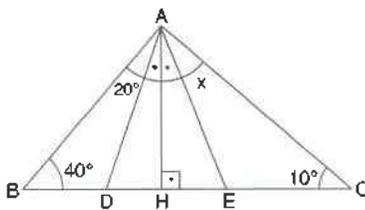
2.



$\Rightarrow \alpha = ?$

55

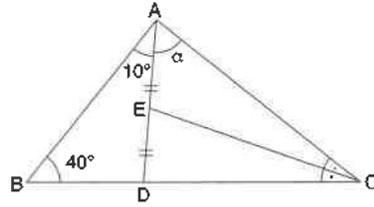
3.



$\Rightarrow x = ?$

50

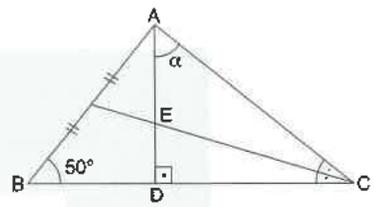
4.



$\Rightarrow \alpha = ?$

50

5.

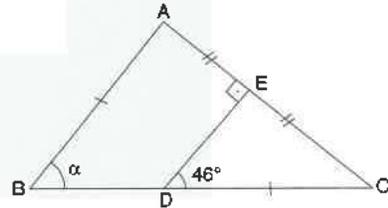


$\Rightarrow \alpha = ?$

10

PUZAYINILARI

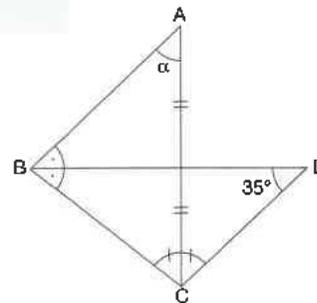
6.



$\Rightarrow \alpha = ?$

88

7.

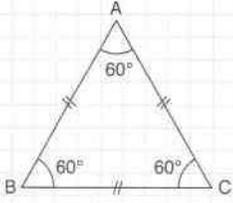


$\Rightarrow \alpha = ?$

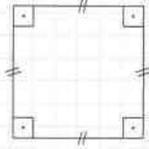
55

ÖZELLİK | Property 13

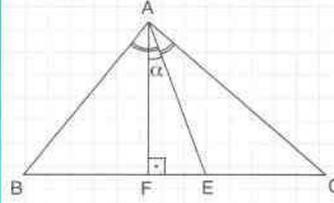
Eşkenar üçgen
Equilateral triangle



Kare
Square



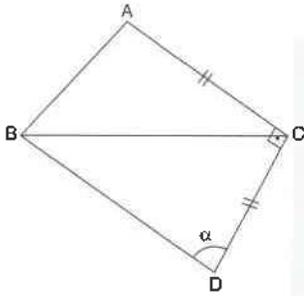
ÖZELLİK | Property 14



$$m(\widehat{BAE}) = m(\widehat{EAC})$$

$$\Rightarrow \alpha = \frac{m(\widehat{B}) - m(\widehat{C})}{2}$$

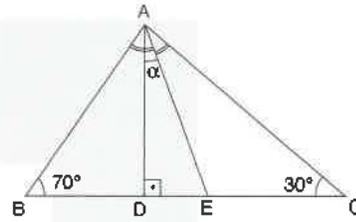
1.



ABC eşkenar üçgen
ABC equilateral triangle
 $\Rightarrow \alpha = ?$

75

1.



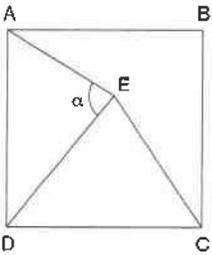
$$m(\widehat{BAE}) = m(\widehat{EAC})$$

$$\Rightarrow \alpha = ?$$

20

PUZAYVANLARI

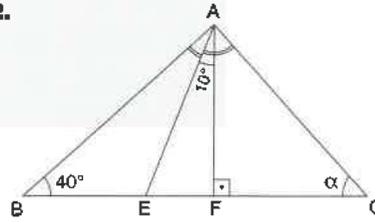
2.



ABCD kare
ABCD Square
EDC eşkenar üçgen
EDC equilateral triangle
 $\Rightarrow \alpha = ?$

75

2.

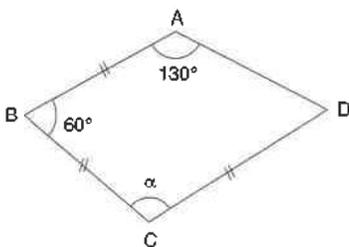


$$m(\widehat{BAE}) = m(\widehat{EAC})$$

$$\Rightarrow \alpha = ?$$

60

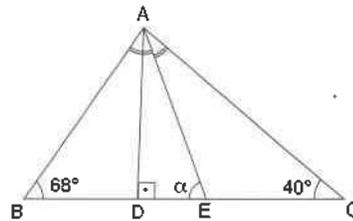
3.



$$\Rightarrow \alpha = ?$$

100

3.

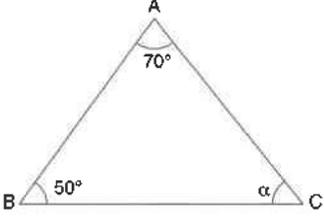


$$m(\widehat{BAE}) = m(\widehat{EAC})$$

$$\Rightarrow \alpha = ?$$

76

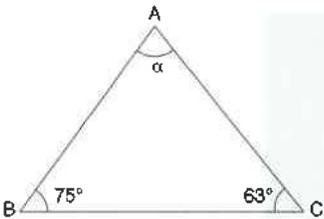
1.



$m(\widehat{BAC}) = 70^\circ$
 $m(\widehat{ABC}) = 50^\circ$
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 40 B) 50 C) 60 D) 70 E) 80

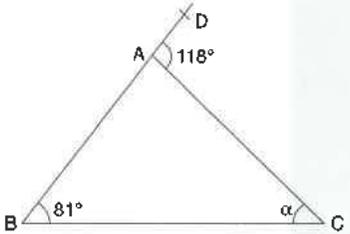
2.



$m(\widehat{ABC}) = 75^\circ$
 $m(\widehat{ACB}) = 63^\circ$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 32 B) 42 C) 48 D) 52 E) 58

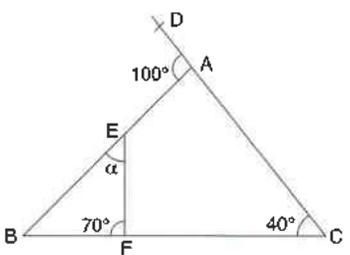
3.



$m(\widehat{DAC}) = 118^\circ$
 $m(\widehat{DBC}) = 81^\circ$
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 37 B) 43 C) 47 D) 53 E) 57

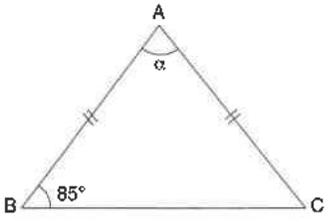
4.



$m(\widehat{DAB}) = 100^\circ$
 $m(\widehat{DCB}) = 40^\circ$
 $m(\widehat{EFB}) = 70^\circ$
 $\Rightarrow m(\widehat{BEF}) = \alpha = ?$

A) 35 B) 40 C) 45 D) 50 E) 60

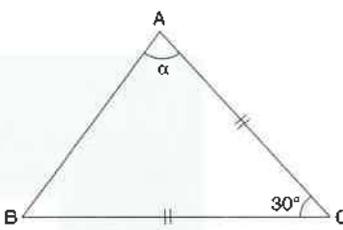
5.



$|AB| = |AC|$
 $m(\widehat{ABC}) = 85^\circ$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 75 E) 85

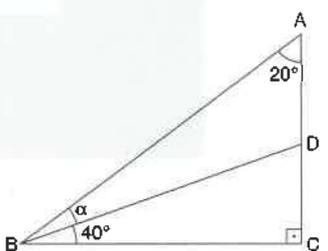
6.



$m(\widehat{ACB}) = 30^\circ$
 $|AC| = |BC|$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 30 B) 45 C) 65 D) 75 E) 85

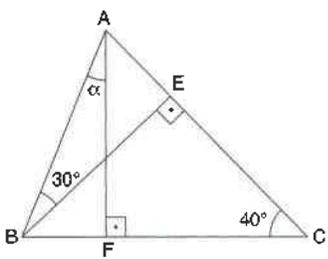
7.



$m(\widehat{BAC}) = 20^\circ$
 $m(\widehat{DBC}) = 40^\circ$
 $[AC] \perp [BC]$
 $\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 45 E) 55

8.



$m(\widehat{ABE}) = 30^\circ$
 $m(\widehat{ACB}) = 40^\circ$
 $[BE] \perp [AC]$
 $[AF] \perp [BC]$
 $\Rightarrow m(\widehat{BAF}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

9.

$m(\widehat{ACF}) = 110^\circ$
 $m(\widehat{EBF}) = 100^\circ$
 $\Rightarrow m(\widehat{KAC}) = \alpha = ?$

A) 100 B) 110 C) 120 D) 130 E) 150

13.

$m(\widehat{ABE}) = 60^\circ$
 $m(\widehat{CDE}) = 30^\circ$
 $m(\widehat{DEB}) = 45^\circ$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 35 B) 40 C) 45 D) 50 E) 55

10.

$m(\widehat{EBC}) = 100^\circ$
 $m(\widehat{BCK}) = 150^\circ$
 $\Rightarrow m(\widehat{EAK}) = \alpha = ?$

A) 50 B) 60 C) 70 D) 80 E) 90

14.

$m(\widehat{BAC}) = 30^\circ$
 $m(\widehat{ABD}) = 20^\circ$
 $m(\widehat{ACD}) = 10^\circ$
 $\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 50 E) 60

11.

$m(\widehat{ABD}) = 60^\circ$
 $m(\widehat{BAC}) = 50^\circ$
 $\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 50 B) 60 C) 90 D) 100 E) 110

15.

$m(\widehat{BAC}) = 40^\circ$
 $m(\widehat{ABD}) = 65^\circ$
 $m(\widehat{BDC}) = 150^\circ$
 $\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 40 B) 45 C) 50 D) 55 E) 65

12.

$m(\widehat{BAC}) = x + 20^\circ$
 $m(\widehat{ACD}) = 2x - 15^\circ$
 $m(\widehat{ABD}) = x + 45^\circ$
 $\Rightarrow m(\widehat{ABC}) = ?$

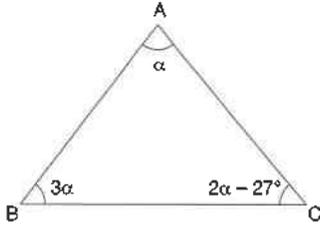
A) 20 B) 45 C) 65 D) 115 E) 125

16.

$m(\widehat{DAE}) = 40^\circ$
 $m(\widehat{ABC}) = 70^\circ$
 $m(\widehat{BCF}) = 60^\circ$
 $\Rightarrow m(\widehat{DFC}) = \alpha = ?$

A) 70 B) 130 C) 140 D) 170 E) 180

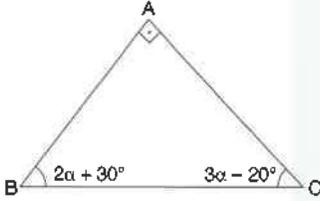
1.



$$\begin{aligned} m(\widehat{BAC}) &= \alpha \\ m(\widehat{ABC}) &= 3\alpha \\ m(\widehat{ACB}) &= 2\alpha - 27^\circ \\ \Rightarrow \alpha &= ? \end{aligned}$$

- A) 30 B) 32,5 C) 34,5 D) 36,5 E) 40

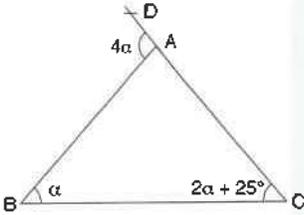
2.



$$\begin{aligned} m(\widehat{ABC}) &= 2\alpha + 30^\circ \\ m(\widehat{ACB}) &= 3\alpha - 20^\circ \\ [BA] \perp [AC] \\ \Rightarrow \alpha &= ? \end{aligned}$$

- A) 15 B) 16 C) 20 D) 22 E) 25

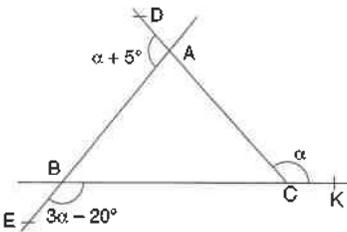
3.



$$\begin{aligned} m(\widehat{DAB}) &= 4\alpha \\ m(\widehat{ABC}) &= \alpha \\ m(\widehat{DCB}) &= 2\alpha + 25^\circ \\ \Rightarrow \alpha &= ? \end{aligned}$$

- A) 5 B) $\frac{25}{3}$ C) $\frac{25}{2}$ D) 25 E) 50

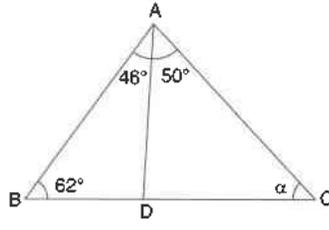
4.



$$\begin{aligned} m(\widehat{DAE}) &= \alpha + 5^\circ \\ m(\widehat{EBK}) &= 3\alpha - 20^\circ \\ \Rightarrow m(\widehat{DCK}) &= \alpha = ? \end{aligned}$$

- A) 69 B) 72 C) 75 D) 78 E) 81

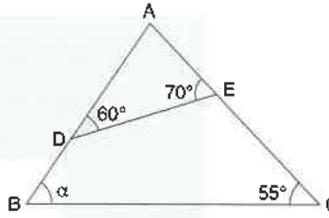
5.



$$\begin{aligned} m(\widehat{ABC}) &= 62^\circ \\ m(\widehat{BAD}) &= 46^\circ \\ m(\widehat{DAC}) &= 50^\circ \\ \Rightarrow m(\widehat{ACB}) &= \alpha = ? \end{aligned}$$

- A) 12 B) 22 C) 28 D) 32 E) 38

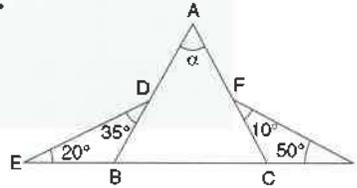
6.



$$\begin{aligned} m(\widehat{ADE}) &= 60^\circ \\ m(\widehat{AED}) &= 70^\circ \\ m(\widehat{ACB}) &= 55^\circ \\ \Rightarrow m(\widehat{ABC}) &= \alpha = ? \end{aligned}$$

- A) 55 B) 60 C) 65 D) 70 E) 75

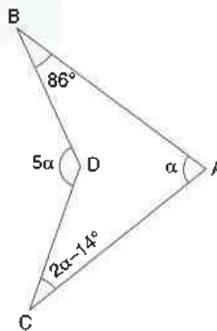
7.



$$\begin{aligned} m(\widehat{EDB}) &= 35^\circ \\ m(\widehat{DEK}) &= 20^\circ \\ m(\widehat{CFK}) &= 10^\circ \\ m(\widehat{FKE}) &= 50^\circ \\ \Rightarrow m(\widehat{BAC}) &= \alpha = ? \end{aligned}$$

- A) 45 B) 55 C) 65 D) 75 E) 85

8.



$$\begin{aligned} m(\widehat{ABD}) &= 86^\circ \\ m(\widehat{ACD}) &= 2\alpha - 14^\circ \\ m(\widehat{BDC}) &= 5\alpha \\ \Rightarrow m(\widehat{BAC}) &= \alpha = ? \end{aligned}$$

- A) 26 B) 30 C) 32 D) 36 E) 42

9.

$m(\widehat{BAC}) = 60^\circ$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 90 B) 100 C) 120 D) 130 E) 150

13.

$m(\widehat{BDC}) = 70^\circ$
 $m(\widehat{EBD}) = m(\widehat{DBC})$
 $m(\widehat{BCD}) = m(\widehat{DCF})$
 $\Rightarrow m(\widehat{EAF}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 70

10.

$m(\widehat{BDC}) = 150^\circ$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 60 B) 90 C) 100 D) 120 E) 150

14.

$3m(\widehat{EAF}) = 2m(\widehat{BDC})$
 $m(\widehat{CBD}) = m(\widehat{DBE})$
 $m(\widehat{BCD}) = m(\widehat{DCF})$
 $\Rightarrow \alpha = ?$

A) $\frac{45}{4}$ B) $\frac{45}{2}$ C) 45 D) 55 E) 60

11.

$m(\widehat{ADB}) = 108^\circ$
 $m(\widehat{CAD}) = m(\widehat{ABD})$
 $m(\widehat{DAB}) = m(\widehat{DBC})$
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 18 B) 36 C) 72 D) 100 E) 108

15.

$|AC| = |DC|$
 $m(\widehat{ABC}) = 70^\circ$
 $m(\widehat{ACB}) = 40^\circ$
 $m(\widehat{BDC}) = 75^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 75

12.

$m(\widehat{EAF}) = 80^\circ$
 $m(\widehat{EBD}) = m(\widehat{DBC})$
 $m(\widehat{BCD}) = m(\widehat{DCF})$
 $\Rightarrow m(\widehat{BDC}) = \alpha = ?$

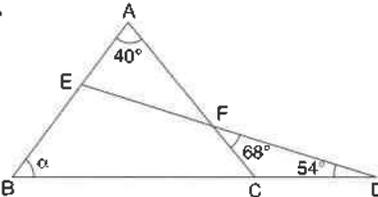
A) 130 B) 80 C) 70 D) 50 E) 40

16.

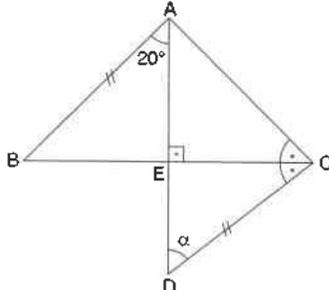
$m(\widehat{BAD}) = m(\widehat{EAC}) = 70^\circ$
 $|AD| = |DC|$
 $\Rightarrow m(\widehat{ADB}) = \alpha = ?$

A) 40 B) 70 C) 80 D) 90 E) 100

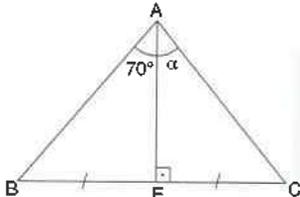
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1.  $m(\widehat{BAC}) = 40^\circ$
 $m(\widehat{CFD}) = 68^\circ$
 $m(\widehat{EDB}) = 54^\circ$
 $\Rightarrow m(\widehat{ABD}) = \alpha = ?$

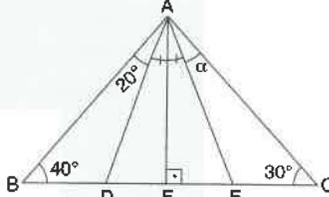
A) 18 B) 28 C) 34 D) 38 E) 40

5.  $|AB| = |CD|$
 $m(\widehat{BAD}) = 20^\circ$
 $m(\widehat{ACB}) = m(\widehat{BCD})$
 $[AE] \perp [BC]$
 $\Rightarrow m(\widehat{ADC}) = \alpha = ?$

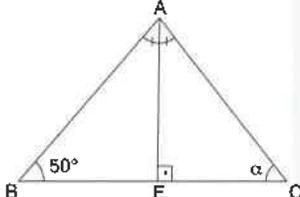
A) 20 B) 30 C) 40 D) 50 E) 70

2.  $[AE] \perp [BC]$
 $|BE| = |EC|$
 $m(\widehat{BAE}) = 70^\circ$
 $\Rightarrow m(\widehat{EAC}) = \alpha = ?$

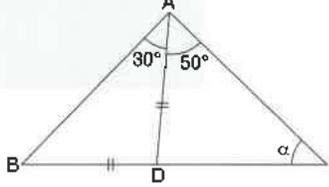
A) 20 B) 40 C) 50 D) 70 E) 80

6.  $m(\widehat{BAD}) = 20^\circ$
 $m(\widehat{ABC}) = 40^\circ$
 $m(\widehat{ACB}) = 30^\circ$
 $m(\widehat{DAF}) = m(\widehat{FAE})$
 $[AF] \perp [BC]$
 $\Rightarrow m(\widehat{EAC}) = \alpha = ?$

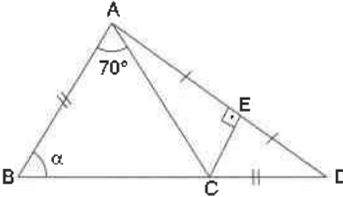
A) 20 B) 30 C) 40 D) 50 E) 60

3.  $m(\widehat{BAE}) = m(\widehat{EAC})$
 $[AE] \perp [BC]$
 $m(\widehat{ABC}) = 50^\circ$
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

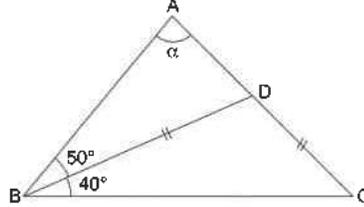
A) 20 B) 40 C) 50 D) 60 E) 70

7.  $|AD| = |BD|$
 $m(\widehat{BAD}) = 30^\circ$
 $m(\widehat{DAC}) = 50^\circ$
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 30 B) 50 C) 60 D) 70 E) 80

4.  $[CE] \perp [AD]$
 $m(\widehat{BAC}) = 70^\circ$
 $|AB| = |CD|$
 $|AE| = |ED|$
 $\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 45 B) 55 C) 65 D) 70 E) 80

8.  $m(\widehat{ABD}) = 50^\circ$
 $m(\widehat{DBC}) = 40^\circ$
 $|BD| = |DC|$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 40 B) 50 C) 60 D) 80 E) 90

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9.

$m(\widehat{ABC}) = 30^\circ$
 $|BD| = |AD| = |AC|$
 $\Rightarrow m(\widehat{DAC}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 75 E) 90

10.

$|AD| = |BD| = |BC|$
 $m(\widehat{BAC}) = 25^\circ$
 $\Rightarrow m(\widehat{DBC}) = \alpha = ?$

A) 25 B) 50 C) 60 D) 70 E) 80

11.

$m(\widehat{BAD}) = 15^\circ$
 $|AB| = |AC|$
 $|AD| = |DC|$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 45 B) 55 C) 60 D) 65 E) 75

12.

ABC eşkenar üçgen
 ABC equilateral triangle
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 90 E) 120

13.

ABC eşkenar üçgen
 ABC equilateral triangle
 $m(\widehat{BED}) = 38^\circ$
 $\Rightarrow m(\widehat{CDE}) = x = ?$

A) 58 B) 52 C) 28 D) 22 E) 18

14.

ABC eşkenar üçgen
 ABC equilateral triangle
 $|AC| = |CD|$
 $[AC] \perp [DC]$
 $\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 70 E) 75

15.

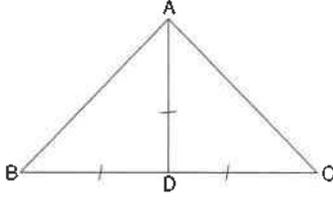
ABC eşkenar üçgen
 ABC equilateral triangle
 BCDE kare
 BCDE square
 $\Rightarrow m(\widehat{EAB}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 70 E) 75

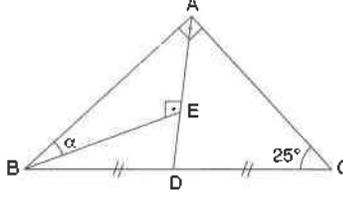
16.

$m(\widehat{BAC}) = 65^\circ$
 $m(\widehat{ACD}) = m(\widehat{BDE})$
 $|DC| = |EC|$
 $\Rightarrow m(\widehat{DCB}) = \alpha = ?$

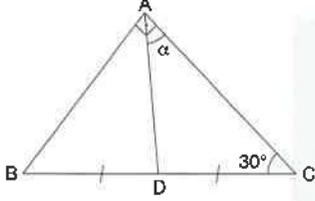
A) 40 B) 50 C) 60 D) 65 E) 75

1.  $|AD| = |BD| = |DC|$
 $\Rightarrow m(\widehat{BAC}) = ?$

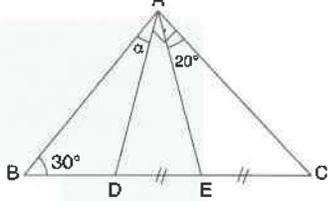
A) 30 B) 45 C) 60 D) 90 E) 120

5.  $[AB] \perp [AC]$
 $[AD] \perp [BE]$
 $|BD| = |DC|$
 $m(\widehat{ACB}) = 25^\circ$
 $\Rightarrow m(\widehat{ABE}) = \alpha = ?$

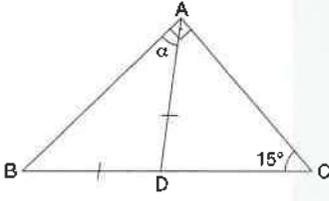
A) 25 B) 35 C) 45 D) 65 E) 75

2.  $[AB] \perp [AC]$
 $|BD| = |DC|$
 $m(\widehat{ACB}) = 30^\circ$
 $\Rightarrow m(\widehat{DAC}) = \alpha = ?$

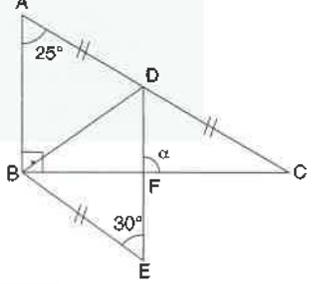
A) 15 B) 30 C) 45 D) 60 E) 75

6.  $[AD] \perp [AC]$
 $|DE| = |EC|$
 $m(\widehat{ABC}) = 30^\circ$
 $m(\widehat{EAC}) = 20^\circ$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$

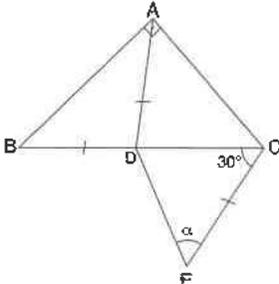
A) 20 B) 30 C) 40 D) 50 E) 60

3.  $[AB] \perp [AC]$
 $|AD| = |BD|$
 $m(\widehat{ACB}) = 15^\circ$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$

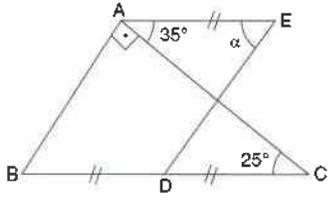
A) 15 B) 30 C) 45 D) 65 E) 75

7.  $[AB] \perp [BC]$
 $|AD| = |DC| = |BE|$
 $m(\widehat{BAC}) = 25^\circ$
 $m(\widehat{BED}) = 30^\circ$
 $\Rightarrow m(\widehat{DFC}) = \alpha = ?$

A) 45 B) 55 C) 90 D) 95 E) 120

4.  $[AB] \perp [AC]$
 $|AD| = |BD| = |EC|$
 $m(\widehat{BCE}) = 30^\circ$
 $\Rightarrow m(\widehat{DEC}) = \alpha = ?$

A) 15 B) 30 C) 60 D) 75 E) 90

8.  $[AB] \perp [AC]$
 $|AE| = |BD| = |DC|$
 $m(\widehat{EAC}) = 35^\circ$
 $m(\widehat{ACB}) = 25^\circ$
 $\Rightarrow m(\widehat{AED}) = \alpha = ?$

A) 25 B) 35 C) 50 D) 60 E) 70

9.

$[AB] \perp [EC]$
 $|AD| = |DC| = |EB|$
 $m(\widehat{DEC}) = 20^\circ$
 $\Rightarrow m(\widehat{ECA}) = \alpha = ?$

A) 10 B) 20 C) 40 D) 50 E) 70

13.

B, D, A doğrusal
 B, D, A linear
 $[BC] \perp [DC]$
 $2|AC| = |BD|$
 $m(\widehat{BDC}) = 80^\circ$
 $\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

10.

$[AB] \perp [EC]$
 $|AD| = |DC| = |BE|$
 $m(\widehat{DEC}) = 10^\circ$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 5 B) 10 C) 20 D) 70 E) 80

14.

$[AB] \perp [BC]$
 $|AE| = |EC| = |BD|$
 $m(\widehat{BAC}) = 50^\circ$
 $m(\widehat{BDE}) = 80^\circ$
 $\Rightarrow m(\widehat{DEC}) = \alpha = ?$

A) 20 B) 30 C) 35 D) 40 E) 50

11.

$[AB] \perp [AC]$
 $2|AD| = |BC| = 18$
 $m(\widehat{ACD}) = 32^\circ$
 $\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 16 B) 32 C) 58 D) 64 E) 74

15.

$m(\widehat{EBC}) = 72^\circ$
 $m(\widehat{ACB}) = 18^\circ$
 $|BD| = |DC| = |AE|$
 $\Rightarrow m(\widehat{BED}) = \alpha = ?$

A) 18 B) 32 C) 36 D) 44 E) 72

12.

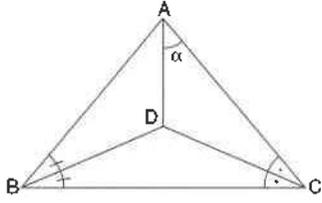
$[AB] \perp [AC]$
 $2|AD| = |BC|$
 $m(\widehat{ACB}) = 25^\circ$
 $\Rightarrow m(\widehat{DAB}) = \alpha = ?$

A) 15 B) 20 C) 25 D) 40 E) 50

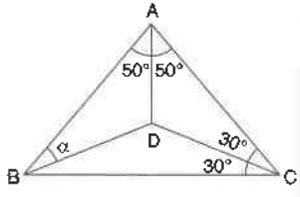
16.

$[BA] \perp [EC]$
 $[BF] \perp [AC]$
 $|BD| = |DC|$
 $m(\widehat{BAC}) = 70^\circ$
 $\Rightarrow m(\widehat{EDF}) = \alpha = ?$

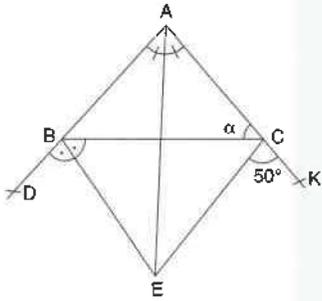
A) 20 B) 40 C) 50 D) 70 E) 100

1.  $m(\widehat{BAC}) = 80^\circ$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{BCD}) = m(\widehat{DCA})$
 $\Rightarrow m(\widehat{DAC}) = \alpha = ?$

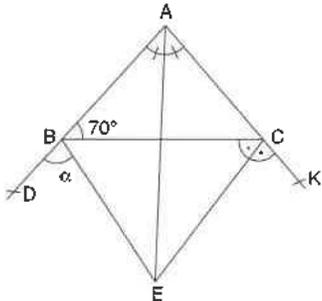
A) 20 B) 25 C) 30 D) 35 E) 40

2.  $m(\widehat{BAD}) = m(\widehat{DAC}) = 50^\circ$
 $m(\widehat{ACD}) = m(\widehat{DCB}) = 30^\circ$
 $\Rightarrow m(\widehat{ABD}) = \alpha = ?$

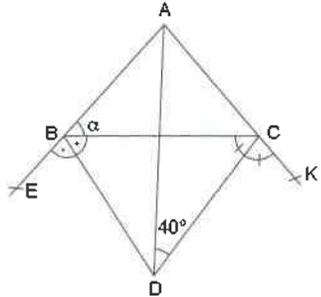
A) 5 B) 10 C) 15 D) 20 E) 30

3.  $m(\widehat{DAE}) = m(\widehat{EAK})$
 $m(\widehat{DBE}) = m(\widehat{EBC})$
 $m(\widehat{ECK}) = 50^\circ$
 $\Rightarrow m(\widehat{BCA}) = \alpha = ?$

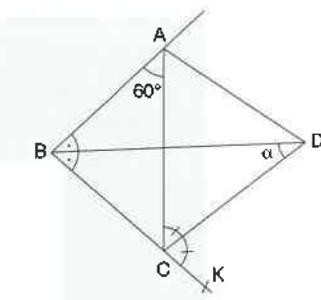
A) 40 B) 50 C) 70 D) 80 E) 90

4.  $m(\widehat{DAE}) = m(\widehat{EAK})$
 $m(\widehat{BCE}) = m(\widehat{ECK})$
 $m(\widehat{ABC}) = 70^\circ$
 $\Rightarrow m(\widehat{DBE}) = \alpha = ?$

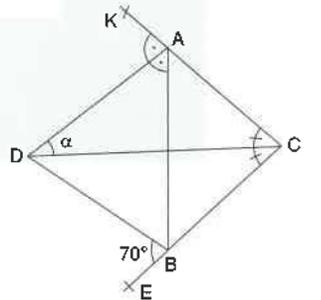
A) 40 B) 50 C) 55 D) 60 E) 65

5.  $m(\widehat{EBD}) = m(\widehat{DBC})$
 $m(\widehat{BCD}) = m(\widehat{DCK})$
 $m(\widehat{ADC}) = 40^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

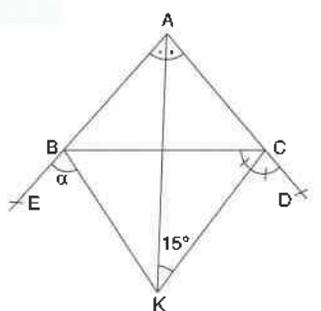
A) 20 B) 40 C) 50 D) 80 E) 100

6.  $m(\widehat{BAC}) = 60^\circ$
 $m(\widehat{ABD}) = m(\widehat{DBK})$
 $m(\widehat{ACD}) = m(\widehat{DCK})$
 $\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 120 B) 60 C) 45 D) 30 E) 15

7.  $m(\widehat{KAD}) = m(\widehat{DAB})$
 $m(\widehat{KCD}) = m(\widehat{DCE})$
 $m(\widehat{DBE}) = 70^\circ$
 $\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 10 B) 20 C) 40 D) 55 E) 110

8.  $m(\widehat{EAK}) = m(\widehat{KAD})$
 $m(\widehat{BCK}) = m(\widehat{KCE})$
 $m(\widehat{AKC}) = 15^\circ$
 $\Rightarrow m(\widehat{EBK}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 75 E) 150

9.

$m(\widehat{BAD}) = m(\widehat{DAC})$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{ADE}) = 40^\circ$
 $m(\widehat{EDB}) = 60^\circ$
 $\Rightarrow m(\widehat{ACE}) = \alpha = ?$

A) 5 B) 10 C) 15 D) 20 E) 25

10.

$m(\widehat{EBD}) = m(\widehat{DBC})$
 $m(\widehat{BCD}) = m(\widehat{DCK})$
 $m(\widehat{BDA}) = 15^\circ$
 $m(\widehat{ADC}) = 30^\circ$
 $\Rightarrow m(\widehat{DAK}) = \alpha = ?$

A) 35 B) 40 C) 45 D) 50 E) 55

11.

$m(\widehat{BAC}) = 80^\circ$
 $m(\widehat{CAD}) = 50^\circ$
 $m(\widehat{BCA}) = 30^\circ$
 $m(\widehat{ACD}) = 75^\circ$
 $\Rightarrow m(\widehat{ADB}) = \alpha = ?$

A) 10 B) 15 C) 30 D) 40 E) 50

12.

$m(\widehat{ACE}) = m(\widehat{ECB})$
 $m(\widehat{ADE}) = m(\widehat{EDB})$
 $m(\widehat{BAD}) = 65^\circ$
 $\Rightarrow m(\widehat{DEC}) = \alpha = ?$

A) 130 B) 65 C) 50 D) 25 E) 20

13.

$m(\widehat{BAD}) = m(\widehat{DAC})$
 $m(\widehat{BCA}) = 78^\circ$
 $m(\widehat{BCD}) = 51^\circ$
 $\Rightarrow m(\widehat{BDA}) = \alpha = ?$

A) 28 B) 39 C) 56 D) 78 E) 90

14.

$m(\widehat{BAC}) = m(\widehat{CAD})$
 $m(\widehat{ABD}) = 30^\circ$
 $m(\widehat{DBC}) = 75^\circ$
 $\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 150 B) 75 C) 60 D) 30 E) 15

15.

$m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $m(\widehat{CBE}) = m(\widehat{EBG})$
 $m(\widehat{BCE}) = m(\widehat{ECF})$
 $m(\widehat{BDC}) = \alpha + 40^\circ$
 $m(\widehat{BEC}) = \alpha - 20^\circ$
 $\Rightarrow m(\widehat{GAF}) = ?$

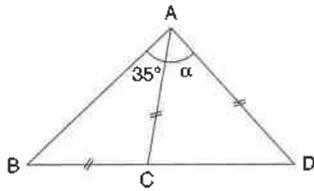
A) 30 B) 45 C) 60 D) 80 E) 90

16.

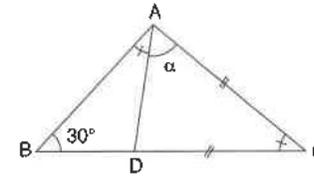
$m(\widehat{BDC}) = 115^\circ$
 $m(\widehat{ABE}) = m(\widehat{EBF})$
 $m(\widehat{BCD}) = m(\widehat{DCA})$
 $m(\widehat{ACE}) = m(\widehat{ECF})$
 $\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 15 B) 25 C) 30 D) 35 E) 40

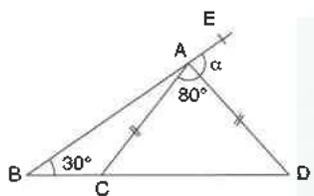
PUZAYAYINLARI

1.  $|BC| = |CA| = |AD|$
 $m(\widehat{BAC}) = 35^\circ$
 $\Rightarrow m(\widehat{CAD}) = \alpha = ?$

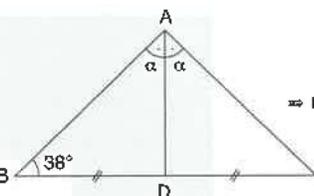
A) 40 B) 45 C) 50 D) 55 E) 60

5.  $|AC| = |DC|$
 $m(\widehat{ABC}) = 30^\circ$
 $m(\widehat{BAD}) = m(\widehat{BCA})$
 $\Rightarrow m(\widehat{DAC}) = \alpha = ?$

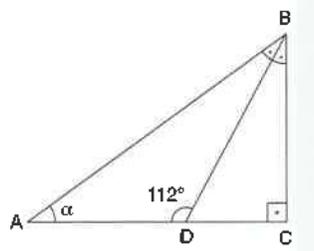
A) 110 B) 100 C) 80 D) 70 E) 60

2.  $|CA| = |AD|$
 $m(\widehat{ABD}) = 30^\circ$
 $m(\widehat{CAD}) = 80^\circ$
 $\Rightarrow m(\widehat{EAD}) = \alpha = ?$

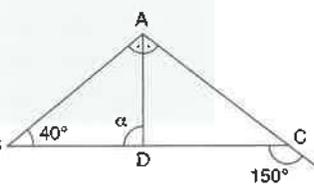
A) 55 B) 60 C) 65 D) 70 E) 80

6.  $|BD| = |DC|$
 $m(\widehat{ABC}) = 38^\circ$
 $\Rightarrow m(\widehat{BAD}) = m(\widehat{DAC}) = \alpha = ?$

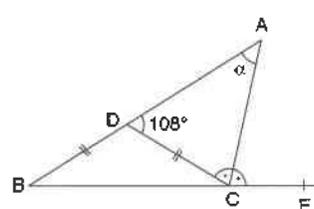
A) 32 B) 48 C) 46 D) 52 E) 90

3.  $[BC] \perp [AC]$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{ADB}) = 112^\circ$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

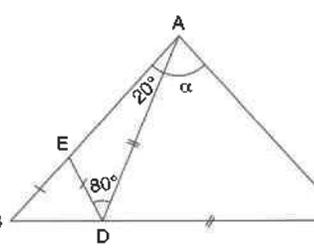
A) 30 B) 38 C) 42 D) 46 E) 48

7.  $m(\widehat{ABC}) = 40^\circ$
 $m(\widehat{BCE}) = 150^\circ$
 $m(\widehat{BAD}) = m(\widehat{DAE})$
 $\Rightarrow m(\widehat{BDA}) = \alpha = ?$

A) 60 B) 70 C) 75 D) 80 E) 85

4.  $|BD| = |DC|$
 $m(\widehat{ADC}) = 108^\circ$
 $m(\widehat{DCA}) = m(\widehat{ACE})$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 9 B) 18 C) 19 D) 20 E) 24

8.  $|BE| = |ED|$
 $|AD| = |DC|$
 $m(\widehat{BAD}) = 20^\circ$
 $m(\widehat{EDA}) = 80^\circ$
 $\Rightarrow m(\widehat{DAC}) = \alpha = ?$

A) 30 B) 40 C) 50 D) 60 E) 70

9.

$|DE| = |BE| = |EC|$
 $m(\widehat{BAC}) = 35^\circ$
 $\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 40 B) 45 C) 50 D) 55 E) 60

13.

$|AE| = |EB|$
 $[DE] \perp [AB]$
 $m(\widehat{BCA}) = 60^\circ$
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $\Rightarrow m(\widehat{EDA}) = \alpha = ?$

A) 60 B) 55 C) 50 D) 45 E) 40

10.

$|DE| = |AE| = |BD|$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $m(\widehat{BCA}) = 60^\circ$
 $\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 90 B) 80 C) 70 D) 60 E) 50

14.

$[BE], [CE], [CD]$ açıortay
 $[BE], [CE], [CD]$ açıortay
 $m(\widehat{BAC}) = 70^\circ$
 $\Rightarrow \alpha + \beta = ?$

A) 180 B) 175 C) 170 D) 165 E) 160

11.

$m(\widehat{BDC}) = 144^\circ$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{BCD}) = m(\widehat{DCA})$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 48 B) 52 C) 54 D) 60 E) 62

15.

$|AB| = |AC|$
 $|BC| = |CE|$
 $m(\widehat{BAC}) = 70^\circ$
 $m(\widehat{BFA}) = 60^\circ$
 $\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 5 B) 10 C) 15 D) 20 E) 25

12.

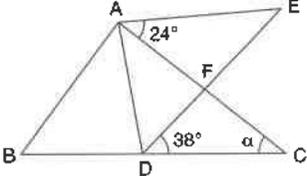
$m(\widehat{ACB}) = 25^\circ$
 $m(\widehat{BAD}) = m(\widehat{DAE})$
 $m(\widehat{FAC}) = m(\widehat{CAE})$
 $\Rightarrow m(\widehat{ADC}) = \alpha = ?$

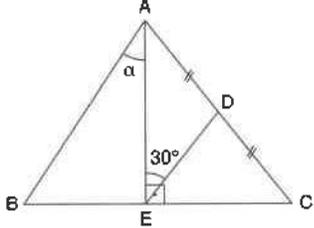
A) 35 B) 45 C) 50 D) 55 E) 65

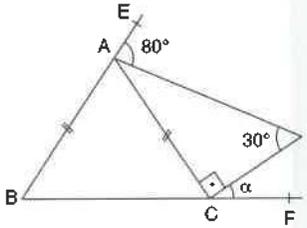
16.

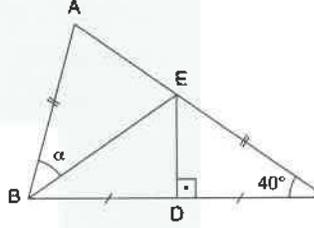
$m(\widehat{BAD}) = 60^\circ$
 $m(\widehat{DEC}) = 100^\circ$
 $m(\widehat{DAC}) = m(\widehat{EDC})$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

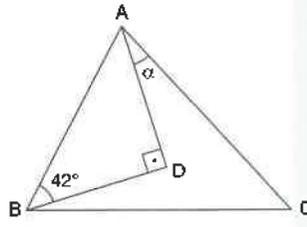
A) 30 B) 40 C) 50 D) 60 E) 70

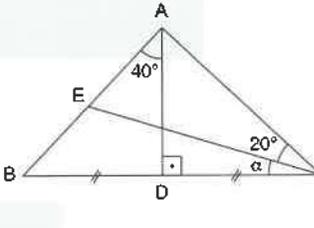
1.  ADE eşkenar üçgen
ADE equilateral triangle
 $m(\widehat{CAE}) = 24^\circ$
 $m(\widehat{EDC}) = 38^\circ$
 $\Rightarrow m(\widehat{BCA}) = \alpha = ?$
- A) 40 B) 46 C) 48 D) 50 E) 52

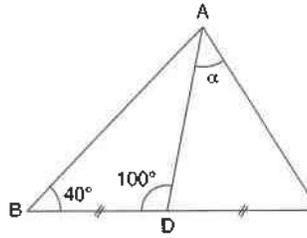
5.  $|AB| = |AC|$
 $|AD| = |DC|$
 $[AE] \perp [BC]$
 $m(\widehat{AED}) = 30^\circ$
 $\Rightarrow m(\widehat{BAE}) = \alpha = ?$
- A) 25 B) 30 C) 35 D) 40 E) 45

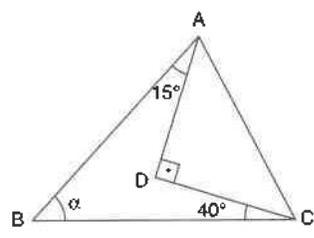
2.  $[AC] \perp [CD]$
 $|AB| = |AC|$
 $m(\widehat{EAD}) = 80^\circ$
 $m(\widehat{ADC}) = 30^\circ$
 $\Rightarrow m(\widehat{DCF}) = \alpha = ?$
- A) 20 B) 25 C) 30 D) 35 E) 40

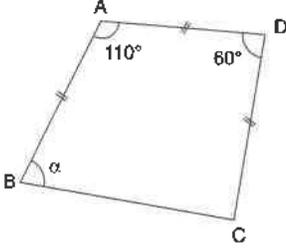
6.  $|BA| = |EC|$
 $|BD| = |DC|$
 $[ED] \perp [BC]$
 $m(\widehat{ACB}) = 40^\circ$
 $\Rightarrow m(\widehat{ABE}) = \alpha = ?$
- A) 20 B) 30 C) 40 D) 50 E) 60

3.  ABC eşkenar üçgen
ABC equilateral triangle
 $[AD] \perp [DB]$
 $m(\widehat{ABD}) = 42^\circ$
 $\Rightarrow m(\widehat{DAC}) = \alpha = ?$
- A) 12 B) 16 C) 18 D) 20 E) 22

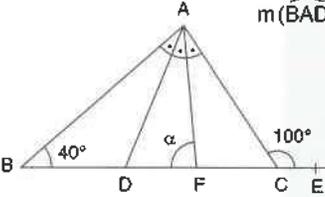
7.  $|BD| = |DC|$
 $[AD] \perp [BC]$
 $m(\widehat{ACE}) = 20^\circ$
 $m(\widehat{BAD}) = 40^\circ$
 $\Rightarrow m(\widehat{ECB}) = \alpha = ?$
- A) 10 B) 15 C) 20 D) 25 E) 30

4.  $|BD| = |DC|$
 $m(\widehat{ABC}) = 40^\circ$
 $m(\widehat{ADB}) = 100^\circ$
 $\Rightarrow m(\widehat{DAC}) = \alpha = ?$
- A) 35 B) 50 C) 55 D) 60 E) 70

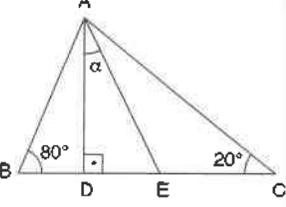
8.  $[AD] \perp [DC]$
 $m(\widehat{BAD}) = 15^\circ$
 $m(\widehat{DCB}) = 40^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$
- A) 30 B) 35 C) 40 D) 45 E) 60

9.  $[BA] = [AD] = [DC]$
 $m(\widehat{ADC}) = 60^\circ$
 $m(\widehat{BAD}) = 110^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

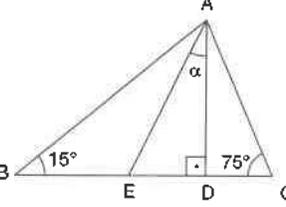
A) 45 B) 50 C) 55 D) 60 E) 65

10.  $m(\widehat{BAD}) = m(\widehat{DAF}) = m(\widehat{FAC})$
 $m(\widehat{ABE}) = 40^\circ$
 $m(\widehat{ACE}) = 100^\circ$
 $\Rightarrow m(\widehat{AFB}) = \alpha = ?$

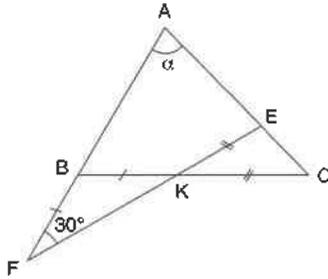
A) 40 B) 50 C) 60 D) 80 E) 100

11.  $[AD] \perp [BC]$
 $m(\widehat{ACB}) = 20^\circ$
 $m(\widehat{ABC}) = 80^\circ$
 $m(\widehat{BAE}) = m(\widehat{EAC})$
 $\Rightarrow m(\widehat{DAE}) = \alpha = ?$

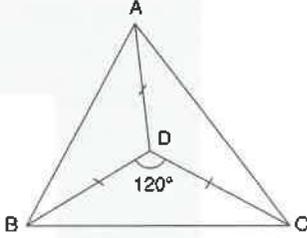
A) 20 B) 25 C) 30 D) 40 E) 50

12.  $[AD] \perp [BC]$
 $m(\widehat{ABC}) = 15^\circ$
 $m(\widehat{ACB}) = 75^\circ$
 $m(\widehat{BAE}) = m(\widehat{EAC})$
 $\Rightarrow m(\widehat{EAD}) = \alpha = ?$

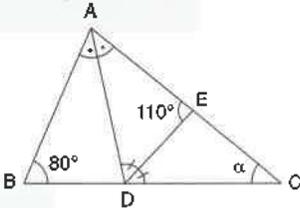
A) 30 B) 35 C) 40 D) 45 E) 50

13.  $[KE] = [KC]$
 $[BK] = [BF]$
 $m(\widehat{AFE}) = 30^\circ$
 $\Rightarrow m(\widehat{FAC}) = \alpha = ?$

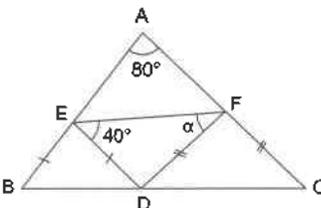
A) 45 B) 50 C) 55 D) 60 E) 65

14.  $[AD] = [BD] = [CD]$
 $m(\widehat{BDC}) = 120^\circ$
 $\Rightarrow m(\widehat{BAC}) = ?$

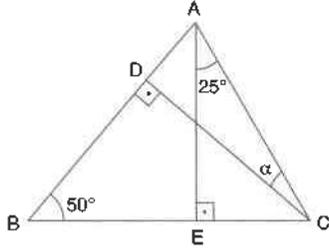
A) 40 B) 60 C) 80 D) 90 E) 100

15.  $[AD]$ ve $[DE]$ açıortay
 $[AD]$ and $[DE]$ açıortay
 $m(\widehat{ABC}) = 80^\circ$
 $m(\widehat{AED}) = 110^\circ$
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

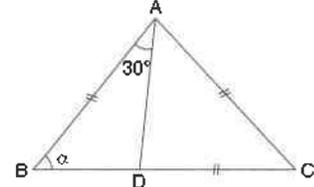
A) 60 B) 55 C) 50 D) 45 E) 40

16.  $[BE] = [ED]$
 $[DF] = [FC]$
 $m(\widehat{BAC}) = 80^\circ$
 $m(\widehat{FED}) = 40^\circ$
 $\Rightarrow m(\widehat{EFD}) = \alpha = ?$

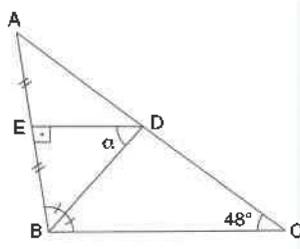
A) 40 B) 50 C) 60 D) 70 E) 80

1.  $m(\widehat{EAC}) = 25^\circ$
 $m(\widehat{ABC}) = 50^\circ$
 $[BA] \perp [DC]$
 $[AE] \perp [BC]$
 $\Rightarrow m(\widehat{ACD}) = \alpha = ?$

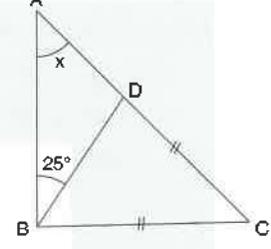
A) 25 B) 30 C) 35 D) 40 E) 45

5.  $m(\widehat{BAD}) = 30^\circ$
 $|AC| = |DC| = |AB|$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

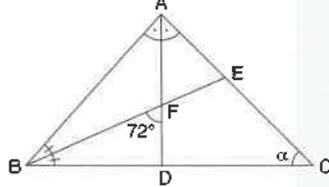
A) 30 B) 40 C) 60 D) 70 E) 80

2.  $m(\widehat{ACB}) = 48^\circ$
 $[DE] \perp [AB]$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $|AE| = |EB|$
 $\Rightarrow m(\widehat{EDB}) = \alpha = ?$

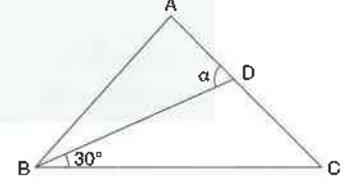
A) 44 B) 46 C) 48 D) 52 E) 56

6.  $m(\widehat{ABD}) = 25^\circ$
 $|DC| = |BC|$
 $[AB] \perp [BC]$
 $\Rightarrow m(\widehat{BAC}) = x = ?$

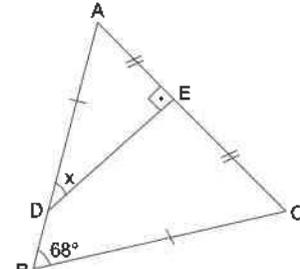
A) 25 B) 30 C) 35 D) 40 E) 45

3.  $m(\widehat{BAD}) = m(\widehat{DAC})$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $m(\widehat{BFD}) = 72^\circ$
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

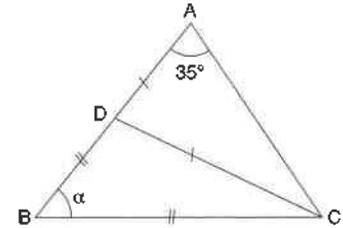
A) 32 B) 36 C) 46 D) 72 E) 78

7.  $m(\widehat{DBC}) = 30^\circ$
 $|AB| = |AC|$
 $|AD| = |BD|$
 $\Rightarrow m(\widehat{ADB}) = \alpha = ?$

A) 40 B) 70 C) 90 D) 100 E) 110

4.  $m(\widehat{ABC}) = 68^\circ$
 $[DE] \perp [AC]$
 $|AE| = |EC|$
 $|AD| = |BC|$
 $\Rightarrow m(\widehat{ADE}) = x = ?$

A) 44 B) 46 C) 56 D) 66 E) 68

8.  $m(\widehat{BAC}) = 35^\circ$
 $|AD| = |DC|$
 $|BD| = |BC|$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 20 B) 40 C) 60 D) 80 E) 100

9.

$m(\widehat{DBC}) = 20^\circ$
 $[BD] \perp [AC]$
 $|AB| = |AC|$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 60 E) 70

10.

$m(\widehat{EDC}) = 32^\circ$
 $m(\widehat{ACB}) = 48^\circ$
 $|AE| = |AD| = |AB|$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 44 B) 46 C) 54 D) 64 E) 68

11.

$m(\widehat{DAE}) = 48^\circ$
 $|AD| = |BD|$
 $|AE| = |EC|$
 $\Rightarrow m(\widehat{BAC}) = ?$

A) 64 B) 66 C) 104 D) 114 E) 124

12.

$m(\widehat{BAC}) = 110^\circ$
 $|BF| = |FD|$
 $|DE| = |EC|$
 $\Rightarrow m(\widehat{FDE}) = \alpha = ?$

A) 40 B) 70 C) 110 D) 120 E) 130

13.

$m(\widehat{EDF}) = 50^\circ$
 $|BE| = |ED|$
 $|DF| = |FC|$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 40 B) 50 C) 80 D) 100 E) 130

14.

ABC eşkenar üçgen
 ABC equilateral triangle
 $m(\widehat{CDE}) = 50^\circ$
 $|DC| = |DE|$
 $\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 50 B) 55 C) 60 D) 65 E) 70

15.

$|AB| = |AD|$
 $m(\widehat{ABC}) = 40^\circ$
 $m(\widehat{CAD}) = 30^\circ$
 $m(\widehat{ACD}) = 75^\circ$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

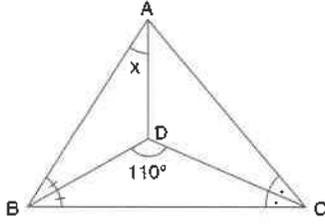
A) 80 B) 95 C) 100 D) 110 E) 120

16.

$m(\widehat{ABC}) = 44^\circ$
 $|AE| = |ED|$
 $|AD| = |AC|$
 $[ED] \perp [BC]$
 $\Rightarrow m(\widehat{DAC}) = \alpha = ?$

A) 23 B) 44 C) 46 D) 48 E) 56

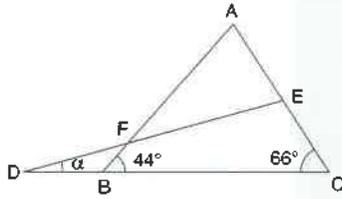
1.



$$\begin{aligned} m(\widehat{ABD}) &= m(\widehat{DBC}) \\ m(\widehat{ACD}) &= m(\widehat{DCB}) \\ m(\widehat{BDC}) &= 110^\circ \\ &\Rightarrow m(\widehat{BAD}) = x = ? \end{aligned}$$

- A) 20 B) $\frac{55}{2}$ C) 40 D) 55 E) 70

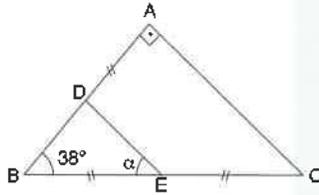
2.



$$\begin{aligned} m(\widehat{ABC}) &= 44^\circ \\ m(\widehat{ACD}) &= 66^\circ \\ |AF| &= |FE| \\ &\Rightarrow m(\widehat{EDC}) = \alpha = ? \end{aligned}$$

- A) 4 B) 8 C) 12 D) 16 E) 20

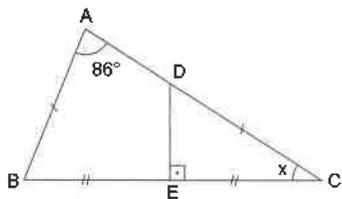
3.



$$\begin{aligned} [AB] &\perp [AC] \\ m(\widehat{ABC}) &= 38^\circ \\ |AD| &= |BE| = |EC| \\ &\Rightarrow m(\widehat{DEB}) = \alpha = ? \end{aligned}$$

- A) 23 B) 28 C) 33 D) 38 E) 43

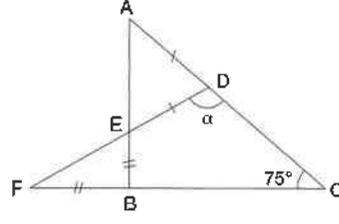
4.



$$\begin{aligned} m(\widehat{BAC}) &= 86^\circ \\ [DE] &\perp [BC] \\ |BE| &= |EC| \\ |AB| &= |DC| \\ &\Rightarrow m(\widehat{DCE}) = x = ? \end{aligned}$$

- A) 43 B) 46 C) 56 D) 66 E) 68

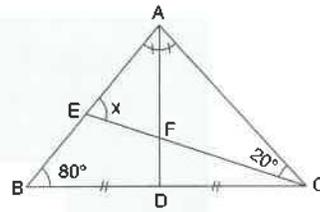
5.



$$\begin{aligned} m(\widehat{ACF}) &= 75^\circ \\ |AD| &= |DE| \\ |EB| &= |BF| \\ &\Rightarrow m(\widehat{FDC}) = \alpha = ? \end{aligned}$$

- A) 65 B) 70 C) 75 D) 80 E) 85

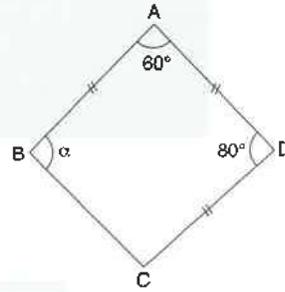
6.



$$\begin{aligned} m(\widehat{ABC}) &= 80^\circ \\ m(\widehat{ACE}) &= 20^\circ \\ m(\widehat{BAD}) &= m(\widehat{DAC}) \\ |BD| &= |DC| \\ &\Rightarrow m(\widehat{AEC}) = x = ? \end{aligned}$$

- A) 90 B) 100 C) 110 D) 120 E) 140

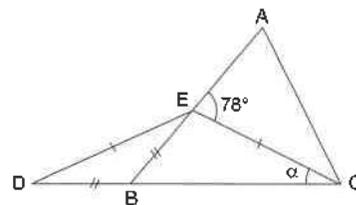
7.



$$\begin{aligned} m(\widehat{BAD}) &= 60^\circ \\ m(\widehat{ADC}) &= 80^\circ \\ |AB| &= |AD| = |DC| \\ &\Rightarrow m(\widehat{ABC}) = \alpha = ? \end{aligned}$$

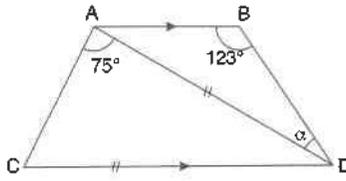
- A) 60 B) 80 C) 100 D) 130 E) 140

8.

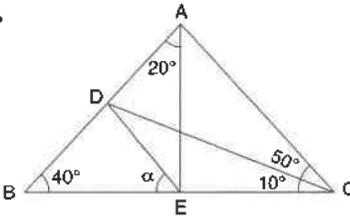


$$\begin{aligned} |DE| &= |EC| \\ |DB| &= |BE| \\ m(\widehat{AEC}) &= 78^\circ \\ &\Rightarrow m(\widehat{ECD}) = \alpha = ? \end{aligned}$$

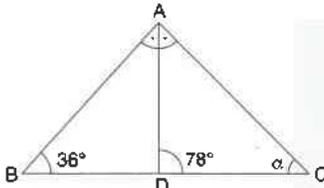
- A) 22 B) 24 C) 26 D) 28 E) 30

9.  $[AB] \parallel [CD]$
 $m(\widehat{ABD}) = 123^\circ$
 $m(\widehat{CAD}) = 75^\circ$
 $|AD| = |CD|$
 $\Rightarrow m(\widehat{BDA}) = \alpha = ?$

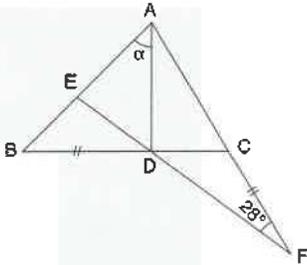
A) 27 B) 30 C) 33 D) 37 E) 40

13.  $m(\widehat{BAE}) = 20^\circ$
 $m(\widehat{ABC}) = 40^\circ$
 $m(\widehat{ACD}) = 50^\circ$
 $m(\widehat{DCB}) = 10^\circ$
 $\Rightarrow m(\widehat{DEB}) = \alpha = ?$

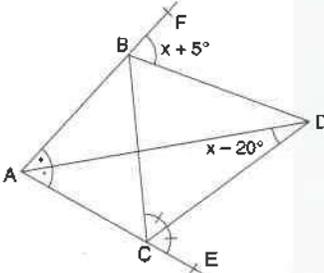
A) 20 B) 30 C) 40 D) 50 E) 60

10.  $m(\widehat{ABC}) = 36^\circ$
 $m(\widehat{ADC}) = 78^\circ$
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

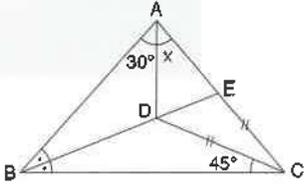
A) 36 B) 40 C) 48 D) 60 E) 68

14.  ABC eşkenar üçgen
 ABC equilateral triangle
 $m(\widehat{AFE}) = 28^\circ$
 $|BD| = |CF|$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$

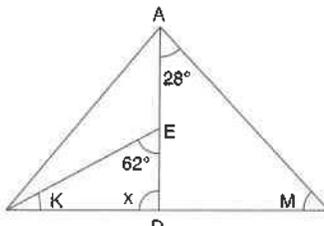
A) 28 B) 32 C) 38 D) 40 E) 48

11.  $m(\widehat{DBF}) = x + 5^\circ$
 $m(\widehat{ADC}) = x - 20^\circ$
 $m(\widehat{FAD}) = m(\widehat{DAE})$
 $m(\widehat{BCD}) = m(\widehat{DCE})$
 $\Rightarrow m(\widehat{CBD}) = ?$

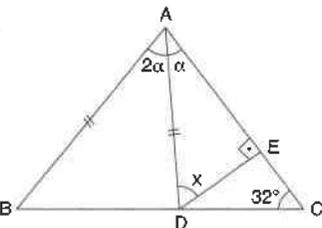
A) 47,5 B) 50 C) 52,5 D) 55 E) 57,5

15.  $m(\widehat{BAD}) = 30^\circ$
 $m(\widehat{DCB}) = 45^\circ$
 $|EC| = |DC|$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $\Rightarrow m(\widehat{DAE}) = x = ?$

A) 5 B) 10 C) 15 D) 20 E) 25

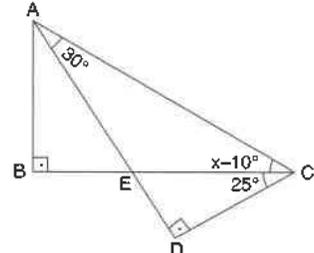
12.  $m(\widehat{DAC}) = 28^\circ$
 $m(\widehat{BED}) = 62^\circ$
 $m(\widehat{EBC}) = K$
 $m(\widehat{ACB}) = M$
 $K - M = 16^\circ$
 $\Rightarrow m(\widehat{ADB}) = x = ?$

A) 27 B) 37 C) 45 D) 65 E) 68

16.  $m(\widehat{BAD}) = 2 \cdot m(\widehat{DAC})$
 $|AB| = |AD|$
 $[DE] \perp [AC]$
 $m(\widehat{ACB}) = 32^\circ$
 $\Rightarrow m(\widehat{ADE}) = x = ?$

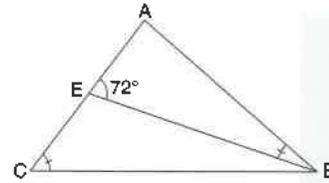
A) 32 B) 37 C) 61 D) 60 E) 66

PUZAYAYINLARI

1. 

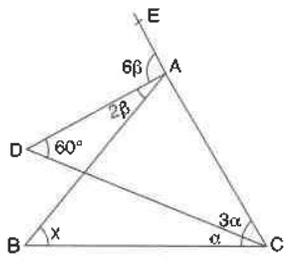
$m(\widehat{DAC}) = 30^\circ$
 $m(\widehat{ACB}) = x - 10^\circ$
 $m(\widehat{BCD}) = 25^\circ$
 $[AB] \perp [BC]$
 $[AD] \perp [DC]$
 $= x = ?$

A) 25 B) 35 C) 45 D) 50 E) 65

2. 

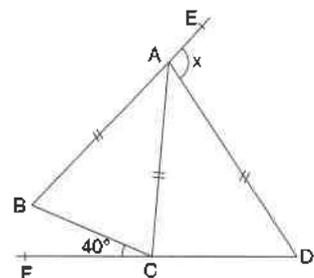
$m(\widehat{ACB}) = m(\widehat{ABE})$
 $m(\widehat{AEB}) = 72^\circ$
 $= m(\widehat{ABC}) = ?$

A) 18 B) 36 C) 72 D) 108 E) 144

3. 

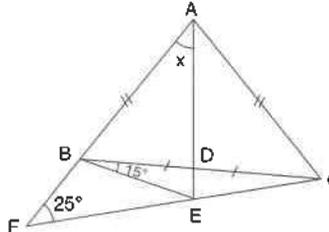
$3m(\widehat{DAB}) = m(\widehat{DAE}) = 6\beta$
 $m(\widehat{ECD}) = 3m(\widehat{DCB}) = 3\alpha$
 $m(\widehat{ADC}) = 60^\circ$
 $= m(\widehat{ABC}) = x = ?$

A) 70 B) 80 C) 90 D) 100 E) 110

4. 

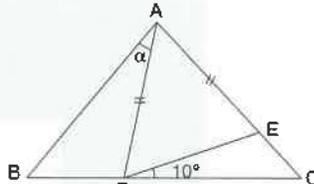
$|AB| = |AC| = |AD|$
 $m(\widehat{BCF}) = 40^\circ$
 $= m(\widehat{EAD}) = x = ?$

A) 40 B) 60 C) 80 D) 100 E) 120

5. 

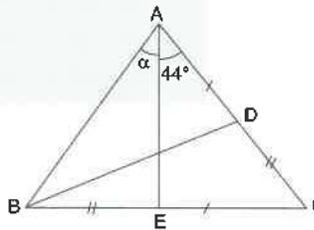
$|AB| = |AC|$
 $|BD| = |DC|$
 $m(\widehat{AFC}) = 25^\circ$
 $m(\widehat{EBC}) = 15^\circ$
 $\Rightarrow m(\widehat{FAE}) = x = ?$

A) 15 B) 25 C) 40 D) 50 E) 60

6. 

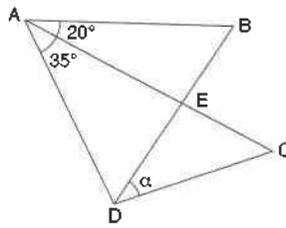
ABC eşkenar üçgen
 ABC equilateral triangle
 $|AD| = |AE|$
 $m(\widehat{EDC}) = 10^\circ$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

7. 

$|AD| = |EC| = |AE|$
 $|DC| = |BE|$
 $m(\widehat{EAC}) = 44^\circ$
 $\Rightarrow m(\widehat{BAE}) = \alpha = ?$

A) 12 B) 22 C) 24 D) 28 E) 32

8. 

$|BD| = |AD| = |AC|$
 $m(\widehat{CAB}) = 20^\circ$
 $m(\widehat{CAD}) = 35^\circ$
 $\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 2,5 B) 3 C) 4 D) 5 E) 7,5

9.

$[AF] \perp [BC]$
 $m(\widehat{ACE}) = 20^\circ$
 $m(\widehat{ECB}) = 60^\circ$
 $|BF| = |FC|$
 $\Rightarrow m(\widehat{AEC}) = x = ?$

A) 80 B) 100 C) 120 D) 140 E) 160

10.

$m(\widehat{BAE}) = 15^\circ$
 $m(\widehat{EAC}) = 60^\circ$
 $m(\widehat{ABC}) = 45^\circ$
 $m(\widehat{DCB}) = 30^\circ$
 $\Rightarrow m(\widehat{DEA}) = x = ?$

A) 15 B) 20 C) 25 D) 30 E) 35

11.

$|AB| = |AC|$
 $|BD| = |BC|$
 $m(\widehat{BEC}) = 27^\circ$
 $m(\widehat{EBC}) = m(\widehat{ACE})$
 $\Rightarrow m(\widehat{BAC}) = x = ?$

A) 24 B) 25 C) 27 D) 31 E) 42

12.

$m(\widehat{DCB}) = 22^\circ$
 $|AC| = |AF| = |AD|$
 $\Rightarrow m(\widehat{BAF}) = \alpha = ?$

A) 11 B) 22 C) 33 D) 44 E) 55

13.

$|AB| = |AD|$
 $m(\widehat{BAC}) = 80^\circ$
 $m(\widehat{ADB}) = 30^\circ$
 $m(\widehat{BDC}) = 40^\circ$
 $\Rightarrow m(\widehat{DBC}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

14.

$|BF| = |FC|$
 $[AF] \perp [BC]$
 $m(\widehat{CED}) = 40^\circ$
 $m(\widehat{ADB}) = 50^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 70 E) 80

15.

ABCD kare
 ABCD square
 $|DF| = |FC|$
 $|AB| = |DE|$
 $m(\widehat{BAE}) = 20^\circ$
 $m(\widehat{EDF}) = 10^\circ$
 $\Rightarrow m(\widehat{ECF}) = \alpha = ?$

A) 10 B) 25 C) 40 D) 50 E) 80

16.

AEB eşkenar üçgen
 AEB equilateral triangle
 FGCD kare
 FGCD square
 $m(\widehat{ACE}) = \alpha$
 $\Rightarrow \alpha = ?$

A) 9 B) 10 C) 14 D) 15 E) 16

ÜÇGENDE AÇILAR

ANGLES OF TRIANGLE

YANIT ANAHTARI

ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	A	D	A	D	B	A	E	C	E	D	C	E	B	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	D	C	B	E	C	D	C	D	B	D	C	B	B	C

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	C	B	A	B	D	B	C	E	B	C	D	E	E	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	E	D	A	C	D	D	C	D	D	A	E	A	C	B

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	D	C	D	D	B	D	B	C	B	D	B	E	C	B

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	D	A	D	D	E	D	D	A	C	E	C	E	A	B

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	A	A	B	B	A	E	B	E	E	C	A	A	B	A	C

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	B	B	C	B	D	D	B	B	A	D	C	B	B	C	C

TEST 9

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	A	C	A	B	E	E	C	A	D	E	D	C	B	C	C

TEST 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	B	D	D	A	C	A	D	A	E	D	A	D	B	D

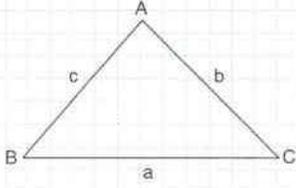


**AÇI-KENAR
BAĞINTILARI**

ANGLE - SIDE
RELATIONSHIPS

AÇI-KENAR BAĞINTILARI

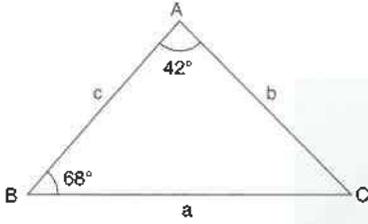
ÖZELLİK | Property 1



$$m(\widehat{A}) > m(\widehat{B}) > m(\widehat{C})$$

$$\Rightarrow a > b > c$$

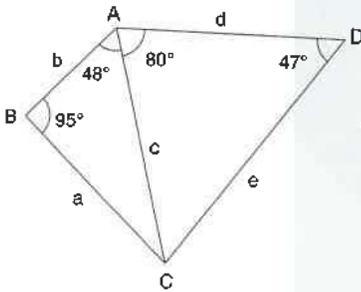
1.



$$\Rightarrow ? < ? < ?$$

$$a < b < c$$

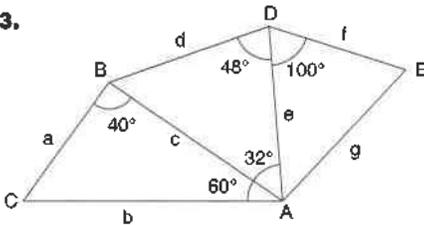
2.



$$\Rightarrow ? < ? < ? < ? < ?$$

$$b < a < c < d < e$$

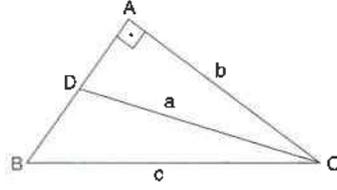
3.



En uzun kenar hangisidir?
Which side is the longest?

g

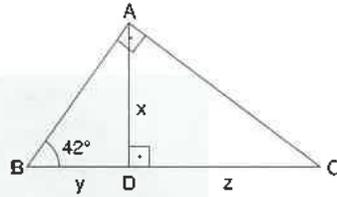
4.



$$\Rightarrow ? > ? > ?$$

$$c > a > b$$

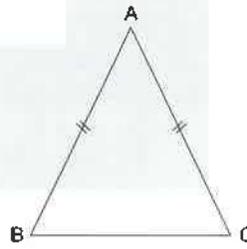
5.



$$\Rightarrow ? > ? > ?$$

$$y > x > z$$

6.



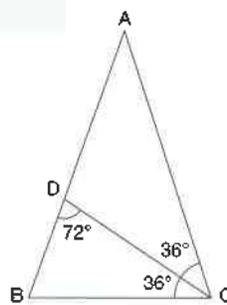
$$m(\widehat{B}) \in \mathbb{Z}$$

$$m(\widehat{A}) < 40^\circ$$

$$\Rightarrow \min(\widehat{B}) = ?$$

71

7.

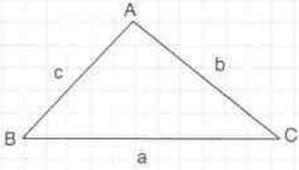


- I. $|AB| = |AC|$
 - II. $|AC| = |BC|$
 - III. $|BD| < |AD|$
 - IV. $|AC| > |BD|$
- Hangileri doğrudur?
Hangileri doğrudur?

I, III, IV

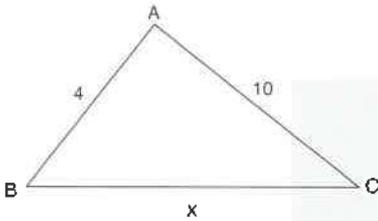
ANGLE-SIDE RELATIONSHIPS

ÖZELLİK | Property 2



$$\begin{cases} |b-c| < a < b+c \\ |a-c| < b < a+c \\ |a-b| < c < a+b \end{cases}$$

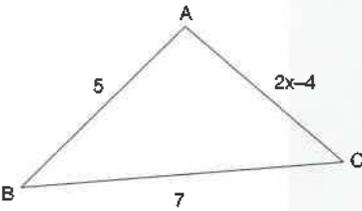
1.



$$\Rightarrow ? < x < ?$$

$$6 < x < 14$$

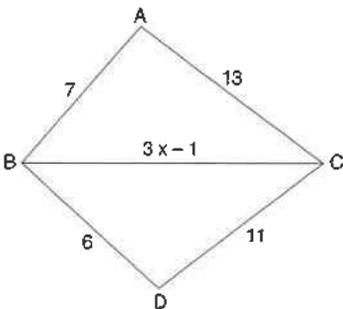
2.



$$\Rightarrow ? < x < ?$$

$$3 < x < 8$$

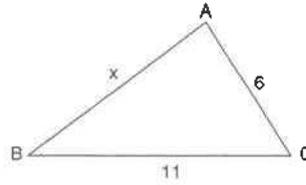
3.



$$\Rightarrow ? < x < ?$$

$$\frac{7}{3} < x < 6$$

4.



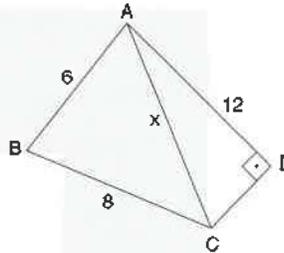
$$x \in \mathbb{N}^+$$

$$m(\widehat{A}) > m(\widehat{C}) > m(\widehat{B})$$

$$\Rightarrow \sum x = ?$$

34

5.

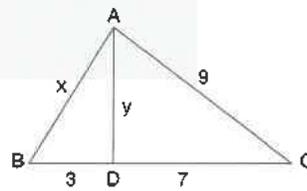


$$x \in \mathbb{N}^+$$

$$\Rightarrow x = ?$$

13

6.



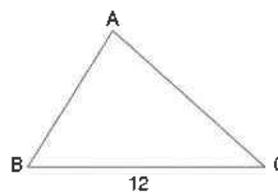
$$y, x \in \mathbb{N}^+$$

$$\min(y) \text{ için (for } \min(y))$$

$$\Rightarrow \max(x) = ?$$

5

7.



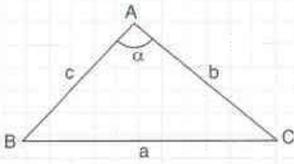
$$\angle(ABC) \in \mathbb{Z}$$

$$\Rightarrow \min(\angle(ABC)) = ?$$

25

AÇI-KENAR BAĞINTILARI

ÖZELLİK | Property 3

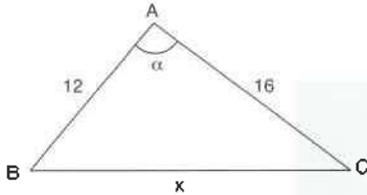


$$\alpha = 90^\circ \Rightarrow a^2 = b^2 + c^2$$

$$\alpha > 90^\circ \Rightarrow a^2 > b^2 + c^2$$

$$\alpha < 90^\circ \Rightarrow a^2 < b^2 + c^2$$

1.

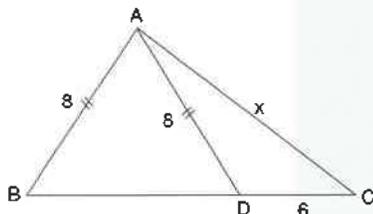


$$\alpha < 90^\circ$$

$$\Rightarrow ? < x < ?$$

$$4 < x < 20$$

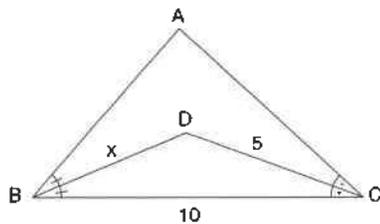
2.



$$\Rightarrow ? < x < ?$$

$$10 < x < 14$$

3.

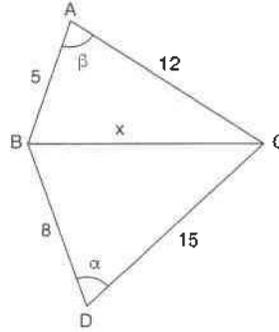


$$x \in \mathbb{N}$$

$$\Rightarrow \max(x) = ?$$

$$8$$

4.



$$x \in \mathbb{Z}$$

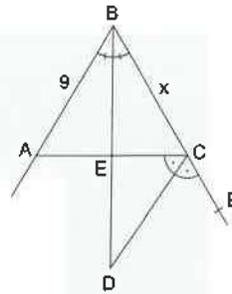
$$\alpha < 90^\circ$$

$$\beta < 90^\circ$$

$$\Rightarrow \sum x = ?$$

$$50$$

5.



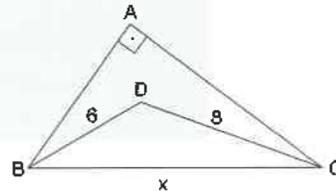
$$x \in \mathbb{Z}$$

$$m(\widehat{BDC}) > 45^\circ$$

$$\Rightarrow \min(x) = ?$$

$$10$$

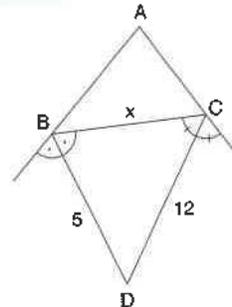
6.



$$\Rightarrow ? < x < ?$$

$$10 < x < 14$$

7.



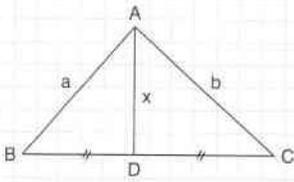
$$x \in \mathbb{Z}$$

$$\Rightarrow \max(x) + \min(x) = ?$$

$$20$$

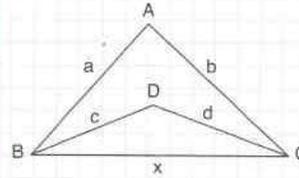
ANGLE-SIDE RELATIONSHIPS

ÖZELLİK | Property 4



$$\frac{|a-b|}{2} < x < \frac{a+b}{2}$$

ÖZELLİK | Property 5



$$x < c+d < a+b$$

1.

$\Rightarrow ? < x < ?$

$2 < x < 6$

1.

$\Rightarrow ? < x < ?$

$1 < x < 4$

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2.

$\Rightarrow ? < x < ?$

$1 < x < 4$

2.

$x \in \mathbb{Z}$
 $\Rightarrow \max(x) = ?$

7

3.

$m(\widehat{A}) > 90^\circ$
 $\Rightarrow ? < x < ?$

$1 < x < 5$

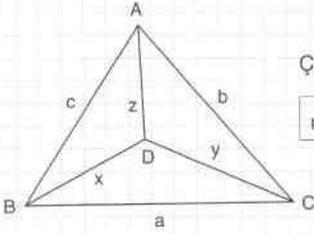
3.

$x \in \mathbb{Z}$
 $\Rightarrow \max(x) = ?$

10

AÇI-KENAR BAĞINTILARI

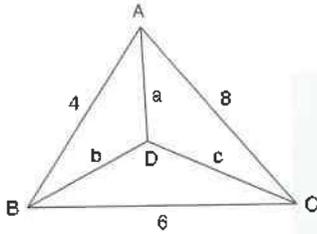
ÖZELLİK | Property 6



$$\text{Ç}(ABC) = 2u = a + b + c$$

$$u < x + y + z < 2u$$

1.

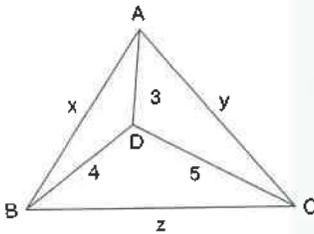


$$(a + b + c) \in \mathbb{Z}$$

$$\Rightarrow \max(a + b + c) = ?$$

17

2.

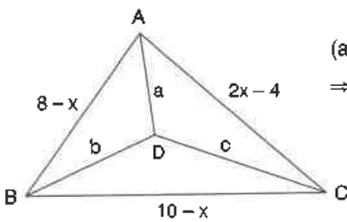


$$(x + y + z) \in \mathbb{Z}$$

$$\Rightarrow \min(x + y + z) = ?$$

13

3.

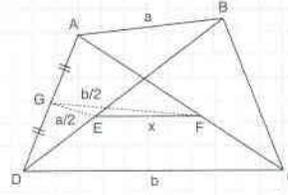


$$(a + b + c) \in \mathbb{Z}$$

$$\Rightarrow \max(a + b + c) = ?$$

13

ÖZELLİK | Property 7

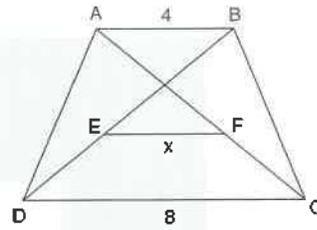


$$|AF| = |FC|$$

$$|BE| = |ED|$$

$$\frac{|a-b|}{2} < x < \frac{a+b}{2}$$

1.



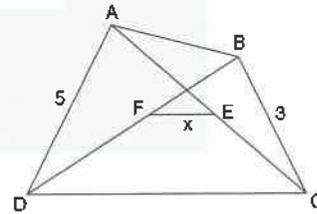
$$|AF| = |FC|$$

$$|BE| = |ED|$$

$$\Rightarrow ? < x < ?$$

2 < x < 6

2.



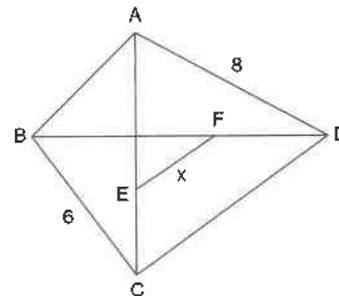
$$|AE| = |EC|$$

$$|DF| = |FB|$$

$$\Rightarrow ? < x < ?$$

1 < x < 4

3.



$$|BF| = |FD|$$

$$|AE| = |EC|$$

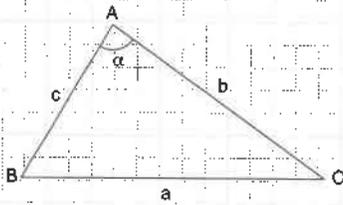
$$\Rightarrow ? < x < ?$$

1 < x < 7

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ÖZELLİK | Property 8

Kosinüs Teoremi (Cosinus Theorem)



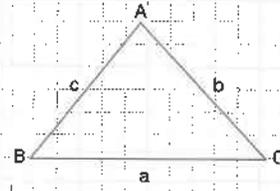
$$\cos 30^\circ = \frac{\sqrt{3}}{2}$$

$$\cos 60^\circ = \frac{1}{2}$$

$$\cos 45^\circ = \frac{\sqrt{2}}{2}$$

$$a^2 = b^2 + c^2 - 2bc \cdot \cos \alpha$$

ÖZELLİK | Property 9



$$m(\widehat{A}) > m(\widehat{B}) > m(\widehat{C})$$

$$1) a > b > c$$

$$2) h_a < h_b < h_c$$

$$3) n_A < n_B < n_C$$

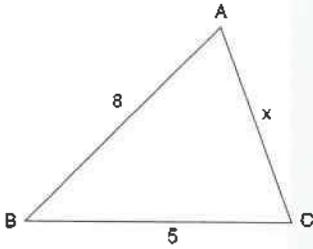
$$4) V_a < V_b < V_c$$

h: Yükseklik (height)

n: Açortay (bisector)

V: Kenarortay (median)

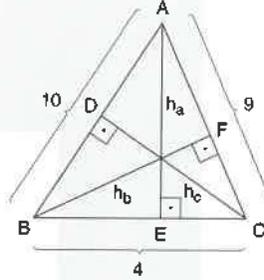
1.



$$m(\widehat{B}) < 60^\circ \\ \Rightarrow ? < x < ?$$

$$3 < x < 7$$

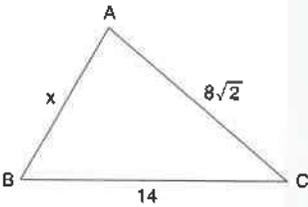
1.



$$h_a, h_b, h_c \\ \Rightarrow ? > ? > ?$$

$$h_a > h_b > h_c$$

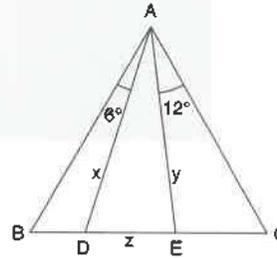
2.



$$x \in \mathbb{Z} \\ m(\widehat{C}) > 45^\circ \\ \Rightarrow \min(x) = ?$$

$$11$$

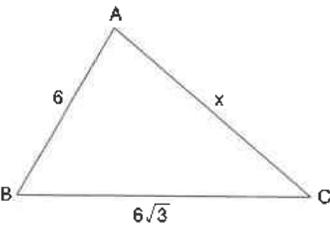
2.



ABC eşkenar üçgen
ABC equilateral triangle
 V_x, V_y, V_z
 $\Rightarrow ? > ? > ?$

$$V_z > V_y > V_x$$

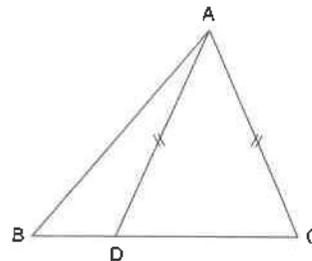
3.



$$x \in \mathbb{Z} \\ m(\widehat{B}) > 30^\circ \\ \Rightarrow \min(x) = ?$$

$$7$$

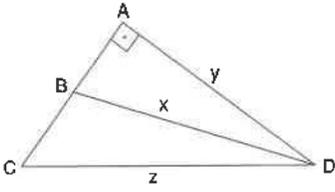
3.



$$m(\widehat{DAC}) = 60^\circ \\ n_A, n_B, n_C \\ \Rightarrow ? > ? > ?$$

$$n_B > n_C > n_A$$

1.

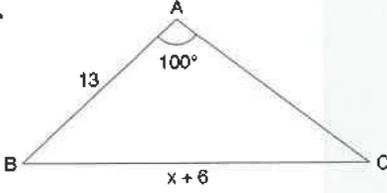


$$\begin{aligned} [CA] &\perp [AD] \\ |CD| &= z \\ |BD| &= x \\ |AD| &= y \end{aligned}$$

Aşağıdakilerden hangisi doğrudur?
Which one of the following is correct?

- A) $x > y > z$ B) $z > x > y$ C) $y > x > z$
D) $y > z > x$ E) $x > z > y$

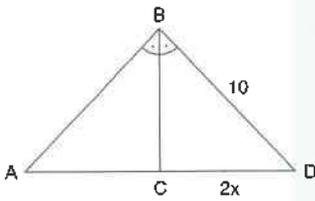
2.



$$\begin{aligned} x &\in \mathbb{Z} \\ m(\widehat{BAC}) &= 100^\circ \\ |AB| &= 13 \text{ br} \\ |BC| &= x + 6 \\ \Rightarrow \min(x) &= ? \end{aligned}$$

- A) 6 B) 7 C) 8 D) 9 E) 10

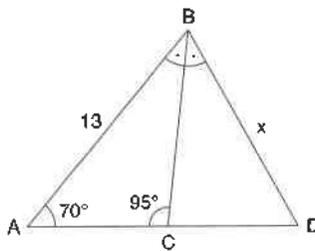
3.



$$\begin{aligned} x &\in \mathbb{Z} \\ m(\widehat{ABC}) &= m(\widehat{CBD}) \\ |BD| &= 10 \text{ br} \\ |CD| &= 2x \\ \Rightarrow \max(x) &= ? \end{aligned}$$

- A) 6 B) 5 C) 4 D) 3 E) 2

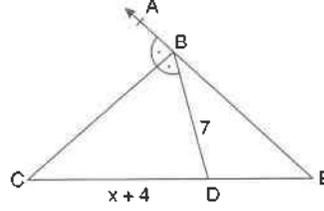
4.



$$\begin{aligned} x &\in \mathbb{Z} \\ m(\widehat{ABC}) &= m(\widehat{CBD}) \\ m(\widehat{BAD}) &= 70^\circ \\ m(\widehat{BCA}) &= 95^\circ \\ \Rightarrow \max(x) &= ? \end{aligned}$$

- A) 15 B) 14 C) 13 D) 12 E) 11

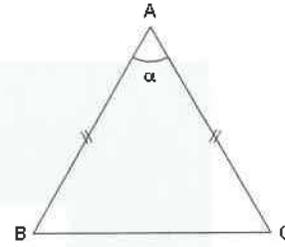
5.



$$\begin{aligned} x &\in \mathbb{Z} \\ m(\widehat{ABC}) &= m(\widehat{CBD}) \\ |BD| &= 7 \text{ br} \\ |CD| &= x + 4 \\ \Rightarrow \min(x) &= ? \end{aligned}$$

- A) 3 B) 4 C) 5 D) 6 E) 7

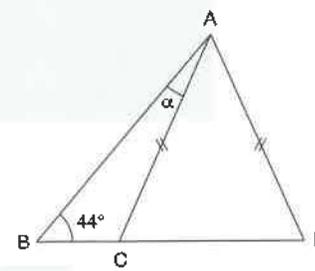
6.



$$\begin{aligned} |AB| &= |AC| \\ 20^\circ &< m(\widehat{B}) < 60^\circ \\ m(\widehat{BAC}) &= \alpha \\ \alpha\text{'in tanım aralığı nedir?} \\ \text{What is the definition} \\ \text{range of } \alpha? \end{aligned}$$

- A) $60^\circ < \alpha < 140^\circ$ B) $60^\circ < \alpha < 120^\circ$
C) $40^\circ < \alpha < 140^\circ$ D) $40^\circ < \alpha < 60^\circ$
E) $40^\circ < \alpha < 120^\circ$

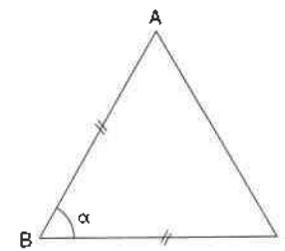
7.



$$\begin{aligned} \alpha &\in \mathbb{Z} \\ |AC| &= |AD| \\ m(\widehat{ABD}) &= 44^\circ \\ m(\widehat{BAC}) &= \alpha \\ \Rightarrow \max(\alpha) &= ? \end{aligned}$$

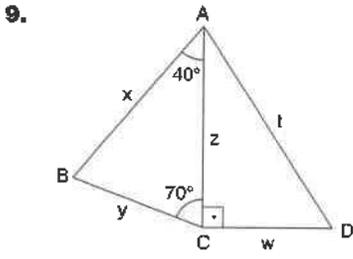
- A) 44 B) 45 C) 46 D) 47 E) 48

8.



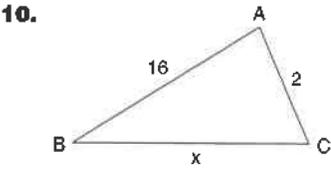
$$\begin{aligned} \alpha &\in \mathbb{Z} \\ |AB| &= |BC| \\ m(\widehat{A}) &> 50^\circ \\ m(\widehat{ABC}) &= \alpha \\ \Rightarrow \max(\alpha) &= ? \end{aligned}$$

- A) 80 B) 81 C) 77 D) 78 E) 79



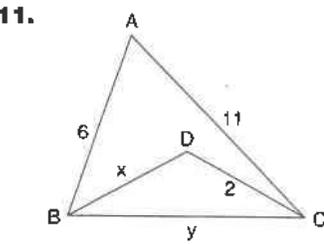
$[AC] \perp [CD]$
 $m(\widehat{BAC}) = 40^\circ$
 $m(\widehat{BCA}) = 70^\circ$
 En uzun kenar hangisidir?
 Which side is the longest?

- A) x B) y C) z D) t E) w



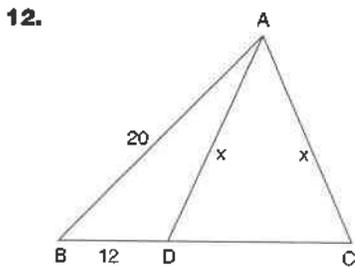
$x \in \mathbb{Z}$
 $m(\widehat{B}) < m(\widehat{A}) < m(\widehat{C})$
 $\Rightarrow x = ?$

- A) 13 B) 14 C) 15 D) 16 E) 17



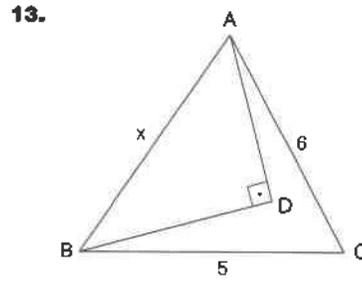
$x, y \in \mathbb{Z}$
 $\min(y)$ için [for $\min(y)$]
 $\Rightarrow \max(x) = ?$

- A) 3 B) 4 C) 5 D) 6 E) 7



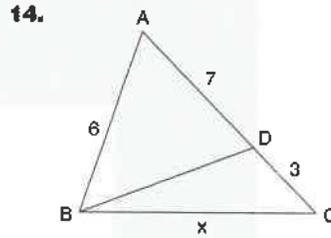
$x \in \mathbb{Z}$
 $|AC| = |AD| = x$
 $\Rightarrow \max(x) = ?$

- A) 17 B) 16 C) 15 D) 14 E) 13



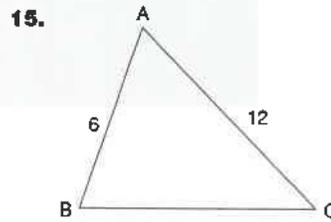
$x \in \mathbb{Z}$
 $[AD] \perp [BD]$
 $\Rightarrow \max(x) = ?$

- A) 7 B) 8 C) 9 D) 10 E) 11



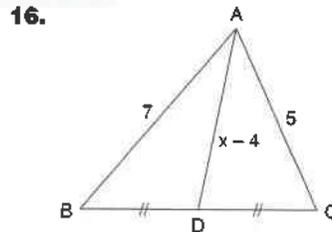
$x \in \mathbb{Z}$
 $\Rightarrow \max(x) = ?$

- A) 15 B) 14 C) 13 D) 12 E) 11



$\angle(ABC) \in \mathbb{Z}$
 $\Rightarrow \max[\angle(ABC)] = ?$

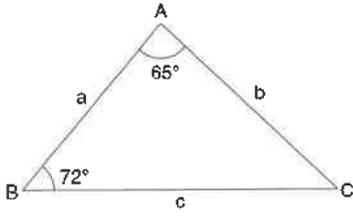
- A) 37 B) 32 C) 34 D) 36 E) 35



$|BD| = |DC|$
 x 'in tanım aralığı nedir?
 What is the definition range of x ?

- A) $5 < x < 8$ B) $10 < x < 12$ C) $6 < x < 16$
 D) $5 < x < 10$ E) $6 < x < 10$

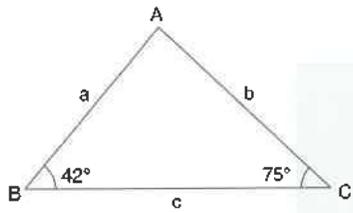
1.



Aşağıdakilerden hangisi doğrudur?
Which one of the following is correct?

- A) $a > b > c$ B) $b > a > c$ C) $b > c > a$
D) $c > b > a$ E) $a > c > b$

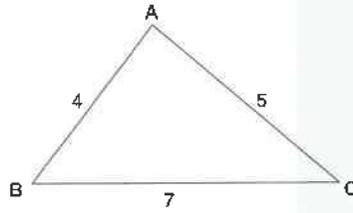
2.



Aşağıdakilerden hangisi doğrudur?
Which one of the following is correct?

- A) $c > a > b$ B) $a > c > b$ C) $c > b > a$
D) $a > b > c$ E) $b > a > c$

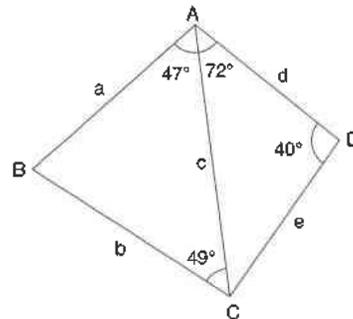
3.



Aşağıdakilerden hangisi doğrudur?
Which one of the following is correct?

- A) $m(\hat{A}) > m(\hat{C}) > m(\hat{B})$ B) $m(\hat{C}) > m(\hat{A}) > m(\hat{B})$
C) $m(\hat{C}) > m(\hat{B}) > m(\hat{A})$ D) $m(\hat{A}) > m(\hat{B}) > m(\hat{C})$
E) $m(\hat{B}) > m(\hat{A}) > m(\hat{C})$

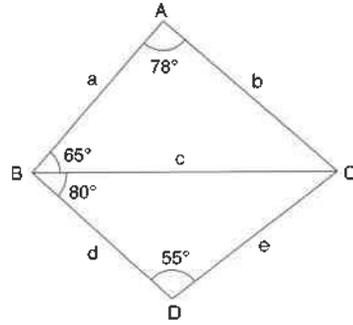
4.



En kısa kenar hangisidir?
Which side is the shortest?

- A) a B) b C) c D) d E) e

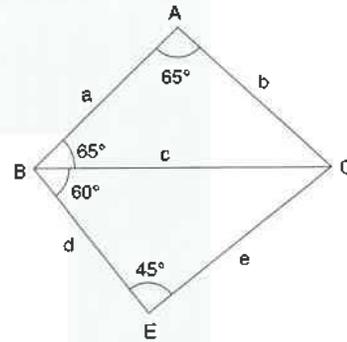
5.



En uzun kenar hangisidir?
Which side is the longest?

- A) a B) b C) c D) d E) e

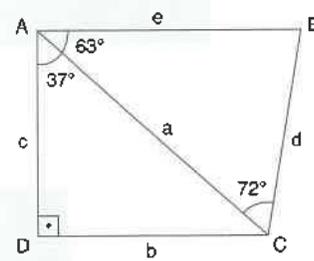
6.



En uzun kenar hangisidir?
Which side is the longest?

- A) a B) b C) c D) d E) e

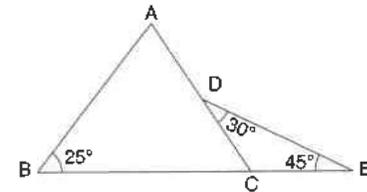
7.



En kısa kenar hangisidir?
Which side is the shortest?

- A) a B) b C) c D) d E) e

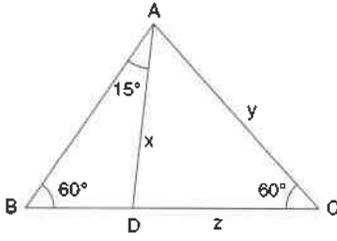
8.



En kısa kenar hangisidir?
Which side is the shortest?

- A) [AB] B) [AC] C) [BC] D) [CE] E) [DE]

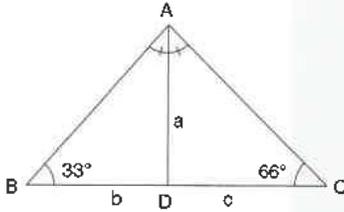
9.



Aşağıdakilerden hangisi doğrudur?
Which one of the following is correct?

- A) $x > y > z$ B) $y > x > z$ C) $z > y > x$
D) $y > z > x$ E) $z > x > y$

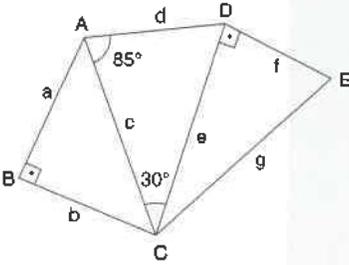
10.



Aşağıdakilerden hangisi doğrudur?
Which one of the following is correct?

- A) $a > b > c$ B) $a > c > b$ C) $b > a > c$
D) $b > c > a$ E) $c > a > b$

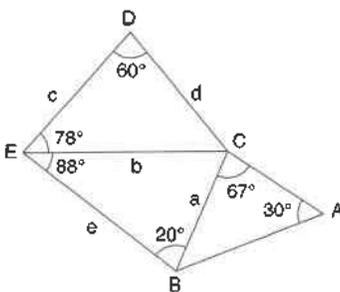
11.



En uzun kenar hangisidir?
Which side is the longest?

- A) c B) d C) e D) f E) g

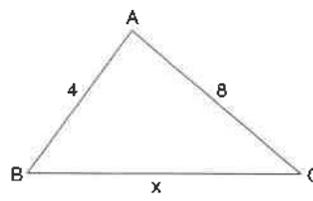
12.



En kısa kenar hangisidir?
Which side is the shortest?

- A) a B) b C) c D) d E) e

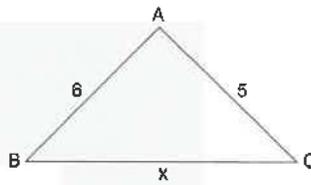
13.



x aşağıdakilerden hangisi olabilir?
Which one of the following can be rate of x?

- A) 1 B) 2 C) 4 D) 7 E) 12

14.

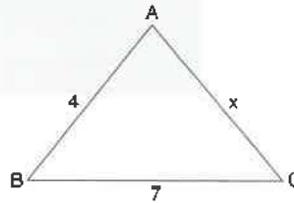


x'in tanım aralığı nedir?
What is the definition range of x?

- A) $1 < x < 12$ B) $1 \leq x \leq 11$ C) $1 < x < 11$
D) $2 \leq x \leq 10$ E) $2 < x < 10$

PUZAYANILARI

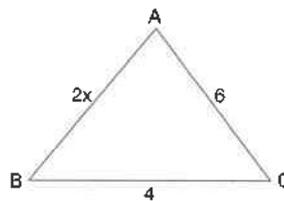
15.



$x \in \mathbb{Z}^+$
 $\Rightarrow \max(x) + \min(x) = ?$

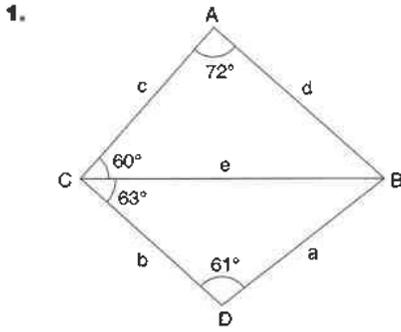
- A) 16 B) 15 C) 14 D) 12 E) 10

16.



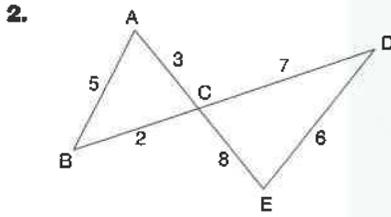
$x \in \mathbb{R}$
x'in tanım aralığı nedir?
What is the definition range of x?

- A) $2 < x < 10$ B) $2 \leq x \leq 10$ C) $1 < x < 5$
D) $2 < x < 5$ E) $1 < x < 10$



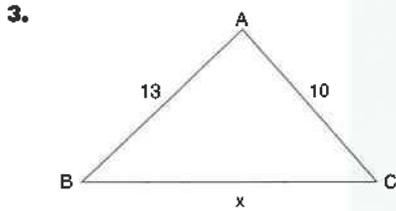
En uzun kenar hangisidir?
Which side is the longest?

- A) a B) b C) c D) d E) e



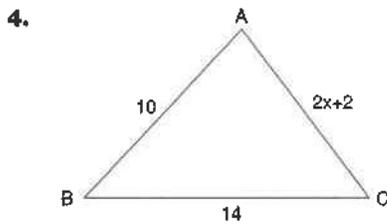
En büyük açı hangisidir?
Which one is the largest angle?

- A) $m(\hat{A})$ B) $m(\hat{B})$ C) $m(\hat{C})$ D) $m(\hat{D})$ E) $m(\hat{E})$



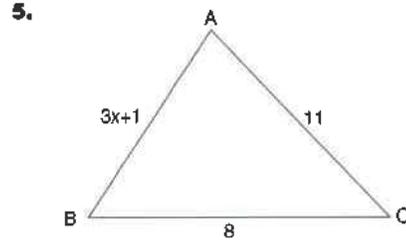
x'in tanım aralığı nedir?
What is the definition range of x?

- A) $10 < x < 13$ B) $3 < x < 13$ C) $3 < x < 23$
D) $10 < x < 23$ E) $4 < x < 22$



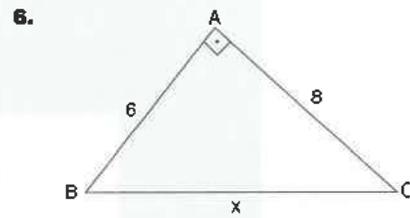
x'in tanım aralığı nedir?
What is the definition range of x?

- A) $5 < x < 7$ B) $3 < x < 5$ C) $4 < x < 24$
D) $2 < x < 12$ E) $1 < x < 11$



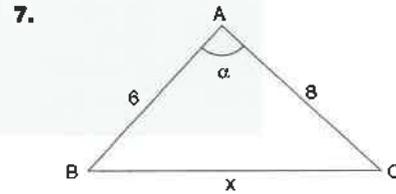
x'in tanım aralığı nedir?
What is the definition range of x?

- A) $1 < x < \frac{20}{3}$ B) $\frac{2}{3} < x < 6$ C) $1 < x < 6$
D) $1 < x < \frac{19}{3}$ E) $3 < x < 19$



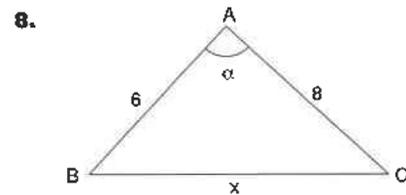
$[AB] \perp [AC]$
 $|AB| = 6$ br
 $|AC| = 8$ br
 $\Rightarrow |BC| = x = ?$

- A) 6 B) 8 C) 10 D) 12 E) 14



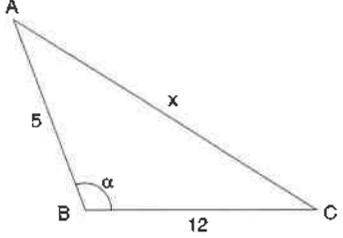
$\alpha > 90^\circ$
x'in tanım aralığı nedir?
What is the definition range of x?

- A) $2 < x < 10$ B) $6 < x < 8$ C) $6 < x < 14$
D) $10 < x < 14$ E) $2 < x < 14$

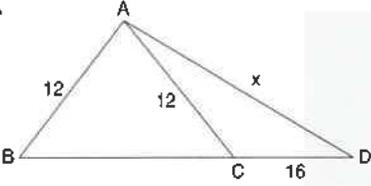


$\alpha < 90^\circ$
x'in tanım aralığı nedir?
What is the definition range of x?

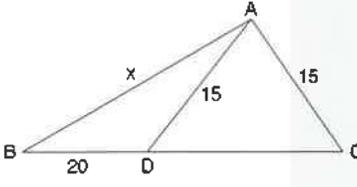
- A) $2 < x < 10$ B) $6 < x < 8$ C) $6 < x < 14$
D) $10 < x < 14$ E) $2 < x < 14$

9.  $\alpha > 90^\circ$
 x 'in tanım aralığı nedir?
 What is the definition range of x ?

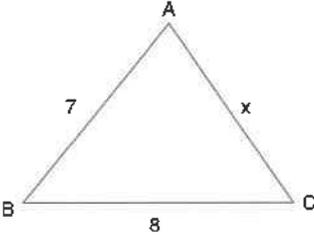
A) $5 < x < 7$ B) $7 < x < 12$ C) $12 < x < 13$
 D) $13 < x < 17$ E) $7 < x < 17$

10.  $x \in \mathbb{Z}$
 $|AB| = 12$ br
 $|AC| = 12$ br
 $|CD| = 16$ br
 $|AD| = x$
 $\Rightarrow \min(x) = ?$

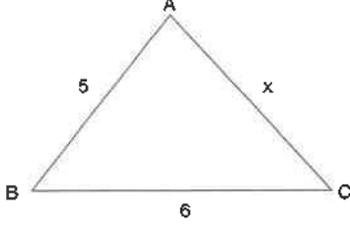
A) 4 B) 12 C) 16 D) 20 E) 21

11.  $x \in \mathbb{Z}$
 $|AD| = 15$ br
 $|AC| = 15$ br
 $|BD| = 20$ br
 $|AB| = x$
 $\Rightarrow \min(x) = ?$

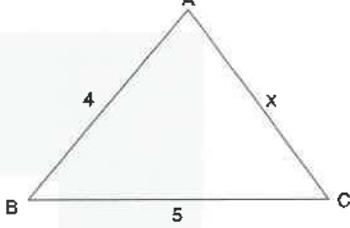
A) 5 B) 15 C) 20 D) 25 E) 26

12.  $m(\widehat{B}) > m(\widehat{C})$
 x 'in tanım aralığı nedir?
 What is the definition range of x ?

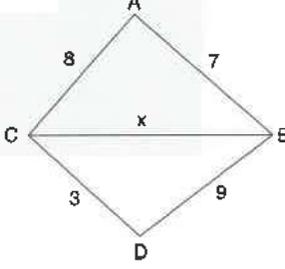
A) $1 < x < 7$ B) $1 < x < 8$ C) $7 < x < 15$
 D) $8 < x < 15$ E) $1 < x < 15$

13.  $m(\widehat{A}) > m(\widehat{B})$
 x 'in tanım aralığı nedir?
 What is the definition range of x ?

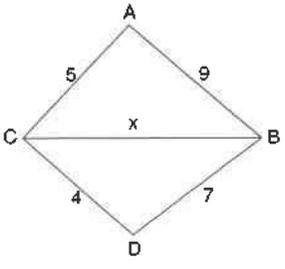
A) $1 < x < 5$ B) $1 < x < 6$ C) $5 < x < 11$
 D) $6 < x < 11$ E) $1 < x < 11$

14.  $m(\widehat{A}) > m(\widehat{B})$
 x 'in tanım aralığı nedir?
 What is the definition range of x ?

A) $4 < x < 9$ B) $5 \leq x \leq 9$ C) $4 < x < 5$
 D) $1 < x < 5$ E) $1 < x < 9$

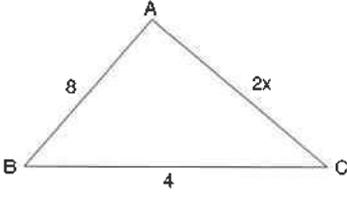
15.  x 'in tanım aralığı nedir?
 What is the definition range of x ?

A) $1 < x < 7$ B) $1 < x < 12$ C) $1 < x < 15$
 D) $6 < x < 12$ E) $6 < x < 11$

16.  x 'in tanım aralığı nedir?
 What is the definition range of x ?

A) $9 < x < 11$ B) $7 < x < 11$ C) $3 < x < 11$
 D) $5 < x < 14$ E) $4 < x < 11$

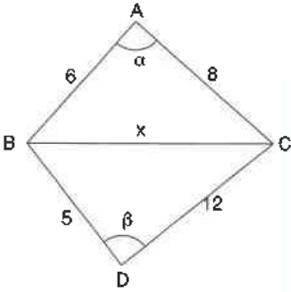
1.



$m(\widehat{C}) > m(\widehat{B})$
 x 'in tanım aralığı nedir?
 What is the definition range of x ?

- A) $2 < x < 4$ B) $2 < x < 8$ C) $4 < x < 6$
 D) $4 < x < 8$ E) $6 < x < 8$

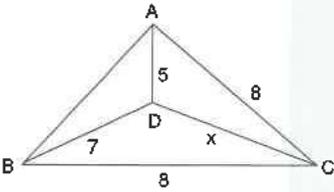
2.



$\alpha > 90^\circ$
 $\beta < 90^\circ$
 x 'in tanım aralığı nedir?
 What is the definition range of x ?

- A) $7 < x < 13$ B) $10 < x < 13$ C) $10 < x < 17$
 D) $8 < x < 12$ E) $13 < x < 17$

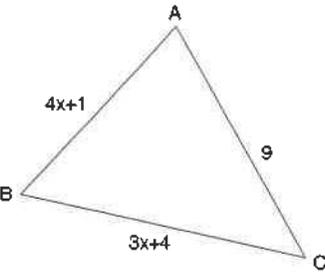
3.



$x \in \mathbb{Z}^+$
 $|AD| = 5$ br
 $|BD| = 7$ br
 $|AC| = 8$ br
 $|BC| = 8$ br
 $|DC| = x$
 $\Rightarrow \min(x) = ?$

- A) 1 B) 2 C) 3 D) 4 E) 5

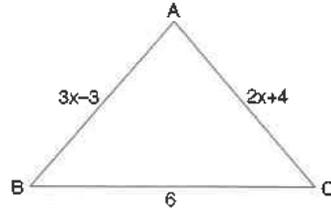
4.



x 'in tanım aralığı nedir?
 What is the definition range of x ?

- A) $2 < x < 9$ B) $1 < x < 9$ C) $\frac{4}{7} < x < 9$
 D) $\frac{4}{7} < x < 12$ E) $\frac{2}{7} < x < 12$

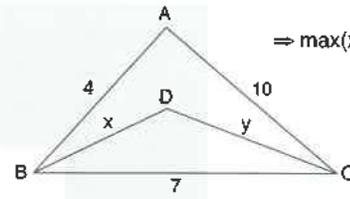
5.



$x \in \mathbb{Z}^+$
 $\Rightarrow \max(x) + \min(x) = ?$

- A) 12 B) 13 C) 14 D) 15 E) 16

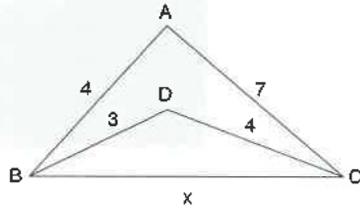
6.



$(x+y) \in \mathbb{Z}^+$
 $\Rightarrow \max(x+y) - \min(x+y) = ?$

- A) 4 B) 5 C) 6 D) 7 E) 8

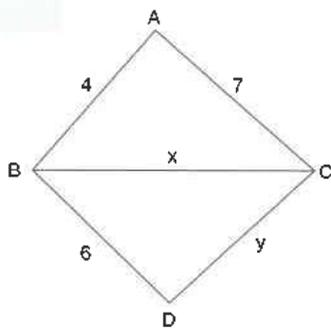
7.



$x \in \mathbb{Z}^+$
 $\Rightarrow \max(x) = ?$

- A) 10 B) 9 C) 8 D) 7 E) 6

8.



$x, y \in \mathbb{N}$
 $\max(x)$ için
 for $\max(x)$
 $\Rightarrow \max(y) = ?$

- A) 17 B) 16 C) 15 D) 14 E) 13

9.

$x, y \in \mathbb{N}$
 $\max(x)$ için
 for $\max(x)$
 $\Rightarrow \min(y) = ?$

- A) 6 B) 7 C) 8 D) 9 E) 10

10.

$x, y \in \mathbb{N}$
 $\min(x)$ için
 for $\min(x)$
 $\Rightarrow \max(y) = ?$

- A) 9 B) 8 C) 7 D) 6 E) 5

11.

$x, y \in \mathbb{Z}^+$
 $\min(x)$ için
 for $\min(x)$
 $\Rightarrow \max(y) = ?$

- A) 7 B) 8 C) 9 D) 10 E) 11

12.

$x \in \mathbb{R}, y \in \mathbb{N}$
 $\max(x)$ için
 for $\max(x)$
 $\Rightarrow \max(y) = ?$

- A) 16 B) 15 C) 14 D) 12 E) 11

13.

$x \in \mathbb{Z}^+$
 $\Rightarrow \max(x) = ?$

- A) 4 B) 5 C) 6 D) 7 E) 8

14.

$x \in \mathbb{R}, y \in \mathbb{N}$
 $\min(x)$ için
 for $\min(x)$
 $\Rightarrow \max(y) = ?$

- A) 7 B) 8 C) 9 D) 10 E) 11

15.

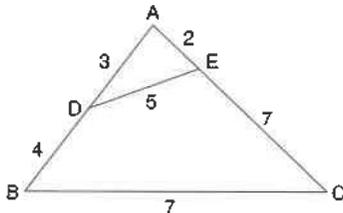
$x, y \in \mathbb{Z}$
 $\max(x)$ için
 for $\max(x)$
 $\Rightarrow \max(y) = ?$

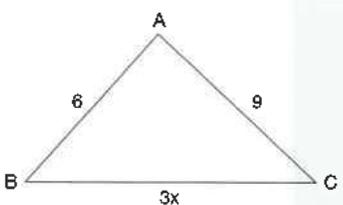
- A) 16 B) 15 C) 14 D) 13 E) 12

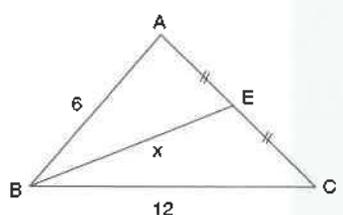
16.

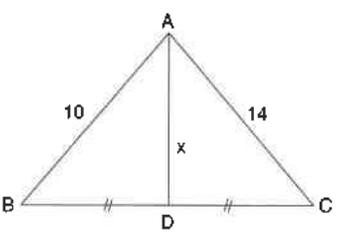
x 'in tanım aralığı nedir?
 What is the definition range of x ?

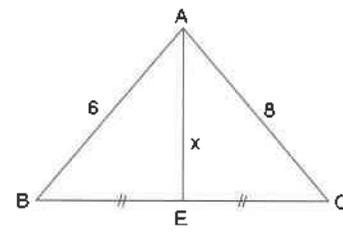
- A) $2 < x < 6$ B) $4 < x < 6$ C) $4 < x < 10$
 D) $4 < x < 9$ E) $2 < x < 10$

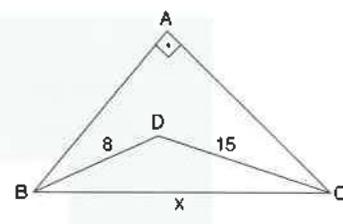
1.  En büyük açı hangisidir?
Which one is the largest angle?
- A) $m(\widehat{A})$ B) $m(\widehat{B})$ C) $m(\widehat{C})$ D) $m(\widehat{D})$ E) $m(\widehat{E})$

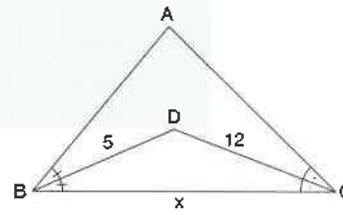
2.  x 'in tanım aralığı nedir?
What is the definition range of x ?
- A) $1 < x < 3$ B) $2 < x < 3$ C) $1 < x < 5$
D) $2 < x < 5$ E) $3 < x < 5$

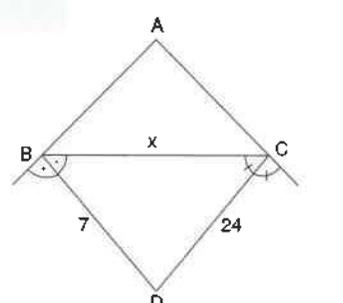
3.  $x \in \mathbb{Z}^+$
 $|AE| = |EC|$
 $|AB| = 6 \text{ br}$
 $|BC| = 12 \text{ br}$
 $|BE| = x$
 $\Rightarrow \min(x) = ?$
- A) 3 B) 4 C) 5 D) 6 E) 7

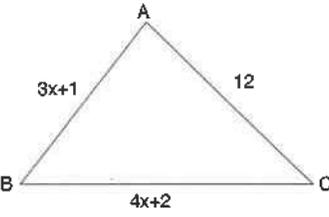
4.  $x \in \mathbb{Z}^+$
 $\Rightarrow \max(x) = ?$
- A) 6 B) 11 C) 12 D) 13 E) 23

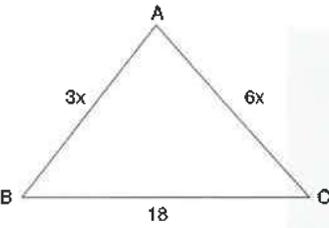
5.  $m(\widehat{A}) > 90^\circ$
 x 'in tanım aralığı nedir?
What is the definition range of x ?
- A) $1 < x < 5$ B) $1 < x < 7$ C) $2 < x < 10$
D) $5 < x < 7$ E) $10 < x < 14$

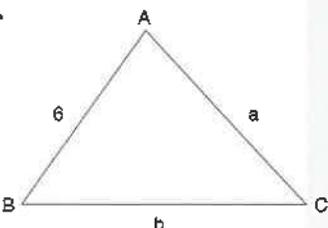
6.  $x \in \mathbb{Z}^+$
 $[BA] \perp [AC]$
 $\Rightarrow \min(x) = ?$
- A) 8 B) 9 C) 17 D) 18 E) 19

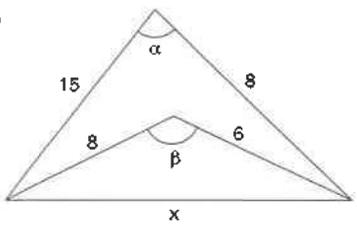
7.  $x \in \mathbb{Z}$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $\Rightarrow \min(x) + \max(x) = ?$
- A) 30 B) 29 C) 27 D) 26 E) 25

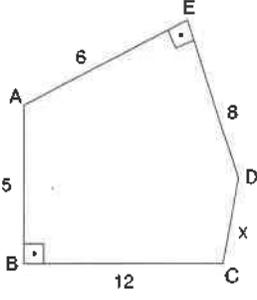
8.  $x \in \mathbb{Z}$
 $[BD], [DC]$ açıortay
 $[BD], [DC]$ bisector
 $|BD| = 7 \text{ br}$
 $|DC| = 24 \text{ br}$
 $|BC| = x$
 $\Rightarrow \max(x) = ?$
- A) 22 B) 23 C) 24 D) 25 E) 26

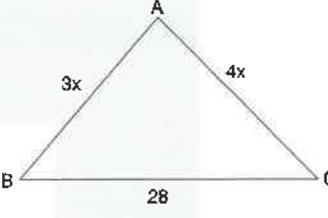
9.  $x \in \mathbb{Z}^+$
 Üçgenin çevresinin maksimum değeri kaç birimdir?
 What is the maximum rate of perimeter of triangle?
- A) 83 B) 84 C) 85 D) 86 E) 87

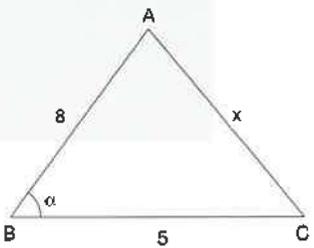
10.  $x \in \mathbb{Z}^+$
 Üçgenin çevresinin maksimum değeri kaç birimdir?
 What is the maximum rate of perimeter of triangle?
- A) 67 B) 66 C) 65 D) 64 E) 63

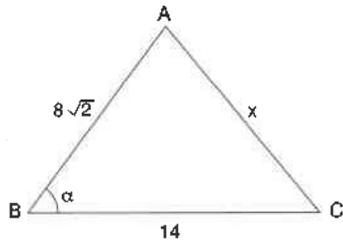
11.  $a, b \in \mathbb{Z}^+$
 $m(\widehat{A}) < m(\widehat{C}) < m(\widehat{B})$
 Üçgenin çevresinin maksimum değeri kaç birimdir?
 What is the maximum rate of perimeter of triangle?
- A) 19 B) 20 C) 21 D) 22 E) 23

12.  $\alpha < 90^\circ < \beta$
 x 'in tanım aralığı nedir?
 What is the definition range of x ?
- A) $8 < x < 15$ B) $10 < x < 15$ C) $10 < x < 17$
 D) $10 < x < 14$ E) $17 < x < 23$

13.  $x \in \mathbb{Z}^+$
 $[AB] \perp [BC]$
 $[AE] \perp [ED]$
 $\Rightarrow \min(x) = ?$
- A) 5 B) 4 C) 3 D) 2 E) 1

14.  $x \in \mathbb{Z}^+$
 $m(\widehat{A}) > m(\widehat{B})$
 $\Rightarrow \max(x) - \min(x) = ?$
- A) 1 B) 2 C) 3 D) 4 E) 7

15.  $\alpha > 60^\circ$
 x 'in tanım aralığı nedir?
 What is the definition range of x ?
- A) $3 < x < 7$ B) $6 < x < 13$ C) $3 < x < 13$
 D) $7 < x < 13$ E) $7 < x < 12$

16.  $x \in \mathbb{Z}^+$
 $\alpha < 45^\circ$
 $\Rightarrow \max(x) = ?$
- A) 7 B) 8 C) 9 D) 10 E) 11

ACI-KENAR
BAĞINTILARI
ANGLE-SIDE
RELATIONSHIPS

YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	C	D	B	A	B	E	D	C	E	C	A	A	E	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	D	B	E	D	B	D	B	C	E	C	D	C	C	C

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	C	E	B	C	D	A	D	E	E	C	B	D	D	E

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	B	D	D	C	B	E	C	B	B	D	A	C	D	C	B

TEST 5

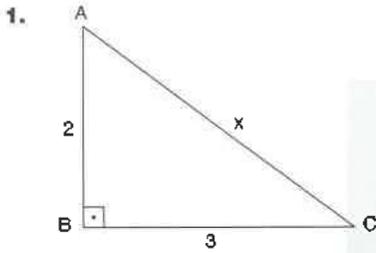
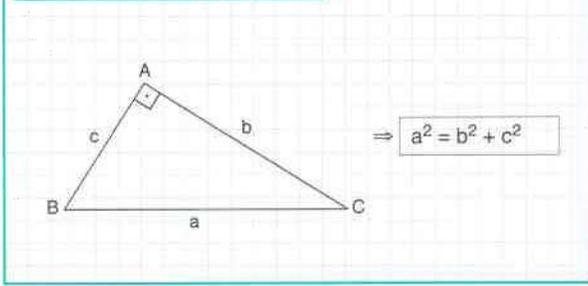
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	B	B	A	D	A	C	C	E	C	D	B	A	D	C



DİK ÜÇGEN
RIGHT TRIANGLES

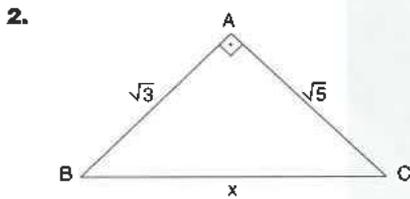
DİK ÜÇGEN

ÖZELLİK | Property 1



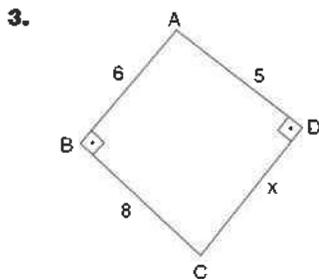
$\Rightarrow x = ?$

$\sqrt{13}$



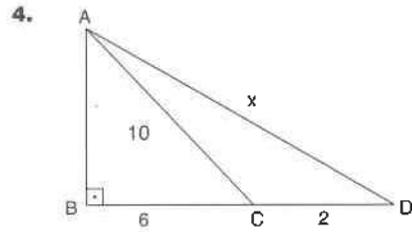
$\Rightarrow x = ?$

$2\sqrt{2}$



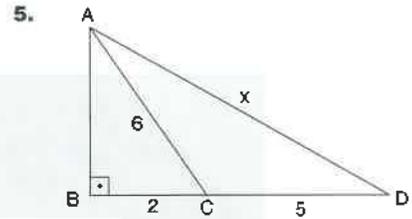
$\Rightarrow x = ?$

$5\sqrt{3}$



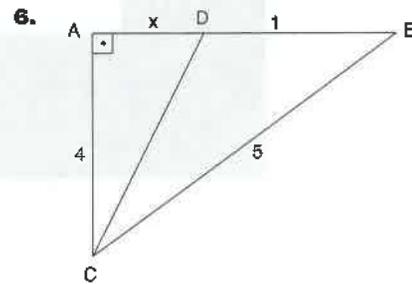
$\Rightarrow x = ?$

$8\sqrt{2}$



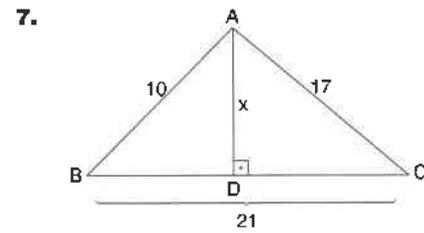
$\Rightarrow x = ?$

9



$\Rightarrow x = ?$

2

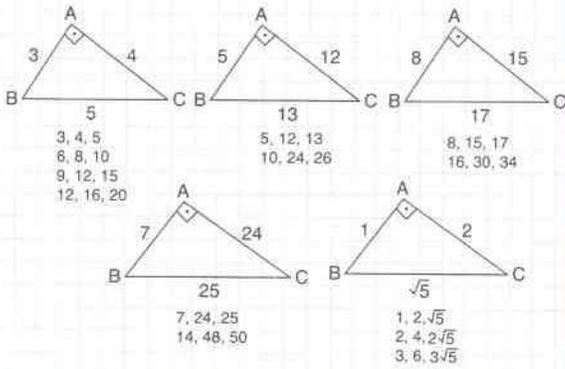


$\Rightarrow x = ?$

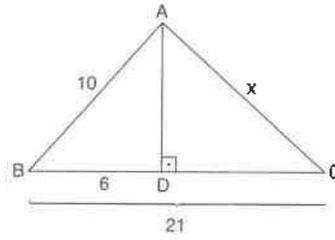
8

PUZAYAYINLARI

ÖZELLİK | Property 2



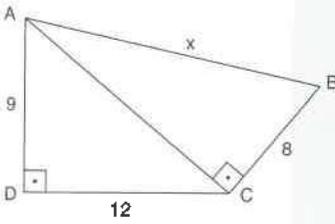
4.



$\Rightarrow x = ?$

17

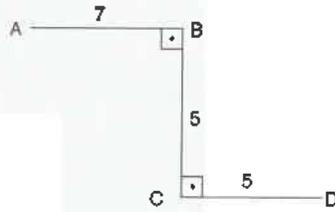
1.



$\Rightarrow x = ?$

17

5.

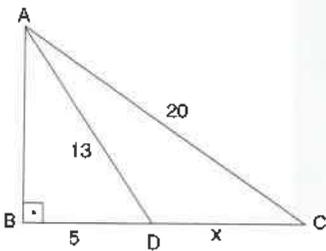


$\Rightarrow |AD| = ?$

13

PUZAYAYINLARI

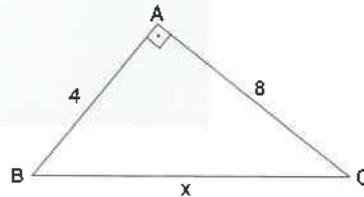
2.



$\Rightarrow x = ?$

11

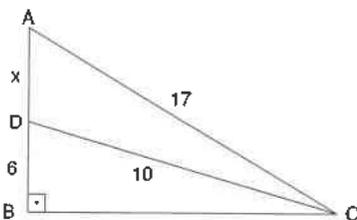
6.



$\Rightarrow x = ?$

$4\sqrt{5}$

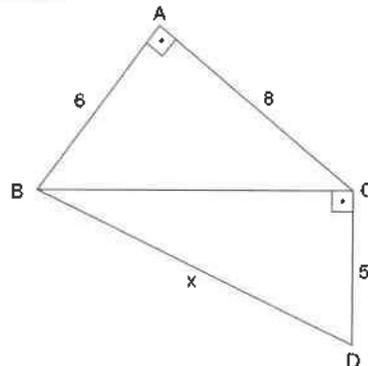
3.



$\Rightarrow x = ?$

9

7.

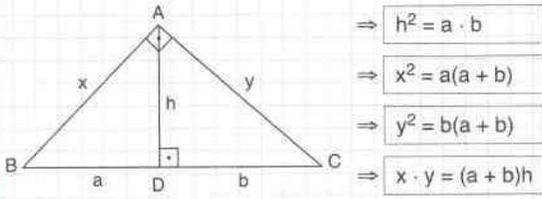


$\Rightarrow x = ?$

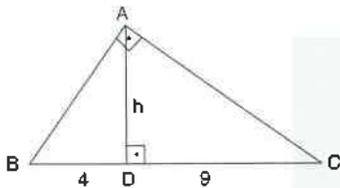
$5\sqrt{5}$

DİK ÜÇGEN

ÖZELLİK | Property 3



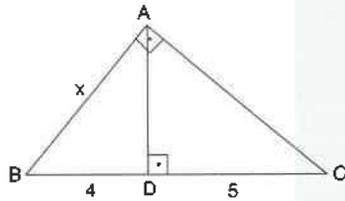
1.



$\Rightarrow h = ?$

6

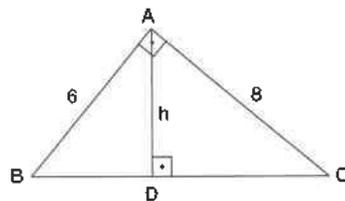
2.



$\Rightarrow x = ?$

6

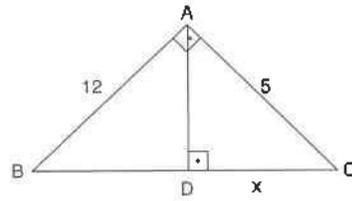
3.



$\Rightarrow h = ?$

4,8

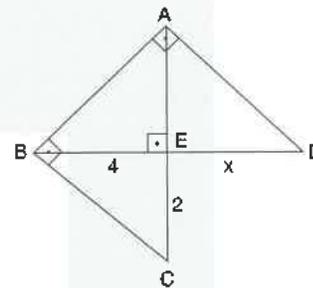
4.



$\Rightarrow x = ?$

$\frac{25}{13}$

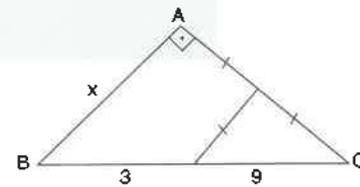
5.



$\Rightarrow x = ?$

16

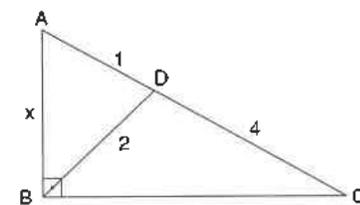
6.



$\Rightarrow x = ?$

6

7.

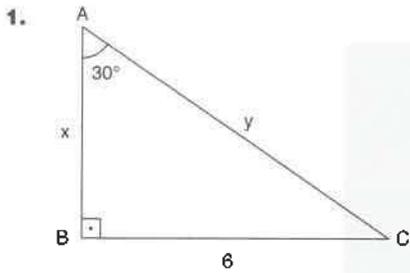
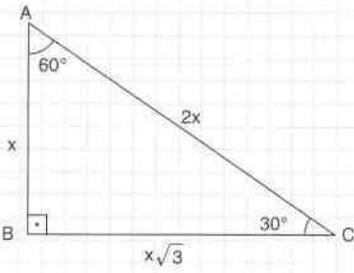


$\Rightarrow x = ?$

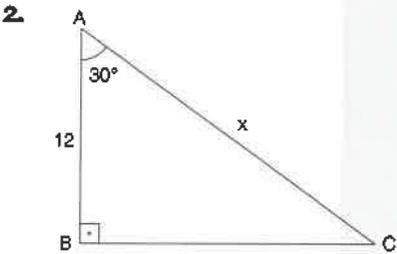
$\sqrt{5}$

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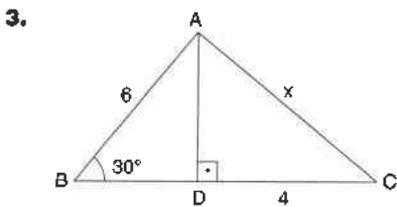
ÖZELLİK | Property 4



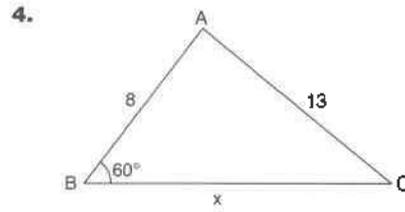
$6\sqrt{3}, 12$



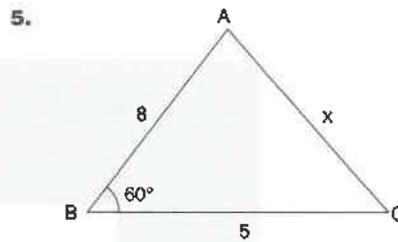
$8\sqrt{3}$



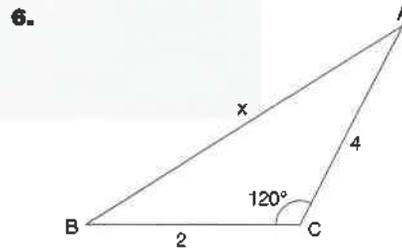
5



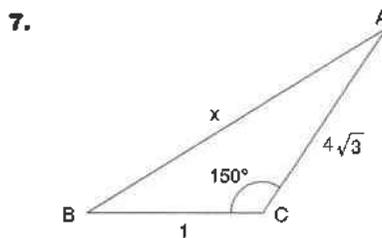
15



7



$2\sqrt{7}$



$\sqrt{61}$

DİK ÜÇGEN

ÖZELLİK | Property 5

1. $\Rightarrow x = ?$

6√2

2. $\Rightarrow x = ?$

4√2

3. $\Rightarrow x = ?$

10

4. $\Rightarrow x = ?$

10

5. $\Rightarrow x = ?$

7

6. $\Rightarrow x = ?$

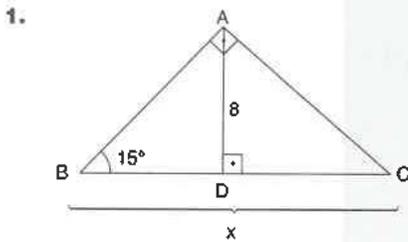
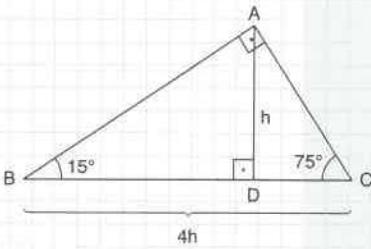
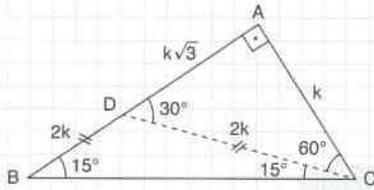
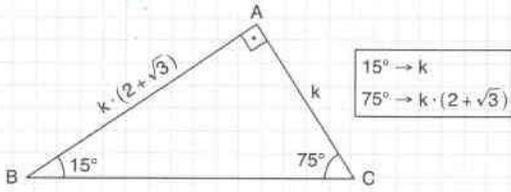
6√3 + 6

7. $\Rightarrow x = ?$

10√2

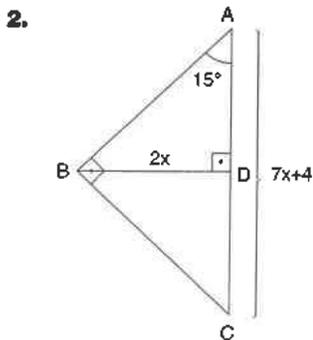
PUZAYAYINLARI

ÖZELLİK | Property 6



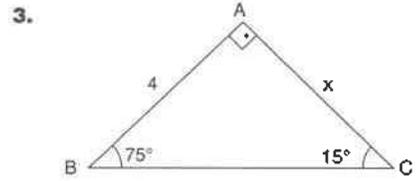
$$\Rightarrow x = ?$$

32



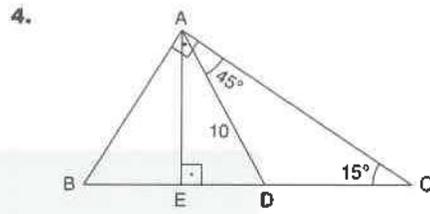
$$\Rightarrow x = ?$$

4



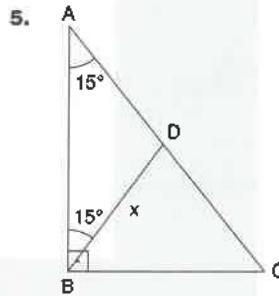
$$\Rightarrow x = ?$$

$8 + 4\sqrt{3}$



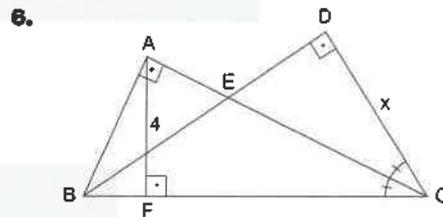
$$\Rightarrow |BC| = ?$$

$20\sqrt{3}$



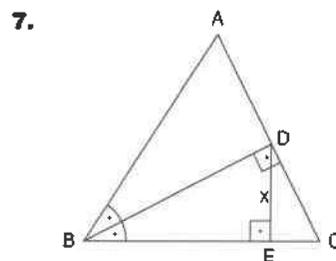
$$|AC| = 12 \text{ br} \\ \Rightarrow x = ?$$

6



$$m(\widehat{BCD}) = 30^\circ \\ |AF| = 4 \text{ br} \\ \Rightarrow x = ?$$

$8\sqrt{3}$

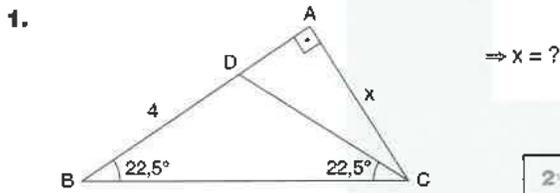
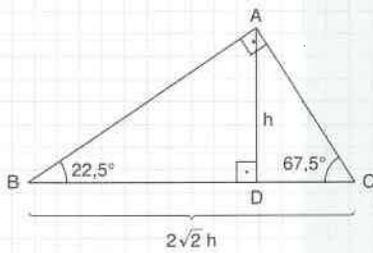
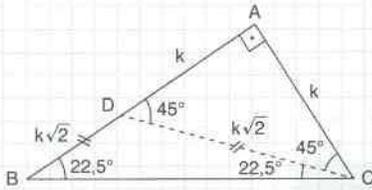
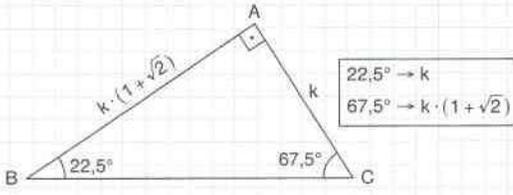


$$m(\widehat{DBC}) = 15^\circ \\ \{BD\} \text{ bisector} \\ |AB| = 6 \text{ br} \\ \Rightarrow x = ?$$

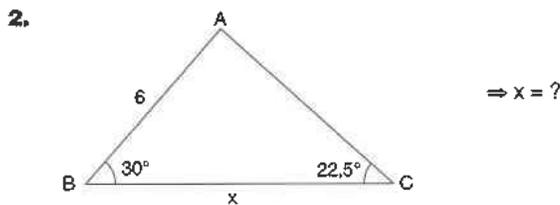
$\frac{3}{2}$

DİK ÜÇGEN

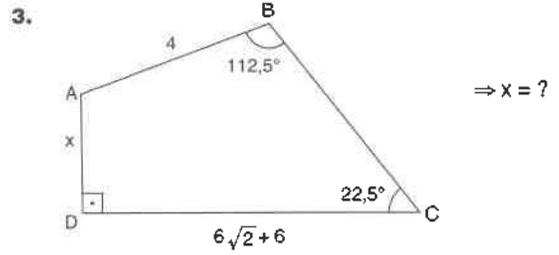
ÖZELLİK | Property 7



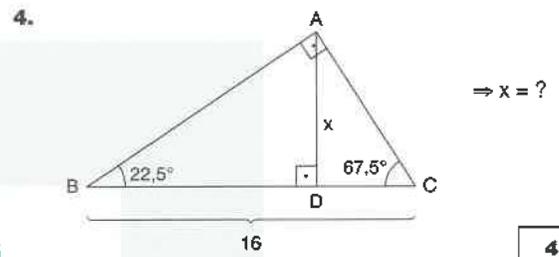
$2\sqrt{2}$



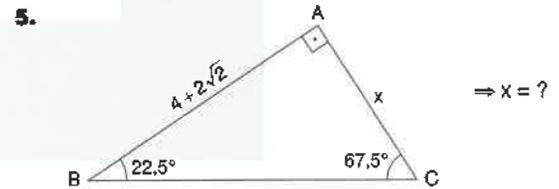
$3 + 3\sqrt{2} + 3\sqrt{3}$



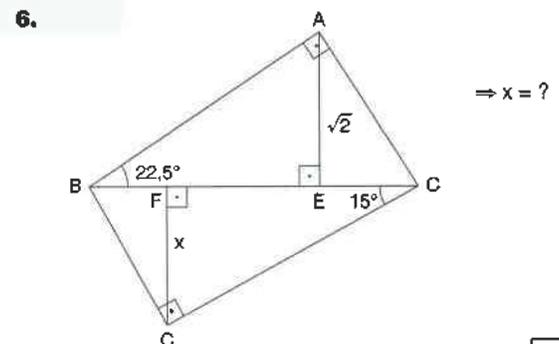
2



$4\sqrt{2}$

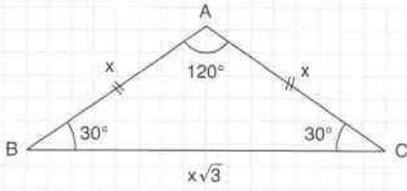


$2\sqrt{2}$

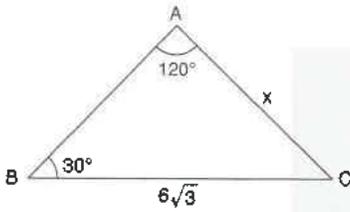


1

ÖZELLİK | Property 8



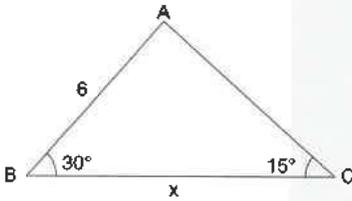
1.



$\Rightarrow x = ?$

6

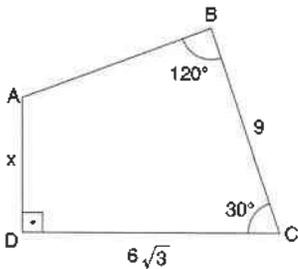
2.



$\Rightarrow x = ?$

$6 + 6\sqrt{3}$

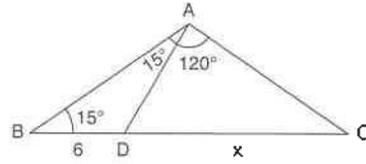
3.



$\Rightarrow x = ?$

3

4.

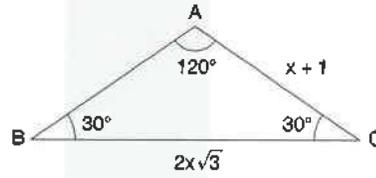


$\Rightarrow x = ?$

$6\sqrt{3}$

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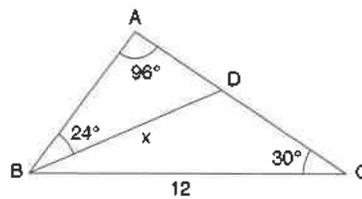
5.



$\Rightarrow \text{Ç}(ABC) = ?$

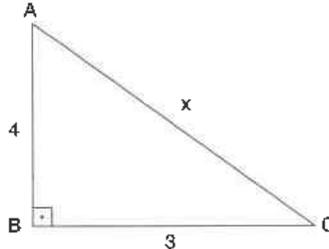
$4 + 2\sqrt{3}$

6.

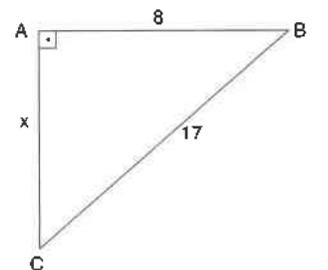


$\Rightarrow x = ?$

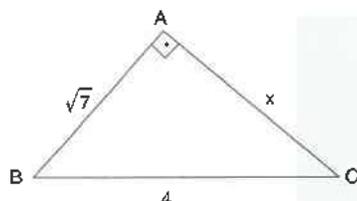
$4\sqrt{3}$

1.  $[AB] \perp [BC]$
 $|AB| = 4$ br
 $|BC| = 3$ br
 $\Rightarrow |AC| = x = ?$

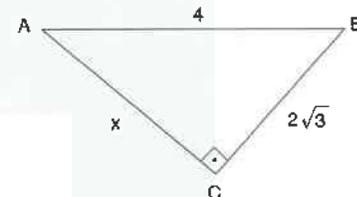
A) 25 B) 7 C) 5 D) $2\sqrt{7}$ E) $2\sqrt{2}$

5.  $[BA] \perp [AC]$
 $|AB| = 8$ br
 $|BC| = 17$ br
 $\Rightarrow |AC| = x = ?$

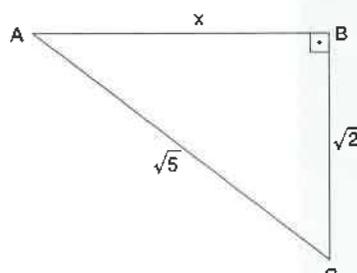
A) 15 B) 13 C) 10 D) 8 E) 6

2.  $[BA] \perp [AC]$
 $|AB| = \sqrt{7}$ br
 $|BC| = 4$ br
 $\Rightarrow |AC| = x = ?$

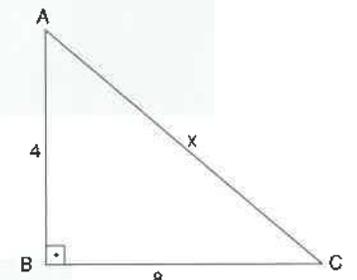
A) $\sqrt{5}$ B) 3 C) 4 D) 5 E) $\sqrt{23}$

6.  $[AC] \perp [BC]$
 $|AB| = 4$ br
 $|BC| = 2\sqrt{3}$ br
 $\Rightarrow |AC| = x = ?$

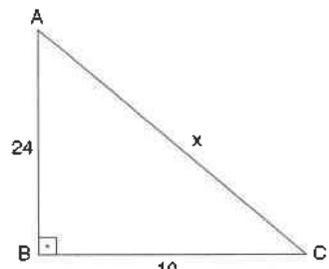
A) 1 B) 2 C) $\sqrt{3}$ D) $2\sqrt{3}$ E) $2\sqrt{7}$

3.  $[AB] \perp [BC]$
 $|AC| = \sqrt{5}$ br
 $|BC| = \sqrt{2}$ br
 $\Rightarrow |AB| = x = ?$

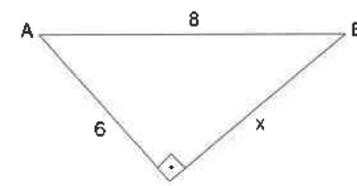
A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) 2 E) $\sqrt{5}$

7.  $[AB] \perp [BC]$
 $|AB| = 4$ br
 $|BC| = 8$ br
 $\Rightarrow |AC| = x = ?$

A) 4 B) $4\sqrt{2}$ C) $4\sqrt{3}$ D) $4\sqrt{5}$ E) 8

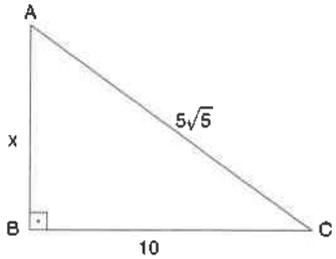
4.  $[AB] \perp [BC]$
 $|AB| = 24$ br
 $|BC| = 10$ br
 $\Rightarrow |AC| = x = ?$

A) 10 B) 20 C) 24 D) 25 E) 26

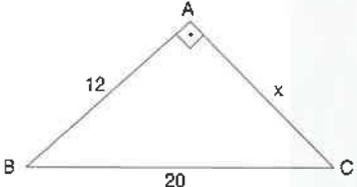
8.  $[AC] \perp [BC]$
 $|AB| = 8$ br
 $|AC| = 6$ br
 $\Rightarrow |BC| = x = ?$

A) 10 B) $2\sqrt{7}$ C) $\sqrt{7}$ D) 2 E) 1

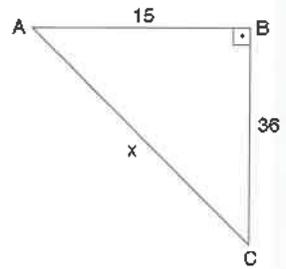
PUZAYANLARI

9.  $[AB] \perp [BC]$
 $|BC| = 10$ br
 $|AC| = 5\sqrt{5}$ br
 $\Rightarrow |AB| = x = ?$

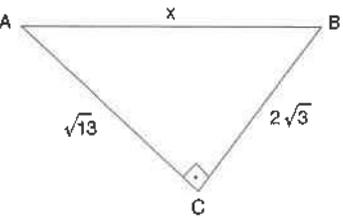
A) 5 B) $5\sqrt{2}$ C) 10 D) $10\sqrt{2}$ E) $10\sqrt{5}$

10.  $[BA] \perp [AC]$
 $|AB| = 12$ br
 $|BC| = 20$ br
 $\Rightarrow |AC| = x = ?$

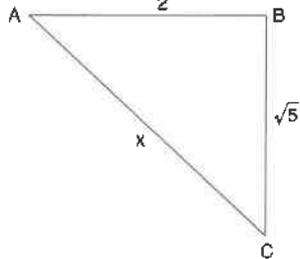
A) 12 B) 15 C) 16 D) 18 E) 20

11.  $[AB] \perp [BC]$
 $|AB| = 15$ br
 $|BC| = 36$ br
 $\Rightarrow |AC| = x = ?$

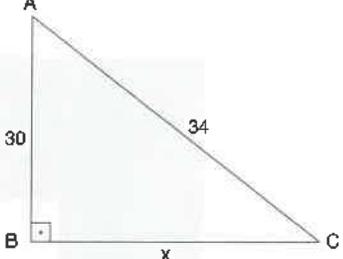
A) 35 B) 36 C) 37 D) 38 E) 39

12.  $[AC] \perp [BC]$
 $|AC| = \sqrt{13}$ br
 $|BC| = 2\sqrt{3}$ br
 $\Rightarrow |AB| = x = ?$

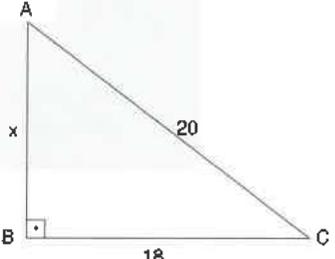
A) 4 B) 5 C) 6 D) 7 E) 8

13.  $m(\widehat{BAC}) + m(\widehat{BCA}) = 90^\circ$
 $|AB| = 2$ br
 $|BC| = \sqrt{5}$ br
 $\Rightarrow |AC| = x = ?$

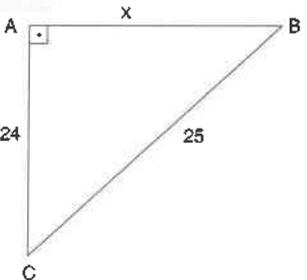
A) 2 B) 3 C) 5 D) $\sqrt{7}$ E) $\sqrt{29}$

14.  $[AB] \perp [BC]$
 $|AB| = 30$ br
 $|AC| = 34$ br
 $\Rightarrow |BC| = x = ?$

A) 2 B) 4 C) 8 D) 10 E) 16

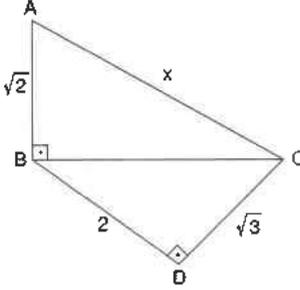
15.  $[AB] \perp [BC]$
 $|AC| = 20$ br
 $|BC| = 18$ br
 $\Rightarrow |AB| = x = ?$

A) 2 B) $\sqrt{19}$ C) $2\sqrt{19}$ D) 18 E) 20

16.  $[BA] \perp [AC]$
 $|AC| = 24$ br
 $|BC| = 25$ br
 $\Rightarrow |AB| = x = ?$

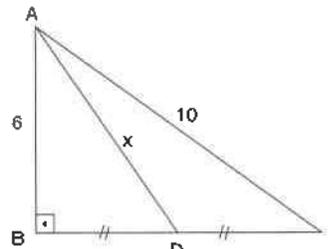
A) 1 B) 2 C) 6 D) 7 E) $\sqrt{7}$

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1. 

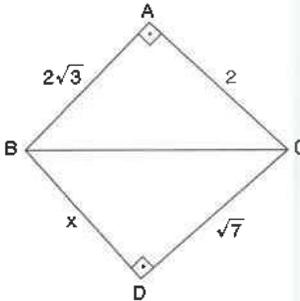
[AB] ⊥ [BC]
 [BD] ⊥ [DC]
 |AB| = √2 br
 |BD| = 2 br
 |DC| = √3 br
 ⇒ |AC| = x = ?

A) 1 B) √2 C) 2 D) √3 E) 3

5. 

[AB] ⊥ [BC]
 |BD| = |DC|
 |AC| = 10 br
 |AB| = 6 br
 ⇒ |AD| = x = ?

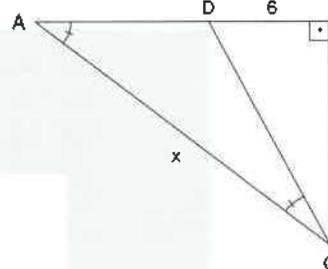
A) 4 B) 5 C) 2√10 D) 2√13 E) 8

2. 

[BA] ⊥ [AC]
 [BD] ⊥ [DC]
 |AC| = 2 br
 |AB| = 2√3 br
 |DC| = √7 br
 ⇒ |BD| = x = ?

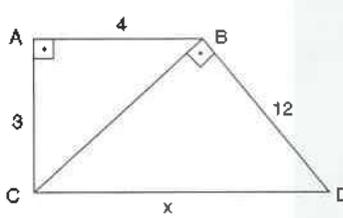
A) √3 B) √5 C) 3 D) 4 E) √10

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6. 

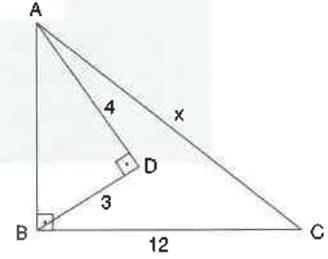
m(∠BAC) = m(∠DCA)
 [AB] ⊥ [BC]
 |BC| = 8 br
 |DB| = 6 br
 ⇒ |AC| = x = ?

A) 10 B) 12 C) 16 D) 8√5 E) 16√5

3. 

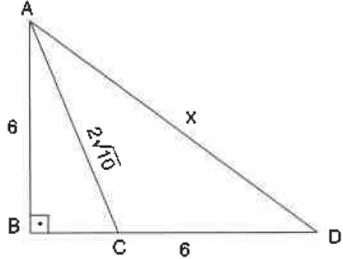
[BA] ⊥ [AC]
 [CB] ⊥ [BD]
 |AB| = 4 br
 |AC| = 3 br
 |BD| = 12 br
 ⇒ |CD| = x = ?

A) 15 B) 13 C) 12 D) 5 E) 1

7. 

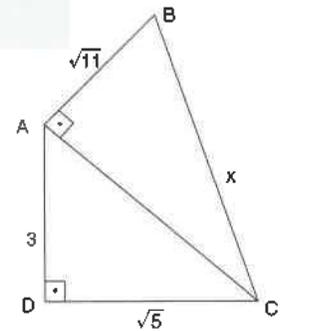
[AB] ⊥ [BC]
 [AD] ⊥ [DB]
 |AD| = 4 br
 |BD| = 3 br
 |BC| = 12 br
 ⇒ |AC| = x = ?

A) 5 B) 5√2 C) 12√2 D) 13 E) 13√2

4. 

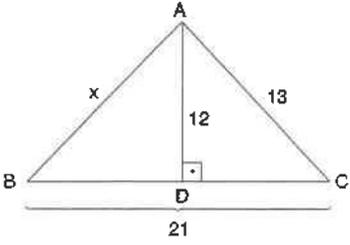
[AB] ⊥ [BC]
 |AB| = 6 br
 |CD| = 6 br
 |AC| = 2√10 br
 ⇒ |AD| = x = ?

A) 10 B) 6√3 C) 6√2 D) 8 E) 6

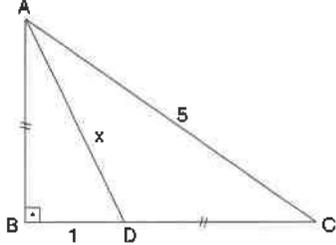
8. 

[BA] ⊥ [AC]
 [AD] ⊥ [DC]
 |AD| = 3 br
 |DC| = √5 br
 |AB| = √11 br
 ⇒ |BC| = x = ?

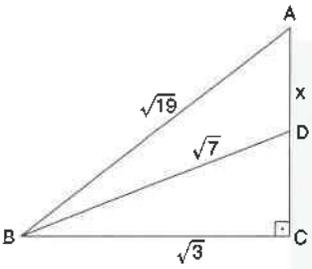
A) 4 B) 5 C) 2√7 D) √30 E) 4√2

9.  $[AD] \perp [BC]$
 $|AC| = 13$ br
 $|AD| = 12$ br
 $|BC| = 21$ br
 $\Rightarrow |AB| = x = ?$

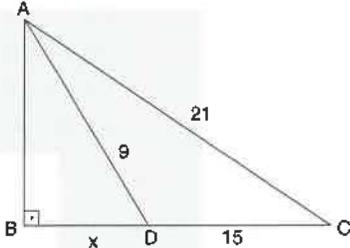
A) 15 B) 16 C) 18 D) 20 E) 25

13.  $[AB] \perp [BC]$
 $|AB| = |DC|$
 $|BD| = 1$ br
 $|AC| = 5$ br
 $\Rightarrow |AD| = x = ?$

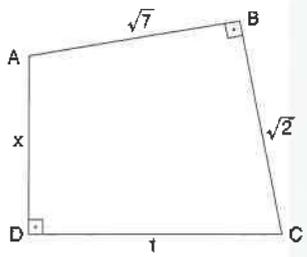
A) 3 B) $\sqrt{10}$ C) $\sqrt{11}$ D) $2\sqrt{3}$ E) $\sqrt{14}$

10.  $[AC] \perp [BC]$
 $|AB| = \sqrt{19}$ br
 $|BD| = \sqrt{7}$ br
 $|BC| = \sqrt{3}$ br
 $\Rightarrow |AD| = x = ?$

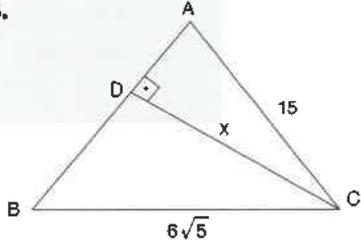
A) 1 B) 2 C) 3 D) 4 E) 5

14.  $[AB] \perp [BC]$
 $|AD| = 9$ br
 $|DC| = 15$ br
 $|AC| = 21$ br
 $\Rightarrow |BD| = x = ?$

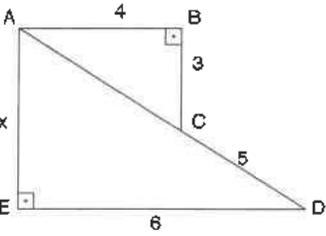
A) 4 B) $\frac{9}{2}$ C) 5 D) $\frac{11}{2}$ E) 6

11.  $[AB] \perp [BC]$
 $[AD] \perp [DC]$
 $|AB| = \sqrt{7}$ br
 $|BC| = \sqrt{2}$ br
 $|DC| = 1$ br
 $\Rightarrow |AD| = x = ?$

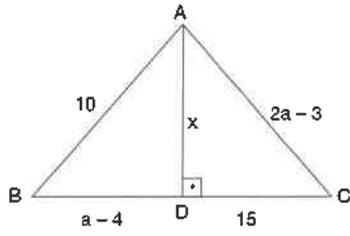
A) 2 B) $\sqrt{3}$ C) $2\sqrt{2}$ D) $\sqrt{10}$ E) $2\sqrt{3}$

15.  $[CD] \perp [AB]$
 $|AB| = |AC| = 15$ br
 $|BC| = 6\sqrt{5}$ br
 $\Rightarrow |DC| = x = ?$

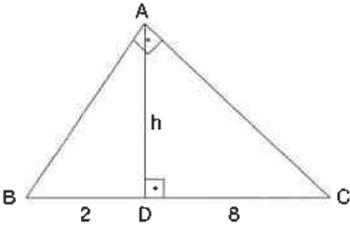
A) 6 B) 8 C) 9 D) 10 E) 12

12.  $[AB] \perp [BC]$
 $[AE] \perp [ED]$
 $|AB| = 4$ br
 $|BC| = 3$ br
 $|CD| = 5$ br
 $|ED| = 6$ br
 $\Rightarrow |AE| = x = ?$

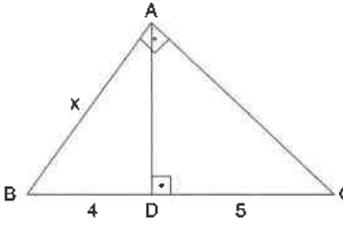
A) 8 B) 9 C) 10 D) 12 E) 15

16.  $[AD] \perp [BC]$
 $|AB| = 10$ br
 $|DC| = 15$ br
 $|AC| = 2a - 3$
 $|BD| = a - 4$
 $\Rightarrow |AD| = x = ?$

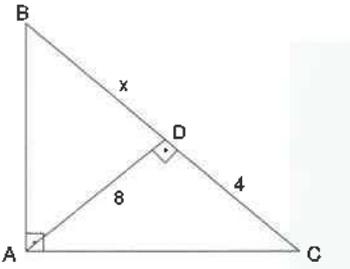
A) 6 B) $\frac{15}{2}$ C) 8 D) $\frac{17}{2}$ E) 9

1.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $|BD| = 2 \text{ br}$
 $|DC| = 8 \text{ br}$
 $\Rightarrow |AD| = h = ?$

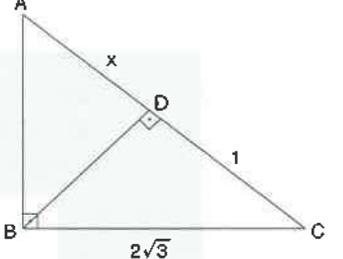
A) 2 B) 4 C) 5 D) 6 E) 8

5.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $|BD| = 4 \text{ br}$
 $|DC| = 5 \text{ br}$
 $\Rightarrow |AB| = x = ?$

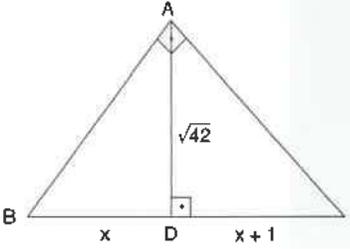
A) 4 B) 5 C) 6 D) 9 E) 12

2.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $|AD| = 8 \text{ br}$
 $|DC| = 4 \text{ br}$
 $\Rightarrow |BD| = x = ?$

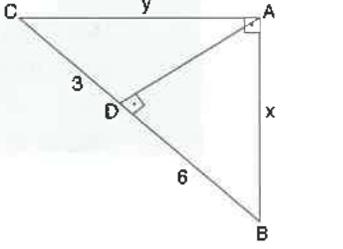
A) 4 B) 8 C) 12 D) 16 E) 32

6.  $[AB] \perp [BC]$
 $[BD] \perp [AC]$
 $|DC| = 1 \text{ br}$
 $|BC| = 2\sqrt{3} \text{ br}$
 $\Rightarrow |AD| = x = ?$

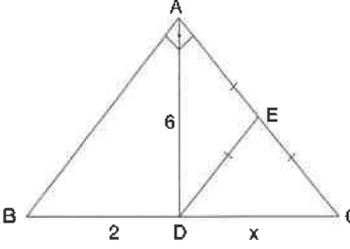
A) 7 B) 8 C) 9 D) 10 E) 11

3.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $|AD| = \sqrt{42} \text{ br}$
 $|BD| = x$
 $|DC| = x + 1$
 $\Rightarrow |BC| = ?$

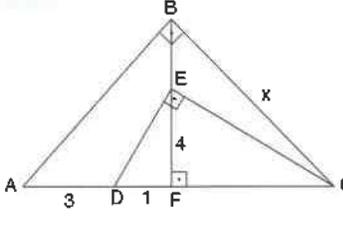
A) 16 B) 14 C) 13 D) 12 E) 7

7.  $[CA] \perp [AB]$
 $[AD] \perp [BC]$
 $|DC| = 3 \text{ br}$
 $|BD| = 6 \text{ br}$
 $|AD| = y$
 $|AB| = x$
 $\Rightarrow \frac{x}{y} = ?$

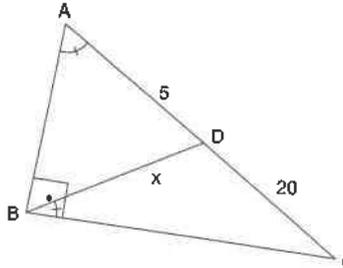
A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) 2 E) 4

4.  $[BA] \perp [AC]$
 $|AE| = |EC| = |DE|$
 $|AD| = 6 \text{ br}$
 $|BD| = 2 \text{ br}$
 $\Rightarrow |DC| = x = ?$

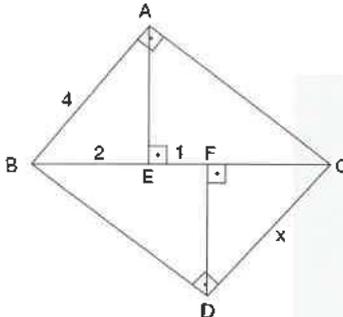
A) 9 B) 16 C) 18 D) 38 E) 48

8.  $[AB] \perp [BC]$
 $[DE] \perp [EC]$
 $[BF] \perp [AC]$
 $|EF| = 4 \text{ br}$
 $|DF| = 1 \text{ br}$
 $|AD| = 3 \text{ br}$
 $\Rightarrow |BC| = x = ?$

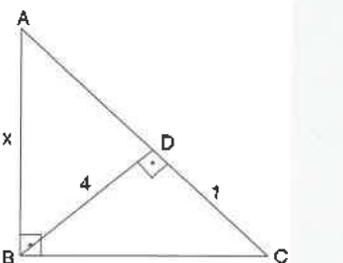
A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) $2\sqrt{3}$ E) $8\sqrt{5}$

9.  $[AB] \perp [BC]$
 $m(\widehat{BAC}) = m(\widehat{DBC})$
 $|AD| = 5 \text{ br}$
 $|DC| = 20 \text{ br}$
 $\Rightarrow |BD| = x = ?$

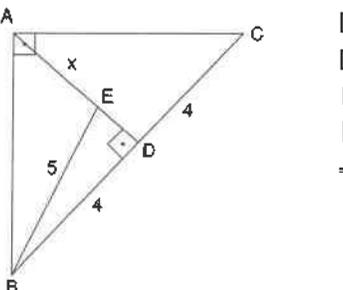
A) 5 B) 10 C) 15 D) 20 E) 25

10.  $[BA] \perp [AC]$
 $[AE] \perp [BC]$
 $[BD] \perp [DC]$
 $[DF] \perp [BC]$
 $|AB| = 4 \text{ br}$
 $|BE| = 2 \text{ br}$
 $|EF| = 1 \text{ br}$
 $\Rightarrow |DC| = x = ?$

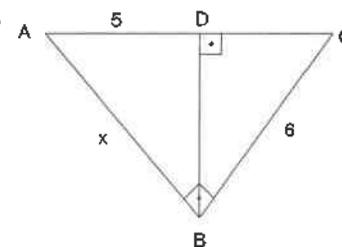
A) 3 B) 4 C) 5 D) $2\sqrt{5}$ E) $2\sqrt{10}$

11.  $[AB] \perp [BC]$
 $[BD] \perp [AC]$
 $|BD| = 4 \text{ br}$
 $|DC| = 1 \text{ br}$
 $\Rightarrow |AB| = x = ?$

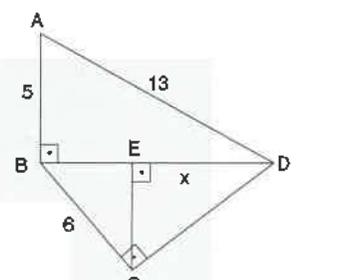
A) $\sqrt{17}$ B) 16 C) $2\sqrt{7}$ D) 17 E) $4\sqrt{17}$

12.  $[CA] \perp [AB]$
 $[AD] \perp [BC]$
 $|BE| = 5 \text{ br}$
 $|BD| = |DC| = 4 \text{ br}$
 $\Rightarrow |AE| = x = ?$

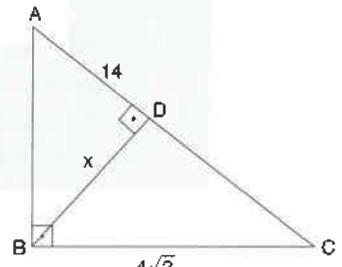
A) 1 B) 2 C) 3 D) 4 E) 5

13.  $[AC] \perp [BD]$
 $[AB] \perp [BC]$
 $|AD| = 5 \text{ br}$
 $|BC| = 6 \text{ br}$
 $\Rightarrow |AB| = x = ?$

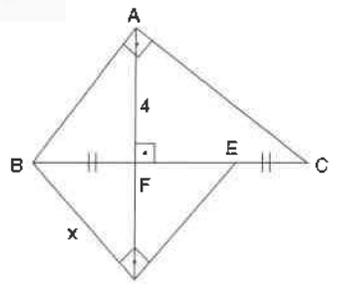
A) $\sqrt{3}$ B) $3\sqrt{5}$ C) $5\sqrt{3}$ D) $5\sqrt{5}$ E) 15

14.  $[AB] \perp [BD]$
 $[BC] \perp [CD]$
 $[CE] \perp [BD]$
 $|AD| = 13 \text{ br}$
 $|AB| = 5 \text{ br}$
 $|BC| = 6 \text{ br}$
 $\Rightarrow |ED| = x = ?$

A) 9 B) 6 C) 5 D) 4 E) 2

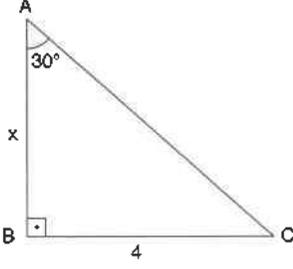
15.  $[AB] \perp [BC]$
 $[BD] \perp [AC]$
 $|AD| = 14 \text{ br}$
 $|BC| = 4\sqrt{2} \text{ br}$
 $\Rightarrow |BD| = x = ?$

A) $\sqrt{5}$ B) $\sqrt{7}$ C) $2\sqrt{2}$ D) $2\sqrt{7}$ E) 6

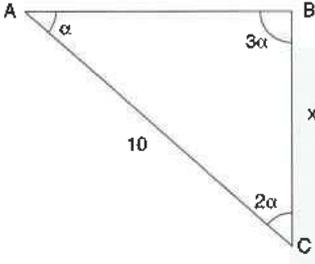
16.  $|BF| = |EC|$
 $[BA] \perp [AC]$
 $[BD] \perp [DE]$
 $[AF] \perp [BC]$
 $|AF| = 4 \text{ br}$
 $\Rightarrow |BD| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

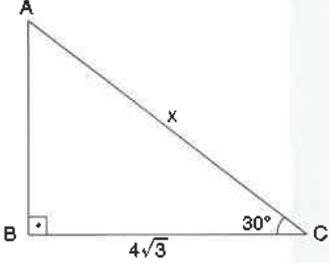
PUZAYYINLARI

1.  $[AB] \perp [BC]$
 $m(\widehat{BAC}) = 30^\circ$
 $|BC| = 4 \text{ br}$
 $\Rightarrow |AB| = x = ?$

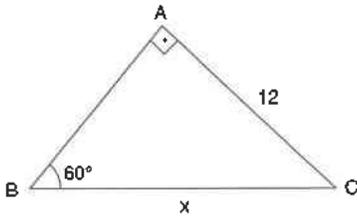
A) 2 B) 4 C) $2\sqrt{3}$ D) $4\sqrt{3}$ E) 8

2.  $m(\widehat{A}) = \alpha$
 $m(\widehat{B}) = 3\alpha$
 $m(\widehat{C}) = 2\alpha$
 $|AC| = 10 \text{ br}$
 $\Rightarrow |BC| = x = ?$

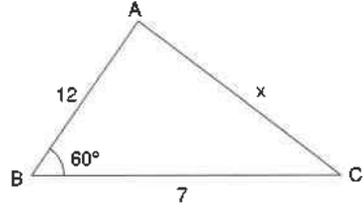
A) 5 B) $5\sqrt{3}$ C) 10 D) $10\sqrt{3}$ E) 30

3.  $[AB] \perp [BC]$
 $m(\widehat{ACB}) = 30^\circ$
 $|BC| = 4\sqrt{3} \text{ br}$
 $\Rightarrow |AC| = x = ?$

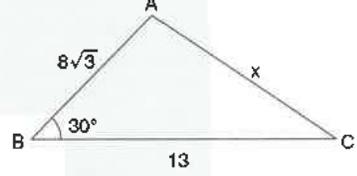
A) 2 B) $2\sqrt{3}$ C) 4 D) 8 E) $8\sqrt{3}$

4.  $[BA] \perp [AC]$
 $m(\widehat{ABC}) = 60^\circ$
 $|AC| = 12 \text{ br}$
 $\Rightarrow |BC| = x = ?$

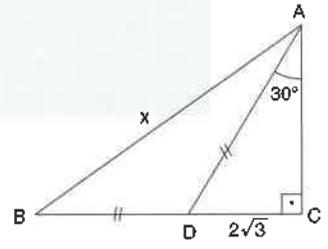
A) 3 B) $3\sqrt{3}$ C) 6 D) $6\sqrt{3}$ E) $8\sqrt{3}$

5.  $m(\widehat{ABC}) = 60^\circ$
 $|AB| = 12 \text{ br}$
 $|BC| = 7 \text{ br}$
 $\Rightarrow |AC| = x = ?$

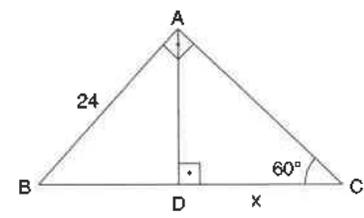
A) $\sqrt{74}$ B) $\sqrt{101}$ C) $\sqrt{107}$ D) $\sqrt{109}$ E) $\sqrt{111}$

6.  $m(\widehat{ABC}) = 30^\circ$
 $|AB| = 8\sqrt{3} \text{ br}$
 $|BC| = 13 \text{ br}$
 $\Rightarrow |AC| = x = ?$

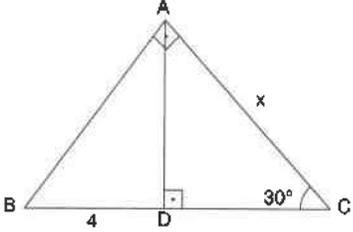
A) 4 B) 5 C) 6 D) 7 E) 8

7.  $[AC] \perp [BC]$
 $|AD| = |BD|$
 $|DC| = 2\sqrt{3} \text{ br}$
 $\Rightarrow |AB| = x = ?$

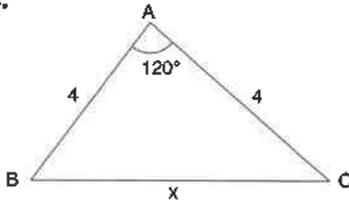
A) $4\sqrt{3}$ B) 6 C) $6\sqrt{3}$ D) 12 E) $12\sqrt{3}$

8.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $m(\widehat{ACB}) = 60^\circ$
 $|AB| = 24 \text{ br}$
 $\Rightarrow |DC| = x = ?$

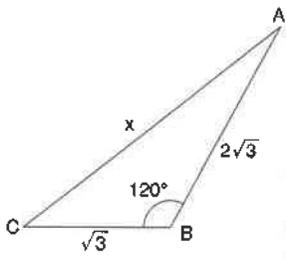
A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) 6 D) 8 E) $8\sqrt{3}$

9.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $m(\widehat{ACB}) = 30^\circ$
 $|BD| = 4 \text{ br}$
 $\Rightarrow |AC| = x = ?$

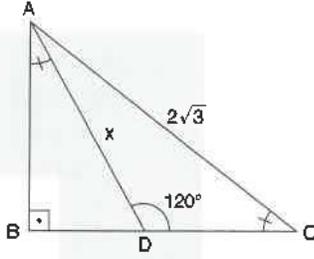
A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) $8\sqrt{3}$

13.  $m(\widehat{BAC}) = 120^\circ$
 $|AB| = |AC| = 4 \text{ br}$
 $\Rightarrow |BC| = x = ?$

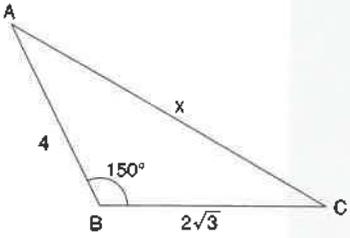
A) 1 B) 2 C) 4 D) $4\sqrt{2}$ E) $4\sqrt{3}$

10.  $m(\widehat{ABC}) = 120^\circ$
 $|AB| = 2\sqrt{3} \text{ br}$
 $|BC| = \sqrt{3} \text{ br}$
 $\Rightarrow |AC| = x = ?$

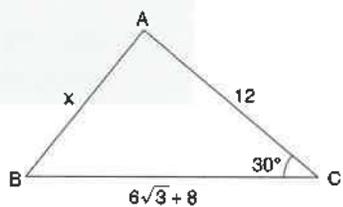
A) $3\sqrt{3}$ B) 9 C) $4\sqrt{3}$ D) $5\sqrt{3}$ E) $\sqrt{21}$

14.  $m(\widehat{BAD}) = m(\widehat{ACB})$
 $|AC| = 2\sqrt{3}$
 $m(\widehat{ADC}) = 120^\circ$
 $\Rightarrow |AD| = x = ?$

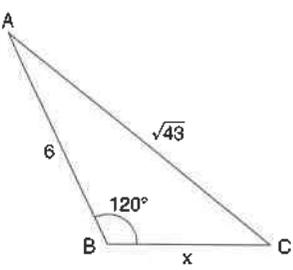
A) 2 B) $2\sqrt{3}$ C) 6 D) $6\sqrt{2}$ E) $6\sqrt{3}$

11.  $m(\widehat{ABC}) = 150^\circ$
 $|AB| = 4 \text{ br}$
 $|BC| = 2\sqrt{3} \text{ br}$
 $\Rightarrow |AC| = x = ?$

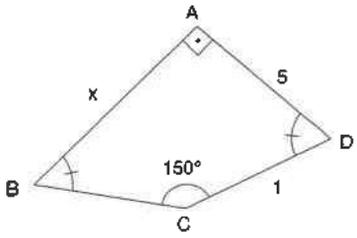
A) 4 B) $2\sqrt{3}$ C) $\sqrt{7}$
 D) 6 E) $2\sqrt{13}$

15.  $m(\widehat{ACB}) = 30^\circ$
 $|AC| = 12 \text{ br}$
 $|BC| = 6\sqrt{3} + 8 \text{ br}$
 $\Rightarrow |AB| = x = ?$

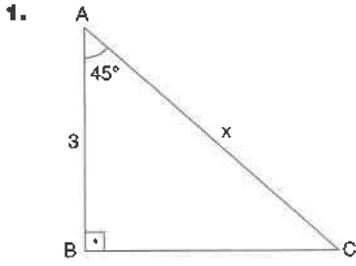
A) 6 B) 8 C) 10 D) 12 E) 13

12.  $m(\widehat{ABC}) = 120^\circ$
 $|AB| = 6 \text{ br}$
 $|AC| = \sqrt{43} \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

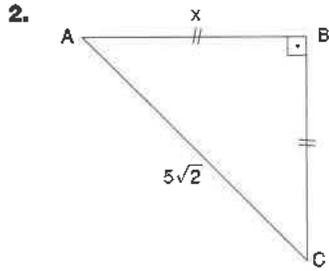
16.  $m(\widehat{BCD}) = 150^\circ$
 $[BA] \perp [AD]$
 $m(\widehat{B}) = m(\widehat{D})$
 $|AD| = 5 \text{ br}$
 $|DC| = 1 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) $2\sqrt{3}$ E) 6



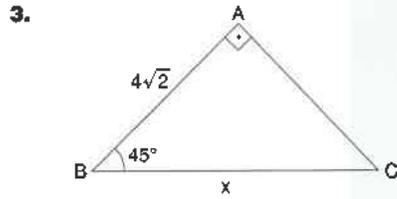
$[AB] \perp [BC]$
 $m(\widehat{BAC}) = 45^\circ$
 $|AB| = 3 \text{ br}$
 $\Rightarrow |AC| = x = ?$

- A) $\frac{3}{2}$ B) $\frac{3\sqrt{2}}{2}$ C) 3 D) $3\sqrt{2}$ E) 6



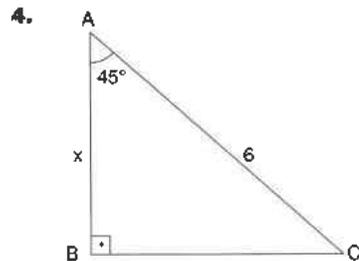
$[AB] \perp [BC]$
 $|AB| = |BC|$
 $|AC| = 5\sqrt{2} \text{ br}$
 $\Rightarrow |AB| = x = ?$

- A) 10 B) $5\sqrt{3}$ C) 5 D) $\frac{5\sqrt{2}}{2}$ E) $\frac{5}{2}$



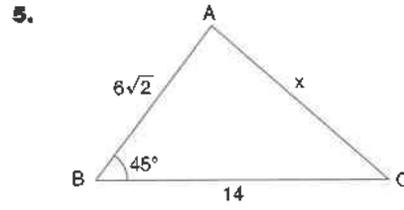
$[BA] \perp [AC]$
 $m(\widehat{ABC}) = 45^\circ$
 $|AB| = 4\sqrt{2} \text{ br}$
 $\Rightarrow |BC| = x = ?$

- A) $2\sqrt{2}$ B) 4 C) $4\sqrt{2}$ D) 8 E) $8\sqrt{2}$



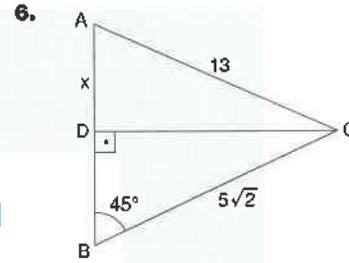
$[AB] \perp [BC]$
 $m(\widehat{BAC}) = 45^\circ$
 $|AC| = 6 \text{ br}$
 $\Rightarrow |AB| = x = ?$

- A) 3 B) $3\sqrt{2}$ C) 6 D) $6\sqrt{2}$ E) 12



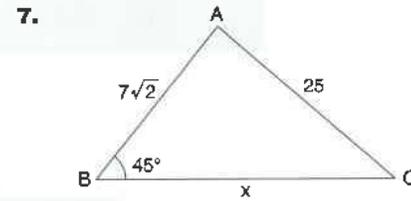
$m(\widehat{ABC}) = 45^\circ$
 $|AB| = 6\sqrt{2} \text{ br}$
 $|BC| = 14 \text{ br}$
 $\Rightarrow |AC| = x = ?$

- A) 6 B) 8 C) $6\sqrt{2}$ D) $8\sqrt{2}$ E) 10



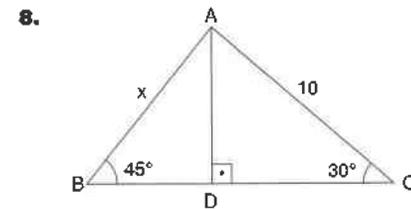
$[CD] \perp [AB]$
 $m(\widehat{ABC}) = 45^\circ$
 $|AC| = 13 \text{ br}$
 $|BC| = 5\sqrt{2} \text{ br}$
 $\Rightarrow |AD| = x = ?$

- A) 5 B) $5\sqrt{2}$ C) 12 D) $13\sqrt{2}$ E) 26



$m(\widehat{ABC}) = 45^\circ$
 $|AB| = 7\sqrt{2} \text{ br}$
 $|AC| = 25 \text{ br}$
 $\Rightarrow |BC| = x = ?$

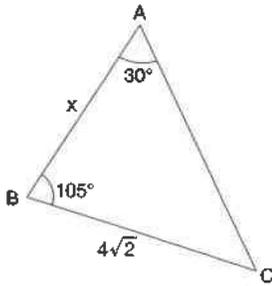
- A) 7 B) $7\sqrt{2}$ C) 24 D) 25 E) 31



$[AD] \perp [BC]$
 $m(\widehat{ABC}) = 45^\circ$
 $m(\widehat{ACB}) = 30^\circ$
 $|AC| = 10 \text{ br}$
 $\Rightarrow |AB| = x = ?$

- A) 5 B) $5\sqrt{2}$ C) $5\sqrt{3}$ D) $\sqrt{6}$ E) $10\sqrt{2}$

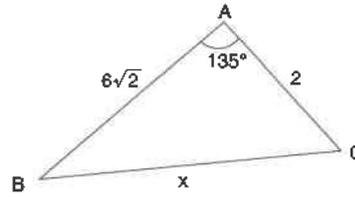
9.



$$\begin{aligned} m(\widehat{ABC}) &= 105^\circ \\ m(\widehat{BAC}) &= 30^\circ \\ |BC| &= 4\sqrt{2} \text{ br} \\ \Rightarrow |AB| &= x = ? \end{aligned}$$

- A) 2 B) $2\sqrt{2}$ C) 4 D) $4\sqrt{2}$ E) 8

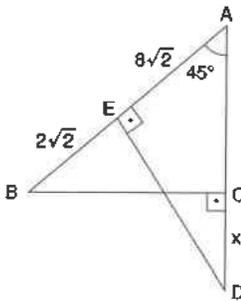
13.



$$\begin{aligned} m(\widehat{BAC}) &= 135^\circ \\ |AC| &= 2 \text{ br} \\ |AB| &= 6\sqrt{2} \text{ br} \\ \Rightarrow |BC| &= x = ? \end{aligned}$$

- A) 4 B) 6 C) 8 D) $8\sqrt{2}$ E) 10

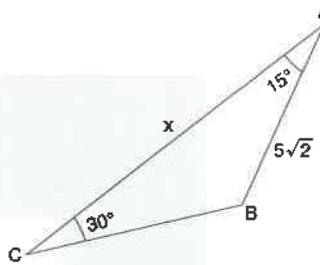
10.



$$\begin{aligned} [DE] &\perp [AB] \\ [BC] &\perp [AD] \\ m(\widehat{BAC}) &= 45^\circ \\ |AE| &= 8\sqrt{2} \\ |BE| &= 2\sqrt{2} \\ \Rightarrow |DC| &= x = ? \end{aligned}$$

- A) 2 B) 4 C) 6 D) 8 E) 10

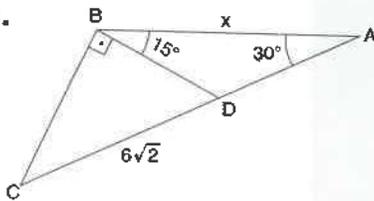
14.



$$\begin{aligned} m(\widehat{BAC}) &= 15^\circ \\ m(\widehat{ACB}) &= 30^\circ \\ |AB| &= 5\sqrt{2} \\ \Rightarrow |AC| &= x = ? \end{aligned}$$

- A) 5 B) 6 C) 8 D) $8\sqrt{2}$ E) 10

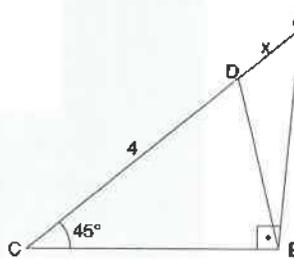
11.



$$\begin{aligned} [DB] &\perp [BC] \\ m(\widehat{BAC}) &= 30^\circ \\ m(\widehat{DBA}) &= 15^\circ \\ |DC| &= 6\sqrt{2} \text{ br} \\ \Rightarrow |AB| &= x = ? \end{aligned}$$

- A) $2\sqrt{2}$ B) $3\sqrt{2}$ C) $4\sqrt{2}$ D) $5\sqrt{2}$ E) $6\sqrt{2}$

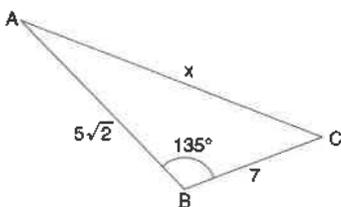
15.



$$\begin{aligned} [AB] &\perp [BC] \\ m(\widehat{ACB}) &= 45^\circ \\ |AB| &= |BC| = 4 \text{ br} \\ \Rightarrow |AD| &= x = ? \end{aligned}$$

- A) $(\sqrt{3}-1)$ B) $2(\sqrt{2}-1)$ E) $4(\sqrt{3}+1)$
C) $4(\sqrt{2}-1)$ D) $2(\sqrt{2}+1)$

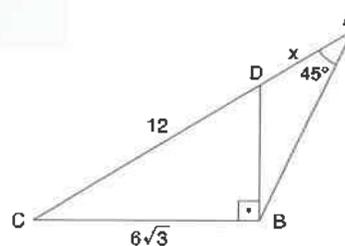
12.



$$\begin{aligned} m(\widehat{ABC}) &= 135^\circ \\ |BC| &= 7 \text{ br} \\ |AB| &= 5\sqrt{2} \text{ br} \\ \Rightarrow |AC| &= x = ? \end{aligned}$$

- A) 5 B) $5\sqrt{2}$ C) $7\sqrt{2}$ D) 13 E) 14

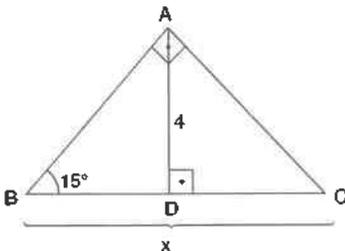
16.



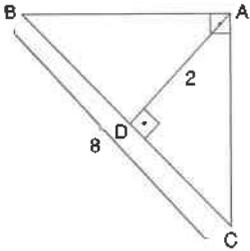
$$\begin{aligned} [CB] &\perp [BD] \\ m(\widehat{CAB}) &= 45^\circ \\ |DC| &= 12 \text{ br} \\ |BC| &= 6\sqrt{3} \text{ br} \\ \Rightarrow |AD| &= x = ? \end{aligned}$$

- A) $(\sqrt{3}-1)$ B) $2(\sqrt{3}-1)$ E) $3(\sqrt{3}+1)$
C) $3(\sqrt{3}-1)$ D) $2(\sqrt{3}+1)$

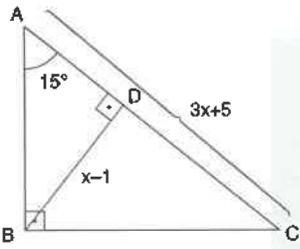
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1.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $m(\widehat{ABC}) = 15^\circ$
 $|AD| = 4 \text{ br}$
 $\Rightarrow |BC| = x = ?$

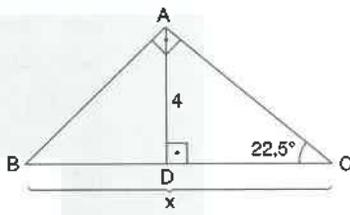
A) 1 B) 2 C) 4 D) 8 E) 16

5.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $|AD| = 2 \text{ br}$
 $|BC| = 8 \text{ br}$
 $m(\widehat{B}) > m(\widehat{C})$
 $\Rightarrow m(\widehat{B}) = ?$

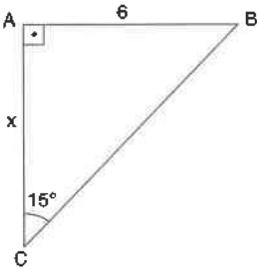
A) 15 B) 30 C) 45 D) 60 E) 75

2.  $[AB] \perp [BC]$
 $[BD] \perp [AC]$
 $|AC| = 3x + 5$
 $|BD| = x - 1$
 $m(\widehat{BAC}) = 15^\circ$
 $\Rightarrow x = ?$

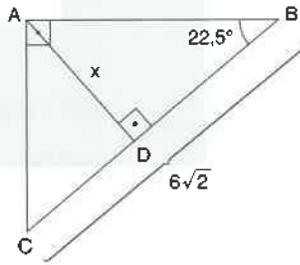
A) 7 B) 8 C) 9 D) 10 E) 11

6.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $|AD| = 4 \text{ br}$
 $m(\widehat{ACB}) = 22,5^\circ$
 $\Rightarrow |BC| = x = ?$

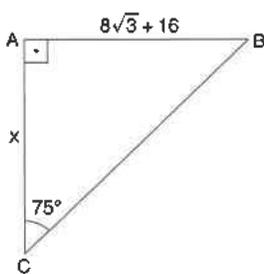
A) 4 B) $4\sqrt{2}$ C) $8\sqrt{2}$ D) 16 E) $16\sqrt{2}$

3.  $[BA] \perp [AC]$
 $|AB| = 6 \text{ br}$
 $m(\widehat{ACB}) = 15^\circ$
 $\Rightarrow |AC| = x = ?$

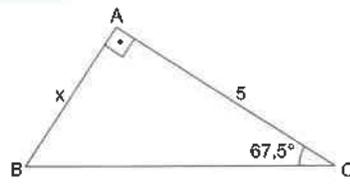
A) $6(\sqrt{3} + 2)$ B) $6(\sqrt{3} + 1)$
 C) $6(\sqrt{3} - 1)$ D) $3(\sqrt{3} + 1)$
 E) $3(\sqrt{3} - 1)$

7.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $m(\widehat{ABC}) = 22,5^\circ$
 $|BC| = 6\sqrt{2} \text{ br}$
 $\Rightarrow |AD| = x = ?$

A) 2 B) 3 C) $3\sqrt{2}$ D) 6 E) $6\sqrt{2}$

4.  $[BA] \perp [AC]$
 $m(\widehat{ACB}) = 75^\circ$
 $|AB| = 8\sqrt{3} + 16 \text{ br}$
 $\Rightarrow |AC| = x = ?$

A) 2 B) 3 C) 4 D) 6 E) 8

8.  $[BA] \perp [AC]$
 $m(\widehat{ABC}) = 67,5^\circ$
 $|AC| = 5 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) $5(\sqrt{2} + 1)$ B) $10(\sqrt{2} + 1)$
 C) $5(\sqrt{2} - 1)$ D) $10(\sqrt{2} - 1)$
 E) $5\sqrt{2}$

9.

$[AB] \perp [BC]$
 $m(\widehat{BAC}) = 15^\circ$
 $|AB| = 5\sqrt{3} + 10$
 $\Rightarrow |BC| = x = ?$

A) 4 B) 5 C) 6 D) 8 E) 10

10.

ABC eşkenar üçgen
 ABC equilateral triangle
 $m(\widehat{DBC}) = 15^\circ$
 $|BD| = 3\sqrt{2}$
 $\Rightarrow |DC| = x = ?$

A) $3 + \sqrt{3}$ B) 2 C) 3
 D) $3 - \sqrt{3}$ E) $2 + \sqrt{3}$

11.

$m(\widehat{ACB}) = 60^\circ$
 $m(\widehat{ABC}) = 15^\circ$
 $|AC| = 6$
 $\Rightarrow |BC| = x = ?$

A) $12(1 + \sqrt{3})$ B) $6(2 + \sqrt{3})$
 C) $6(1 + \sqrt{3})$ D) $3(1 + 2\sqrt{3})$
 E) $66\sqrt{3}$

12.

$m(\widehat{ABC}) = 45^\circ$
 $m(\widehat{ACB}) = 15^\circ$
 $|AB| = 4$
 $\Rightarrow |AC| = x = ?$

A) $4(1 + \sqrt{3})$ B) $2(2 + \sqrt{3})$
 C) $2(1 + 2\sqrt{3})$ D) $4\sqrt{3}$
 E) 4

13.

$|AB| = |AC|$
 $|BC| = 8$
 $|AD| = 6\sqrt{2}$
 $|CD| = 2$
 $\Rightarrow |AB| = x = ?$

A) 4 B) $4\sqrt{2}$ C) $\sqrt{13}$ D) $2\sqrt{13}$ E) 10

14.

$|AB| = |AC| = 13$
 $|BD| = 3$
 $|DC| = 7$
 $\Rightarrow |AD| = x = ?$

A) $\sqrt{37}$ B) $\sqrt{39}$ C) 7
 D) $2\sqrt{37}$ E) $2\sqrt{39}$

15.

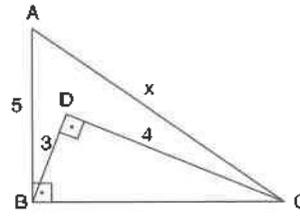
$|AB| = 3\sqrt{5}$
 $|AC| = 3\sqrt{5}$
 $|BD| = 10$
 $|DC| = 2$
 $\Rightarrow |AD| = x = ?$

A) $\sqrt{5}$ B) $\sqrt{10}$ C) 5 D) 10 E) $10\sqrt{2}$

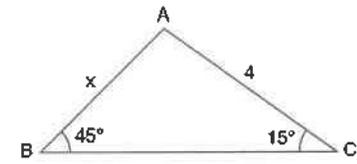
16.

$|AD| = |AC|$
 $m(\widehat{ABC}) = 30^\circ$
 $|AB| = 10$
 $|DC| = 6$
 $\Rightarrow |BD| = x = ?$

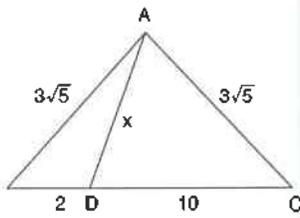
A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $5\sqrt{3}$
 D) $5(\sqrt{3} - 1)$ E) $5\sqrt{3} - 3$

1.  $[AB] \perp [BC]$
 $[BD] \perp [DC]$
 $|AB| = 5 \text{ br}$
 $|DC| = 4 \text{ br}$
 $|BD| = 3 \text{ br}$
 $\Rightarrow |AC| = x = ?$

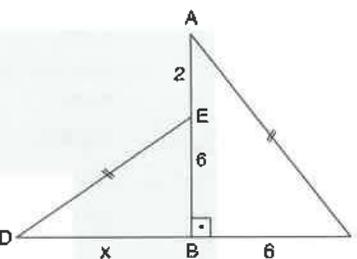
A) 10 B) 8 C) $5\sqrt{3}$ D) $5\sqrt{2}$ E) 5

5.  $m(\widehat{ABC}) = 45^\circ$
 $m(\widehat{ACB}) = 15^\circ$
 $|AC| = 4 \text{ br}$
 $\Rightarrow |AB| = x = ?$

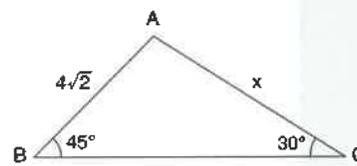
A) 2 B) $2\sqrt{3}$ C) $2\sqrt{3} - 2$
 D) $2\sqrt{3} + 2$ E) $6\sqrt{2}$

2.  $|AB| = |AC| = 3\sqrt{5} \text{ br}$
 $|BD| = 2 \text{ br}$
 $|DC| = 10 \text{ br}$
 $\Rightarrow |AD| = x = ?$

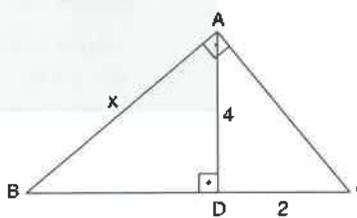
A) $5\sqrt{2}$ B) 5 C) 4 D) $4\sqrt{2}$ E) 3

6.  $|AC| = |DE|$
 $[AB] \perp [DC]$
 $|AE| = 2 \text{ br}$
 $|EB| = 6 \text{ br}$
 $|BC| = 6 \text{ br}$
 $\Rightarrow |BD| = x = ?$

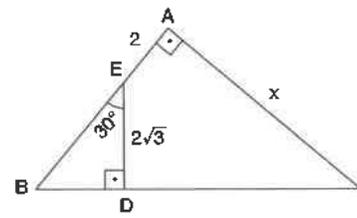
A) 4 B) 6 C) 8 D) 10 E) 15

3.  $|AB| = 4\sqrt{2} \text{ br}$
 $m(\widehat{ABC}) = 45^\circ$
 $m(\widehat{ACB}) = 30^\circ$
 $\Rightarrow |AC| = x = ?$

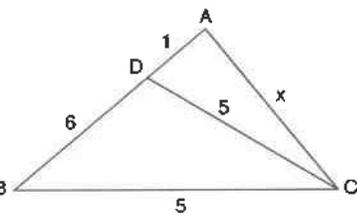
A) $4\sqrt{3}$ B) 8 C) $6\sqrt{2}$ D) 6 E) 12

7.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $|AD| = 4 \text{ br}$
 $|DC| = 2 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) $4\sqrt{2}$ B) 5 C) $4\sqrt{5}$ D) 10 E) $8\sqrt{5}$

4.  $[BA] \perp [AC]$
 $[ED] \perp [BC]$
 $m(\widehat{BED}) = 30^\circ$
 $|ED| = 2\sqrt{3} \text{ br}$
 $|EA| = 2 \text{ br}$
 $\Rightarrow |AC| = x = ?$

A) 4 B) $4\sqrt{3}$ C) 8 D) $6\sqrt{3}$ E) 12

8.  $|DC| = |BC| = 5 \text{ br}$
 $|AD| = 1 \text{ br}$
 $|BD| = 6 \text{ br}$
 $\Rightarrow |AC| = x = ?$

A) $4\sqrt{2}$ B) 5 C) 6 D) $6\sqrt{2}$ E) 8

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9.

$m(\widehat{ABC}) = 60^\circ$
 $m(\widehat{ACB}) = 15^\circ$
 $|AB| = 4 \text{ br}$
 $|BD| = 8 \text{ br}$
 $\Rightarrow |DC| = x = ?$

A) 4 B) $4\sqrt{3}$ C) 6 D) $6\sqrt{3}$ E) $2\sqrt{3}$

10.

$|BD| = |DC|$
 $|AB| \perp |BC|$
 $|AC| = 5 \text{ br}$
 $|AD| = \sqrt{13} \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) 2 B) 3 C) $3\sqrt{2}$ D) 4 E) $4\sqrt{2}$

11.

$m(\widehat{BAC}) = 120^\circ$
 $|CE| \perp |BD|$
 $|BC| \perp |CD|$
 $|AB| = |AC| = 4 \text{ br}$
 $|CE| = 2\sqrt{3} \text{ br}$
 $\Rightarrow |CD| = x = ?$

A) 2 B) 4 C) 6 D) $6\sqrt{3}$ E) 8

12.

$|AD| \perp |BC|$
 $|AB| = |DC|$
 $|AC| = 3 \text{ br}$
 $|BD| = 1 \text{ br}$
 $\Rightarrow |AD| = x = ?$

A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

13.

$|DE| \perp |AB|$
 $|AD| \perp |BC|$
 $|AE| = 6 \text{ br}$
 $|DC| = 2 \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow |AC| = x = ?$

A) $4\sqrt{2}$ B) 5 C) $\sqrt{17}$ D) $2\sqrt{13}$ E) $2\sqrt{17}$

14.

ABC eşkenar üçgen
 ABC equilateral triangle
 $|ED| \perp |BC|$
 $|AE| = 5 \text{ br}$
 $|BD| = 9 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) 14 B) 13 C) 12 D) 11 E) 10

15.

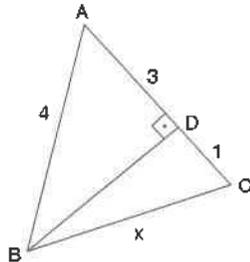
$m(\widehat{BCD}) = 60^\circ$
 $m(\widehat{CDA}) = 60^\circ$
 $|BA| \perp |AD|$
 $|BC| = 4 \text{ br}$
 $|AD| = 6 \text{ br}$
 $\Rightarrow |CD| = x = ?$

A) 6 B) 8 C) 10 D) 12 E) 14

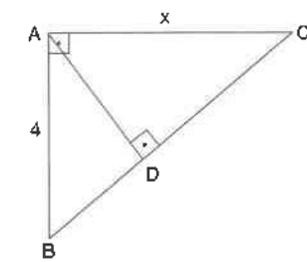
16.

ABC eşkenar üçgen
 ABC equilateral triangle
 $|AD| = 2 \text{ br}$
 $|BD| = 4 \text{ br}$
 $|DE| = \sqrt{13} \text{ br}$
 $\Rightarrow |EC| = x = ?$

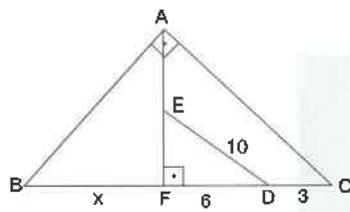
A) 1 B) 2 C) 3 D) 4 E) 5

1.  $[BD] \perp [AC]$
 $|AB| = 4$ br
 $|AD| = 3$ br
 $|DC| = 1$ br
 $\Rightarrow |BC| = x = ?$

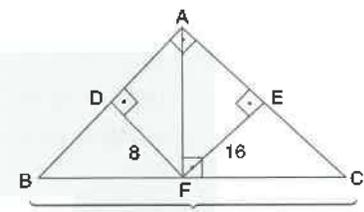
A) $2\sqrt{2}$ B) $3\sqrt{2}$ C) $\sqrt{26}$ D) $2\sqrt{26}$ E) 26

5.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $|DC| = 3|BD|$
 $|AB| = 4$ br
 $\Rightarrow |AC| = x = ?$

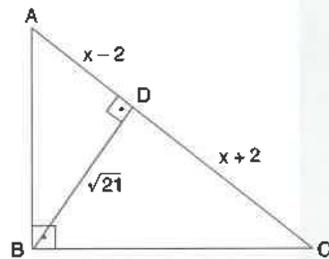
A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $4\sqrt{3}$ D) $6\sqrt{3}$ E) $8\sqrt{3}$

2.  $2|AE| = |EF|$
 $[BA] \perp [AC]$
 $[AF] \perp [BC]$
 $|ED| = 10$ br
 $|FD| = 6$ br
 $|DC| = 3$ br
 $\Rightarrow |BF| = x = ?$

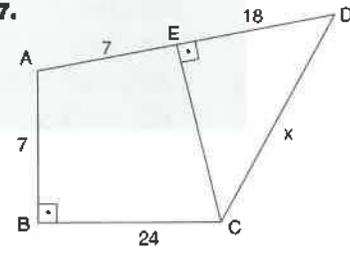
A) 4 B) 6 C) 9 D) 12 E) 16

6.  AEFD dikdörtgen
AEFD rectangle
 $[AF] \perp [BC]$
 $|DF| = 8$ br
 $|EF| = 16$ br
 $\Rightarrow |BC| = x = ?$

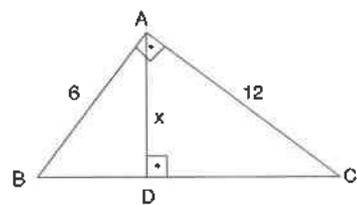
A) $4\sqrt{5}$ B) $8\sqrt{5}$ C) $12\sqrt{5}$
 D) $16\sqrt{5}$ E) $20\sqrt{5}$

3.  $[AB] \perp [BC]$
 $[BD] \perp [AC]$
 $|BD| = \sqrt{21}$ br
 $|AD| = x - 2$
 $|DC| = x + 2$
 $\Rightarrow |AC| = ?$

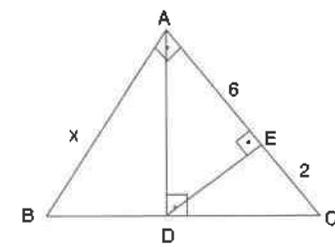
A) 4 B) 5 C) 6 D) 8 E) 10

7.  $[AB] \perp [BC]$
 $[CE] \perp [AD]$
 $|BA| = |AE| = 7$ br
 $|ED| = 18$ br
 $|BC| = 24$ br
 $\Rightarrow |DC| = x = ?$

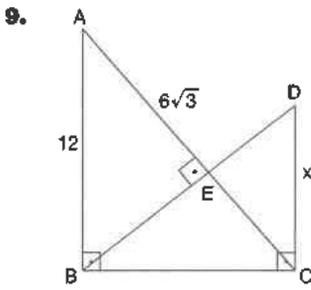
A) 18 B) 20 C) 24 D) 25 E) 30

4.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $|AB| = 6$ br
 $|AC| = 12$ br
 $\Rightarrow |AD| = x = ?$

A) 3 B) 6 C) $6\sqrt{5}$ D) $\frac{12\sqrt{5}}{5}$ E) $12\sqrt{5}$

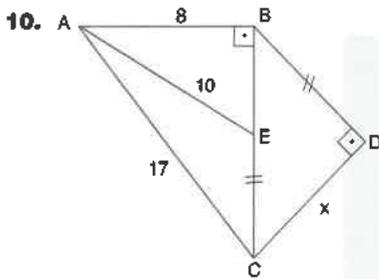
8.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $[DE] \perp [AC]$
 $|AE| = 6$ br
 $|EC| = 2$ br
 $\Rightarrow |AB| = x = ?$

A) $\sqrt{3}$ B) $2\sqrt{3}$ C) 6 D) $4\sqrt{3}$ E) $8\sqrt{3}$



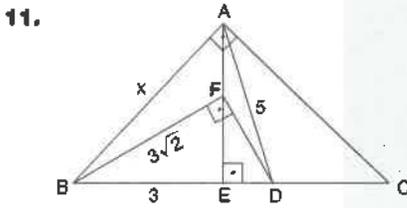
$[AB] \perp [BC]$
 $[BC] \perp [DC]$
 $[BE] \perp [AC]$
 $|AE| = 6\sqrt{3}$ br
 $|AB| = 12$ br
 $\Rightarrow |DC| = x = ?$

- A) $2\sqrt{3}$ B) $3\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) $6\sqrt{3}$



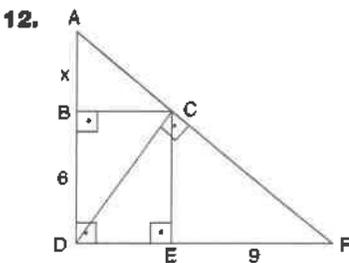
$[AB] \perp [BC]$
 $[BD] \perp [DC]$
 $|BD| = |EC|$
 $|AB| = 8$ br
 $|AE| = 10$ br
 $|AC| = 17$ br
 $\Rightarrow |DC| = x = ?$

- A) 6 B) 9 C) 12 D) 15 E) 20



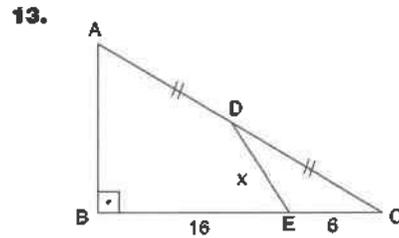
$[BA] \perp [AC]$
 $[BF] \perp [FD]$
 $[AE] \perp [BC]$
 $|BF| = 3\sqrt{2}$ br
 $|AD| = 5$ br
 $|BE| = 3$ br
 $\Rightarrow |AB| = x = ?$

- A) 5 B) $5\sqrt{3}$ C) 15 D) $\sqrt{30}$ E) 30



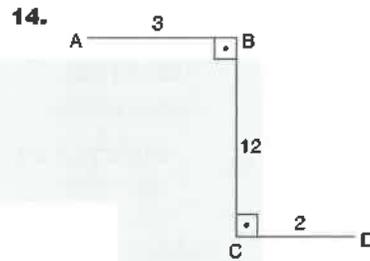
BCED dikdörtgen
 BCED rectangle
 $[DC] \perp [AF]$
 $|BD| = 6$ br
 $|EF| = 9$ br
 $\Rightarrow |AB| = x = ?$

- A) $\frac{4}{3}$ B) $\frac{8}{3}$ C) $\frac{16}{3}$ D) $\frac{7}{2}$ E) 7



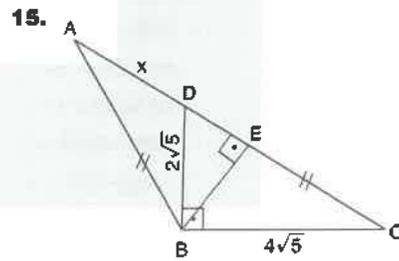
$[AB] \perp [BC]$
 $|AD| = |DC|$
 $|BE| = 16$ br
 $|EC| = 6$ br
 $|AC| = 24$ br
 $\Rightarrow |DE| = x = ?$

- A) $2\sqrt{29}$ B) $\sqrt{29}$ C) $4\sqrt{3}$ D) 7 E) 5



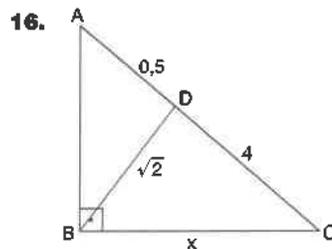
$[AB] \perp [BC]$
 $[BC] \perp [CD]$
 $|AB| = 3$ br
 $|BC| = 12$ br
 $|CD| = 2$ br
 $\Rightarrow |AD| = ?$

- A) 5 B) 10 C) 12 D) 13 E) 15



$[DB] \perp [BC]$
 $[BE] \perp [DC]$
 $|AB| = |EC|$
 $|BD| = 2\sqrt{5}$ br
 $|BC| = 4\sqrt{5}$ br
 $\Rightarrow |AD| = x = ?$

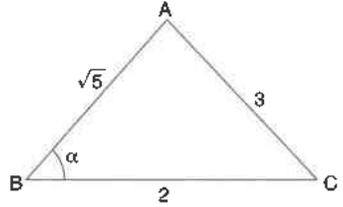
- A) $2(\sqrt{3}-1)$ B) $4(\sqrt{3}-1)$
 C) $4\sqrt{3}-2$ D) $4(\sqrt{3}+1)$
 E) $2(\sqrt{3}+1)$



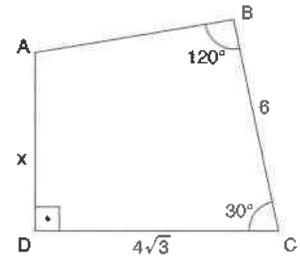
$[AB] \perp [DC]$
 $|AD| = 0,5$ br
 $|DC| = 4$ br
 $|BD| = \sqrt{2}$ br
 $\Rightarrow |BC| = x = ?$

- A) $\sqrt{2}$ B) $2\sqrt{2}$ C) $3\sqrt{2}$ D) $4\sqrt{2}$ E) $5\sqrt{2}$

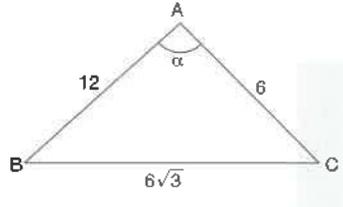
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1.  $|AC| = 3 \text{ br}$
 $|BC| = 2 \text{ br}$
 $|AB| = \sqrt{5} \text{ br}$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

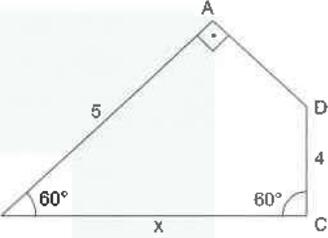
A) 90 B) 75 C) 60 D) 45 E) 30

5.  $[AD] \perp [DC]$
 $m(\widehat{ABC}) = 120^\circ$
 $m(\widehat{BCD}) = 30^\circ$
 $|BC| = 6 \text{ br}$
 $|DC| = 4\sqrt{3} \text{ br}$
 $\Rightarrow |AD| = x = ?$

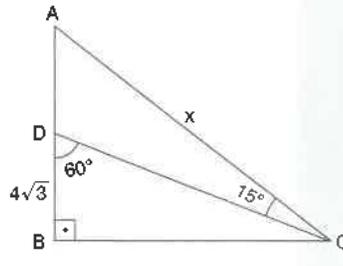
A) 1 B) 2 C) 3 D) $2\sqrt{3}$ E) $3\sqrt{3}$

2.  $|AC| = 6 \text{ br}$
 $|AB| = 12 \text{ br}$
 $|BC| = 6\sqrt{3} \text{ br}$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

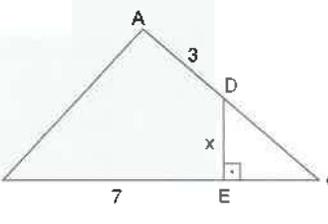
A) 90 B) 75 C) 60 D) 45 E) 30

6.  $[BA] \perp [AD]$
 $m(\widehat{ABC}) = 60^\circ$
 $m(\widehat{BCD}) = 60^\circ$
 $|AB| = 5 \text{ br}$
 $|DC| = 4 \text{ br}$
 $\Rightarrow |BC| = x = ?$

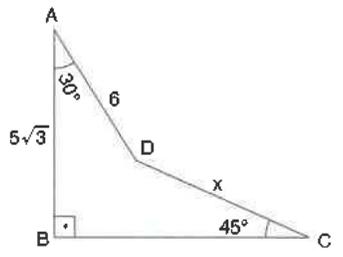
A) 3 B) 4 C) 5 D) 6 E) 7

3.  $[AB] \perp [BC]$
 $m(\widehat{CDB}) = 60^\circ$
 $m(\widehat{ACD}) = 15^\circ$
 $|DB| = 4\sqrt{3} \text{ br}$
 $\Rightarrow |AC| = x = ?$

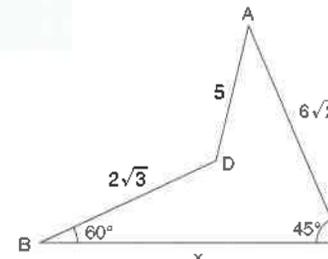
A) $8\sqrt{3}$ B) $12\sqrt{6}$ C) 12 D) $12\sqrt{2}$ E) $12\sqrt{3}$

7.  ABC eşkenar üçgen
 ABC equilateral triangle
 $[DE] \perp [EC]$
 $|AD| = 3 \text{ br}$
 $|BE| = 7 \text{ br}$
 $\Rightarrow |DE| = x = ?$

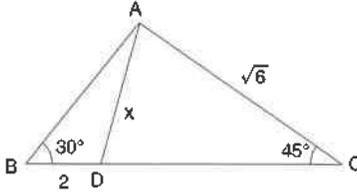
A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) $8\sqrt{3}$

4.  $[AB] \perp [BC]$
 $m(\widehat{BAD}) = 30^\circ$
 $m(\widehat{BCD}) = 45^\circ$
 $|AD| = 6 \text{ br}$
 $|AB| = 5\sqrt{3} \text{ br}$
 $\Rightarrow |DC| = x = ?$

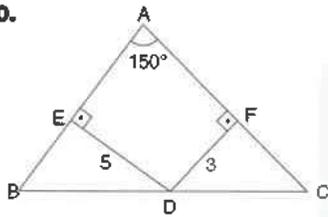
A) 3 B) 6 C) $2\sqrt{3}$ D) $3\sqrt{3}$ E) $2\sqrt{6}$

8.  $m(\widehat{DAC}) > 45^\circ$
 $m(\widehat{DBC}) = 60^\circ$
 $m(\widehat{ACB}) = 45^\circ$
 $|AD| = 5 \text{ br}$
 $|AC| = 6\sqrt{2} \text{ br}$
 $|BD| = 2\sqrt{3} \text{ br}$
 $\Rightarrow |BC| = x = ?$

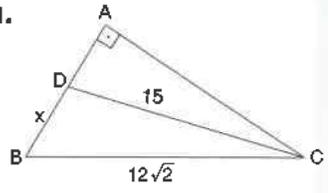
A) $4(\sqrt{3} + 1)$ B) $4(\sqrt{3} + 1)$
 C) $6\sqrt{3} + 1$ D) $10 + \sqrt{3}$
 E) $6 + \sqrt{3}$

9.  $m(\widehat{ABC}) = 30^\circ$
 $m(\widehat{ACB}) = 45^\circ$
 $|AC| = \sqrt{6}$ br
 $|BD| = 2$ br
 $\Rightarrow |AD| = x = ?$

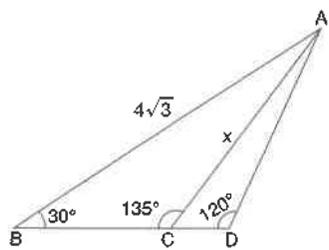
A) 1 B) 2 C) $\sqrt{3}$ D) $\sqrt{5}$ E) $\sqrt{6}$

10.  $|AB| = |AC|$
 $[DE] \perp [AB]$
 $[DF] \perp [AC]$
 $|DE| = 5$ br
 $|DF| = 3$ br
 $m(\widehat{BAC}) = 150^\circ$
 $\Rightarrow |BE| + |FC| = ?$

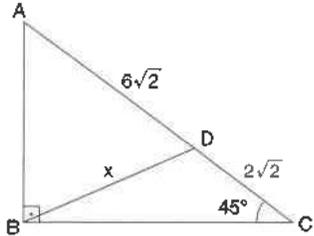
A) $10 + 5\sqrt{3}$ B) $6 + 3\sqrt{3}$ C) $10 + 8\sqrt{3}$
 D) $16 + 5\sqrt{3}$ E) $16 + 8\sqrt{3}$

11.  $[BA] \perp [AC]$
 $|AB| = |AC|$
 $|BC| = 12\sqrt{2}$ br
 $|DC| = 15$ br
 $|DB| = x$
 $\Rightarrow x = ?$

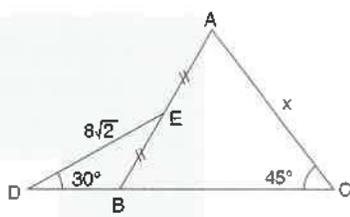
A) 10 B) 9 C) 6 D) 5 E) 3

12.  $m(\widehat{ABD}) = 30^\circ$
 $m(\widehat{ACB}) = 135^\circ$
 $m(\widehat{ADB}) = 120^\circ$
 $|AB| = 4\sqrt{3}$ br
 $\Rightarrow |AC| = x = ?$

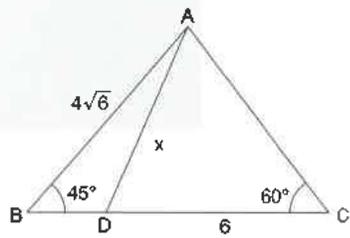
A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $4\sqrt{3}$ D) $2\sqrt{6}$ E) 6

13.  $[AB] \perp [BC]$
 $m(\widehat{BCA}) = 45^\circ$
 $|AD| = 6\sqrt{2}$ br
 $|DC| = 2\sqrt{2}$ br
 $\Rightarrow |BD| = x = ?$

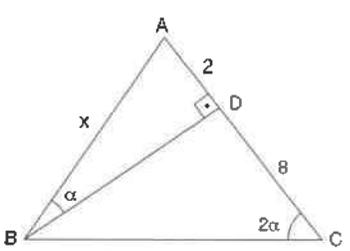
A) 2 B) 3 C) $2\sqrt{7} + 2$
 D) $4\sqrt{2}$ E) $2\sqrt{10}$

14.  $m(\widehat{ACD}) = 45^\circ$
 $m(\widehat{EDC}) = 30^\circ$
 $|AB| = |AC|$
 $|AE| = |EB|$
 $|DE| = 8\sqrt{2}$ br
 $\Rightarrow |AC| = x = ?$

A) 4 B) 6 C) 8 D) 12 E) 16

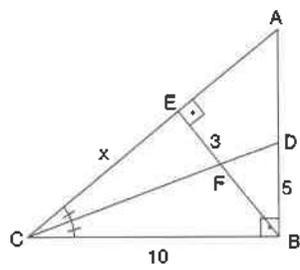
15.  $m(\widehat{ABC}) = 45^\circ$
 $m(\widehat{ACB}) = 60^\circ$
 $|AB| = 4\sqrt{6}$ br
 $|DC| = 6$ br
 $\Rightarrow |AD| = x = ?$

A) $2\sqrt{3}$ B) $2\sqrt{13}$ C) $2\sqrt{7}$ D) $4\sqrt{10}$ E) $4\sqrt{7}$

16.  $[BD] \perp [AC]$
 $m(\widehat{ACB}) = 2\alpha$
 $m(\widehat{ABD}) = \alpha$
 $|AD| = 2$ br
 $|DC| = 8$ br
 $\Rightarrow |AB| = x = ?$

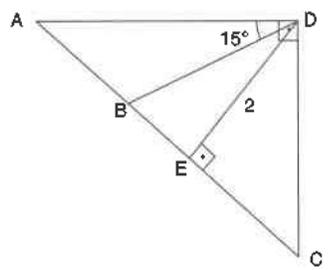
A) $2\sqrt{6}$ B) $4\sqrt{2}$ C) $2\sqrt{10}$ D) $4\sqrt{3}$ E) $2\sqrt{15}$

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1. 

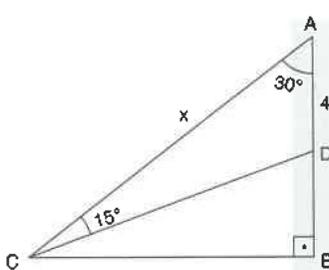
 $[AB] \perp [BC]$
 $[BE] \perp [AC]$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $|EF| = 3 \text{ br}$
 $|DB| = 5 \text{ br}$
 $|BC| = 10 \text{ br}$
 $\Rightarrow |EC| = x = ?$

A) 4 B) 5 C) 6 D) 10 E) 12

5. 

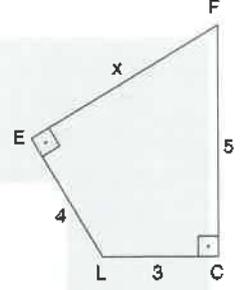
 $|BD| = |BC|$
 $[AD] \perp [DC]$
 $[DE] \perp [AC]$
 $|ED| = 2 \text{ br}$
 $m(\widehat{ADB}) = 15^\circ$
 $\Rightarrow |AC| = ?$

A) $\frac{1}{2}$ B) 1 C) 2 D) 4 E) 8

2. 

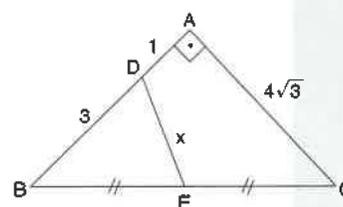
 $[AB] \perp [BC]$
 $m(\widehat{CAB}) = 30^\circ$
 $m(\widehat{ACD}) = 15^\circ$
 $|AD| = 4 \text{ br}$
 $\Rightarrow |AC| = x = ?$

A) 6 B) 8 C) 10
 D) $4(\sqrt{3}-1)$ E) $4(\sqrt{3}+1)$

6. 

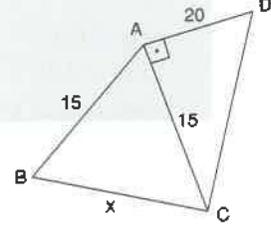
 $[FE] \perp [EL]$
 $[FC] \perp [LC]$
 $|FC| = 5 \text{ br}$
 $|LC| = 3 \text{ br}$
 $|EL| = 4 \text{ br}$
 $\Rightarrow |EF| = x = ?$

A) $\sqrt{2}$ B) 3 C) $3\sqrt{2}$ D) $4\sqrt{2}$ E) 5

3. 

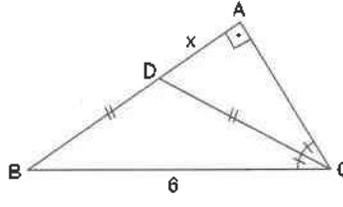
 $[BA] \perp [AC]$
 $|BE| = |EC|$
 $|AD| = 1 \text{ br}$
 $|BD| = 3 \text{ br}$
 $|AC| = 4\sqrt{3} \text{ br}$
 $\Rightarrow |DE| = x = ?$

A) $\sqrt{2}$ B) $\sqrt{3}$ C) $\sqrt{5}$ D) $\sqrt{7}$ E) $\sqrt{13}$

7. 

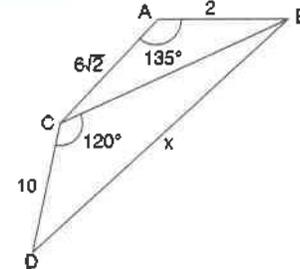
 $|AB| = |AC| = 15 \text{ br}$
 $m(\widehat{ADC}) = m(\widehat{ABC})$
 $[DA] \perp [AC]$
 $|AD| = 20 \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) 9 B) 12 C) 15 D) 18 E) 24

4. 

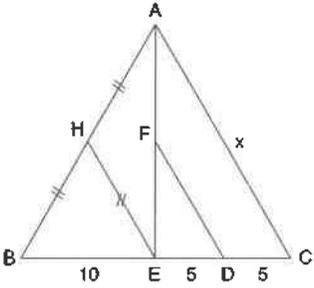
 $[BA] \perp [AC]$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $|BD| = |DC|$
 $|BC| = 6 \text{ br}$
 $\Rightarrow |AD| = x = ?$

A) $\sqrt{2}$ B) $\sqrt{3}$ C) 3 D) 4 E) $\sqrt{6}$

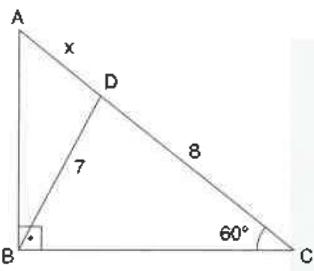
8. 

 $m(\widehat{BAC}) = 135^\circ$
 $m(\widehat{BCD}) = 120^\circ$
 $|AB| = 2 \text{ br}$
 $|AC| = 6\sqrt{2} \text{ br}$
 $|DC| = 10 \text{ br}$
 $\Rightarrow |BD| = x = ?$

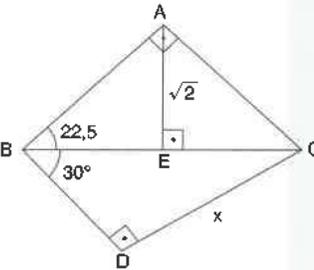
A) 5 B) $5\sqrt{3}$ C) 10 D) $10\sqrt{2}$ E) $10\sqrt{3}$

9.  $|AH| = |HB| = |HE|$
 $|AF| = |FE|$
 $|ED| = |DC| = 5$ br
 $|BE| = 10$ br
 $|AB| = 16$ br
 $\Rightarrow |AC| = x = ?$

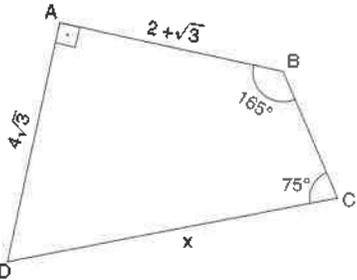
A) 6 B) 9 C) 12 D) 16 E) 20

10.  $[AB] \perp [BC]$
 $|DC| = 8$ br
 $|BD| = 7$ br
 $m(\widehat{ACB}) = 60^\circ$
 $\Rightarrow |AD| = x = ?$

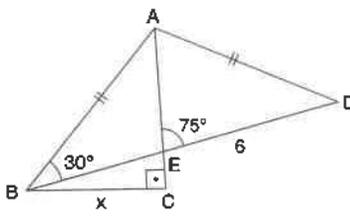
A) 1 B) 2 C) 3 D) 4 E) 8

11.  $[BA] \perp [AC]$
 $[AE] \perp [BC]$
 $[BD] \perp [DC]$
 $|AE| = \sqrt{2}$ br
 $m(\widehat{ABC}) = 22,5^\circ$
 $m(\widehat{CBD}) = 30^\circ$
 $\Rightarrow |DC| = x = ?$

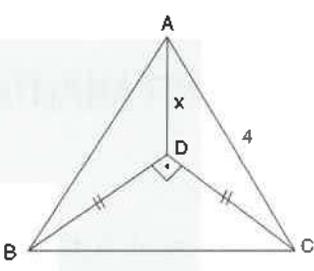
A) 1 B) $\sqrt{2}$ C) 2 D) $2\sqrt{2}$ E) 4

12.  $[DA] \perp [AB]$
 $m(\widehat{ABC}) = 165^\circ$
 $|AB| = 2 + \sqrt{3}$ br
 $|AD| = 4\sqrt{3}$ br
 $m(\widehat{BCD}) = 75^\circ$
 $\Rightarrow |DC| = x = ?$

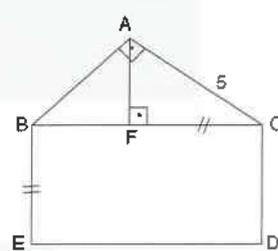
A) $\sqrt{3} + 4$ B) $3\sqrt{3}$ C) $2\sqrt{3} + 1$
 D) $4\sqrt{3} + 1$ E) $5 + 2\sqrt{3}$

13.  $|BA| = |AD|$
 $[AC] \perp [BC]$
 $m(\widehat{ABD}) = 30^\circ$
 $m(\widehat{AED}) = 75^\circ$
 $|ED| = 6$ br
 $\Rightarrow |BC| = x = ?$

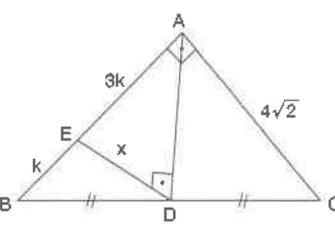
A) 3 B) $3\sqrt{2}$ C) $3\sqrt{3}$ D) 6 E) $6\sqrt{2}$

14.  ABC eşkenar üçgen
 ABC equilateral triangle
 $[BD] \perp [DC]$
 $|BD| = |DC|$
 $|AC| = 4$ br
 $\Rightarrow |AD| = x = ?$

A) 2 B) $2\sqrt{3} - 2$ C) $2\sqrt{3}$
 D) $4\sqrt{3}$ E) 12

15.  BCDE dikdörtgen
 BCDE rectangle
 $[BA] \perp [AC]$
 $[AF] \perp [BC]$
 $|FC| = |BE|$
 $|BF| = 24$ br
 $|AC| = 5$ br
 $\Rightarrow \text{Ç}(BCDE) = ?$

A) 45 B) 49 C) 50 D) 51 E) 52

16.  $[AB] \perp [AC]$
 $[AD] \perp [DE]$
 $|AE| = 3|EB|$
 $|BD| = |DC|$
 $|AC| = 4\sqrt{2}$
 $\Rightarrow |ED| = x = ?$

A) $\sqrt{3}$ B) 3 C) $2\sqrt{3}$ D) $\sqrt{6}$ E) 6

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DİK ÜÇGEN

RIGHT TRIANGLES

YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	C	E	A	B	D	B	A	C	E	B	B	E	C	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	C	B	A	D	D	D	B	D	B	C	A	B	B	E	C

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	C	C	C	E	B	E	B	E	E	A	B	A	D	D

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	D	E	D	D	D	A	E	E	E	A	E	A	C	D

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	D	B	E	C	E	B	E	C	E	D	E	E	C	C

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	C	A	E	E	C	B	A	B	D	B	A	D	D	C	E

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	B	D	C	C	C	A	B	B	B	D	D	B	B	C

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	E	D	C	E	E	E	C	C	A	B	C	D	C	C

TEST 9

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	C	D	E	B	D	D	D	B	E	E	D	E	E	B	C

TEST 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	E	B	E	C	E	E	D	B	C	D	B	B	E	C



**İKİZKENAR-EŞKENAR
ÜÇGEN**

**ISOSCELES-EQUILATERAL
TRIANGLE**

İKİZKENAR-EŞKENAR ÜÇGEN

ÖZELLİK | Property 1

1. $\Rightarrow x = ?$

20

2. $\Rightarrow x = ?$

16

3. $\Rightarrow x = ?$

$12\sqrt{2}$

4. $|AB| = 18$ br
 $\Rightarrow \angle(ADC) = ?$

24

5. $\Rightarrow |BD| = ?$

12

6. $|CF| = |FB|$
 $\Rightarrow x = ?$

6

7. $\Rightarrow x = ?$

24

PUZAYAYINLARI

ISOSCELES-EQUILATERAL TRIANGLE

ÖZELLİK | Property 2

$|AB| = |AC|$
 $[EF] \parallel [AB]$
 $[DE] \parallel [AC]$
 $x + y = |AB| = |AC|$

ÖZELLİK | Property 3

$|AB| = |AC|$
 $h_1 + h_2 = h_b = h_c$

1.

$|AB| = |AC|$
 $[AD] \parallel [EF]$
 $[DE] \parallel [AC]$
 $\text{Ç}(ADEF) = 12 \text{ br}$
 $\Rightarrow |AC| = ?$

6

1.

$|AB| = |AC|$
 $\Rightarrow |AC| = ?$

20

2.

ADEF paralelkenar
 ADEF paralellogram
 $|AB| = |AC|$
 $\Rightarrow \text{Ç}(AFED) = ?$

12

2.

$|AB| = |AC|$
 $\Rightarrow |AC| = ?$

8

3.

$|BA| = |BC|$
 $[EF] \parallel [BC]$
 $[FK] \parallel [AB]$
 $\Rightarrow \text{Ç}(ABC) = ?$

22

3.

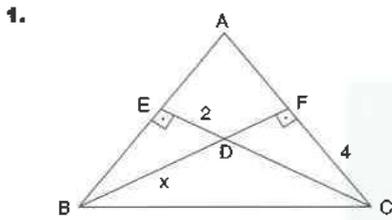
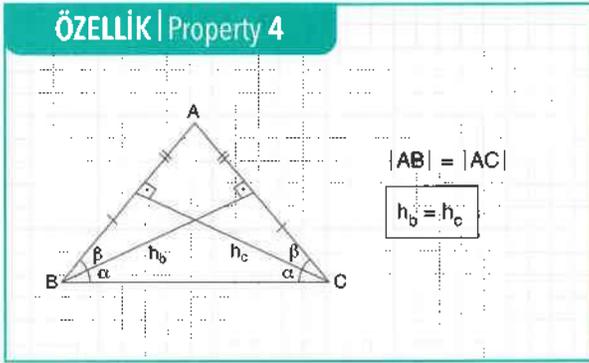
$|AB| = |AC| = 10$
 $\Rightarrow |BC| = ?$

$2\sqrt{10}$

PUZZAYINILARI

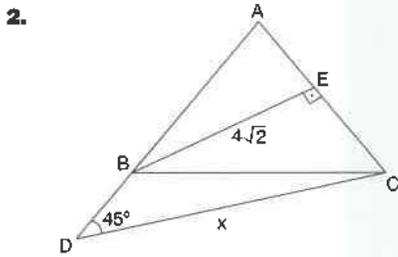
İKİZKENAR-EŞKENAR ÜÇGEN

ÖZELLİK | Property 4



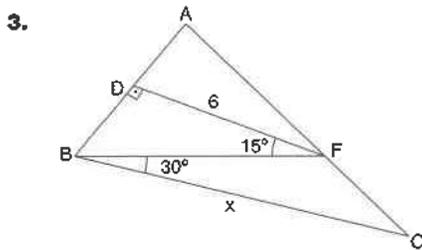
$|AB| = |AC|$
 $\Rightarrow x = ?$

$2\sqrt{5}$



$|AB| = |AC|$
 $\Rightarrow x = ?$

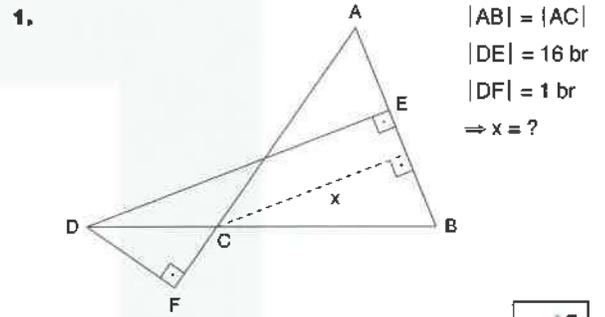
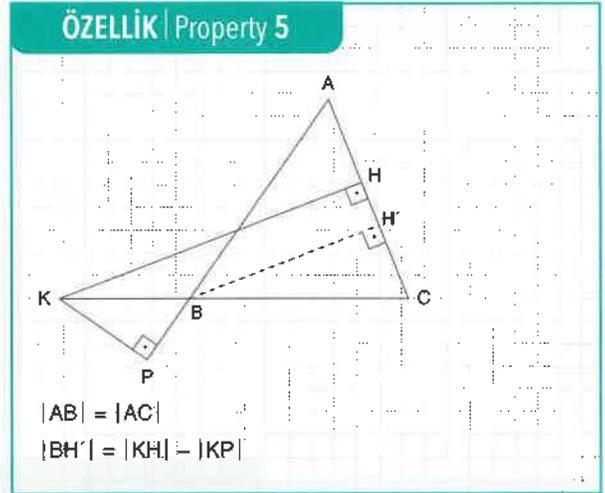
8



$|AB| = |AF|$
 $\Rightarrow x = ?$

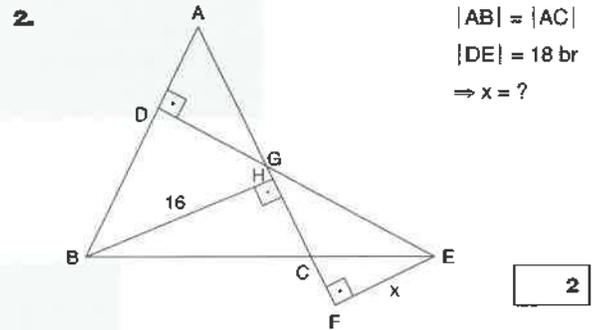
$6\sqrt{2}$

ÖZELLİK | Property 5



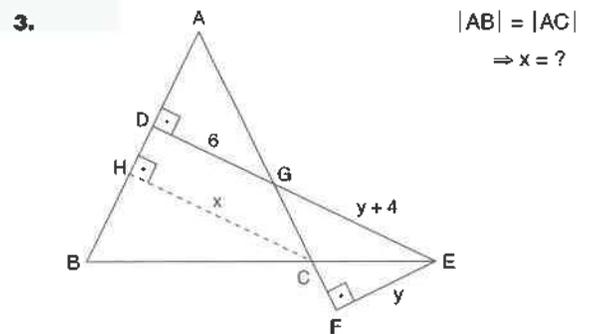
$|AB| = |AC|$
 $|DE| = 16$
 $|DF| = 1$
 $\Rightarrow x = ?$

15



$|AB| = |AC|$
 $|DE| = 18$
 $\Rightarrow x = ?$

2



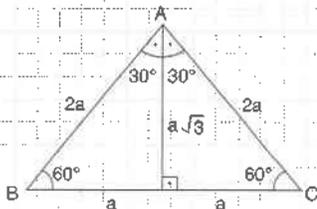
$|AB| = |AC|$
 $\Rightarrow x = ?$

10

PUZATAYINLARI

ISOSCELES-EQUILATERAL TRIANGLE

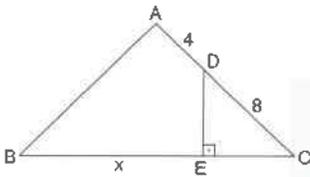
ÖZELLİK | Property 6



ABC eşkenar üçgen
ABC equilateral triangle

$$|AB| = |AC| = |BC|$$

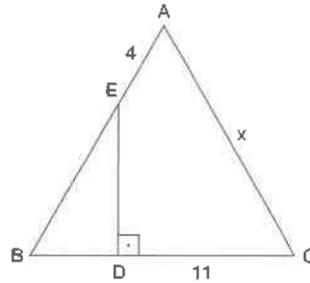
1.



ABC eşkenar üçgen
ABC equilateral triangle
 $\Rightarrow x = ?$

8

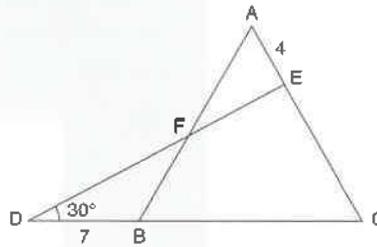
4.



ABC eşkenar üçgen
(ABC equilateral triangle)
 $\Rightarrow x = ?$

18

5.

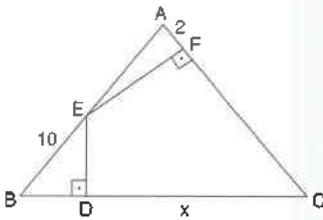


ABC eşkenar üçgen
(ABC equilateral triangle)
 $\Rightarrow |BC| = ?$

15

PUZAYYANILARI

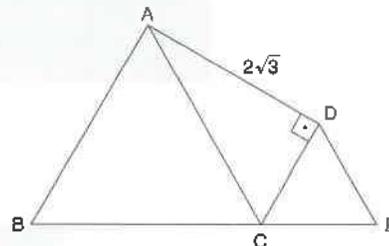
2.



ABC eşkenar üçgen
ABC equilateral triangle
 $\Rightarrow x = ?$

9

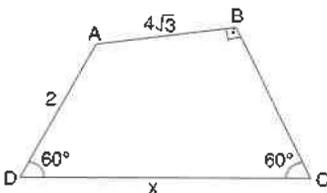
6.



ABC, DEC eşkenar üçgen
(ABC, DEC equilateral triangle)
 $\Rightarrow |BE| = ?$

6

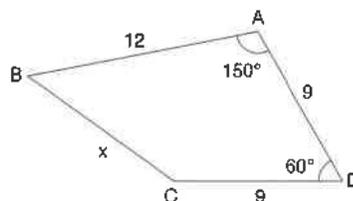
3.



$$\Rightarrow x = ?$$

10

7.



$$\Rightarrow x = ?$$

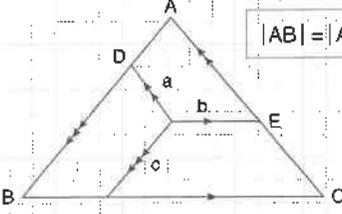
15

İKİZKENAR-EŞKENAR ÜÇGEN

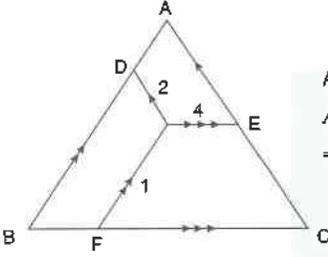
ÖZELLİK | Property 7

ABC eşkenar üçgen
ABC equilateral triangle

$$|AB| = |AC| = |BC| = a + b + c$$



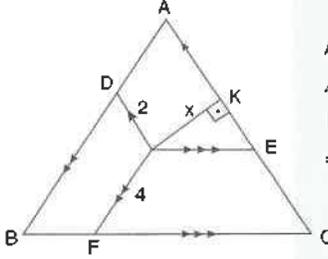
1.



ABC eşkenar üçgen
ABC equilateral triangle
 $\Rightarrow \text{Ç}(ABC) = ?$

21

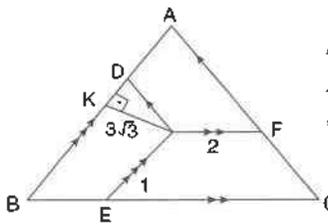
2.



ABC eşkenar üçgen
ABC equilateral triangle
 $|AB| = 10$
 $\Rightarrow x = ?$

$2\sqrt{3}$

3.



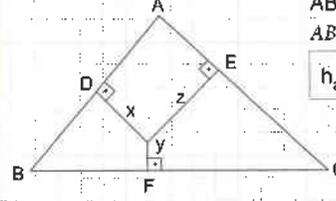
ABC eşkenar üçgen
ABC equilateral triangle
 $\Rightarrow \text{Ç}(ABC) = ?$

27

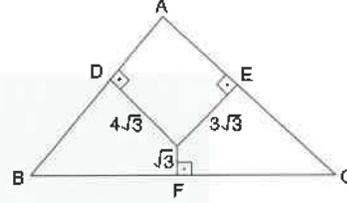
ÖZELLİK | Property 8

ABC eşkenar üçgen
ABC equilateral triangle

$$h_a = h_b = h_c = x + y + z$$



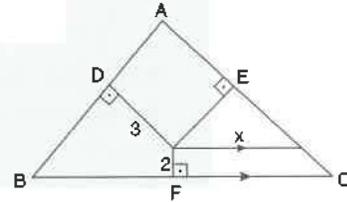
1.



ABC eşkenar üçgen
ABC equilateral triangle
 $\Rightarrow |AC| = ?$

16

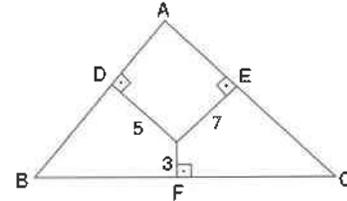
2.



ABC eşkenar üçgen
ABC equilateral triangle
 $h_a = 8$ br
 $\Rightarrow x = ?$

$2\sqrt{3}$

3.



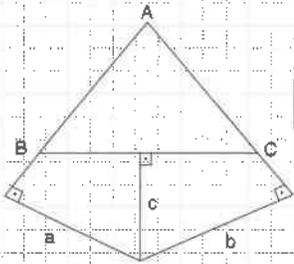
ABC eşkenar üçgen
ABC equilateral triangle
 $\Rightarrow A(ABC) = ?$

$75\sqrt{3}$

PUZUYAYINLARI

ISOSCELES-EQUILATERAL TRIANGLE

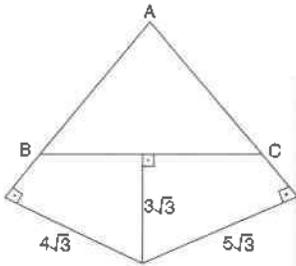
ÖZELLİK | Property 9



ABC eşkenar üçgen
ABC equilateral triangle

$$h_a = h_b = h_c = a + b - c$$

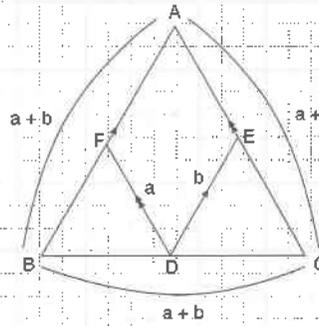
1.



ABC eşkenar üçgen
ABC equilateral triangle
⇒ |AC| = ?

12

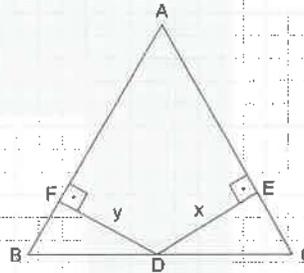
ÖZELLİK | Property 10



ABC eşkenar üçgen
ABC equilateral triangle

[DF] // [AC]
[DE] // [AB]

$$|AC| = |AB| = |BC| = a + b$$

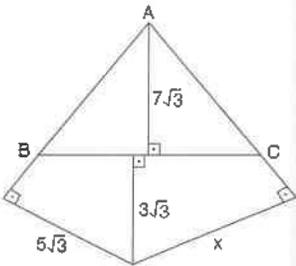


[DF] ⊥ [AB]
[DE] ⊥ [AC]

ABC eşkenar üçgen (ABC equilateral triangle)
 $h_a = h_b = h_c = x + y$

PUZUYAYINLARI

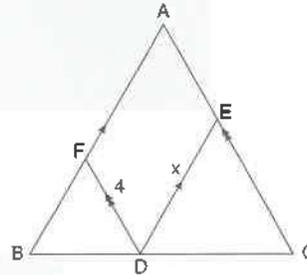
2.



ABC eşkenar üçgen
ABC equilateral triangle
⇒ x = ?

5√3

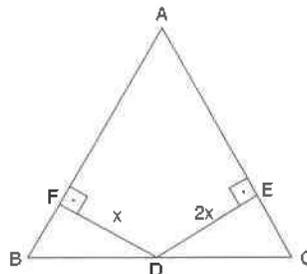
1.



ABC eşkenar üçgen
ABC equilateral triangle
Ç(ABC) = 36 br
⇒ x = ?

8

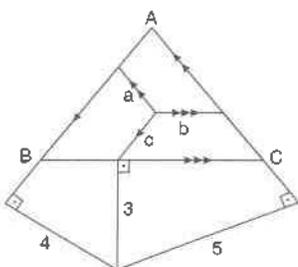
2.



ABC eşkenar üçgen
ABC equilateral triangle
|AC| = 12 br
⇒ x = ?

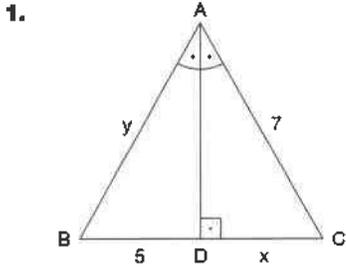
2√3

3.



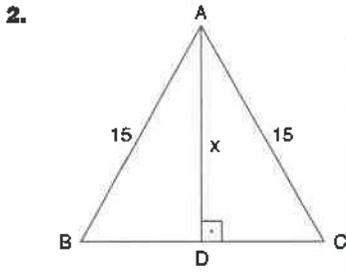
ABC eşkenar üçgen
ABC equilateral triangle
⇒ a + b + c = ?

4√3



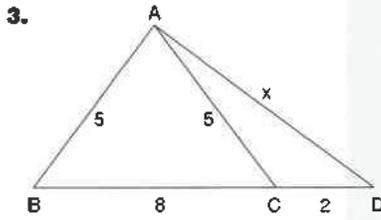
$$\begin{aligned} m(\widehat{BAD}) &= m(\widehat{DAC}) \\ [AD] &\perp [BC] \\ |AC| &= 7 \text{ br} \\ |BD| &= 5 \text{ br} \\ |AB| &= y \\ |DC| &= x \\ \Rightarrow (y-x) &= ? \end{aligned}$$

- A) 1 B) 2 C) 3 D) 4 E) 12



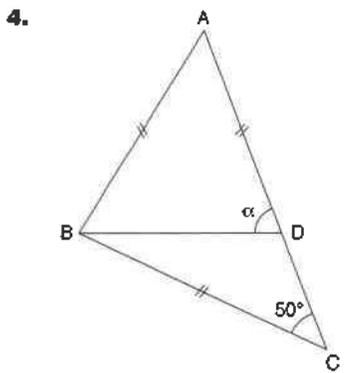
$$\begin{aligned} [AD] &\perp [BC] \\ |AB| &= |AC| = 15 \text{ br} \\ |BC| &= 18 \text{ br} \\ |AD| &= x \\ \Rightarrow x &= ? \end{aligned}$$

- A) 14 B) 12 C) 10 D) 9 E) 8



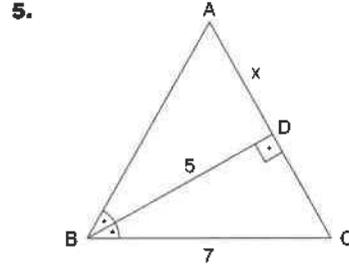
$$\begin{aligned} |AB| &= |AC| = 5 \text{ br} \\ |BC| &= 8 \text{ br} \\ |CD| &= 2 \text{ br} \\ |AD| &= x \\ \Rightarrow x &= ? \end{aligned}$$

- A) $3\sqrt{5}$ B) $6\sqrt{5}$ C) 6 D) 12 E) $6\sqrt{3}$



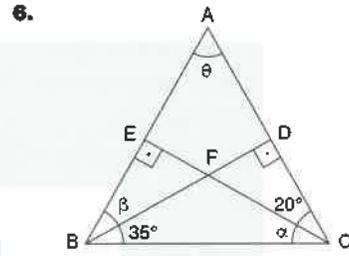
$$\begin{aligned} |AB| &= |AD| = |BC| \\ m(\widehat{ACB}) &= 50^\circ \\ m(\widehat{ADB}) &= \alpha \\ \Rightarrow \alpha &= ? \end{aligned}$$

- A) 50 B) 55 C) 60 D) 65 E) 70



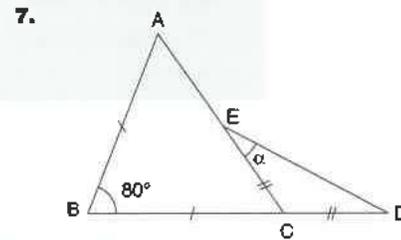
$$\begin{aligned} [BD] &\perp [AC] \\ m(\widehat{ABD}) &= m(\widehat{DBC}) \\ |BD| &= 5 \text{ br} \\ |BC| &= 7 \text{ br} \\ |AD| &= x \\ \Rightarrow x &= ? \end{aligned}$$

- A) $\sqrt{21}$ B) $6\sqrt{3}$ C) $6\sqrt{2}$ D) $2\sqrt{3}$ E) $2\sqrt{6}$



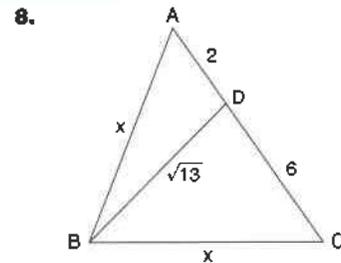
$$\begin{aligned} |AB| &= |AC| \\ [BD] &\perp [AC] \\ [CE] &\perp [AB] \\ m(\widehat{ACE}) &= 20^\circ \\ m(\widehat{DBC}) &= 35^\circ \\ m(\widehat{BAC}) &= \theta \\ m(\widehat{ABD}) &= \beta \\ m(\widehat{ECB}) &= \alpha \\ \Rightarrow \alpha + \beta + \theta &= ? \end{aligned}$$

- A) 125 B) 120 C) 110 D) 115 E) 130



$$\begin{aligned} |EC| &= |CD| \\ |AB| &= |BC| \\ m(\widehat{ABD}) &= 80^\circ \\ m(\widehat{CED}) &= \alpha \\ \Rightarrow \alpha &= ? \end{aligned}$$

- A) 15 B) 20 C) 25 D) 30 E) 35



$$\begin{aligned} |AD| &= 2 \text{ br} \\ |DC| &= 6 \text{ br} \\ |BD| &= \sqrt{13} \text{ br} \\ |AB| &= |BC| = x \\ \Rightarrow x &= ? \end{aligned}$$

- A) 3 B) 4 C) 5 D) 6 E) 9

PUZAYANILARI

9. $[DF] \parallel [AC]$
 $[DE] \parallel [AB]$
 $|AB| = |AC| = 12 \text{ br}$
 $|FD| = 4 \text{ br}$
 $|DE| = x$
 $\Rightarrow x = ?$

A) 4 B) 6 C) 8 D) 10 E) 11

13. $[AD] \perp [BC]$
 $|AC| = |BC|$
 $|AD| = 3 \text{ br}$
 $|DC| = x$
 $\Rightarrow x = ?$

A) 4 B) 5 C) 6 D) 7 E) 8

10. $[CF] \perp [AB]$
 $[CE] \perp [AD]$
 $|AB| = |AD|$
 $[BG] \perp [AD]$
 $|CE| = \sqrt{8} \text{ br}$
 $|CF| = \sqrt{2} \text{ br}$
 $\Rightarrow |BG| = ?$

A) $\sqrt{5}$ B) $\sqrt{6}$ C) $\sqrt{10}$ D) $3\sqrt{2}$ E) $2\sqrt{2}$

14. $|AB| = |AC|$
 $[ED] \perp [AC]$
 $[EF] \perp [AB]$
 $[BH] \perp [AC]$
 $|ED| = 11 \text{ br}$
 $|EF| = 2 \text{ br}$
 $|BH| = x$
 $\Rightarrow x = ?$

A) 7 B) 8 C) 9 D) 10 E) 13

11. $|AB| = |AC|$
 $[FD] \parallel [AC]$
 $[DE] \parallel [AB]$
 $|DE| = 4 \text{ br}$
 $|FD| = 8 \text{ br}$
 $|BC| = 14 \text{ br}$
 $\Rightarrow \angle(ABC) = ?$

A) 38 B) 36 C) 32 D) 30 E) 28

15. $|AB| = |AC|$
 $[AD] \perp [BC]$
 $[FE] \perp [BC]$
 $|FH| = 6 \text{ br}$
 $|HE| = 2 \text{ br}$
 $|AD| = x$
 $\Rightarrow x = ?$

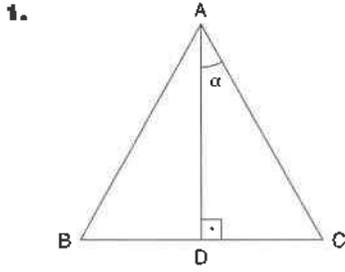
A) 3 B) 4 C) 5 D) 6 E) 7

12. $m(\widehat{BAC}) = 45^\circ$
 $[DF] \perp [AB]$
 $[DE] \perp [AC]$
 $|FD| = 2 \text{ br}$
 $|DE| = 6 \text{ br}$
 $|AB| = |AC| = x$
 $\Rightarrow x = ?$

A) $6\sqrt{2}$ B) $8\sqrt{2}$ C) 6 D) 8 E) 10

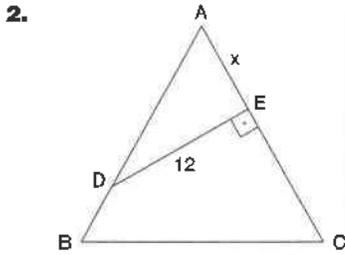
16. $|AB| = 17 \text{ br}$
 $|AC| = 17 \text{ br}$
 $|BD| = 9 \text{ br}$
 $|DC| = 21 \text{ br}$
 $|AD| = x$
 $\Rightarrow x = ?$

A) 6 B) 8 C) 10 D) 15 E) 16



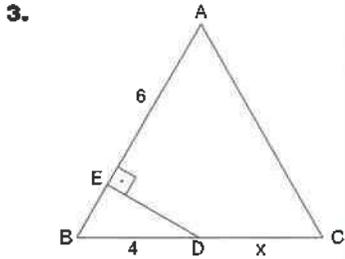
ABC eşkenar üçgen
 ABC equilateral triangle
 $[AD] \perp [BC]$
 $m(\widehat{DAC}) = \alpha$
 $\Rightarrow \alpha = ?$

- A) 15 B) 30 C) 45 D) 60 E) 75



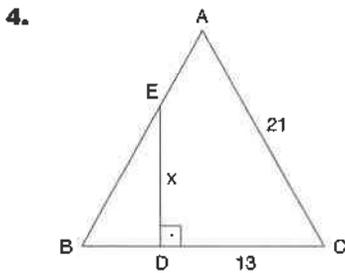
ABC eşkenar üçgen
 ABC equilateral triangle
 $[DE] \perp [AC]$
 $|DE| = 12 \text{ br}$
 $|AE| = x$
 $\Rightarrow x = ?$

- A) $4\sqrt{3}$ B) 6 C) $8\sqrt{3}$ D) $6\sqrt{3}$ E) $4\sqrt{3}$



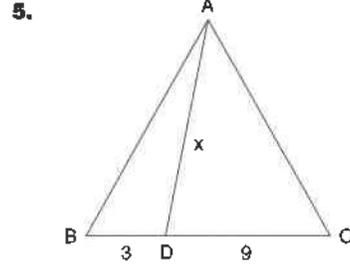
ABC eşkenar üçgen
 ABC equilateral triangle
 $[DE] \perp [AB]$
 $|AE| = 6 \text{ br}$
 $|BD| = 4 \text{ br}$
 $|DC| = x$
 $\Rightarrow x = ?$

- A) 2 B) 4 C) 6 D) 8 E) 10



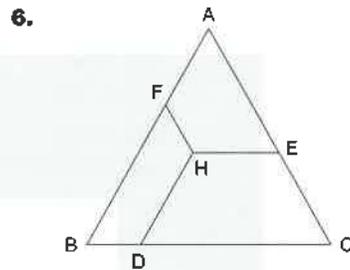
ABC eşkenar üçgen
 ABC equilateral triangle
 $[ED] \perp [BC]$
 $|AC| = 21 \text{ br}$
 $|DC| = 13 \text{ br}$
 $|ED| = x$
 $\Rightarrow x = ?$

- A) 8 B) 12 C) $8\sqrt{3}$ D) $9\sqrt{3}$ E) $16\sqrt{3}$



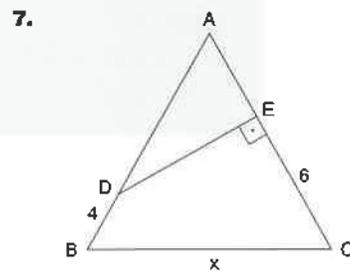
ABC eşkenar üçgen
 ABC equilateral triangle
 $|BD| = 3 \text{ br}$
 $|DC| = 9 \text{ br}$
 $|AD| = x$
 $\Rightarrow x = ?$

- A) $\sqrt{13}$ B) $2\sqrt{13}$ C) $3\sqrt{13}$ D) 6 E) $\sqrt{15}$



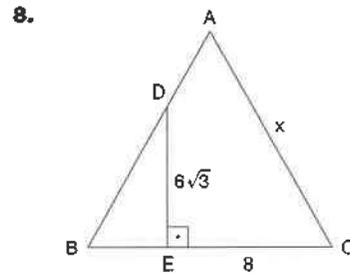
ABC eşkenar üçgen
 ABC equilateral triangle
 $[HE] \parallel [BC]$
 $[DH] \parallel [AB]$
 $[FH] \parallel [AC]$
 $|HE| = 4 \text{ br}$
 $|HD| = 8 \text{ br}$
 $|FH| = 2 \text{ br}$
 $\Rightarrow \angle(ABC) = ?$

- A) 39 B) 42 C) 44 D) 48 E) 52



ABC eşkenar üçgen
 ABC equilateral triangle
 $[DE] \perp [AC]$
 $|DB| = 4 \text{ br}$
 $|EC| = 6 \text{ br}$
 $|BC| = x$
 $\Rightarrow x = ?$

- A) 7 B) 8 C) 9 D) 10 E) 12



ABC eşkenar üçgen
 ABC equilateral triangle
 $[DE] \perp [BC]$
 $|DE| = 6\sqrt{3} \text{ br}$
 $|EC| = 8 \text{ br}$
 $|AC| = x$
 $\Rightarrow x = ?$

- A) $8\sqrt{3}$ B) $12\sqrt{3}$ C) 12 D) 13 E) 14

9.

ABC eşkenar üçgen
ABC equilateral triangle
[GE] ⊥ [AC]
[GD] ⊥ [AB]
[GF] ⊥ [BC]
|DG| = $2\sqrt{3}$ br
|GE| = $\sqrt{3}$ br
|GF| = $3\sqrt{3}$ br
⇒ |AB| = ?

A) 6 b) 9 C) 12 D) 14 E) 16

10.

ABC eşkenar üçgen
ABC equilateral triangle
[ED] ⊥ [DA]
[EG] ⊥ [BC]
[EF] ⊥ [FA]
[BH] ⊥ [AC]
|DE| = 9 br
|EF| = 6 br
|EG| = 5 br
|BH| = x
⇒ x = ?

A) 15 B) 12 C) 10 D) 9 E) 6

11.

ABC DCE eşkenar üçgen
ABC DCE equilateral triangle
|BC| = x
|CE| = y
x + y = 12 br
⇒ Ç(ABC) + Ç(DEC) = ?

A) 24 B) 27 C) 30 D) 33 E) 36

12.

ABC eşkenar üçgen
ABC equilateral triangle
[LE] ⊥ [AC]
[LF] ⊥ [AB]
[LK] ⊥ [BC]
|LE| = 2 br
|LF| = 3 br
|LK| = 4 br
 $m(\widehat{BDA}) = 30^\circ$
|BD| = x
⇒ x = ?

A) 9 B) 18 C) $9\sqrt{3}$ D) $18\sqrt{3}$ E) 12

13.

ABC eşkenar üçgen
ABC equilateral triangle
[DF] ⊥ [AB]
[DE] ⊥ [AC]
|DF| = 2 br
|DE| = 4 br
⇒ |AC| = ?

A) $2\sqrt{3}$ B) 6 C) $4\sqrt{3}$ D) $6\sqrt{3}$ E) 12

14.

ABC eşkenar üçgen
ABC equilateral triangle
[NE] ⊥ [AC]
[NF] ⊥ [AB]
[ND] ⊥ [BC]
[KL] ⊥ [AB]
[LM] ⊥ [AC]
|LM| = 7 br
|KL| = 4 br
|NF| = 2 br
|NE| = 3 br
⇒ |ND| = ?

A) 3 B) 4 C) 6 D) 7 E) 2

15.

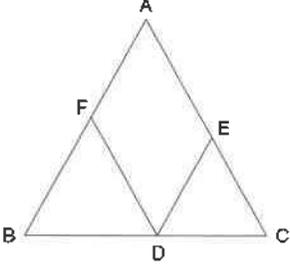
ABC eşkenar üçgen
ABC equilateral triangle
[DE] // [AB]
[DF] // [AC]
|FD| = 3 br
|DE| = 5 br
⇒ Ç(ABC) = ?

A) 8 B) 16 C) 24 D) 32 E) 36

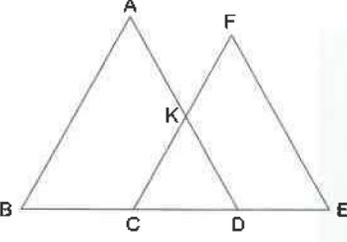
16.

$m(\widehat{BAD}) = m(\widehat{ABC}) = 60^\circ$
[DC] ⊥ [BC]
|AD| = 4 br
|DC| = $\sqrt{3}$ br
|BC| = x
⇒ x = ?

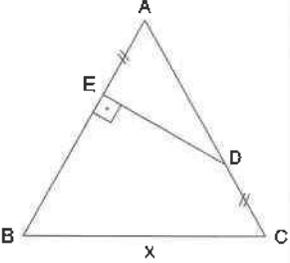
A) 3 B) 4 C) 5 D) 6 E) 7

1.  ABC, BFD, EDC eşkenar üçgendir.
ABC, BFD, EDC equilateral triangle
 $|BC| = 16$ br
 $\Rightarrow \text{Ç}(FDEA) = ?$

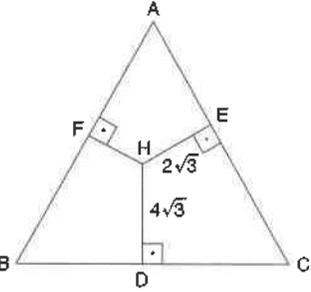
A) 16 B) 24 C) 32 D) 48 E) 52

2.  ABD ve CFE eşkenar üçgendir.
ABD and CFE equilateral triangle
 $|BE| = 15$ br
 $|CD| = 4$ br
 $\Rightarrow |AK| + |KF| = ?$

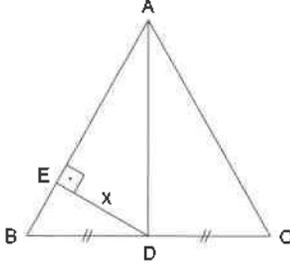
A) 10 B) 11 C) 9 D) 8 E) 7

3.  ABC eşkenar üçgen
ABC equilateral triangle
 $[DE] \perp [AB]$
 $|AE| = |DC|$
 $|ED| = 8\sqrt{3}$ br
 $|BC| = x$
 $\Rightarrow x = ?$

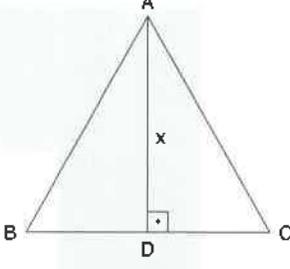
A) 8 B) 12 C) 16 D) 21 E) 24

4.  ABC eşkenar üçgen
ABC equilateral triangle
 $[HE] \perp [AC]$
 $[HF] \perp [AB]$
 $[HD] \perp [BC]$
 $|HE| = 2\sqrt{3}$ br
 $|HD| = 4\sqrt{3}$ br
 $|AC| = 16$ br
 $\Rightarrow |FH| = ?$

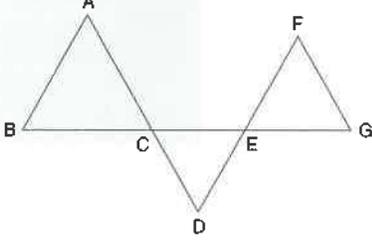
A) $2\sqrt{3}$ B) $\sqrt{3}$ C) $\sqrt{6}$ D) $4\sqrt{3}$ E) $2\sqrt{6}$

5.  ABC eşkenar üçgen
ABC equilateral triangle
 $[DE] \perp [AB]$
 $|BD| = |DC|$
 $|BC| = 6\sqrt{3}$ br
 $|DE| = x$
 $\Rightarrow x = ?$

A) $\frac{1}{2}$ B) $\frac{5}{2}$ C) 3 D) 6 E) $\frac{9}{2}$

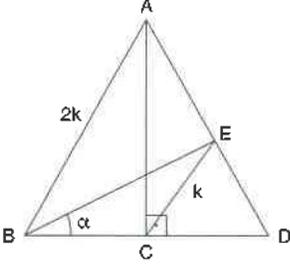
6.  ABC eşkenar üçgen
ABC equilateral triangle
 $[AD] \perp [BC]$
 $\text{Ç}(ABC) = 24$ br
 $|AD| = x$
 $\Rightarrow x = ?$

A) 4 B) $4\sqrt{3}$ C) 8 D) $8\sqrt{3}$ E) 6

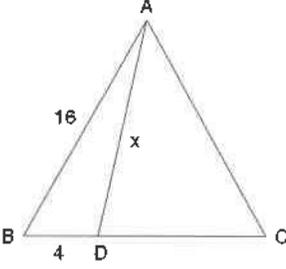
7.  ABC, CDE, EFG eşkenar üçgendir.
ABC, CDE, EFG equilateral triangle

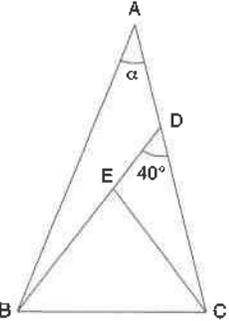
$\text{Ç}(ABC) + \text{Ç}(DEC) + \text{Ç}(EFG) = 24$ br
 $\Rightarrow |BG| = ?$

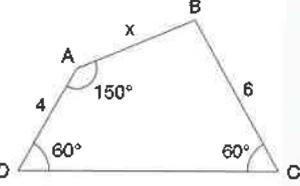
A) 6 B) 7 C) 8 D) 9 E) 12

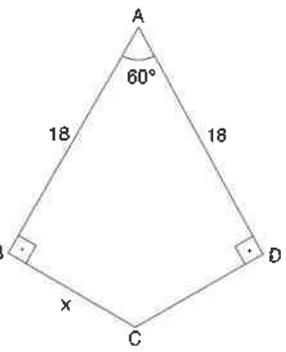
8.  ABD eşkenar üçgen
ABC equilateral triangle
 $[AC] \perp [BD]$
 $2|CE| = |AB| = 2k$
 $m(\widehat{EBD}) = \alpha$
 $\Rightarrow \alpha = ?$

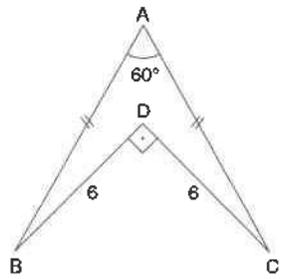
A) 15 B) 25 C) 30 D) 35 E) 40

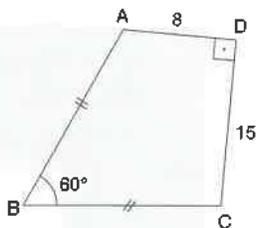
- 9.**  ABC eşkenar üçgen
 ABC equilateral triangle
 $|AB| = 16$ br
 $|BD| = 4$ br
 $|AD| = x$
 $\Rightarrow x = ?$
- A) $\sqrt{10}$ B) $2\sqrt{11}$ C) $\sqrt{11}$ D) $\sqrt{13}$ E) $4\sqrt{13}$

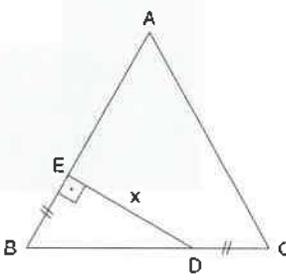
- 10.**  BEC eşkenar üçgen
 BEC equilateral triangle
 $|AB| = |AC|$
 $m(\widehat{BDC}) = 40^\circ$
 $m(\widehat{BAC}) = \alpha$
 $\Rightarrow \alpha = ?$
- A) 10 B) 15 C) 20 D) 25 E) 30

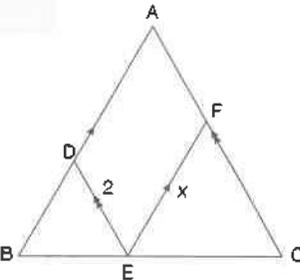
- 11.**  $m(\widehat{ADC}) = 60^\circ$
 $m(\widehat{DCB}) = 60^\circ$
 $m(\widehat{DAB}) = 150^\circ$
 $|AD| = 4$ br
 $|BC| = 6$ br
 $|AB| = x$
 $\Rightarrow x = ?$
- A) 2 B) $\sqrt{3}$ C) $2\sqrt{3}$ D) $\sqrt{2}$ E) $2\sqrt{2}$

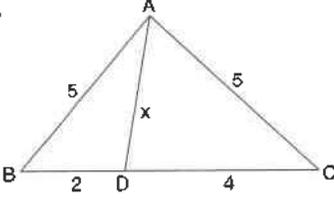
- 12.**  $m(\widehat{BAD}) = 60^\circ$
 $[AB] \perp [BC]$
 $[AD] \perp [BC]$
 $[AD] \perp [DC]$
 $|AB| = |AD| = 18$ br
 $|BC| = x$
 $\Rightarrow x = ?$
- A) 8 B) 12 C) 6 D) $6\sqrt{3}$ E) $6\sqrt{2}$

- 13.**  $m(\widehat{BAC}) = 60^\circ$
 $[BD] \perp [DC]$
 $|BD| = |DC| = 6$ br
 $|AB| = |AC| = x$
 $\Rightarrow x = ?$
- A) 6 B) $6\sqrt{2}$ C) 8 D) 10 E) 12

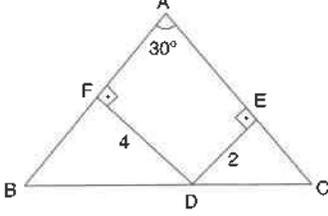
- 14.**  $m(\widehat{ABC}) = 60^\circ$
 $[AD] \perp [DC]$
 $|AD| = 8$ br
 $|DC| = 15$ br
 $|AB| = |BC| = x$
 $\Rightarrow x = ?$
- A) $4\sqrt{3}$ B) 15 C) 16 D) 17 E) 25

- 15.**  ABC eşkenar üçgen
 ABC equilateral triangle
 $[DE] \perp [AB]$
 $|EB| = |DC|$
 $|AC| = 6$ br
 $|ED| = x$
 $\Rightarrow x = ?$
- A) 2 B) 4 C) $2\sqrt{3}$ D) $4\sqrt{3}$ E) 5

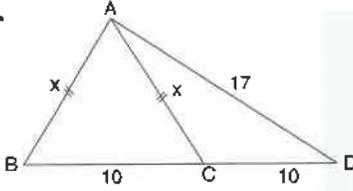
- 16.**  ABC eşkenar üçgen
 ABC equilateral triangle
 $[EF] \parallel [AB]$
 $[DE] \parallel [AC]$
 $|DE| = 2$ br
 $\widehat{C}(ABC) = 18$ br
 $|EF| = x$
 $\Rightarrow x = ?$
- A) 1 B) 2 C) 3 D) 4 E) 5

1.  $|AB| = |AC| = 5 \text{ br}$
 $2|BD| = |DC| = 4 \text{ br}$
 $\Rightarrow |AD| = x = ?$

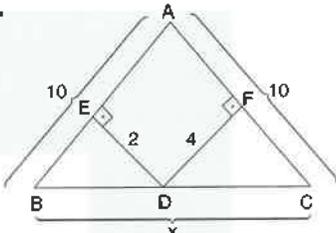
A) 5 B) $\sqrt{17}$ C) 4 D) $\sqrt{15}$ E) $\sqrt{10}$

5.  $|AB| = |AC|$
 $[DF] \perp [AB]$
 $[DE] \perp [AC]$
 $m(\widehat{BAC}) = 30^\circ$
 $|FD| = 4 \text{ br}$
 $|DE| = 2 \text{ br}$
 $\Rightarrow |AB| = x = ?$

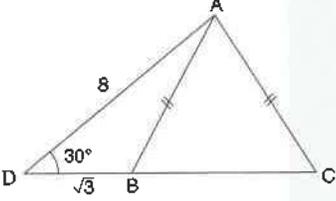
A) 12 B) $6\sqrt{3}$ C) 6 D) 4 E) 3

2.  $|AB| = |AC|$
 $|BC| = |CD| = 10 \text{ br}$
 $|AD| = 17 \text{ br}$
 $\Rightarrow |AB| = x = ?$

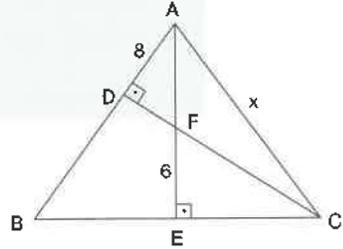
A) 12 B) 10 C) $\sqrt{89}$ D) $6\sqrt{2}$ E) $3\sqrt{6}$

6.  $|AB| = |AC| = 10 \text{ br}$
 $[DE] \perp [AB]$
 $[DF] \perp [AC]$
 $|ED| = 2 \text{ br}$
 $|DF| = 4 \text{ br}$
 $\Rightarrow |BC| = x = ?$

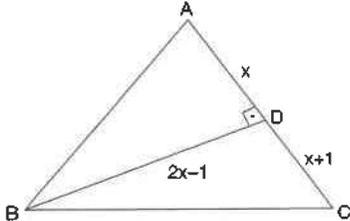
A) $2\sqrt{10}$ B) 6 C) $6\sqrt{2}$ D) 8 E) 10

3.  $|AB| = |AC|$
 $|AD| = 8 \text{ br}$
 $|DB| = \sqrt{3} \text{ br}$
 $m(\widehat{ADC}) = 30^\circ$
 $\Rightarrow |DC| = ?$

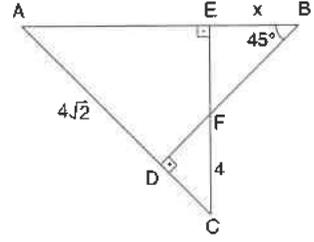
A) $\sqrt{3}$ B) 4 C) $4\sqrt{3}$ D) 8 E) $7\sqrt{3}$

7.  $|AB| = |BC|$
 $|AD| = 8 \text{ br}$
 $|EF| = 6 \text{ br}$
 $[CD] \perp [AB]$
 $[AE] \perp [BC]$
 $\Rightarrow |AC| = x = ?$

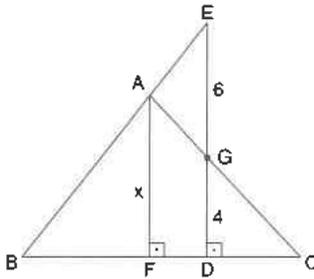
A) $16\sqrt{5}$ B) $8\sqrt{5}$ C) 10 D) 8 E) 6

4.  $[BD] \perp [AC]$
 $|AB| = |AC|$
 $|AD| = x$
 $|DC| = x + 1$
 $|BD| = 2x - 1$
 $\Rightarrow x = ?$

A) 3 B) 4 C) 6 D) 7 E) 8

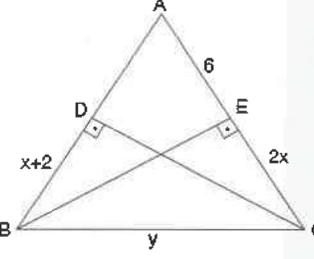
8.  $[CE] \perp [AB]$
 $[BD] \perp [AC]$
 $m(\widehat{ABD}) = 45^\circ$
 $|AD| = 4\sqrt{2} \text{ br}$
 $|FC| = 4 \text{ br}$
 $\Rightarrow |EB| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 6

9. 

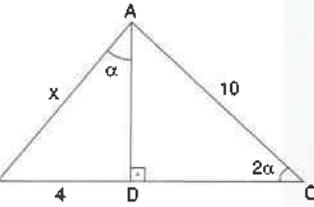
$|AB| = |AC|$
 $[AF] \perp [BC]$
 $[ED] \perp [BC]$
 $|EG| = 6 \text{ br}$
 $|GD| = 4 \text{ br}$
 $\Rightarrow |AF| = x = ?$

A) 4 B) 6 C) 7 D) 8 E) 10

10. 

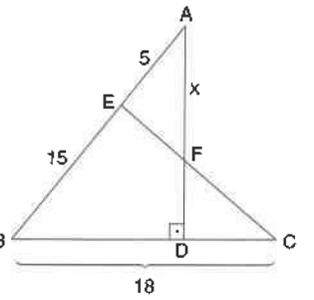
$|AB| = |AC|$
 $[CD] \perp [AB]$
 $[BE] \perp [AC]$
 $|AE| = 6 \text{ br}$
 $|EC| = 2x$
 $|BD| = x + 2$
 $\Rightarrow |BC| = y = ?$

A) $2\sqrt{5}$ B) $4\sqrt{3}$ C) $4\sqrt{5}$ D) $8\sqrt{3}$ E) $8\sqrt{5}$

11. 

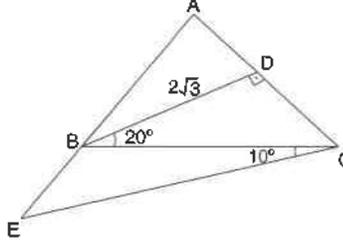
$[AD] \perp [BC]$
 $2m(\widehat{BAD}) = m(\widehat{ACB})$
 $|AC| = 10 \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) 20 B) $10\sqrt{2}$ C) 10 D) $8\sqrt{5}$ E) $4\sqrt{5}$

12. 

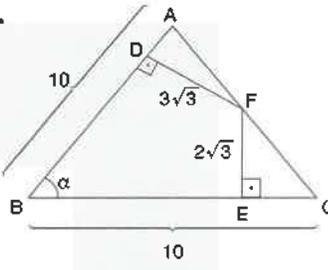
$[AD] \perp [BC]$
 $|EB| = |EC|$
 $|FD| = 8 \text{ br}$
 $|AE| = 5 \text{ br}$
 $|EB| = 15 \text{ br}$
 $|BC| = 18 \text{ br}$
 $\Rightarrow |AF| = x = ?$

A) 3 B) 4 C) 6 D) 8 E) 10

13. 

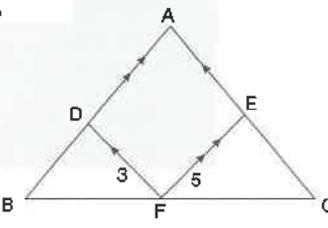
$[BD] \perp [AC]$
 $|AB| = |AC|$
 $m(\widehat{DBC}) = 20^\circ$
 $m(\widehat{BCE}) = 10^\circ$
 $\Rightarrow |EC| = ?$

A) 2 B) $\sqrt{6}$ C) $2\sqrt{3}$ D) 4 E) $4\sqrt{3}$

14. 

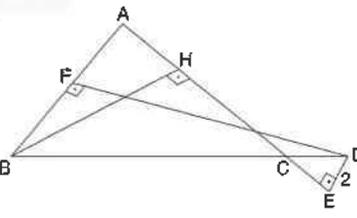
$[DF] \perp [AB]$
 $[EF] \perp [BC]$
 $|AB| = |BC| = 10 \text{ br}$
 $|DF| = 3\sqrt{3} \text{ br}$
 $|FE| = 2\sqrt{3} \text{ br}$
 $= m(\widehat{ABC}) = \alpha = ?$

A) 15 B) 30 C) 45 D) 60 E) 90

15. 

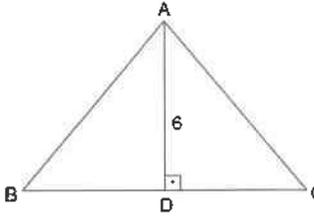
$|AB| = |AC|$
 $[DF] \parallel [AC]$
 $[FE] \parallel [AB]$
 $|DF| = 3 \text{ br}$
 $|FE| = 5 \text{ br}$
 $\Rightarrow |BD| + |EC| = ?$

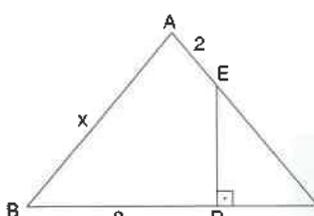
A) $32\sqrt{2}$ B) 32 C) 8 D) 16 E) $8\sqrt{2}$

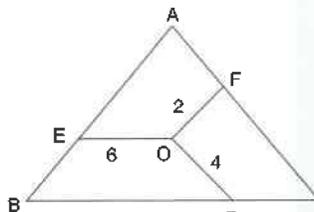
16. 

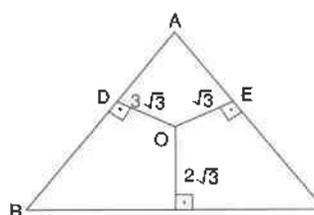
$[BH] \perp [AE]$
 $[DF] \perp [AB]$
 $[AE] \perp [DE]$
 $|AB| = |AC|$
 $|FD| = 6 \text{ br}$
 $|ED| = 2 \text{ br}$
 $\Rightarrow |BH| = ?$

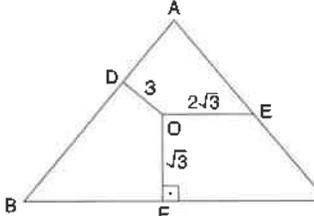
A) 24 B) 16 C) 12 D) 8 E) 4

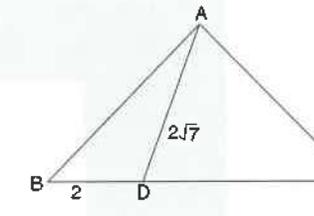
1.  ABC eşkenar üçgen
 ABC equilateral triangle
 $[AD] \perp [BC]$
 $|AD| = 6$ br
 $\Rightarrow |BC| = ?$
 A) $12\sqrt{3}$ B) 12 C) $4\sqrt{3}$ D) 4 E) $2\sqrt{3}$

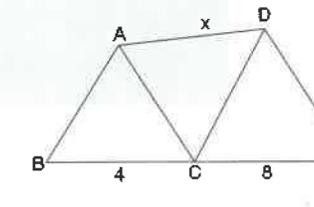
2.  ABC eşkenar üçgen
 ABC equilateral triangle
 $[ED] \perp [BC]$
 $|AE| = 2$ br
 $|BD| = 8$ br
 $\Rightarrow |AB| = x = ?$
 A) 14 B) 12 C) 10 D) 8 E) 6

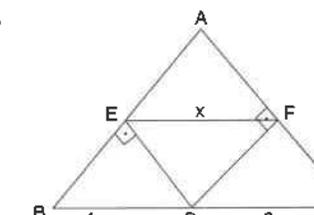
3.  ABC eşkenar üçgen
 ABC equilateral triangle
 $[EO] \parallel [BC]$
 $[FO] \parallel [AB]$
 $[OD] \parallel [AC]$
 $|OF| = 2$ br
 $|OD| = 4$ br
 $|EO| = 6$ br
 $\Rightarrow \angle(ABC) = ?$
 A) $\sqrt{37}$ B) 12 C) 7 D) $2\sqrt{37}$ E) 36

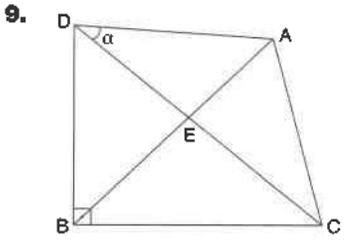
4.  ABC eşkenar üçgen
 ABC equilateral triangle
 $[OE] \perp [AC]$
 $[OF] \perp [BC]$
 $[OD] \perp [AB]$
 $|OD| = 3\sqrt{3}$ br
 $|OE| = \sqrt{3}$ br
 $|OF| = 2\sqrt{3}$ br
 $\Rightarrow \angle(ABC) = ?$
 A) $72\sqrt{3}$ B) 72 C) $36\sqrt{3}$ D) 36 E) $18\sqrt{3}$

5.  ABC eşkenar üçgen
 ABC equilateral triangle
 $[OE] \parallel [BC]$
 $[OD] \parallel [AC]$
 $[OF] \perp [BC]$
 $|OD| = 3$ br
 $|OE| = 2\sqrt{3}$ br
 $|OF| = \sqrt{3}$ br
 $\Rightarrow \angle(ABC) = ?$
 A) $5 + 2\sqrt{3}$ B) $15 + 6\sqrt{3}$ C) 14 D) $10 + 4\sqrt{3}$ E) 36

6.  ABC eşkenar üçgen
 ABC equilateral triangle
 $|AD| = 2\sqrt{7}$ br
 $|BD| = 2$ br
 $\Rightarrow \angle(ABC) = ?$
 A) 4 B) 6 C) 12 D) 18 E) 36

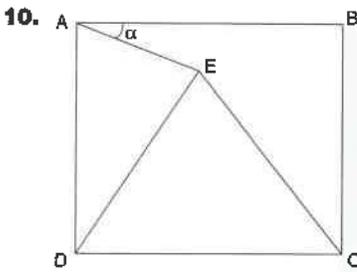
7.  ABC, CDE eşkenar üçgen
 ABC, CDE equilateral triangle
 $|BC| = 4$ br
 $|CE| = 8$ br
 $\Rightarrow |AD| = x = ?$
 A) 4 B) 6 C) $4\sqrt{3}$ D) 8 E) $8\sqrt{3}$

8.  ABC eşkenar üçgen
 ABC equilateral triangle
 $[DE] \perp [AB]$
 $[DF] \perp [AC]$
 $|BD| = 4$ br
 $|DC| = 6$ br
 $\Rightarrow |EF| = x = ?$
 A) $4\sqrt{3}$ B) $\sqrt{47}$ C) 7 D) $\sqrt{57}$ E) 8



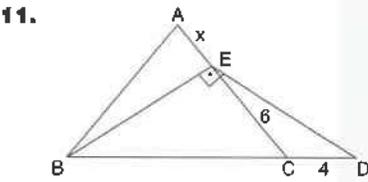
9. ABC eşkenar üçgen
 ABC equilateral triangle
 DBC dik üçgen
 $|DB| = |BC|$
 $[DB] \perp [BC]$
 $\Rightarrow m(\widehat{ADC}) = \alpha = ?$

- A) 15 B) 30 C) 32,5 D) 45 E) 67,5



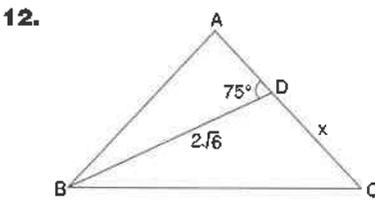
10. ABCD kare
 ABCD square
 EDC eşkenar üçgen
 EDC equilateral triangle
 $\Rightarrow m(\widehat{BAE}) = \alpha = ?$

- A) 15 B) 30 C) 32,5 D) 45 E) 67,5



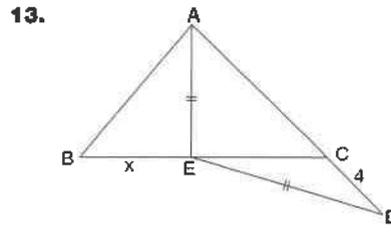
11. ABC eşkenar üçgen
 ABC equilateral triangle
 $[BE] \perp [ED]$
 $|EC| = 6 \text{ br}$
 $|CD| = 4 \text{ br}$
 $\Rightarrow |AE| = x = ?$

- A) 6 B) 4 C) 3 D) $\frac{6}{5}$ E) $\frac{6}{7}$



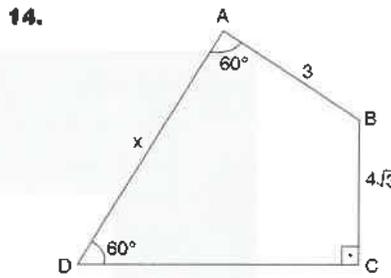
12. ABC eşkenar üçgen
 ABC equilateral triangle
 $|BD| = 2\sqrt{6} \text{ br}$
 $m(\widehat{ADB}) = 75^\circ$
 $\Rightarrow |DC| = x = ?$

- A) $\sqrt{3}-1$ B) $\sqrt{3}$ C) $2\sqrt{3}-2$
 D) $2\sqrt{3}$ E) $2\sqrt{3}+2$



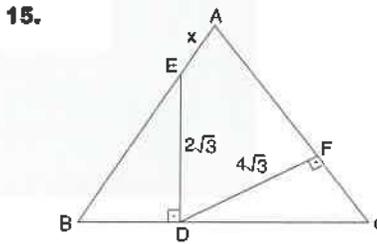
13. ABC eşkenar üçgen
 ABC equilateral triangle
 $|AE| = |ED|$
 $|CD| = 4 \text{ br}$
 $\Rightarrow |BE| = x = ?$

- A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) $4\sqrt{6}$



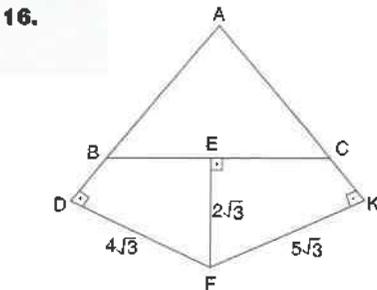
14. $m(\widehat{BAD}) = 60^\circ$
 $m(\widehat{ADC}) = 60^\circ$
 $[BC] \perp [DC]$
 $|AB| = 3 \text{ br}$
 $|BC| = 4\sqrt{3} \text{ br}$
 $\Rightarrow |AD| = x = ?$

- A) 3 B) 4 C) 7 D) 11 E) 14



15. ABC eşkenar üçgen
 ABC equilateral triangle
 $[ED] \perp [BC]$
 $[DF] \perp [AC]$
 $|ED| = 2\sqrt{3} \text{ br}$
 $|DF| = 4\sqrt{3} \text{ br}$
 $\Rightarrow |EA| = x = ?$

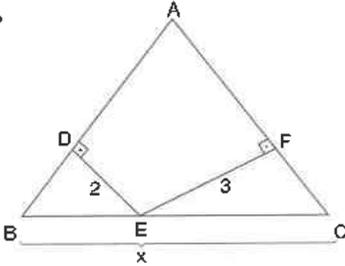
- A) 2 B) 3 C) 4 D) 5 E) 6



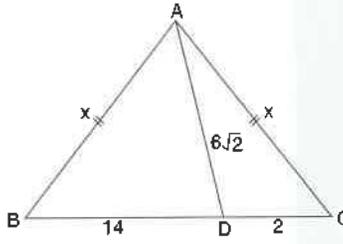
16. ABC eşkenar üçgen
 ABC equilateral triangle
 $[FD] \perp [AB]$
 $[FE] \perp [BC]$
 $[FK] \perp [KA]$
 $|FE| = 2\sqrt{3} \text{ br}$
 $|FK| = 5\sqrt{3} \text{ br}$
 $|DF| = 4\sqrt{3} \text{ br}$
 $\Rightarrow \varphi(ABC) = ?$

- A) 11 B) $11\sqrt{3}$ C) 22 D) 33 E) 42

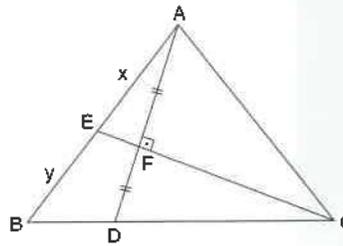
PUZAYYANILARI

1.  $[DE] \perp [AB]$
 $[EF] \perp [AC]$
 $|AB| = |AC| = 13 \text{ br}$
 $|DE| = 2 \text{ br}$
 $|EF| = 3 \text{ br}$
 $\Rightarrow |BC| = x = ?$

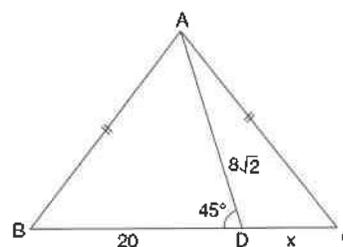
A) $\sqrt{13}$ B) $2\sqrt{6}$ C) 5 D) $\sqrt{20}$ E) $\sqrt{26}$

2.  $|AB| = |AC|$
 $|AD| = 6\sqrt{2} \text{ br}$
 $|BD| = 14 \text{ br}$
 $|DC| = 2 \text{ br}$
 $\Rightarrow |AB| = x = ?$

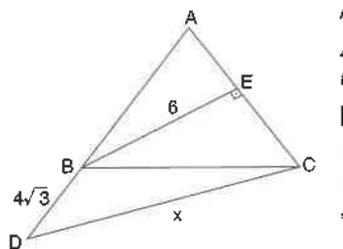
A) 16 B) 12 C) 10 D) 8 E) 6

3.  $[CE] \perp [AD]$
 $|AF| = |FD|$
 $|AC| = 2|BD|$
 $|AE| = x$
 $|BE| = y$
 $\Rightarrow \frac{x}{y} = ?$

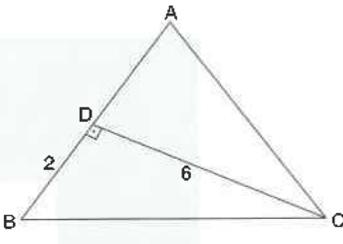
A) $\frac{1}{3}$ B) $\frac{2}{3}$ C) 1 D) $\frac{3}{2}$ E) 3

4.  $|AB| = |AC|$
 $|AD| = 8\sqrt{2} \text{ br}$
 $|BD| = 20 \text{ br}$
 $m(\widehat{ADB}) = 45^\circ$
 $\Rightarrow |DC| = x = ?$

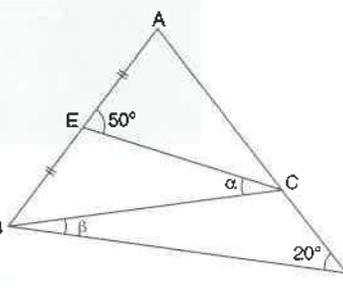
A) 4 B) 6 C) 10 D) 12 E) 20

5.  ABC eşkenar üçgen
 ABC equilateral triangle
 $[BE] \perp [AC]$
 $|BD| = 4\sqrt{3} \text{ br}$
 $|BE| = 6 \text{ br}$
 $\Rightarrow |DC| = x = ?$

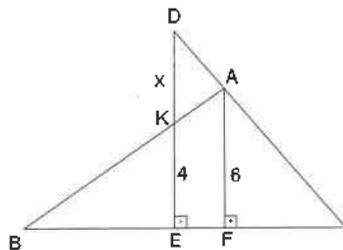
A) 14 B) 20 C) 15 D) 12 E) 10

6.  $|AB| = |AC|$
 $[CD] \perp [AB]$
 $|BD| = 2 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow |AC| = ?$

A) $15\sqrt{2}$ B) 15 C) $10\sqrt{2}$ D) 10 E) $8\sqrt{2}$

7.  $|AB| = |AC|$
 $|AE| = |EB|$
 $m(\widehat{AEC}) = 50^\circ$
 $m(\widehat{ADB}) = 20^\circ$
 $m(\widehat{CBD}) = \beta$
 $m(\widehat{ECB}) = \alpha$
 $\Rightarrow \alpha + \beta = ?$

A) 10 B) 20 C) 30 D) 50 E) 70

8.  $|AB| = |AC|$
 $[AF] \perp [BC]$
 $[DE] \perp [BC]$
 $|AF| = 6 \text{ br}$
 $|KE| = 4 \text{ br}$
 $\Rightarrow |DK| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

PUZAYATINLARI

9.

ABC eşkenar üçgen
 ABC equilateral triangle
 $[DE] \parallel [BC]$
 $[CF] \perp [AB]$
 $2|KE| = |DK| = 4 \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) 12 B) 10 C) 8 D) 6 E) 4

10.

ABC eşkenar üçgen
 ABC equilateral triangle
 $[ED] \perp [AB]$
 $[EF] \perp [AC]$
 $[DK] \perp [AC]$
 $|DE| = 6\sqrt{3} \text{ br}$
 $|EF| = 2\sqrt{3} \text{ br}$
 $\Rightarrow |KF| = x = ?$

A) 5 B) 6 C) 7 D) 8 E) 9

11.

ABC, DEC eşkenar üçgen
 ABC, DEC equilateral triangle
 $|DF| = |FE|$
 $\Rightarrow \frac{|BD|}{|FC|} = ?$

A) $\frac{2}{3}$ B) $\frac{6}{5}$ C) $\frac{5}{6}$ D) $\frac{3}{2}$ E) $\frac{5}{3}$

12.

ABC eşkenar üçgen
 ABC equilateral triangle
 $[FE] \perp [AC]$
 $[ED] \perp [AB]$
 $|AE| = 8 \text{ br}$
 $|BF| = 6 \text{ br}$
 $\Rightarrow \angle(DEFB) = ?$

A) $6 + 7\sqrt{3}$ B) $6(1 + 2\sqrt{3})$ C) $6(2 + \sqrt{3})$
 D) $12(1 + \sqrt{3})$ E) $36\sqrt{3}$

13.

ABC eşkenar üçgen
 ABC equilateral triangle
 $[OE] \perp [AB]$
 $[OF] \perp [AC]$
 $[OD] \perp [BC]$
 $|OF| = 4 \text{ br}$
 $|OD| = 5 \text{ br}$
 $|BC| = 8\sqrt{3} \text{ br}$
 $\Rightarrow |OE| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

14.

ABC eşkenar üçgen
 ABC equilateral triangle
 $[AB] \perp [BD]$
 $[BC] \perp [CD]$
 $|AB| = 3 \text{ br}$
 $\Rightarrow |BD| = x = ?$

A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) 8

15.

ABC eşkenar üçgen
 ABC equilateral triangle
 $|AE| = |DB|$
 $m(\widehat{ACE}) = 38^\circ$
 $\Rightarrow m(\widehat{DEB}) = \alpha = ?$

A) 19 B) 22 C) 38 D) 54 E) 56

16.

ABC eşkenar üçgen
 ABC equilateral triangle
 $\angle(ABC) = 36 \text{ br}$
 $[EL] \parallel [AB]$
 $[FK] \parallel [BC]$
 $[DM] \parallel [AC]$
 $|DN| = a$
 $|LN| = b$
 $|KN| = c$
 $\Rightarrow a + b + c = ?$

A) 6 B) $6\sqrt{3}$ C) 12 D) 18 E) 36

İKİZKENAR-EŞKENAR
ÜÇGEN
ISOSCELES-EQUILATERAL
TRIANGLE

YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	A	D	E	A	C	C	C	D	A	B	A	C	C	C

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	E	A	E	B	C	C	E	C	C	D	B	D	C	D

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	A	E	D	B	D	C	D	B	A	E	C	C	D	E	E

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	A	B	C	C	B	B	E	C	C	E	B	C	C	C	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	E	E	A	A	B	B	C	C	E	D	D	D	C	E

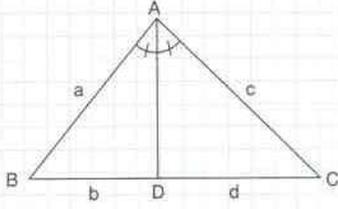
TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	C	B	A	D	D	C	B	C	E	A	C	C	B	C	C



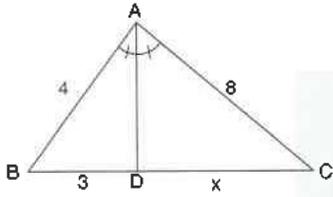
AÇIORTAY
BISECTOR

ÖZELLİK | Property 1



$$\frac{a}{b} = \frac{c}{d}$$

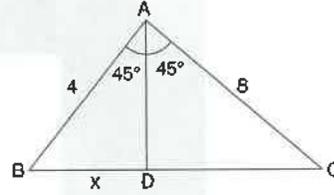
1.



$$\Rightarrow x = ?$$

6

5.

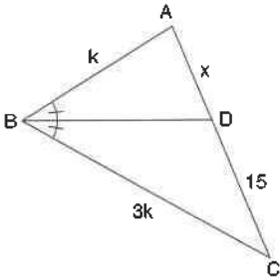


$$\Rightarrow x = ?$$

$$\frac{4\sqrt{5}}{3}$$

PUZAYAYINLARI

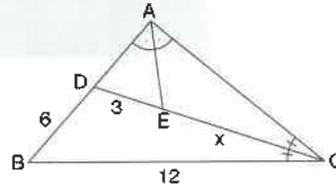
2.



$$\Rightarrow x = ?$$

5

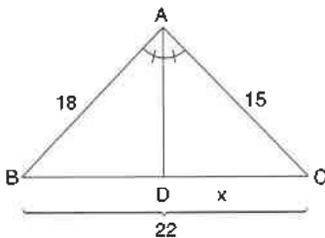
6.



$$\Rightarrow x = ?$$

6

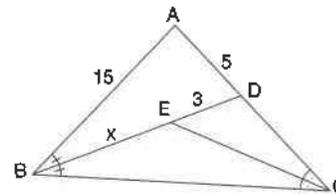
3.



$$\Rightarrow x = ?$$

10

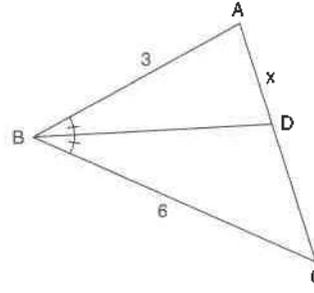
7.



$$\Rightarrow x = ?$$

9

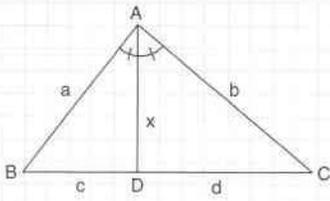
4.



$$\begin{aligned} \text{Ç}(\text{ABC}) &= 15 \text{ br} \\ \Rightarrow x &= ? \end{aligned}$$

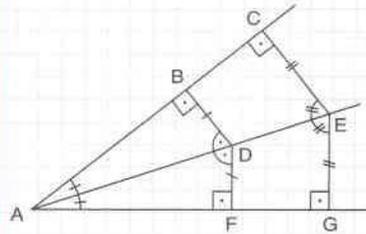
2

ÖZELLİK | Property 2

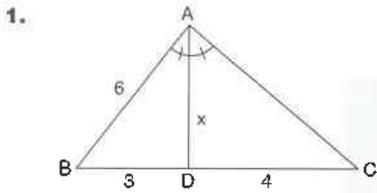


$$x^2 = a \cdot b - c \cdot d$$

ÖZELLİK | Property 3

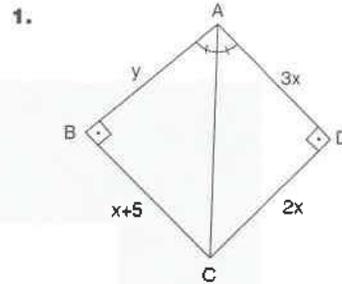


$$\begin{aligned} |AB| &= |AF| \\ |AC| &= |AG| \end{aligned}$$



$$\Rightarrow x = ?$$

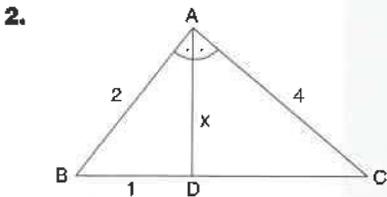
6



$$\Rightarrow y = ?$$

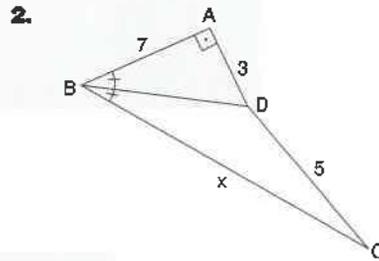
15

PÜZAYYANILARI



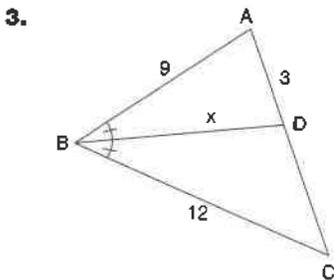
$$\Rightarrow x = ?$$

$\sqrt{6}$



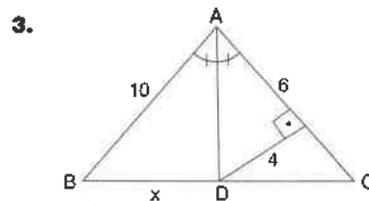
$$\Rightarrow x = ?$$

11



$$\Rightarrow x = ?$$

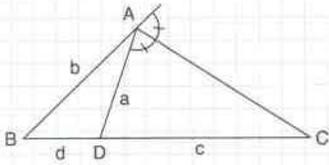
$4\sqrt{6}$



$$\Rightarrow x = ?$$

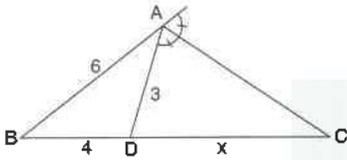
$4\sqrt{2}$

ÖZELLİK | Property 4



$$\frac{a}{b} = \frac{c}{c+d}$$

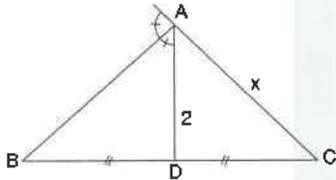
1.



$$\Rightarrow x = ?$$

4

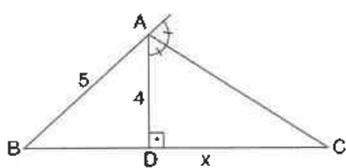
2.



$$\Rightarrow x = ?$$

4

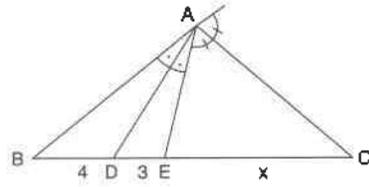
3.



$$\Rightarrow x = ?$$

12

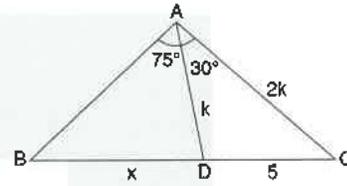
4.



$$\Rightarrow x = ?$$

21

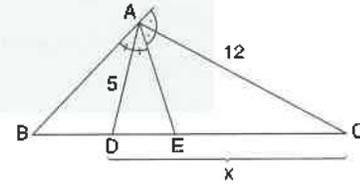
5.



$$\Rightarrow x = ?$$

5

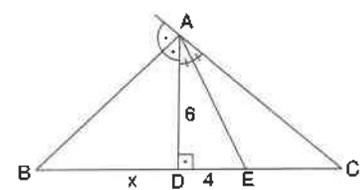
6.



$$\Rightarrow x = ?$$

13

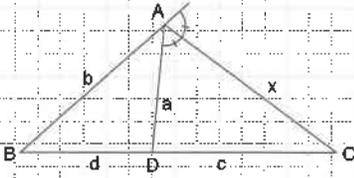
7.



$$\Rightarrow x = ?$$

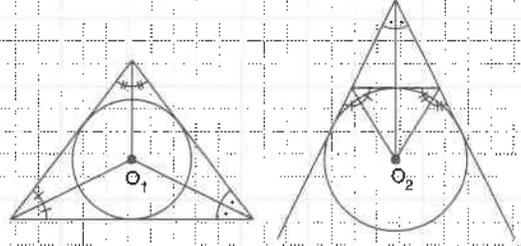
9

ÖZELLİK | Property 5



$$x^2 = c \cdot (c + d) - a \cdot b$$

ÖZELLİK | Property 6



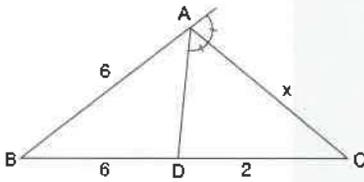
İç açıortayların kesim noktası, iç teget çemberinin merkezi, O_1 dir.

The intersection point of the interior angle bisectors is the center O_1 of the incircle.

Dış açıortayların kesim noktası, dış teget çemberinin merkezi, O_2 dir.

The intersection point of the exterior angle bisectors is the center O_2 of the excircle.

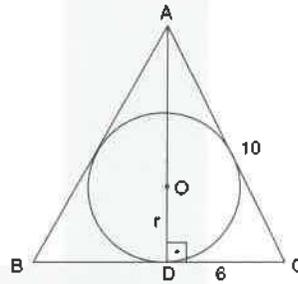
1.



$$\Rightarrow x = ?$$

$$\boxed{\sqrt{7}}$$

1.



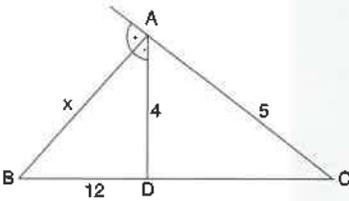
O, iç teget çemberin merkezi

The central point of the incircle

$$\Rightarrow r = ?$$

$$\boxed{3}$$

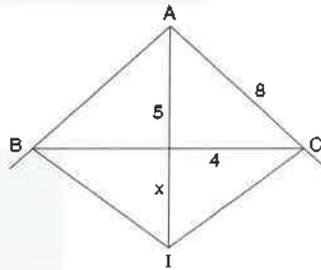
2.



$$\Rightarrow x = ?$$

$$\boxed{4\sqrt{10}}$$

2.



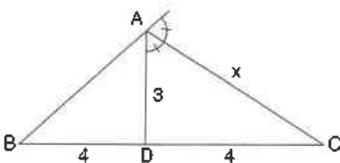
I dış teget çemberin merkezi

Central point of the excircle

$$\Rightarrow x = ?$$

$$\boxed{5}$$

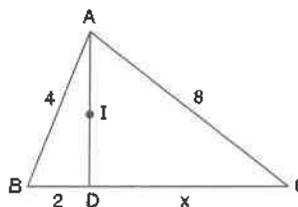
3.



$$\Rightarrow x = ?$$

$$\boxed{\sqrt{14}}$$

3.



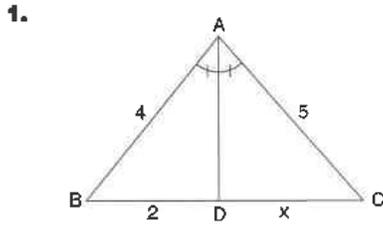
I iç teget çemberin merkezi

The central point of the incircle

$$\Rightarrow x = ?$$

$$\boxed{4}$$

PUZAYYANILARI



$$m(\widehat{BAD}) = m(\widehat{DAC})$$

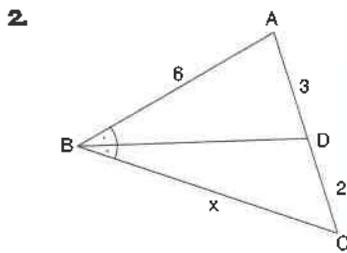
$$|AB| = 4 \text{ br}$$

$$|AC| = 5 \text{ br}$$

$$|BD| = 2 \text{ br}$$

$$\Rightarrow |DC| = x = ?$$

- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3



$$m(\widehat{ABD}) = m(\widehat{DBC})$$

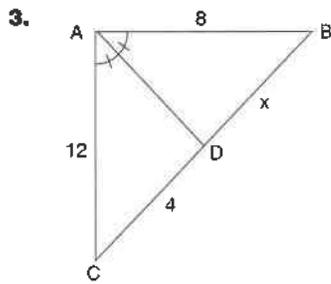
$$|AB| = 6 \text{ br}$$

$$|AD| = 3 \text{ br}$$

$$|DC| = 2 \text{ br}$$

$$\Rightarrow |BC| = x = ?$$

- A) 4 B) 3 C) $\frac{3}{2}$ D) 2 E) 1



$$m(\widehat{CAD}) = m(\widehat{DAB})$$

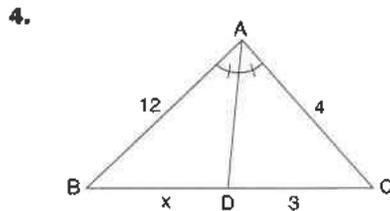
$$|AB| = 8 \text{ br}$$

$$|AC| = 12 \text{ br}$$

$$|DC| = 4 \text{ br}$$

$$\Rightarrow |DB| = x = ?$$

- A) 1 B) 2 C) $\frac{8}{3}$ D) 3 E) $\frac{10}{3}$



$$m(\widehat{BAD}) = m(\widehat{DAC})$$

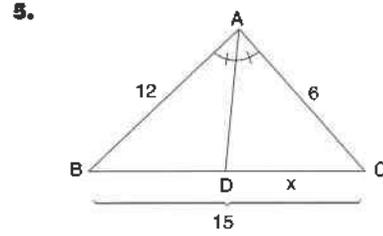
$$|AB| = 12 \text{ br}$$

$$|AC| = 4 \text{ br}$$

$$|DC| = 3 \text{ br}$$

$$\Rightarrow |BD| = x = ?$$

- A) 6 B) 7 C) 8 D) 9 E) 10



$$m(\widehat{BAD}) = m(\widehat{DAC})$$

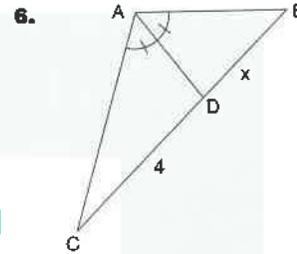
$$|AB| = 12 \text{ br}$$

$$|AC| = 6 \text{ br}$$

$$|BC| = 15 \text{ br}$$

$$\Rightarrow |DC| = x = ?$$

- A) 5 B) 6 C) 8 D) 9 E) 10



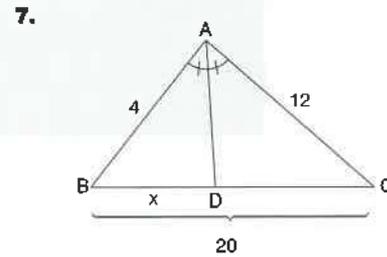
$$|AB| = 3|AC|$$

$$m(\widehat{CAD}) = m(\widehat{DAB})$$

$$|CD| = 4 \text{ br}$$

$$\Rightarrow |BD| = x = ?$$

- A) $\frac{4}{3}$ B) 4 C) 6 D) 8 E) 12



$$m(\widehat{BAD}) = m(\widehat{DAC})$$

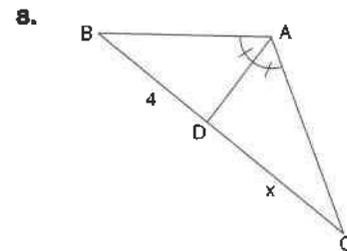
$$|AB| = 4 \text{ br}$$

$$|AC| = 12 \text{ br}$$

$$|BC| = 20 \text{ br}$$

$$\Rightarrow |BD| = x = ?$$

- A) 5 B) 6 C) 7 D) 8 E) 10



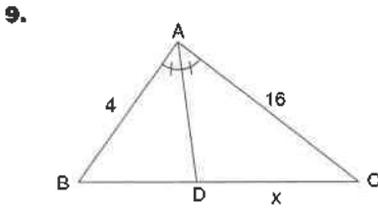
$$2|AC| = 3|AB|$$

$$m(\widehat{BAD}) = m(\widehat{DAC})$$

$$|BD| = 4 \text{ br}$$

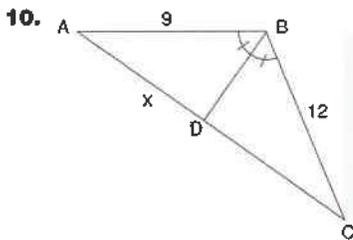
$$\Rightarrow |DC| = x = ?$$

- A) $\frac{8}{3}$ B) 5 C) 6 D) 8 E) 10



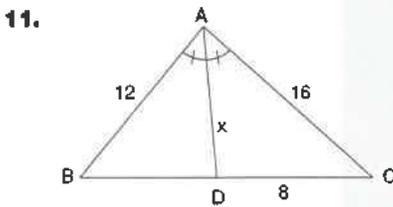
$\angle(ABC) = 35$
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AB| = 4 \text{ br}$
 $|AC| = 16 \text{ br}$
 $\Rightarrow |DC| = x = ?$

- A) 3 B) 6 C) 9 D) 12 E) 15



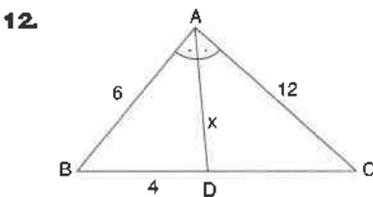
$\angle(ABC) = 35$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $|AB| = 9 \text{ br}$
 $|BC| = 12 \text{ br}$
 $\Rightarrow |AD| = x = ?$

- A) 3 B) 4 C) 6 D) 7 E) 8



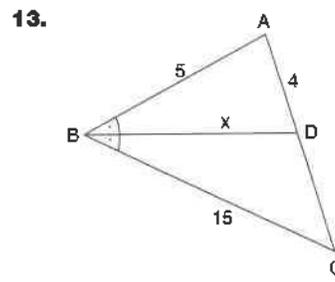
$m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AB| = 12 \text{ br}$
 $|AC| = 16 \text{ br}$
 $|DC| = 8 \text{ br}$
 $\Rightarrow |AD| = x = ?$

- A) 6 B) $6\sqrt{5}$ C) 12 D) $12\sqrt{5}$ E) 16



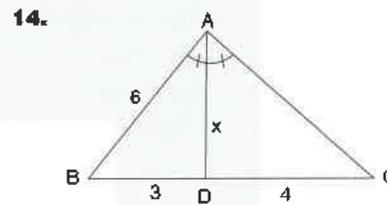
$m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AB| = 6 \text{ br}$
 $|AC| = 12 \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow |AD| = x = ?$

- A) $2\sqrt{10}$ B) $4\sqrt{3}$ C) $2\sqrt{15}$ D) 8 E) 16



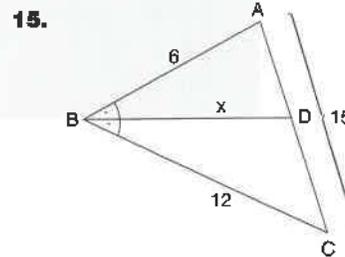
$m(\widehat{ABD}) = m(\widehat{DBC})$
 $|AD| = 4 \text{ br}$
 $|AB| = 5 \text{ br}$
 $|BC| = 15 \text{ br}$
 $\Rightarrow |BD| = x = ?$

- A) $\sqrt{7}$ B) $3\sqrt{3}$ C) $5\sqrt{3}$ D) 10 E) 12



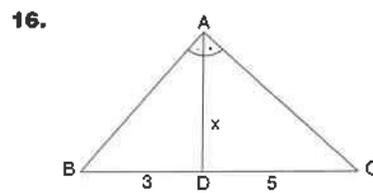
$m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AB| = 6 \text{ br}$
 $|BD| = 3 \text{ br}$
 $|DC| = 4 \text{ br}$
 $\Rightarrow |AD| = x = ?$

- A) 3 B) 4 C) $2\sqrt{3}$ D) $3\sqrt{3}$ E) 6



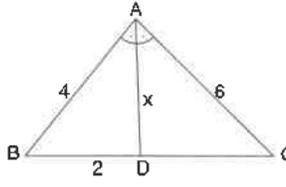
$m(\widehat{ABD}) = m(\widehat{DBC})$
 $|AB| = 6 \text{ br}$
 $|AC| = 15 \text{ br}$
 $|BC| = 12 \text{ br}$
 $\Rightarrow |BD| = x = ?$

- A) $\sqrt{10}$ B) $\sqrt{11}$ C) $3\sqrt{2}$ D) $\sqrt{22}$ E) $2\sqrt{11}$

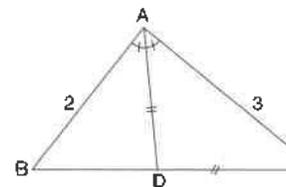


$\angle(ABC) = 32$
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|BD| = 3 \text{ br}$
 $|DC| = 5 \text{ br}$
 $\Rightarrow |AD| = x = ?$

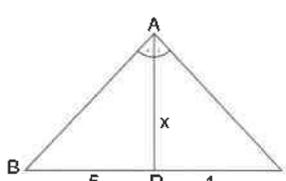
- A) $2\sqrt{5}$ B) $\sqrt{10}$ C) $\sqrt{30}$ D) $2\sqrt{30}$ E) $2\sqrt{33}$

1.  $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AB| = 4 \text{ br}$
 $|AC| = 6 \text{ br}$
 $|BD| = 2 \text{ br}$
 $\Rightarrow |AD| = x = ?$

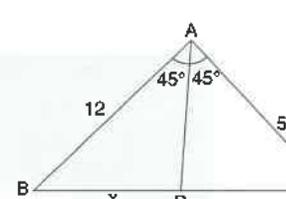
A) 6 B) $3\sqrt{2}$ C) $2\sqrt{2}$ D) $\sqrt{3}$ E) 1

5.  $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AD| = |DC|$
 $|AB| = 2 \text{ br}$
 $|AC| = 3 \text{ br}$
 $\Rightarrow |BC| = ?$

A) $\sqrt{5}$ B) $\sqrt{10}$ C) $\sqrt{15}$ D) 5 E) 10

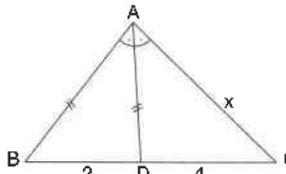
2.  $\angle(ABC) = 27$
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|BD| = 5 \text{ br}$
 $|DC| = 4 \text{ br}$
 $\Rightarrow |AD| = x = ?$

A) 2 B) 4 C) $2\sqrt{15}$ D) $\sqrt{17}$ E) $2\sqrt{17}$

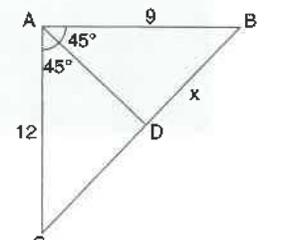
6.  $m(\widehat{BAD}) = 45^\circ$
 $m(\widehat{DAC}) = 45^\circ$
 $|AB| = 12 \text{ br}$
 $|AC| = 5 \text{ br}$
 $\Rightarrow |BD| = x = ?$

A) 13 B) $\frac{156}{17}$ C) $\frac{65}{17}$ D) 5 E) 3

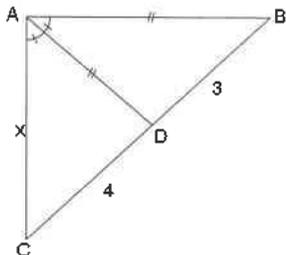
PUZAYAYINLARI

3.  $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AB| = |AD|$
 $|BD| = 2 \text{ br}$
 $|DC| = 4 \text{ br}$
 $\Rightarrow |AC| = x = ?$

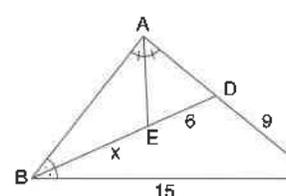
A) 1 B) $\sqrt{2}$ C) 2 D) $2\sqrt{2}$ E) $4\sqrt{2}$

7.  $m(\widehat{CAD}) = 45^\circ$
 $m(\widehat{DAB}) = 45^\circ$
 $|AB| = 9 \text{ br}$
 $|AC| = 12 \text{ br}$
 $\Rightarrow |BD| = x = ?$

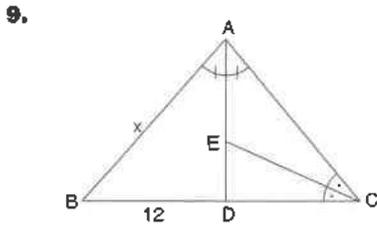
A) 6 B) $\frac{45}{7}$ C) $\frac{60}{7}$ D) 9 E) 12

4.  $m(\widehat{CAD}) = m(\widehat{DAB})$
 $|AD| = |AB|$
 $|BD| = 3 \text{ br}$
 $|DC| = 4 \text{ br}$
 $\Rightarrow |AC| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

8.  $m(\widehat{BAE}) = m(\widehat{EAD})$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $|ED| = 6 \text{ br}$
 $|DC| = 9 \text{ br}$
 $|BC| = 15 \text{ br}$
 $\Rightarrow |BE| = x = ?$

A) 3 B) 5 C) 6 D) 8 E) 10



$$2|AE| = 3|ED|$$

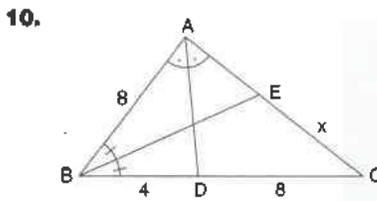
$$m(\widehat{BAD}) = m(\widehat{DAC})$$

$$m(\widehat{ACE}) = m(\widehat{ECB})$$

$$|BD| = 12 \text{ br}$$

$$\Rightarrow |AB| = x = ?$$

- A) 24 B) 18 C) 12 D) 8 E) 6



$$m(\widehat{BAD}) = m(\widehat{DAC})$$

$$m(\widehat{ABE}) = m(\widehat{EBC})$$

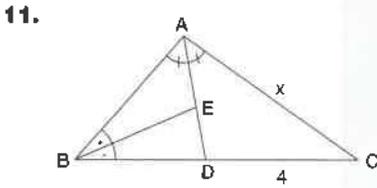
$$|AB| = 8 \text{ br}$$

$$|BD| = 4 \text{ br}$$

$$|DC| = 8 \text{ br}$$

$$\Rightarrow |EC| = x = ?$$

- A) 4 B) $\frac{36}{5}$ C) $\frac{48}{5}$ D) 12 E) 16



$$m(\widehat{BAD}) = m(\widehat{DAC})$$

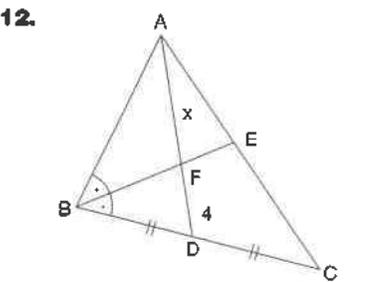
$$m(\widehat{ABE}) = m(\widehat{EBC})$$

$$2|AE| = 3|ED|$$

$$|DC| = 4 \text{ br}$$

$$\Rightarrow |AC| = x = ?$$

- A) 2 B) 4 C) 6 D) 8 E) 12



$$|BD| = |DC|$$

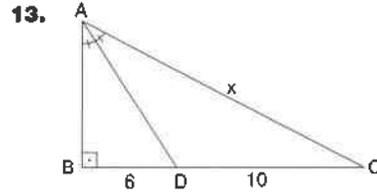
$$4|AE| = 5|EC|$$

$$m(\widehat{CBE}) = m(\widehat{EBA})$$

$$|FD| = 4 \text{ br}$$

$$\Rightarrow |AF| = x = ?$$

- A) 4 B) 6 C) 9 D) 10 E) 12



$$[AB] \perp [BC]$$

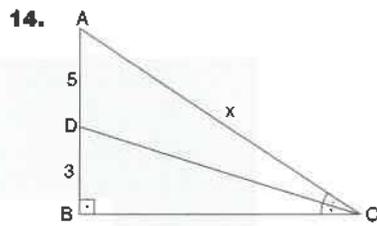
$$m(\widehat{BAD}) = m(\widehat{DAC})$$

$$|BD| = 6 \text{ br}$$

$$|DC| = 10 \text{ br}$$

$$\Rightarrow |AC| = x = ?$$

- A) 10 B) 15 C) 20 D) 25 E) 30



$$[AB] \perp [BC]$$

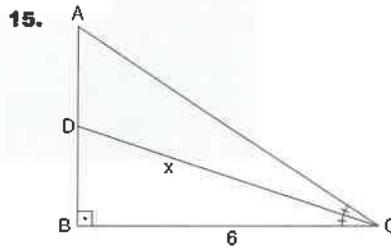
$$m(\widehat{ACD}) = m(\widehat{DCB})$$

$$|AD| = 5 \text{ br}$$

$$|DB| = 3 \text{ br}$$

$$\Rightarrow |AC| = x = ?$$

- A) 5 B) $5\sqrt{2}$ C) $5\sqrt{3}$ D) 10 E) 15



$$3|AD| = 5|DB|$$

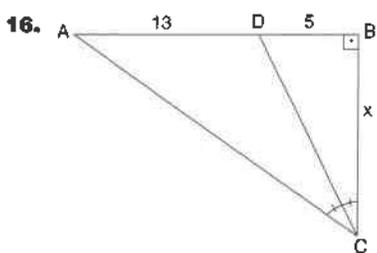
$$m(\widehat{ACD}) = m(\widehat{DCB})$$

$$[BC] \perp [AB]$$

$$|BC| = 6 \text{ br}$$

$$\Rightarrow |DC| = x = ?$$

- A) $\sqrt{5}$ B) $2\sqrt{5}$ C) $3\sqrt{5}$ D) $6\sqrt{5}$ E) $8\sqrt{5}$



$$[AB] \perp [BC]$$

$$m(\widehat{ACD}) = m(\widehat{DCB})$$

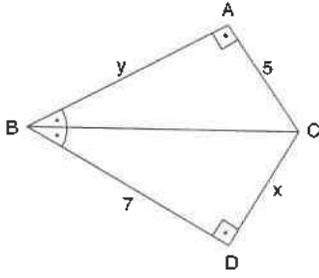
$$|AD| = 13 \text{ br}$$

$$|DB| = 5 \text{ br}$$

$$\Rightarrow |BC| = x = ?$$

- A) 5 B) $\frac{15}{2}$ C) 8 D) 10 E) $\frac{13}{2}$

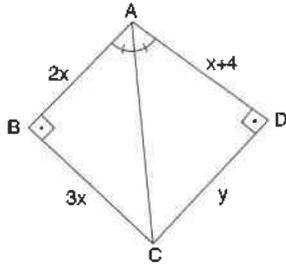
1.



$m(\widehat{ABC}) = m(\widehat{CBD})$
 $[BA] \perp [AC]$
 $[BD] \perp [DC]$
 $|BD| = 7 \text{ br}$
 $|AC| = 5 \text{ br}$
 $|DC| = x$
 $|AB| = y$
 $\Rightarrow y - x = ?$

- A) 1 B) 2 C) 5 D) 7 E) 12

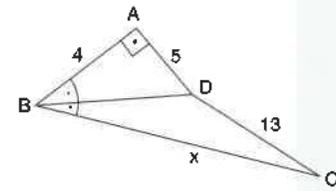
2.



$m(\widehat{BAC}) = m(\widehat{CAD})$
 $[AB] \perp [BC]$
 $[AD] \perp [DC]$
 $|AB| = 2x$
 $|AD| = x + 4$
 $|BC| = 3x$
 $\Rightarrow |DC| = y = ?$

- A) 4 B) 8 C) 12 D) 16 E) 20

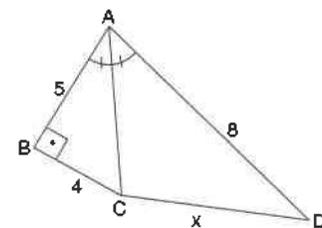
3.



$[BA] \perp [AD]$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $|AB| = 4 \text{ br}$
 $|AD| = 5 \text{ br}$
 $|DC| = 13 \text{ br}$
 $\Rightarrow |BC| = x = ?$

- A) 4 B) 5 C) 12 D) 16 E) 20

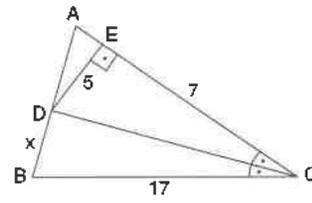
4.



$[AB] \perp [BC]$
 $m(\widehat{BAC}) = m(\widehat{CAD})$
 $|AB| = 5 \text{ br}$
 $|BC| = 4 \text{ br}$
 $|AD| = 8 \text{ br}$
 $\Rightarrow |CD| = x = ?$

- A) 3 B) 4 C) 5 D) $4\sqrt{2}$ E) 8

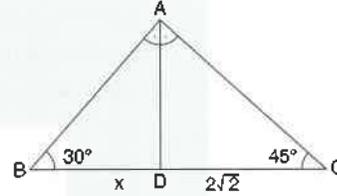
5.



$[DE] \perp [AC]$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $|BC| = 17 \text{ br}$
 $|EC| = 7 \text{ br}$
 $|DE| = 5 \text{ br}$
 $\Rightarrow |DB| = x = ?$

- A) 5 B) $5\sqrt{2}$ C) $5\sqrt{5}$ D) 10 E) 13

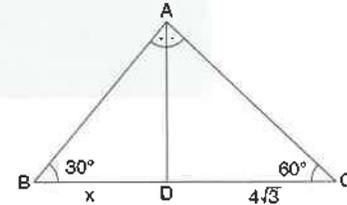
6.



$m(\widehat{BAD}) = m(\widehat{DAC})$
 $m(\widehat{ABC}) = 30^\circ$
 $m(\widehat{ACB}) = 45^\circ$
 $|DC| = 2\sqrt{2} \text{ br}$
 $\Rightarrow |BD| = x = ?$

- A) 1 B) $\sqrt{2}$ C) 2 D) $\sqrt{6}$ E) 4

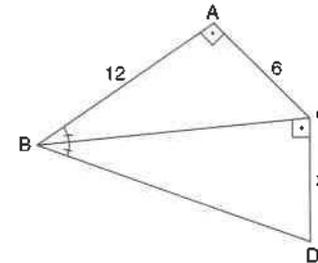
7.



$m(\widehat{BAD}) = m(\widehat{DAC})$
 $m(\widehat{ABC}) = 30^\circ$
 $m(\widehat{ACB}) = 60^\circ$
 $|DC| = 4\sqrt{3} \text{ br}$
 $\Rightarrow |BD| = x = ?$

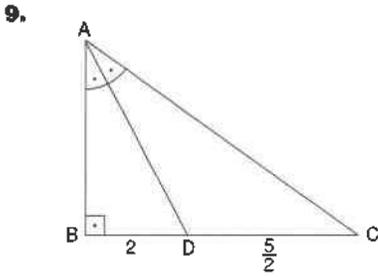
- A) 4 B) $4\sqrt{3}$ C) 8 D) 12 E) $8\sqrt{3}$

8.



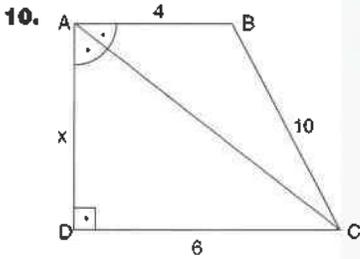
$[BA] \perp [AC]$
 $[BC] \perp [CD]$
 $|AB| = 12 \text{ br}$
 $|AC| = 6 \text{ br}$
 $\Rightarrow |CD| = x = ?$

- A) 3 B) $3\sqrt{2}$ C) $3\sqrt{5}$ D) 6 E) $6\sqrt{5}$



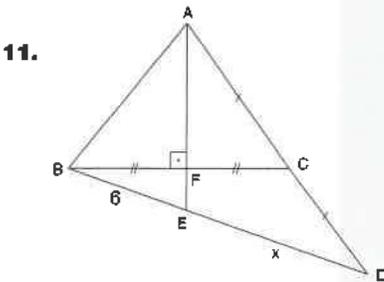
$m(\widehat{BAD}) = m(\widehat{DAC})$
 $[AB] \perp [BC]$
 $|BD| = 2 \text{ br}$
 $|DC| = \frac{5}{2} \text{ br}$
 $\Rightarrow |AB| = ?$

- A) $\frac{9}{2}$ B) 6 C) 8 D) 9 E) 18



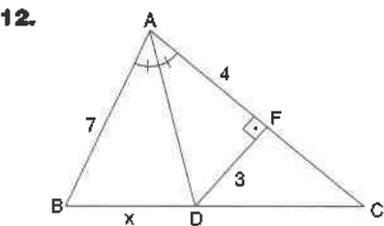
$m(\widehat{DAC}) = m(\widehat{CAB})$
 $[AD] \perp [DC]$
 $|AB| = 4 \text{ br}$
 $|BC| = 10 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow |AD| = x = ?$

- A) 6 B) 8 C) 10 D) 12 E) 14



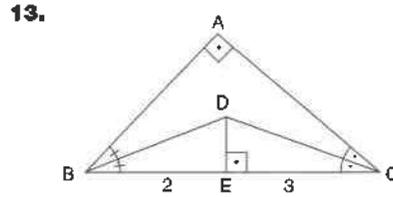
$[AF] \perp [BC]$
 $|BF| = |FC|$
 $|AC| = |CD|$
 $|BE| = 6 \text{ br}$
 $|ED| = x$
 $\Rightarrow x = ?$

- A) 3 B) 6 C) 9 D) 12 E) 15



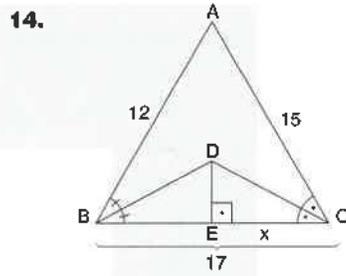
$m(\widehat{BAD}) = m(\widehat{DAC})$
 $[DF] \perp [AC]$
 $|AF| = 4 \text{ br}$
 $|DF| = 3 \text{ br}$
 $|AB| = 7 \text{ br}$
 $\Rightarrow |BD| = x = ?$

- A) 3 B) $3\sqrt{2}$ C) 4 D) 5 E) $5\sqrt{2}$



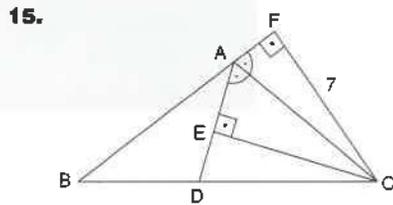
$[DE] \perp [BC]$
 $[BA] \perp [AC]$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $|BE| = 2 \text{ br}$
 $|EC| = 3 \text{ br}$
 $\Rightarrow |DE| = ?$

- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3



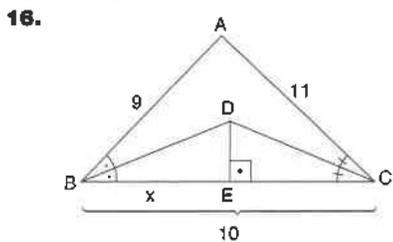
$m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $[DE] \perp [BC]$
 $|AB| = 12 \text{ br}$
 $|AC| = 15 \text{ br}$
 $|BC| = 17 \text{ br}$
 $|EC| = x$
 $\Rightarrow x = ?$

- A) 9 B) 10 C) 12 D) 14 E) 16



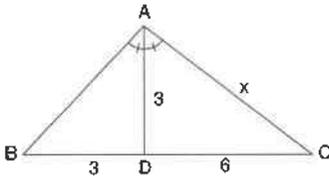
$[BF] \perp [FC]$
 $[AD] \perp [CE]$
 $m(\widehat{DAC}) = m(\widehat{FAC})$
 $|DC| = 14 \text{ br}$
 $|FC| = 7 \text{ br}$
 $\Rightarrow |ED| = ?$

- A) $4\sqrt{3}$ B) $7\sqrt{3}$ C) $14\sqrt{3}$ D) $\frac{7}{2}$ E) $\sqrt{7}$

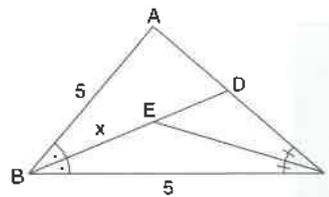


$[DE] \perp [BC]$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $|AB| = 9 \text{ br}$
 $|AC| = 11 \text{ br}$
 $|BC| = 10 \text{ br}$
 $\Rightarrow |BE| = x = ?$

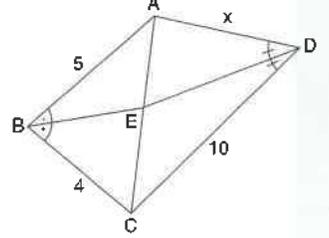
- A) 3 B) 4 C) 5 D) 6 E) 8

1.  $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AD| = 3 \text{ br}$
 $|BD| = 3 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow |AC| = x = ?$

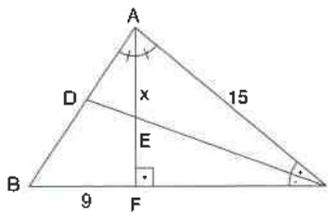
A) $3\sqrt{6}$ B) $2\sqrt{6}$ C) $\sqrt{6}$ D) $\sqrt{3}$ E) $\sqrt{2}$

2.  $m(\widehat{ABD}) = m(\widehat{DCE})$
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $|AB| = 5 \text{ br}$
 $|BC| = 5 \text{ br}$
 $|AC| = 6 \text{ br}$
 $\Rightarrow |EB| = x = ?$

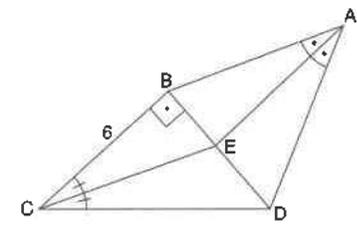
A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

3.  $m(\widehat{ABE}) = m(\widehat{EDC})$
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $|AB| = 5 \text{ br}$
 $|DC| = 10 \text{ br}$
 $|BC| = 4 \text{ br}$
 $\Rightarrow |AD| = x = ?$

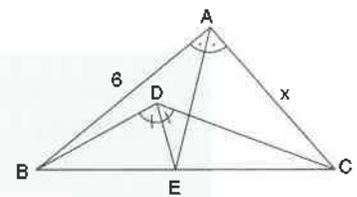
A) 2 B) 4 C) 8 D) $\frac{25}{2}$ E) 25

4.  $[AF] \perp [BC]$
 $m(\widehat{BAF}) = m(\widehat{FAC})$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $|AC| = 15 \text{ br}$
 $|BF| = 9 \text{ br}$
 $\Rightarrow |AE| = x = ?$

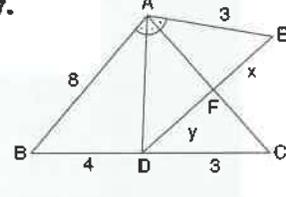
A) $\frac{15}{2}$ B) 6 C) 5 D) $\frac{5}{2}$ E) 2

5.  $[CB] \perp [DB]$
 $m(\widehat{BAE}) = m(\widehat{EAD})$
 $m(\widehat{BCE}) = m(\widehat{ECD})$
 $4|AB| = 3|AD|$
 $|BC| = 6 \text{ br}$
 $\Rightarrow |BD| = ?$

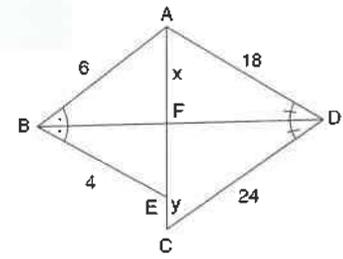
A) $6\sqrt{6}$ B) $2\sqrt{6}$ C) $\sqrt{21}$ D) $2\sqrt{7}$ E) $\sqrt{7}$

6.  $\frac{|BD|}{|DC|} = \frac{3}{4}$
 $m(\widehat{BAE}) = m(\widehat{EAC})$
 $m(\widehat{BDE}) = m(\widehat{EDC})$
 $|AB| = 6 \text{ br}$
 $\Rightarrow |AC| = x = ?$

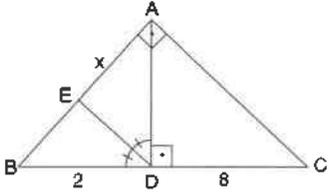
A) 16 B) 8 C) 6 D) 4 E) 2

7.  $m(\widehat{BAD}) = m(\widehat{DAC}) = m(\widehat{CAE})$
 $|AB| = 8 \text{ br}$
 $|BD| = 4 \text{ br}$
 $|DC| = 3 \text{ br}$
 $|AE| = 3 \text{ br}$
 $|EF| = x$
 $|DF| = y$
 $= \frac{x}{y} = ?$

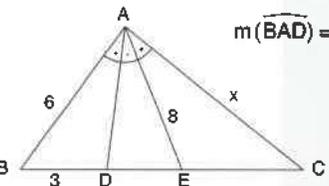
A) $\frac{1}{2}$ B) 1 C) 2 D) $\frac{5}{2}$ E) 3

8.  $m(\widehat{ABD}) = m(\widehat{DBE})$
 $m(\widehat{ADB}) = m(\widehat{BDC})$
 $|AB| = 6 \text{ br}$
 $|AD| = 18 \text{ br}$
 $|DC| = 24 \text{ br}$
 $|BE| = 4 \text{ br}$
 $|AF| = x$
 $|EC| = y$
 $= \frac{x}{y} = ?$

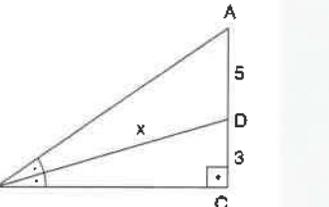
A) 2 B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

9.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $m(\widehat{BDE}) = m(\widehat{EDA})$
 $|DC| = 8 \text{ br}$
 $|BD| = 2 \text{ br}$
 $\Rightarrow |AE| = x = ?$

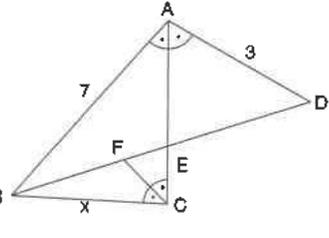
- A) $\frac{4\sqrt{5}}{3}$ B) $2\sqrt{10}$ C) $\frac{4\sqrt{10}}{3}$ D) 10 E) 20

10.  $m(\widehat{BAD}) = m(\widehat{DAE}) = m(\widehat{EAC})$
 $|AB| = 6 \text{ br}$
 $|BD| = 3 \text{ br}$
 $|AE| = 8 \text{ br}$
 $\Rightarrow |AC| = x = ?$

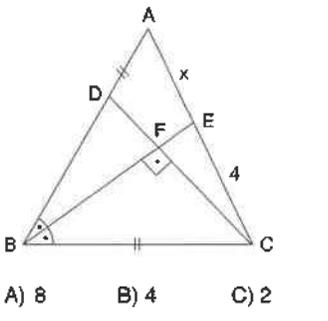
- A) 6,4 B) 12,8 C) 19,2 D) 20 E) 22

11.  $m(\widehat{ABD}) = m(\widehat{DBC})$
 $|AD| = 5 \text{ br}$
 $|DC| = 3 \text{ br}$
 $\Rightarrow |BD| = x = ?$

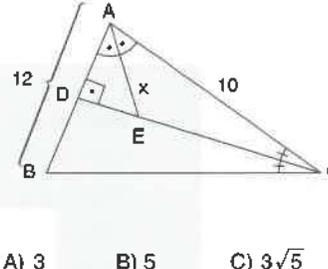
- A) $3\sqrt{5}$ B) 6 C) $6\sqrt{5}$ D) 8 E) 12

12.  $m(\widehat{ACF}) = m(\widehat{FCB})$
 $m(\widehat{BAC}) = m(\widehat{CAD})$
 $|BF| = |FD|$
 $|BA| = 7 \text{ br}$
 $|AD| = 3 \text{ br}$
 $|EC| = 6 \text{ br}$
 $\Rightarrow |BC| = x = ?$

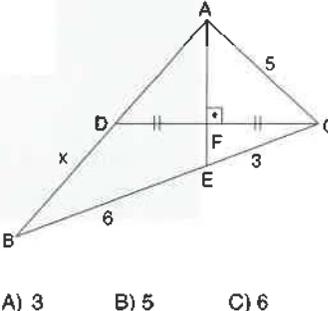
- A) 12 B) 15 C) 16 D) 18 E) 20

13.  $[BF] \perp [DC]$
 $m(\widehat{ABE}) = m(\widehat{ECB})$
 $|AD| = |BC|$
 $|EC| = 4 \text{ br}$
 $\Rightarrow |AE| = x = ?$

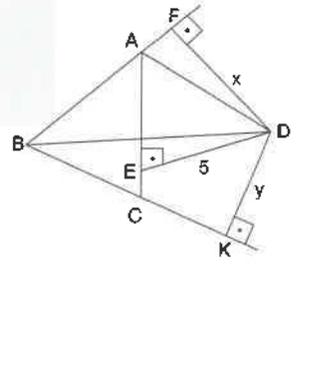
- A) 8 B) 4 C) 2 D) 1 E) $\frac{1}{2}$

14.  $[AB] \perp [DC]$
 $m(\widehat{DAE}) = m(\widehat{EAC})$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $|AB| = 12 \text{ br}$
 $|AC| = 10 \text{ br}$
 $\Rightarrow |AE| = x = ?$

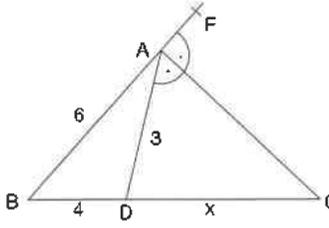
- A) 3 B) 5 C) $3\sqrt{5}$ D) 6 E) $6\sqrt{5}$

15.  $[AF] \perp [DC]$
 $|DF| = |FC|$
 $|AC| = 5 \text{ br}$
 $|EC| = 3 \text{ br}$
 $|BE| = 6 \text{ br}$
 $\Rightarrow |DB| = x = ?$

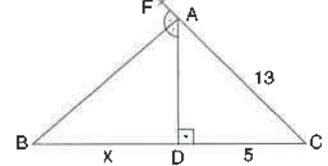
- A) 3 B) 5 C) 6 D) 8 E) 10

16.  D dış teğet çemberin merkezi
D, central point of the tangential circle
 $[ED] \perp [AC]$
 $[DF] \perp [BF]$
 $[DK] \perp [BK]$
 $|ED| = 5 \text{ br}$
 $|FD| = x$
 $|DK| = y$
 $\Rightarrow x + y = ?$

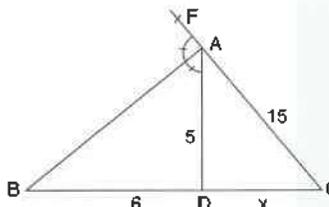
- A) 5 B) $5\sqrt{2}$ C) 10 D) $10\sqrt{2}$ E) $10\sqrt{3}$

1.  $m(\widehat{DAC}) = m(\widehat{CAF})$
 $|AD| = 3 \text{ br}$
 $|AB| = 6 \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow |DC| = x = ?$

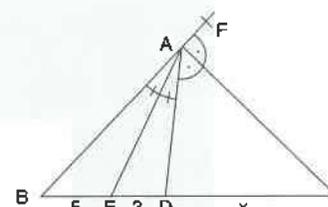
A) 2 B) $\frac{7}{2}$ C) 4 D) 6 E) $\frac{13}{2}$

5.  $m(\widehat{FAB}) = m(\widehat{BAD})$
 $[AD] \perp [BC]$
 $|AC| = 13 \text{ br}$
 $|DC| = 5 \text{ br}$
 $\Rightarrow |BD| = x = ?$

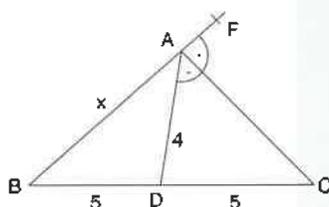
A) 5 B) 12 C) 17 D) 30 E) 60

2.  $m(\widehat{FAB}) = m(\widehat{BAD})$
 $|AC| = 15 \text{ br}$
 $|BD| = 6 \text{ br}$
 $|AD| = 5 \text{ br}$
 $\Rightarrow |DC| = x = ?$

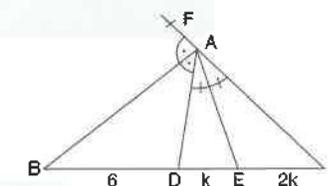
A) 8 B) 9 C) 10 D) 11 E) 12

6.  $m(\widehat{FAC}) = m(\widehat{CAD})$
 $m(\widehat{BAE}) = m(\widehat{EAD})$
 $|BE| = 5 \text{ br}$
 $|ED| = 3 \text{ br}$
 $\Rightarrow |DC| = x = ?$

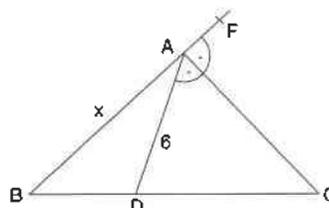
A) 3 B) 5 C) 6 D) 8 E) 12

3.  $m(\widehat{DAC}) = m(\widehat{FAC})$
 $|BD| = |DC| = 5 \text{ br}$
 $|AD| = 4 \text{ br}$
 $\Rightarrow |AB| = x = ?$

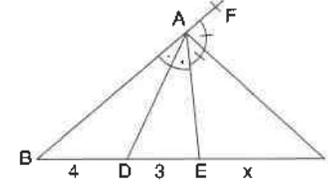
A) 4 B) 6 C) 8 D) 12 E) 20

7.  $m(\widehat{FAB}) = m(\widehat{BAD})$
 $m(\widehat{DAE}) = m(\widehat{EAC})$
 $2|DE| = |EC|$
 $|BD| = 6 \text{ br}$
 $\Rightarrow |BE| = ?$

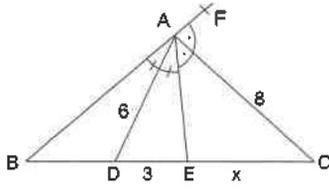
A) 2 B) 6 C) 8 D) 10 E) 12

4.  $m(\widehat{FAC}) = m(\widehat{DAC})$
 $3|BD| = 4|DC|$
 $|AD| = 6 \text{ br}$
 $\Rightarrow |AB| = x = ?$

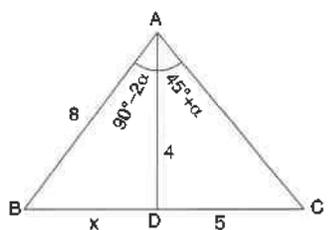
A) 7 B) 10 C) 14 D) 21 E) 28

8.  $m(\widehat{FAC}) = m(\widehat{CAE})$
 $m(\widehat{BAD}) = m(\widehat{DAE})$
 $|BD| = 4 \text{ br}$
 $|DE| = 3 \text{ br}$
 $\Rightarrow |EC| = x = ?$

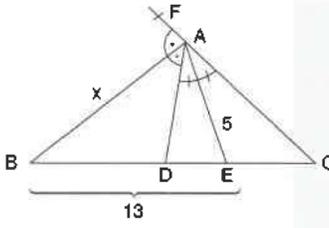
A) 7 B) 14 C) 21 D) 28 E) 35

9.  $m(\widehat{BAD}) = m(\widehat{DAE})$
 $m(\widehat{FAC}) = m(\widehat{CAE})$
 $|AC| = 8 \text{ br}$
 $|AD| = 6 \text{ br}$
 $|DE| = 3 \text{ br}$
 $\Rightarrow |EC| = x = ?$

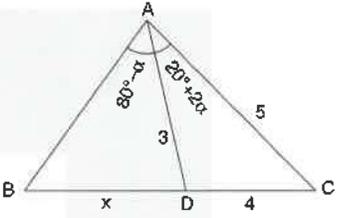
A) 3 B) 4 C) 7 D) 10 E) 13

13.  $m(\widehat{BAD}) = 90^\circ - 2\alpha$
 $m(\widehat{DAC}) = 45^\circ + \alpha$
 $|AD| = 4 \text{ br}$
 $|DC| = 5 \text{ br}$
 $|AB| = 8 \text{ br}$
 $\Rightarrow |BD| = x = ?$

A) 2 B) $2\sqrt{3}$ C) 4 D) 5 E) 10

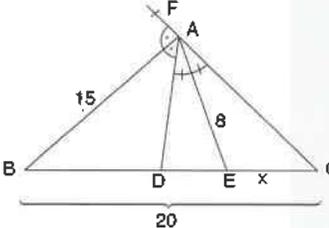
10.  $m(\widehat{FAB}) = m(\widehat{BAD})$
 $m(\widehat{DAE}) = m(\widehat{EAC})$
 $|AE| = 5 \text{ br}$
 $|BE| = 13 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) 5 B) 7 C) 8 D) 10 E) 12

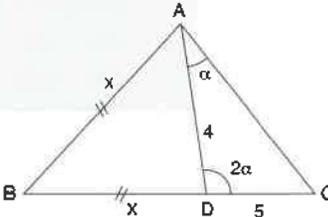
14.  $m(\widehat{BAD}) = 80^\circ - \alpha$
 $m(\widehat{DAC}) = 20^\circ + 2\alpha$
 $|AD| = 3 \text{ br}$
 $|DC| = 4 \text{ br}$
 $|AC| = 5 \text{ br}$
 $\Rightarrow |BD| = x = ?$

A) 3 B) 4 C) 6 D) 8 E) 12

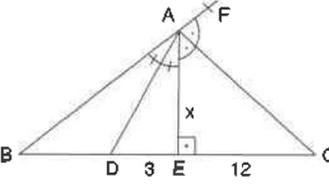
PUZZA VAYINLARI

11.  $m(\widehat{FAB}) = m(\widehat{BAD})$
 $m(\widehat{DAE}) = m(\widehat{EAC})$
 $|AB| = 15 \text{ br}$
 $|AE| = 8 \text{ br}$
 $|BC| = 20 \text{ br}$
 $\Rightarrow |EC| = x = ?$

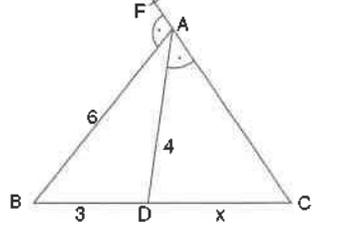
A) 3 B) 8 C) 17 D) 20 E) 37

15.  $2m(\widehat{DAC}) = m(\widehat{ADC})$
 $|AB| = |BD|$
 $|AD| = 4 \text{ br}$
 $|DC| = 5 \text{ br}$
 $\Rightarrow |AB| = x = ?$

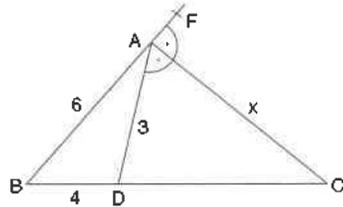
A) 5 B) 10 C) 15 D) 20 E) 25

12.  $m(\widehat{FAC}) = m(\widehat{CAE})$
 $m(\widehat{EAD}) = m(\widehat{DAB})$
 $[AE] \perp [BC]$
 $|DE| = 3 \text{ br}$
 $|EC| = 12 \text{ br}$
 $\Rightarrow |AE| = x = ?$

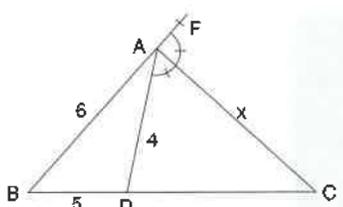
A) 3 B) 6 C) 12 D) $6\sqrt{2}$ E) $6\sqrt{5}$

16.  $m(\widehat{FAB}) = m(\widehat{DAC})$
 $|AD| = 4 \text{ br}$
 $|AB| = 6 \text{ br}$
 $|BD| = 3 \text{ br}$
 $\Rightarrow |DC| = x = ?$

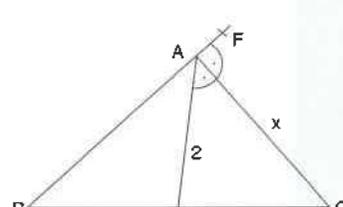
A) 1 B) 2 C) 3 D) 4 E) 6

1.  $m(\widehat{FAC}) = m(\widehat{DAC})$
 $|AD| = 3 \text{ br}$
 $|BD| = 4 \text{ br}$
 $|AB| = 6 \text{ br}$
 $\Rightarrow |AC| = x = ?$

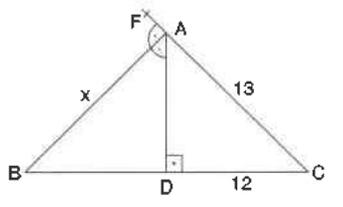
A) $\sqrt{7}$ B) $\sqrt{14}$ C) $2\sqrt{7}$ D) 7 E) 49

2.  $m(\widehat{FAC}) = m(\widehat{DAC})$
 $|AD| = 4 \text{ br}$
 $|AB| = 6 \text{ br}$
 $|BD| = 5 \text{ br}$
 $\Rightarrow |AC| = x = ?$

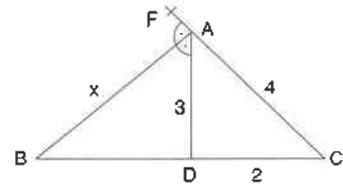
A) $\sqrt{7}$ B) 3 C) $3\sqrt{7}$ D) $3\sqrt{14}$ E) 12

3.  $m(\widehat{FAC}) = m(\widehat{CAD})$
 $|AD| = 2 \text{ br}$
 $|BD| = 6 \text{ br}$
 $|DC| = 3 \text{ br}$
 $\Rightarrow |AC| = x = ?$

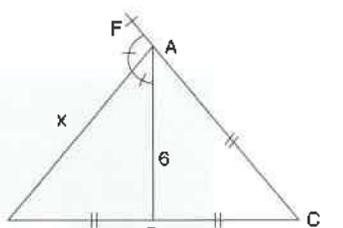
A) $\sqrt{3}$ B) $\sqrt{5}$ C) $\sqrt{14}$ D) $\sqrt{15}$ E) 6

4.  $m(\widehat{FAB}) = m(\widehat{BAD})$
 $[AD] \perp [BC]$
 $|AC| = 13 \text{ br}$
 $|DC| = 12 \text{ br}$
 $\Rightarrow |AB| = x = ?$

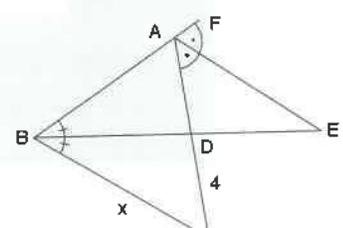
A) $\frac{5\sqrt{13}}{2}$ B) $5\sqrt{13}$ C) 13 D) $13\sqrt{2}$ E) 26

5.  $m(\widehat{FAB}) = m(\widehat{BAD})$
 $|AC| = 4 \text{ br}$
 $|DC| = 2 \text{ br}$
 $|AD| = 3 \text{ br}$
 $\Rightarrow |AB| = x = ?$

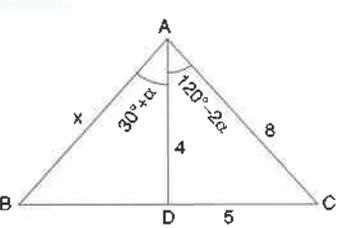
A) 4 B) 6 C) $6\sqrt{2}$ D) 10 E) 12

6.  $m(\widehat{FAB}) = m(\widehat{BAD})$
 $|AC| = |DC| = |BD|$
 $|AD| = 6 \text{ br}$
 $\Rightarrow |AB| = x = ?$

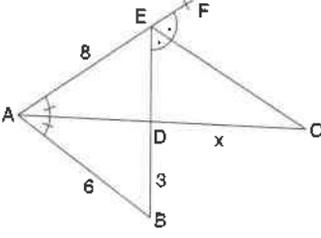
A) $6\sqrt{6}$ B) $6\sqrt{3}$ C) $6\sqrt{2}$ D) 6 E) 3

7.  $m(\widehat{FAE}) = m(\widehat{EAC})$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $3|DE| = |BD|$
 $|DC| = 4 \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) 4 B) 8 C) 12 D) 16 E) 20

8.  $m(\widehat{BAD}) = 30^\circ + \alpha$
 $m(\widehat{DAC}) = 120^\circ - 2\alpha$
 $|AC| = 8 \text{ br}$
 $|DC| = 5 \text{ br}$
 $|AD| = 4 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) $\sqrt{6}$ B) 3 C) $3\sqrt{2}$ D) 6 E) 12

9. 

$$m(\widehat{FEC}) = m(\widehat{BEC})$$

$$m(\widehat{FAC}) = m(\widehat{CAB})$$

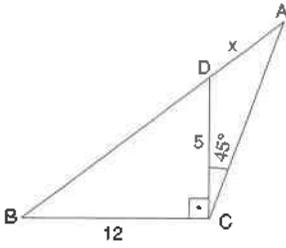
$$|AE| = 8 \text{ br}$$

$$|AB| = 6 \text{ br}$$

$$|DB| = 3 \text{ br}$$

$$\Rightarrow |DC| = x = ?$$

A) 3 B) 4 C) 6 D) 8 E) 12

13. 

$$[BC] \perp [CD]$$

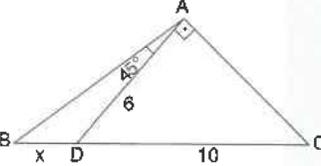
$$m(\widehat{DCA}) = 45^\circ$$

$$|BC| = 12 \text{ br}$$

$$|DC| = 5 \text{ br}$$

$$\Rightarrow |AD| = x = ?$$

A) $\frac{65}{17}$ B) $\frac{65}{7}$ C) 12 D) 13 E) 15

10. 

$$[DA] \perp [AC]$$

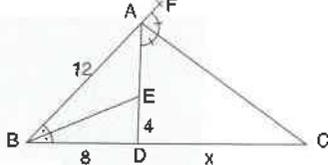
$$m(\widehat{BAD}) = 45^\circ$$

$$|AD| = 6 \text{ br}$$

$$|DC| = 10 \text{ br}$$

$$\Rightarrow |BD| = x = ?$$

A) 10 B) 15 C) 30 D) 45 E) 60

14. 

$$m(\widehat{FAC}) = m(\widehat{CAD})$$

$$m(\widehat{FBE}) = m(\widehat{EBC})$$

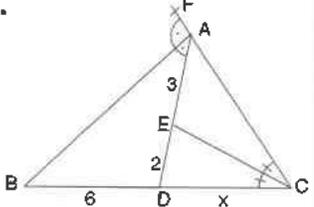
$$|ED| = 4 \text{ br}$$

$$|AB| = 12 \text{ br}$$

$$|BD| = 8 \text{ br}$$

$$\Rightarrow |DC| = x = ?$$

A) 5 B) 10 C) 20 D) 30 E) 40

11. 

$$m(\widehat{FAB}) = m(\widehat{BAD})$$

$$m(\widehat{ACE}) = m(\widehat{ECB})$$

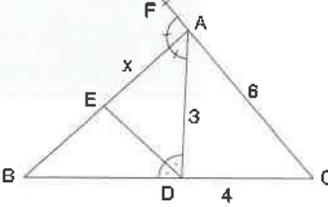
$$|AE| = 3 \text{ br}$$

$$|ED| = 2 \text{ br}$$

$$|BD| = 6 \text{ br}$$

$$\Rightarrow |DC| = x = ?$$

A) $\frac{5}{2}$ B) 5 C) 8 D) $\frac{15}{2}$ E) $\frac{15}{14}$

15. 

$$m(\widehat{FAB}) = m(\widehat{BAD})$$

$$m(\widehat{ADE}) = m(\widehat{EDB})$$

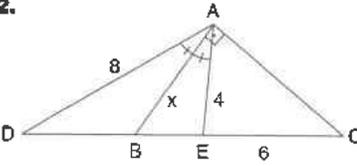
$$|AC| = 6 \text{ br}$$

$$|DC| = 4 \text{ br}$$

$$|AD| = 3 \text{ br}$$

$$\Rightarrow |AE| = x = ?$$

A) $\frac{\sqrt{7}}{2}$ D) $\frac{\sqrt{14}}{7}$ B) $\frac{\sqrt{7}}{3}$ E) $\frac{3\sqrt{14}}{7}$ C) $\frac{\sqrt{14}}{2}$

12. 

$$m(\widehat{DAB}) = m(\widehat{BAE})$$

$$[BA] \perp [AC]$$

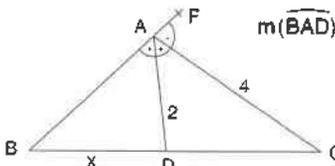
$$|AE| = 4 \text{ br}$$

$$|EC| = 6 \text{ br}$$

$$|AD| = 8 \text{ br}$$

$$\Rightarrow |AB| = x = ?$$

A) 2 B) $2\sqrt{3}$ C) $3\sqrt{2}$ D) $2\sqrt{6}$ E) $3\sqrt{6}$

16. 

$$m(\widehat{BAD}) = m(\widehat{DAC}) = m(\widehat{CAF})$$

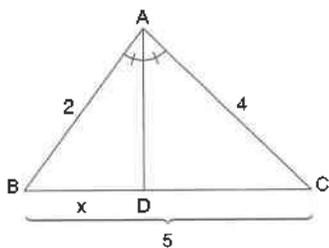
$$|AC| = 4 \text{ br}$$

$$|AD| = 2 \text{ br}$$

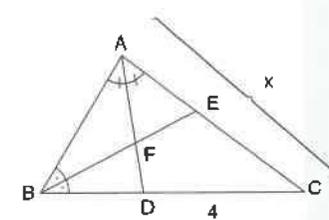
$$\Rightarrow |BD| = x = ?$$

A) 1 B) $\sqrt{3}$ C) 2 D) $2\sqrt{3}$ E) $\sqrt{6}$

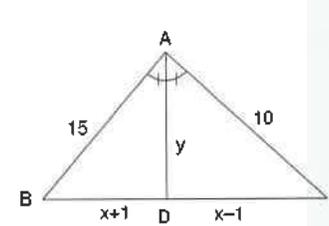
PUZAYAYINLARI

1.  $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AB| = 2 \text{ br}$
 $|AC| = 4 \text{ br}$
 $|BC| = 5 \text{ br}$
 $\Rightarrow |BD| = x = ?$

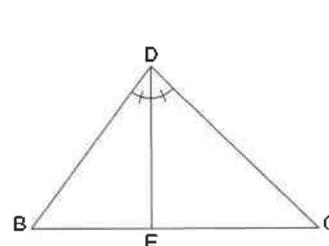
A) 1 B) $\frac{5}{3}$ C) 3 D) $\frac{10}{3}$ E) 4

2.  $2|AF| = 3|FD|$
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $|DC| = 4 \text{ br}$
 $\Rightarrow |AC| = x = ?$

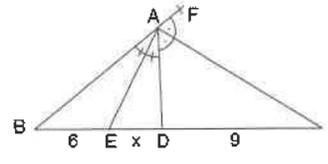
A) 1 B) 3 C) 4 D) 6 E) 9

3.  $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AB| = 15 \text{ br}$
 $|AC| = 10 \text{ br}$
 $|BD| = x + 1$
 $|DC| = x - 1$
 $\Rightarrow |AD| = y = ?$

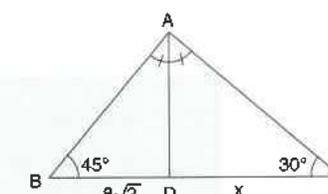
A) $\sqrt{7}$ B) $2\sqrt{7}$ C) $\sqrt{17}$ D) $3\sqrt{14}$ E) $9\sqrt{17}$

4.  $m(\widehat{BDE}) = m(\widehat{EDC})$
 $2|BD| = 3|DC| = 24$
 $|DE| = 6\sqrt{2} \text{ br}$
 $\Rightarrow |BC| = ?$

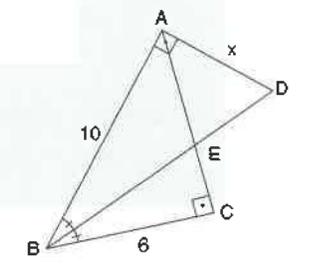
A) 8 B) 10 C) 12 D) 16 E) 20

5.  $m(\widehat{FAC}) = m(\widehat{CAD})$
 $m(\widehat{DAE}) = m(\widehat{EAB})$
 $|DC| = 9 \text{ br}$
 $|BE| = 6 \text{ br}$
 $\Rightarrow |ED| = x = ?$

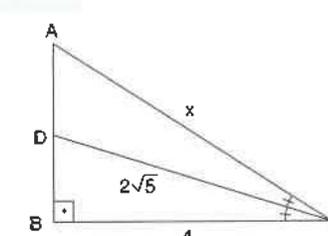
A) 1 B) 3 C) 4 D) 6 E) 9

6.  $m(\widehat{BAD}) = m(\widehat{DAC})$
 $m(\widehat{ABC}) = 45^\circ$
 $m(\widehat{ACB}) = 30^\circ$
 $|BD| = 8\sqrt{2} \text{ br}$
 $\Rightarrow |DC| = x = ?$

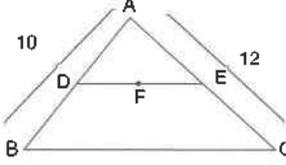
A) 16 B) $8\sqrt{2}$ C) 8 D) $4\sqrt{2}$ E) 4

7.  $m(\widehat{BAD}) = m(\widehat{DAC})$
 $[BA] \perp [AD]$
 $[AC] \perp [BC]$
 $|AB| = 10 \text{ br}$
 $|BC| = 6 \text{ br}$
 $\Rightarrow |AD| = x = ?$

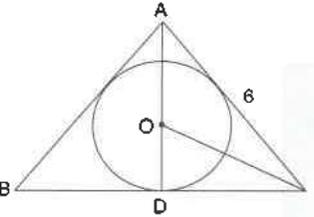
A) 1 B) 2 C) 3 D) 4 E) 5

8.  $m(\widehat{ACD}) = m(\widehat{DCB})$
 $[AB] \perp [BC]$
 $|BC| = 4 \text{ br}$
 $|DC| = 2\sqrt{5} \text{ br}$
 $\Rightarrow |AC| = x = ?$

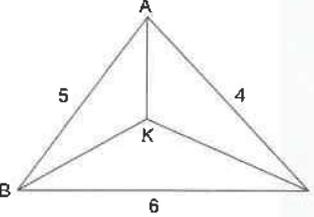
A) 4 B) 6 C) $\frac{10}{3}$ D) $\frac{20}{3}$ E) 10

9.  F noktası iç teğet çemberin merkezi
F, the central point of the inner tangential circle
 $[DE] \parallel [BC]$
 $|AB| = 10$ br
 $|AC| = 12$ br
 $\Rightarrow \angle(ADE) = ?$

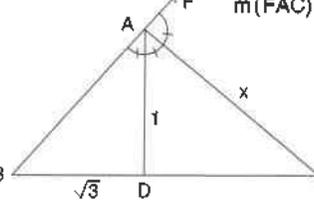
A) 10 B) 12 C) 22 D) 44 E) 66

10.  ABC Eşkenar üçgen
ABC equilateral triangle
 O iç teğet çemberin merkezi
O, the central point of the inner tangential circle
 $|AC| = 6$ br
 $\Rightarrow |OC| = ?$

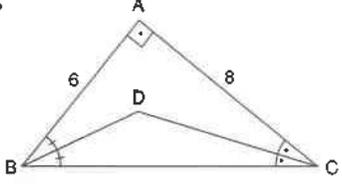
A) $\sqrt{6}$ B) $\sqrt{3}$ C) $2\sqrt{3}$ D) 3 E) 6

11.  K iç teğet çemberin merkezi
K, the central point of the inner tangential circle
 $|AC| = 4$ br
 $|BC| = 6$ br
 $|AB| = 5$ br
 $\Rightarrow |KC| = ?$

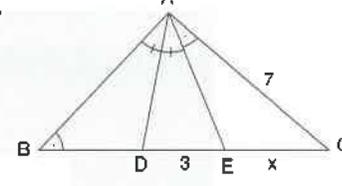
A) $2\sqrt{2}$ B) $\sqrt{3}$ C) $\sqrt{5}$ D) 3 E) 2

12.  $m(\widehat{FAC}) = m(\widehat{CAD}) = m(\widehat{DAB})$
 $|AD| = 1$ br
 $|BD| = \sqrt{3}$ br
 $\Rightarrow |AC| = x = ?$

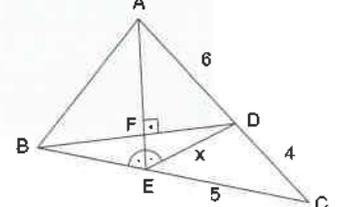
A) 1 B) $\sqrt{3}$ C) 2 D) $2\sqrt{3}$ E) 4

13.  $[AB] \perp [AC]$
 $|AB| = 6$ br
 $|AC| = 8$ br
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $\Rightarrow |BD| = ?$

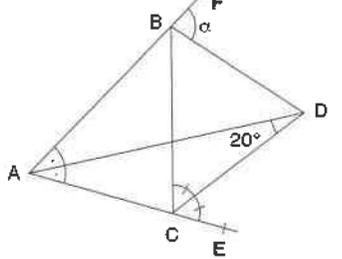
A) $\sqrt{3}$ B) $\sqrt{5}$ C) $2\sqrt{5}$ D) $3\sqrt{5}$ E) $2\sqrt{3}$

14.  $m(\widehat{BAD}) = m(\widehat{DAE})$
 $m(\widehat{ABC}) = m(\widehat{EAC})$
 $|AC| = 7$ br
 $|DE| = 3$ br
 $\Rightarrow |EC| = x = ?$

A) 2 B) 3 C) 4 D) 7 E) 10

15.  $[AF] \perp [BD]$
 $m(\widehat{BEA}) = m(\widehat{AED})$
 $|AD| = 6$ br
 $|DC| = 4$ br
 $|EC| = 5$ br
 $\Rightarrow |ED| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

16.  $m(\widehat{FAD}) = m(\widehat{DAE})$
 $m(\widehat{BCD}) = m(\widehat{DCE})$
 $m(\widehat{ADC}) = 20^\circ$
 $\Rightarrow m(\widehat{FBD}) = \alpha = ?$

A) 10 B) 20 C) 35 D) 70 E) 140



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	C	D	A	E	A	C	D	C	C	A	B	E	D	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	E	D	B	B	B	E	B	C	C	D	C	D	C	B

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	D	C	C	E	D	C	B	D	D	B	A	B	B	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	D	A	D	B	A	C	A	C	A	B	A	C	B	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	C	C	E	E	C	C	C	E	A	B	D	C	D	E

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	D	A	B	A	D	C	C	C	D	D	B	E	E	D

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	D	B	B	A	E	D	C	C	A	C	C	C	C	D

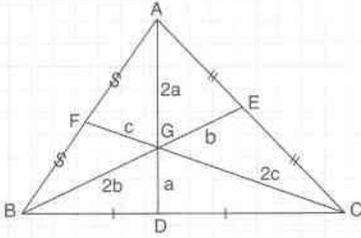


KENARORTAY

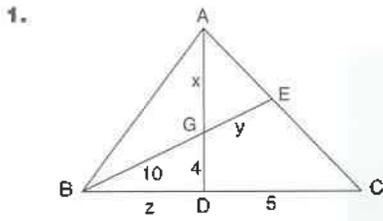
MEDIAN

KENARORTAY

ÖZELLİK | Property 1

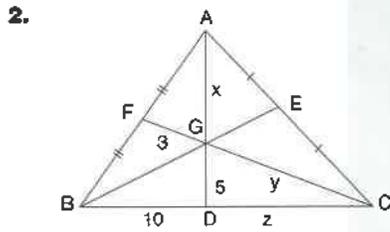


$|AD| = V_a$
 $|BE| = V_b$
 $|CF| = V_c$
 G ağırlık merkezi
 G, center of gravity



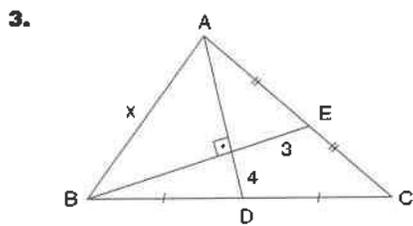
G ağırlık merkezi
 G, center of gravity
 $\Rightarrow x + y + z = ?$

18



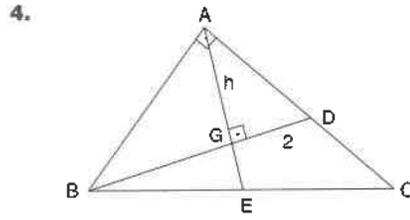
$\Rightarrow x + y + z = ?$

26



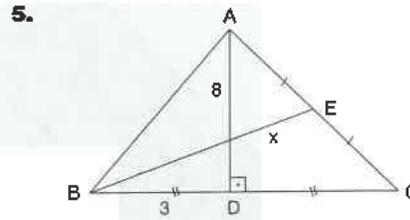
$\Rightarrow x = ?$

10



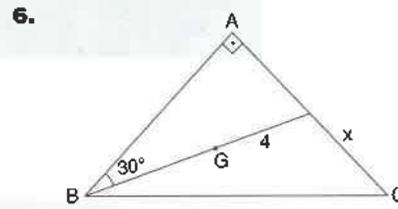
G ağırlık merkezi
 G, center of gravity
 $\Rightarrow h = ?$

$2\sqrt{2}$



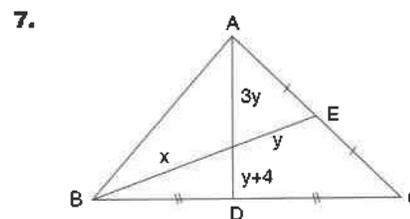
$\Rightarrow x = ?$

10/3



G ağırlık merkezi
 G, center of gravity
 $\Rightarrow x = ?$

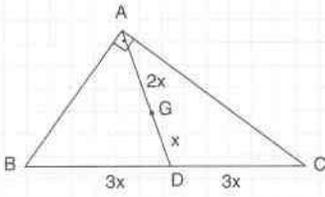
6



$\Rightarrow x = ?$

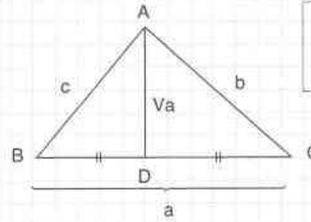
16

ÖZELLİK | Property 2



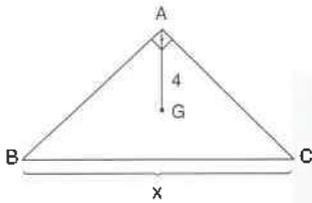
G ağırlık merkezi
G, center of gravity

ÖZELLİK | Property 3



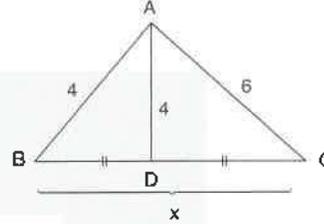
$$2(Va)^2 = b^2 + c^2 - \frac{a^2}{2}$$

1.



G ağırlık merkezi
G, center of gravity
 $\Rightarrow x = ?$

1.



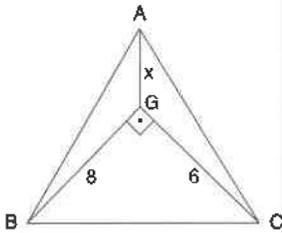
$\Rightarrow x = ?$

12

$2\sqrt{10}$

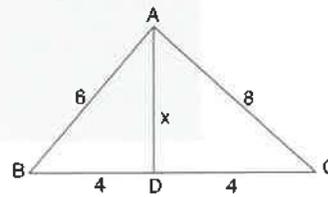
PUZAYANILARI

2.



G ağırlık merkezi
G, center of gravity
 $\Rightarrow x = ?$

2.

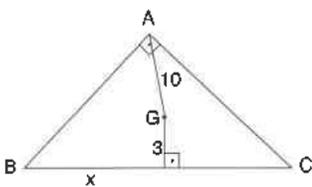


$\Rightarrow x = ?$

10

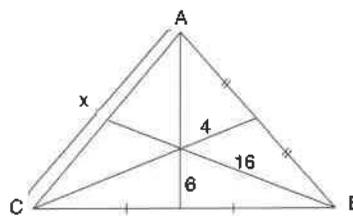
$\sqrt{34}$

3.



G ağırlık merkezi
G, center of gravity
 $\Rightarrow x = ?$

3.



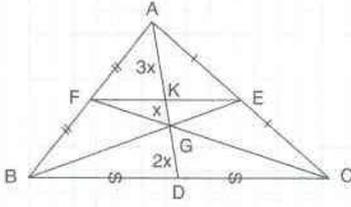
$\Rightarrow x = ?$

11

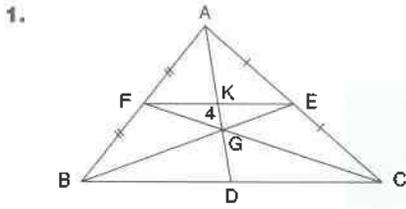
$4\sqrt{10}$

KENARORTAY

ÖZELLİK | Property 4

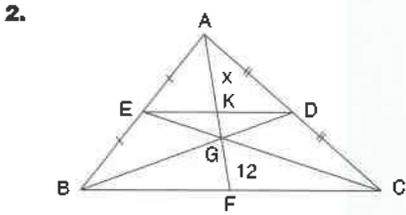


G ağırlık merkezi
G, center of gravity



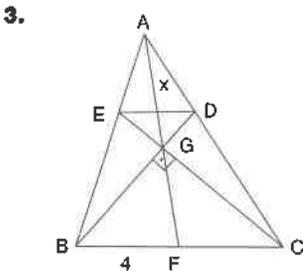
$$\Rightarrow |AD| = ?$$

24



$$\Rightarrow x = ?$$

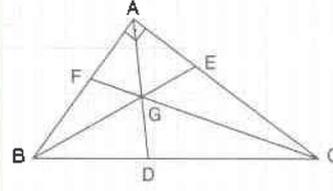
18



G ağırlık merkezi
G, center of gravity
 $\Rightarrow x = ?$

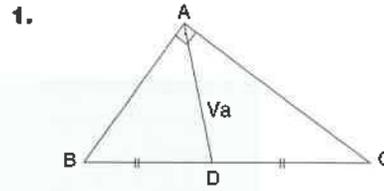
6

ÖZELLİK | Property 5



$|AD| = V_a$
 $|BE| = V_b$
 $|CF| = V_c$
G ağırlık merkezi
G, center of gravity

$$5V_a^2 = V_b^2 + V_c^2$$

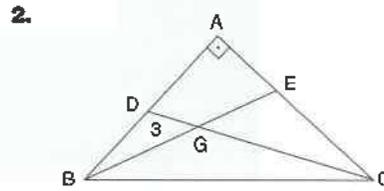


$$V_b = 12 \text{ br}$$

$$V_c = 9 \text{ br}$$

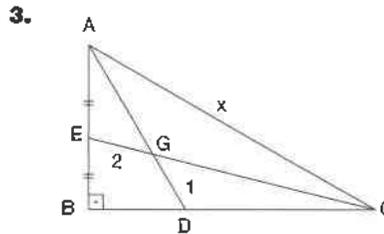
$$\Rightarrow V_a = ?$$

$3\sqrt{5}$



G ağırlık merkezi
G, center of gravity
 $|BE| = 7 \text{ br}$
 $\Rightarrow V_a = ?$

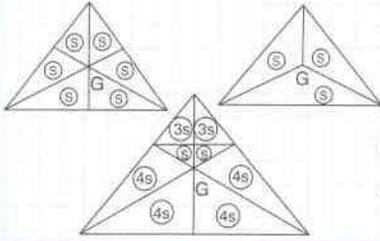
$\sqrt{26}$



G ağırlık merkezi
G, center of gravity
 $\Rightarrow x = ?$

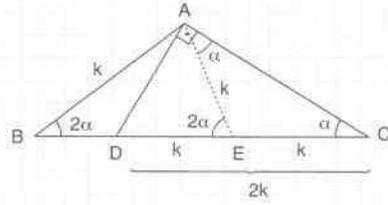
6

ÖZELLİK | Property 6



G ağırlık merkezi
G, center of gravity

ÖZELLİK | Property 7



1. $\Rightarrow A(ABC) = ?$

60

1. $\Rightarrow \alpha = ?$

45

PUZAYAYINLARI

2. $A(KEL) = 4 br^2$
 $\Rightarrow A(ABC) = ?$

96

2. $\Rightarrow x = ?$

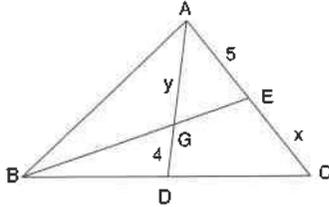
4

3. $A(ABC) = 120 br^2$
G ağırlık merkezi
G, center of gravity
 $\Rightarrow A(BGD) = ?$

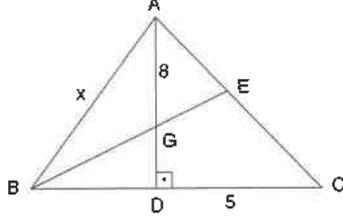
20

3. $\Rightarrow \alpha = ?$

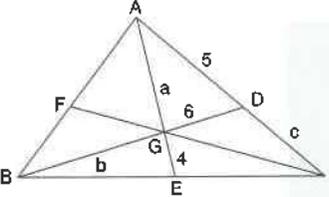
40

1.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $|AE| = 5$ br
 $|GD| = 4$ br
 $|EC| = x$
 $|AG| = y$
 $\Rightarrow y - x = ?$

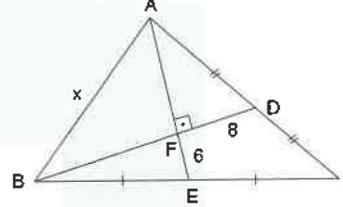
A) 1 B) 2 C) 3 D) 5 E) 9

5.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[AD] \perp [BC]$
 $|AG| = 8$ br
 $|DC| = 5$ br
 $\Rightarrow |AB| = x = ?$

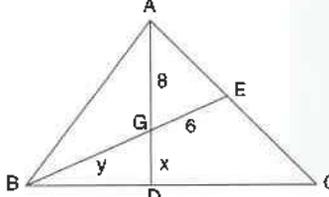
A) 3 B) 5 C) 12 D) 13 E) 15

2.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $|AD| = 5$ br
 $|GE| = 4$ br
 $|GD| = 6$ br
 $|AG| = a$
 $|BG| = b$
 $|DC| = c$
 $\Rightarrow \frac{a+b}{c} = ?$

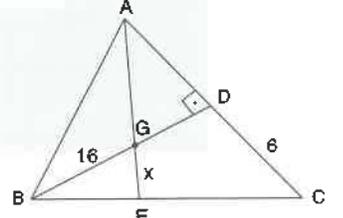
A) 1 B) $\frac{7}{5}$ C) 2 D) $\frac{14}{5}$ E) 4

6.  $[AE] \perp [BD]$
 $|AD| = |DC|$
 $|BE| = |EC|$
 $|FD| = 8$ br
 $|FE| = 6$ br
 $\Rightarrow |AB| = x = ?$

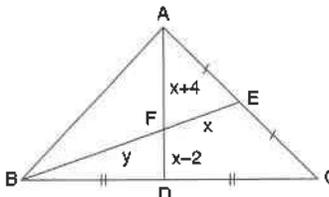
A) 2 B) 4 C) 5 D) 10 E) 20

3.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $|AG| = 8$ br
 $|GE| = 6$ br
 $|BG| = y$
 $|GD| = x$
 $\Rightarrow y - x = ?$

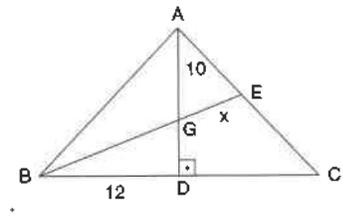
A) 1 B) 4 C) 6 D) 8 E) 10

7.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[BD] \perp [AC]$
 $|BG| = 16$ br
 $|DC| = 6$ br
 $\Rightarrow |GE| = x = ?$

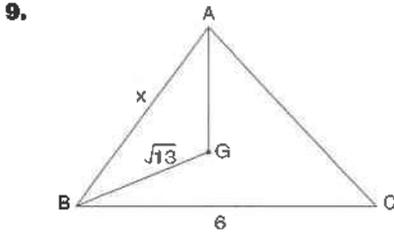
A) 5 B) 10 C) 12 D) 13 E) 15

4.  $|AE| = |EC|$
 $|BD| = |DC|$
 $|AF| = (x + 4)$ br
 $|FD| = (x - 2)$ br
 $|FE| = x$ br
 $\Rightarrow |BF| = y = ?$

A) 16 B) 12 C) 10 D) 8 E) 4

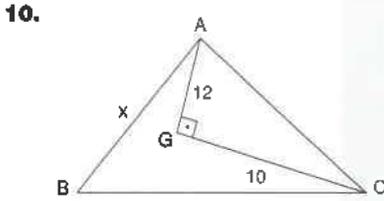
8.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[AD] \perp [BC]$
 $|AG| = 10$ br
 $|BD| = 12$ br
 $\Rightarrow |GE| = x = ?$

A) 26 B) 13 C) $\frac{13}{2}$ D) $\frac{13}{4}$ E) $\frac{13}{8}$



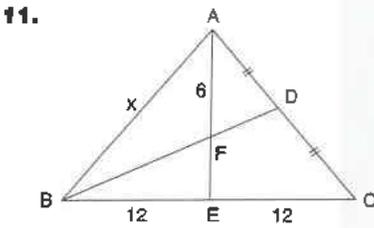
G, ABC üçgeninin
ağırlık merkezi
G, center of gravity
ABC triangle's
 $|AB| = |AC|$
 $|BC| = 6$ br
 $|BG| = \sqrt{13}$
 $\Rightarrow |AB| = x = ?$

- A) 13 B) 10 C) 8 D) $3\sqrt{5}$ E) $6\sqrt{5}$



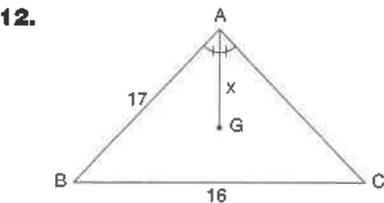
G, ABC üçgeninin
ağırlık merkezi
G, center of gravity
ABC triangle's
 $[AG] \perp [GC]$
 $|AG| = 12$ br
 $|GC| = 10$ br
 $\Rightarrow |AB| = x = ?$

- A) 26 B) 20 C) 16 D) 13 E) 10



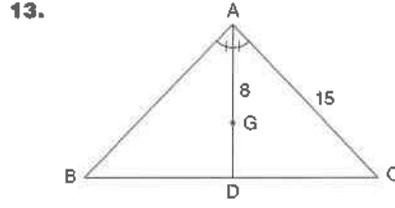
$|AB| = |AC|$
 $|AD| = |DC|$
 $|BE| = |EC| = 12$ br
 $|AF| = 6$ br
 $\Rightarrow |AB| = x = ?$

- A) $15\sqrt{3}$ B) 15 C) $10\sqrt{3}$ D) 10 E) 5



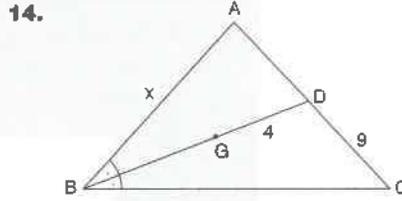
G, ABC üçgeninin
ağırlık merkezi
G, center of gravity
ABC triangle's
 $m(\widehat{BAG}) = m(\widehat{GAC})$
 $|AB| = 17$ br
 $|BC| = 16$ br
 $\Rightarrow |AG| = x = ?$

- A) 30 B) 20 C) 15 D) 10 E) 5



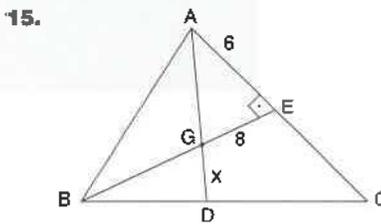
G, ABC üçgeninin
ağırlık merkezi
G, center of gravity
ABC triangle's
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AC| = 15$ br
 $|AG| = 8$ br
 $\Rightarrow |BC| = ?$

- A) 20 B) 18 C) 15 D) 12 E) 10



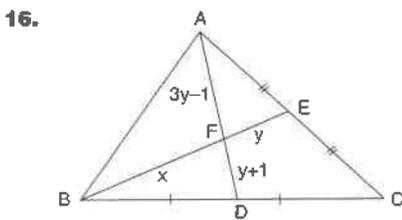
G, ABC üçgeninin
ağırlık merkezi
G, center of gravity
ABC triangle's
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $|DC| = 9$ br
 $|GD| = 4$ br
 $\Rightarrow |AB| = x = ?$

- A) 25 B) 20 C) 15 D) 10 E) 5



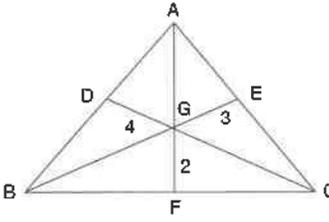
G, ABC üçgeninin
ağırlık merkezi
G, center of gravity
ABC triangle's
 $|AE| = 6$ br
 $|GE| = 8$ br
 $\Rightarrow |GD| = x = ?$

- A) 20 B) 10 C) $\frac{15}{2}$ D) 5 E) $\frac{5}{2}$

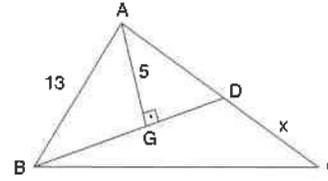


$|AE| = |EC|$
 $|BD| = |DC|$
 $|AF| = (3y - 1)$ br
 $|FD| = (y + 1)$ br
 $|FE| = y$ br
 $\Rightarrow |BF| = x = ?$

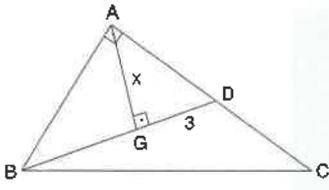
- A) 3 B) 6 C) 8 D) 9 E) 11

1.  G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $|DG| = 4$ br
 $|GE| = 3$ br
 $|GF| = 2$ br
 $\Rightarrow V_a + V_b + V_c = ?$

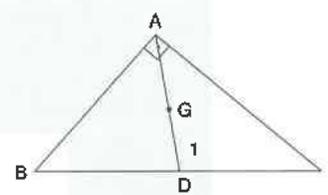
A) 30 B) 27 C) 18 D) 9 E) $\frac{9}{2}$

5.  G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $[AG] \perp [BD]$
 $|AG| = 5$ br
 $|AB| = 13$ br
 $\Rightarrow |DC| = x = ?$

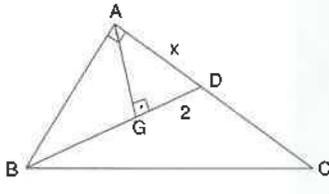
A) 13 B) 10 C) $\sqrt{61}$ D) 7 E) $\sqrt{11}$

2.  G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $[BD] \perp [AG]$
 $|GD| = 3$ br
 $\Rightarrow |AG| = x = ?$

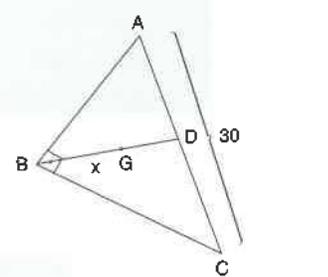
A) $\sqrt{3}$ B) 3 C) $3\sqrt{2}$ D) $\sqrt{6}$ E) $6\sqrt{2}$

6.  G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $|GD| = 1$ br
 $\Rightarrow |BC| = ?$

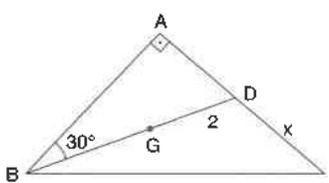
A) 1 B) 2 C) 3 D) 6 E) 9

3.  G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $[BA] \perp [AD]$
 $[BD] \perp [AG]$
 $|GD| = 2$ br
 $\Rightarrow |AD| = x = ?$

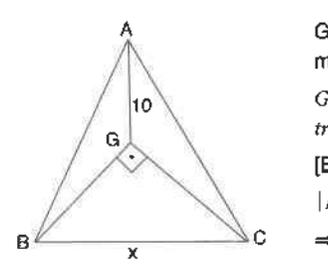
A) $\sqrt{2}$ B) $\sqrt{3}$ C) $\sqrt{6}$ D) $2\sqrt{3}$ E) $3\sqrt{2}$

7.  G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $[AB] \perp [BC]$
 $|AC| = 30$ br
 $\Rightarrow |BG| = x = ?$

A) 5 B) 10 C) 15 D) 20 E) 30

4.  G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $m(\widehat{ABD}) = 30^\circ$
 $|GD| = 2$ br
 $\Rightarrow |DC| = x = ?$

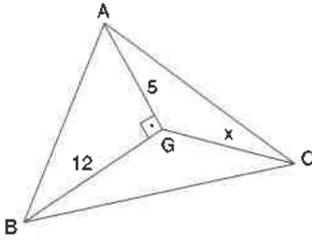
A) 1 B) 2 C) $2\sqrt{3}$ D) 3 E) $3\sqrt{3}$

8.  G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $[BG] \perp [GC]$
 $|AG| = 10$ br
 $\Rightarrow |BC| = x = ?$

A) 5 B) 10 C) 15 D) 20 E) 30

PUZAYANILARI

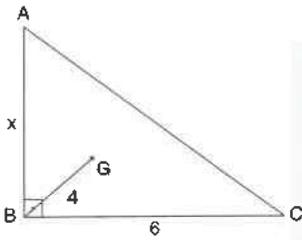
9.



G, ABC üçgeninin
ağırlık merkezi
G, center of gravity
ABC triangle's
 $[AG] \perp [GB]$
 $|AG| = 5$ br
 $|BG| = 12$ br
 $\Rightarrow |GC| = x = ?$

- A) 5 B) 12 C) 13 D) 20 E) $\frac{26}{3}$

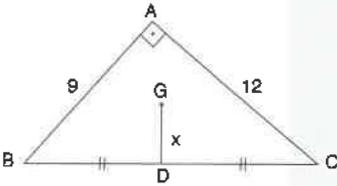
10.



G, ABC üçgeninin
ağırlık merkezi
G, center of gravity
ABC triangle's
 $[AB] \perp [BC]$
 $|BG| = 4$ br
 $|BC| = 6$ br
 $\Rightarrow |AB| = x = ?$

- A) 6 B) 10 C) 12 D) $6\sqrt{3}$ E) 20

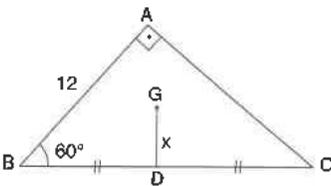
11.



G, ABC üçgeninin
ağırlık merkezi
G, center of gravity
ABC triangle's
 $|AB| = 9$ br
 $|AC| = 12$ br
 $|BD| = |DC|$
 $\Rightarrow |GD| = x = ?$

- A) 15 B) $\frac{15}{2}$ C) 5 D) $\frac{5}{2}$ E) 2

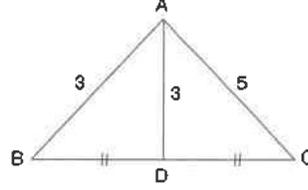
12.



G, ABC üçgeninin
ağırlık merkezi
G, center of gravity
ABC triangle's
 $[BA] \perp [AC]$
 $|BD| = |DC|$
 $|AB| = 12$ br
 $m(\widehat{ABC}) = 60^\circ$
 $\Rightarrow |GD| = x = ?$

- A) $\sqrt{3}$ B) 4 C) 6 D) $6\sqrt{3}$ E) $12\sqrt{3}$

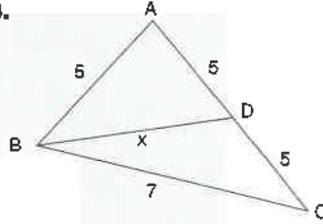
13.



$|BD| = |DC|$
 $|AB| = |AD| = 3$ br
 $|AC| = 5$ br
 $\Rightarrow |BC| = ?$

- A) $4\sqrt{2}$ B) 4 C) $3\sqrt{2}$ D) 3 E) 2

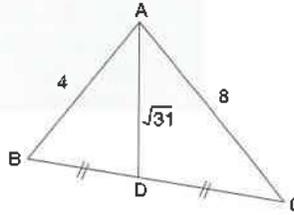
14.



$|AB| = |AD| = |DC| = 5$ br
 $|BC| = 7$ br
 $\Rightarrow |BD| = x = ?$

- A) $2\sqrt{3}$ B) 8 C) $4\sqrt{3}$ D) 6 E) 2

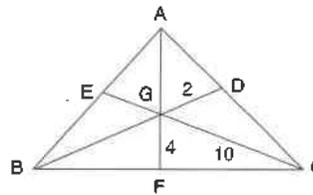
15.



$|BD| = |DC|$
 $2|AB| = |AC| = 8$ br
 $|AD| = \sqrt{31}$ br
 $\Rightarrow |BC| = ?$

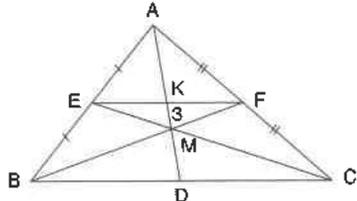
- A) 3 B) $3\sqrt{3}$ C) $4\sqrt{3}$ D) 6 E) 12

16.

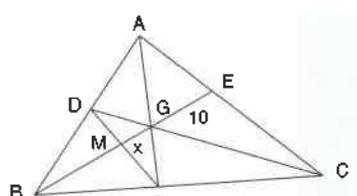


G, ABC üçgeninin
ağırlık merkezi
G, center of gravity ABC
triangle's
 $|GD| = 2$ br
 $|GF| = 4$ br
 $|GC| = 10$ br
 $\Rightarrow |AB| = ?$

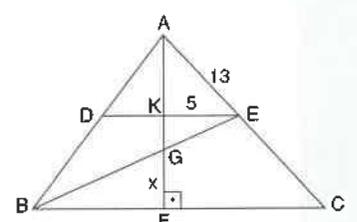
- A) $\sqrt{15}$ B) $2\sqrt{15}$ C) $4\sqrt{15}$ D) 15 E) 30

1.  $|AE| = |EB|$
 $|AF| = |FC|$
 $|KM| = 3 \text{ br}$
 $\Rightarrow |AD| = ?$

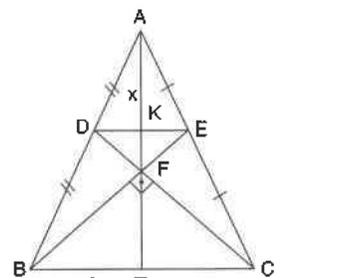
A) 6 B) 9 C) 15 D) 18 E) 24

2.  $G, ABC \text{ üçgeninin}$
ağırlık merkezi
G, center of gravity
ABC triangle's
 $|GE| = 10 \text{ br}$
 $\Rightarrow |MG| = x = ?$

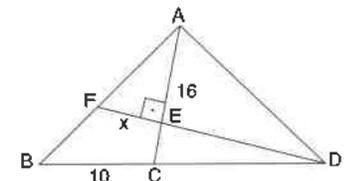
A) 5 B) 10 C) 15 D) 25 E) 30

3.  $G, ABC \text{ üçgeninin}$
ağırlık merkezi
G, center of gravity
ABC triangle's
 $[AF] \perp [BC]$
 $[DE] \parallel [BC]$
 $|KE| = 5 \text{ br}$
 $|AE| = 13 \text{ br}$
 $\Rightarrow |GF| = x = ?$

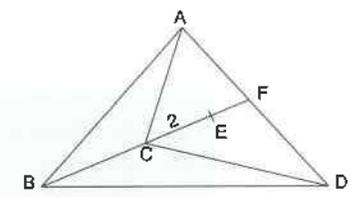
A) 4 B) 8 C) 12 D) 16 E) 20

4.  $|AD| = |DB|$
 $|AE| = |EC|$
 $[BF] \perp [FC]$
 $|BT| = 6 \text{ br}$
 $\Rightarrow |AK| = x = ?$

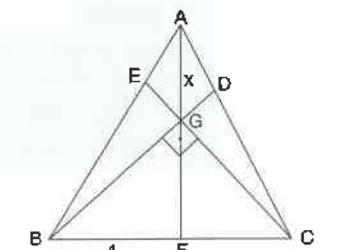
A) 3 B) 6 C) 8 D) 9 E) 12

5.  $E, \text{ Ağırlık merkezi}$
E, center of gravity
 $[AE] \perp [FD]$
 $|AE| = 16 \text{ br}$
 $|BC| = 10 \text{ br}$
 $|FE| = x$
 $\Rightarrow x = ?$

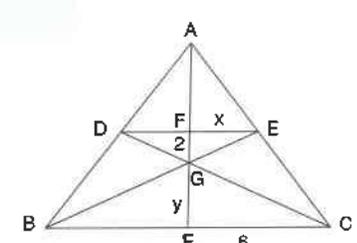
A) 12 B) 6 C) 5 D) 3 E) 2

6.  $C, ABD \text{ üçgeninin}$
ağırlık merkezi
C, center of gravity
ABD triangle's
 $E, ACD \text{ üçgeninin}$
ağırlık merkezi
E, center of gravity
ACD triangle's
 $|CE| = 2 \text{ br}$
 $\Rightarrow |BC| = ?$

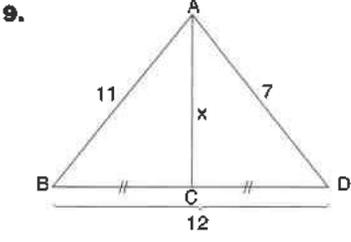
A) 3 B) 6 C) 9 D) 10 E) 12

7.  $G, \text{ ağırlık merkezi}$
G, center of gravity
 $[BG] \perp [EC]$
 $|BF| = 4 \text{ br}$
 $|AG| = x$
 $\Rightarrow x = ?$

A) 1 B) 2 C) 4 D) 6 E) 8

8.  $G, ABC \text{ üçge-}$
ninin ağırlık
merkezi
G, center of gravity
ABC triangle's
 $|FG| = 2 \text{ br}$
 $|FC| = 6 \text{ br}$
 $|FE| = x$
 $|GF| = y$
 $\Rightarrow x + y = ?$

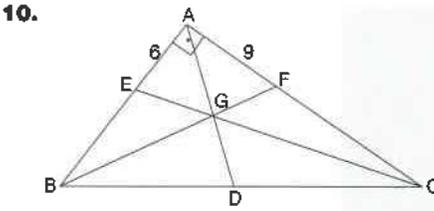
A) 6 B) 7 C) 9 D) 10 E) 12



[AC] kenarortay
 [AC] median
 $|BC| = |CD|$
 $|AD| = 7$ br
 $|AB| = 11$ br
 $|BD| = 12$ br
 $|AC| = x$
 $\Rightarrow x = ?$

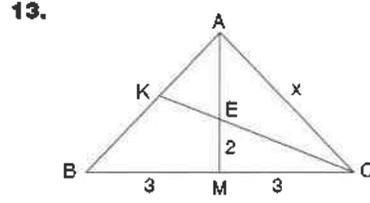
- A) 7 B) 6 C) 5

- D) $2\sqrt{7}$ E) $2\sqrt{6}$



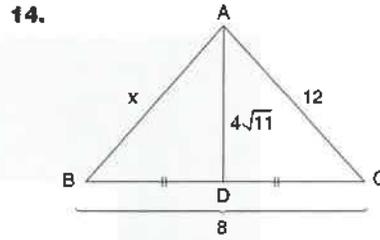
G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $|AE| = 6$ br
 $|AF| = 9$ br
 $\Rightarrow |DG| = ?$

- A) $\sqrt{13}$ B) $2\sqrt{13}$ C) $2\sqrt{3}$ D) 10 E) 15



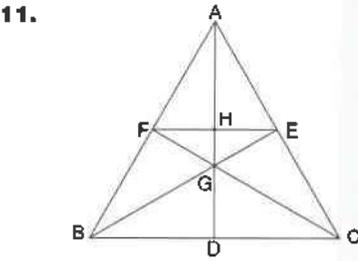
$2|AK| = 2|KB| = 5$ br
 $|BM| = |MC| = 3$ br
 $|EM| = 2$ br
 $\Rightarrow |AC| = x = ?$

- A) 4 B) $\sqrt{19}$ C) 5 D) $\sqrt{29}$ E) $\sqrt{65}$



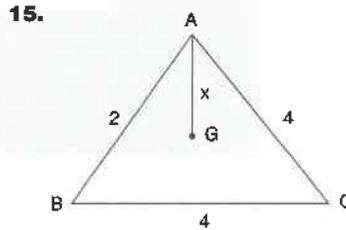
$|BD| = |DC|$
 $|AC| = 12$ br
 $|BC| = 8$ br
 $|AD| = 4\sqrt{11}$ br
 $\Rightarrow |AB| = x = ?$

- A) 4 B) $2\sqrt{15}$ C) 8 D) 10 E) $4\sqrt{15}$



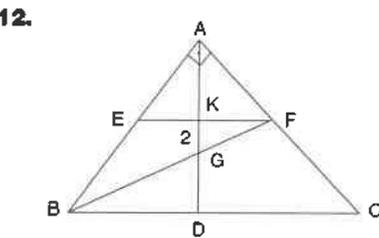
G, ağırlık merkezi
 G, center of gravity
 $|GD| = 3$ br
 $\Rightarrow |AD| = ?$

- A) 9 B) 8 C) 6 D) 4 E) 3



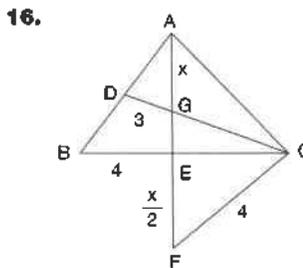
G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $|AB| = 2$ br
 $|AC| = |BC| = 4$ br
 $\Rightarrow |AG| = x = ?$

- A) $\frac{\sqrt{6}}{3}$ B) $\sqrt{6}$ C) $\frac{2\sqrt{6}}{3}$ D) $2\sqrt{6}$ E) 12



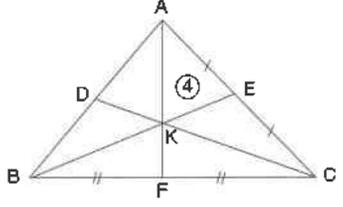
G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $[EF] \parallel [BC]$
 $|KG| = 2$ br
 $\Rightarrow |KF| = ?$

- A) 2 B) 3 C) 4 D) 6 E) 12

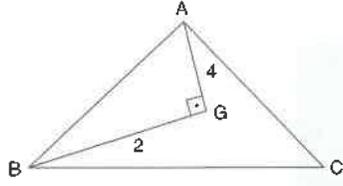


G, ABC üçgeninin ağırlık merkezi
 G, center of gravity ABC triangle's
 $|BE| = |FC| = 4$ br
 $|DG| = 3$ br
 $|EF| = \frac{x}{2}$
 $\Rightarrow |AG| = x = ?$

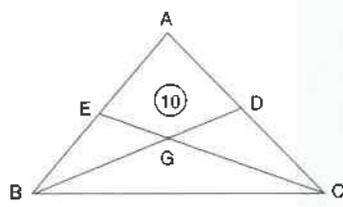
- A) $\sqrt{10}$ B) $2\sqrt{10}$ C) 7 D) 10 E) $4\sqrt{10}$

1.  $|AE| = |EC|$
 $|BF| = |FC|$
 $A(AKE) = 4 \text{ br}^2$
 $\Rightarrow A(ABC) = ?$

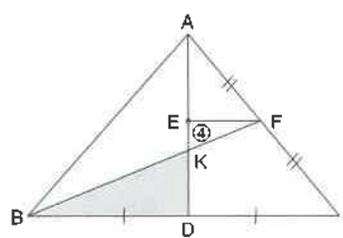
A) 8 B) 16 C) 24 D) 48 E) 96

2.  $G, ABC \text{ üçgeninin}$
ağırlık merkezi
G, center of gravity
ABC triangle's
 $[AG] \perp [BG]$
 $|AG| = 4 \text{ br}$
 $|BG| = 2 \text{ br}$
 $\Rightarrow A(ABC) = ?$

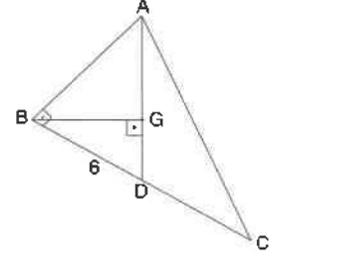
A) 4 B) 8 C) 12 D) 16 E) 20

3.  $G, ABC \text{ üçgeninin}$
ağırlık merkezi
G, center of gravity
ABC triangle's
 $A(AEGD) = 10 \text{ br}^2$
 $\Rightarrow A(ABC) = ?$

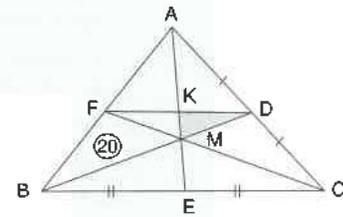
A) 5 B) 10 C) 15 D) 30 E) 60

4.  $|AF| = |FC|$
 $|BD| = |DC|$
 $[EF] \parallel [BC]$
 $A(EKF) = 4 \text{ br}^2$
 $\Rightarrow A(KBD) = ?$

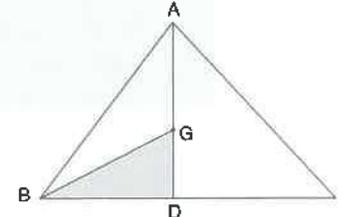
A) 4 B) 8 C) 12 D) 16 E) 20

5.  $G, ABC \text{ üçgeninin}$
ağırlık merkezi
G, center of gravity
ABC triangle's
 $[AB] \perp [BC]$
 $[BG] \perp [AD]$
 $|BD| = 6 \text{ br}$
 $\Rightarrow |AB| = ?$

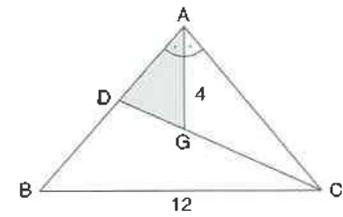
A) $4\sqrt{3}$ B) $2\sqrt{2}$ C) $6\sqrt{3}$ D) 36 E) $6\sqrt{2}$

6.  $|AD| = |DC|$
 $|BE| = |EC|$
 $A(BFM) = 20 \text{ br}^2$
 $\Rightarrow A(KDM) = ?$

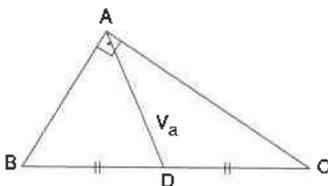
A) 5 B) 10 C) 15 D) 20 E) 40

7.  $G, ABC \text{ üçgeninin}$
ağırlık merkezi
G, center of gravity
ABC triangle's
 $A(ABC) = 90 \text{ br}^2$
 $\Rightarrow A(BGD) = ?$

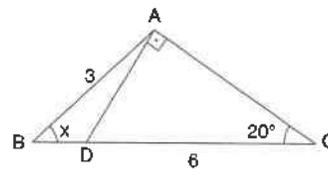
A) 4 B) 5 C) 10 D) 12 E) 15

8.  $G, ABC \text{ üçgeninin}$
ağırlık merkezi
G, center of gravity
ABC triangle's
 $m(\widehat{BAG}) = m(\widehat{GAC})$
 $|AG| = 4 \text{ br}$
 $|BC| = 12 \text{ br}$
 $\Rightarrow A(ADG) = ?$

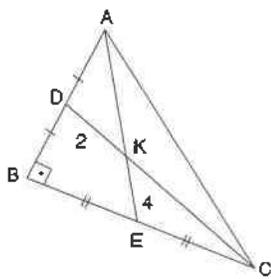
A) 2 B) 3 C) 6 D) 9 E) 12

9.  $[BA] \perp [AC]$
 $|BD| = |DC|$
 $V_b = 4 \text{ br}$
 $V_c = 3 \text{ br}$
 $\Rightarrow |AD| = V_a = ?$

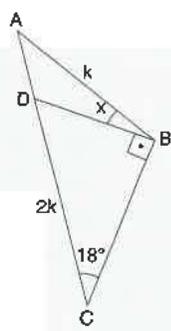
A) $\frac{\sqrt{5}}{2}$ B) $\sqrt{5}$ C) $2\sqrt{5}$ D) 5 E) 10

13.  $[DA] \perp [AC]$
 $2|AB| = |DC| = 6 \text{ br}$
 $m(\widehat{ACB}) = 20^\circ$
 $\Rightarrow m(\widehat{ABC}) = x = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

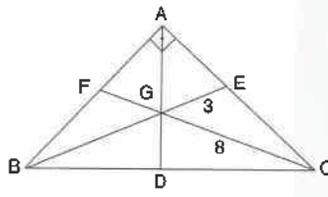
10.  $V_b, [AC]$ kenanna ait kenarortay
 V_b , median of $[AC]$
 $[AB] \perp [BC]$
 $|AD| = |BD|$
 $|BE| = |EC|$
 $|DK| = 2 \text{ br}$
 $|KE| = 4 \text{ br}$
 $\Rightarrow V_b = ?$

A) $\sqrt{5}$ B) 6 C) $3\sqrt{5}$ D) 10 E) $10\sqrt{2}$

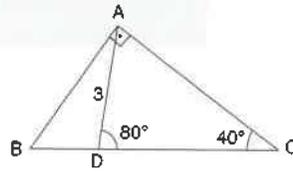
14.  $2|AB| = |DC|$
 $[DB] \perp [DC]$
 $m(\widehat{ACB}) = 18^\circ$
 $\Rightarrow m(\widehat{ABD}) = x = ?$

A) 9 B) 18 C) 36 D) 48 E) 54

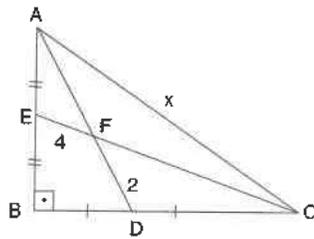
PUZAYAYINLARI

11.  G, ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $|GE| = 3 \text{ br}$
 $|GC| = 8 \text{ br}$
 $\Rightarrow |BC| = x = ?$

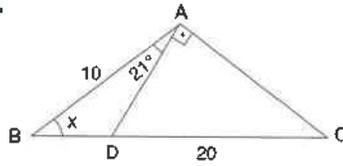
A) $\sqrt{5}$ B) $2\sqrt{5}$ C) $3\sqrt{5}$ D) $6\sqrt{5}$ E) 15

15.  $[BA] \perp [AC]$
 $m(\widehat{ADC}) = 80^\circ$
 $m(\widehat{ACB}) = 40^\circ$
 $|AD| = 3 \text{ br}$
 $\Rightarrow |BC| = ?$

A) 3 B) 6 C) 9 D) 12 E) 15

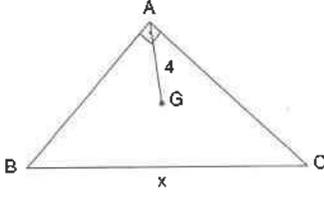
12.  $|AE| = |EB|$
 $|BD| = |DC|$
 $[AB] \perp [BC]$
 $|FD| = 2 \text{ br}$
 $|EF| = 4 \text{ br}$
 $\Rightarrow |AC| = x = ?$

A) 15 B) 12 C) $6\sqrt{5}$ D) 10 E) 20

16.  $[DA] \perp [AC]$
 $|AB| = 10 \text{ br}$
 $|DC| = 20 \text{ br}$
 $m(\widehat{BAD}) = 21^\circ$
 $\Rightarrow m(\widehat{ABC}) = x = ?$

A) 42 B) 43 C) 44 D) 45 E) 46

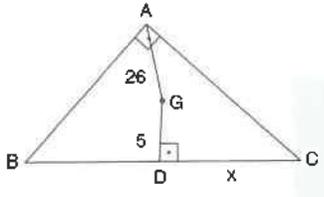
1.



- A) 12 B) 9 C) 6 D) 4 E) 3

G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $|AG| = 4 \text{ br}$
 $\Rightarrow |BC| = x = ?$

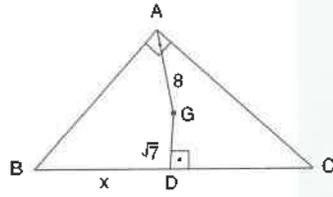
2.



- A) 13 B) 26 C) 39 D) 48 E) 51

G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $[GD] \perp [BC]$
 $|AG| = 26 \text{ br}$
 $|GD| = 5 \text{ br}$
 $\Rightarrow |DC| = x = ?$

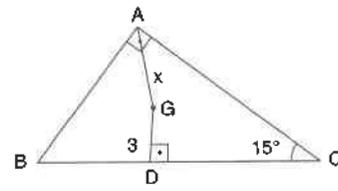
3.



- A) 3 B) 6 C) 9 D) 12 E) 16

G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $[GD] \perp [BC]$
 $|AG| = 8 \text{ br}$
 $|GD| = \sqrt{7} \text{ br}$
 $\Rightarrow |BD| = x = ?$

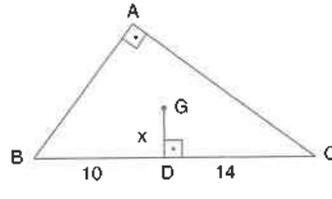
4.



- A) 12 B) 6 C) $\sqrt{6}$ D) $2\sqrt{3}$ E) $\sqrt{3}$

G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $[GD] \perp [BC]$
 $m(\widehat{ACB}) = 15^\circ$
 $|GD| = 3 \text{ br}$
 $\Rightarrow |AG| = x = ?$

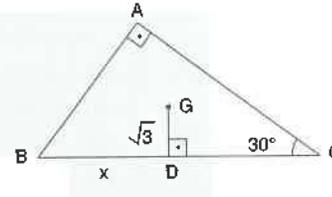
5.



- A) 1 B) 2 C) $\sqrt{3}$ D) 3 E) $2\sqrt{3}$

G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $[GD] \perp [BC]$
 $|BD| = 10 \text{ br}$
 $|DC| = 14 \text{ br}$
 $\Rightarrow |GD| = x = ?$

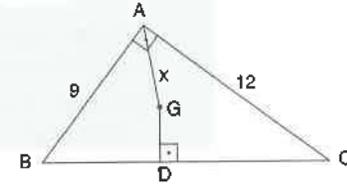
6.



- A) 1 B) 2 C) 5 D) 6 E) 12

G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $[GD] \perp [BC]$
 $|GD| = \sqrt{3} \text{ br}$
 $m(\widehat{ACB}) = 30^\circ$
 $\Rightarrow |BD| = x = ?$

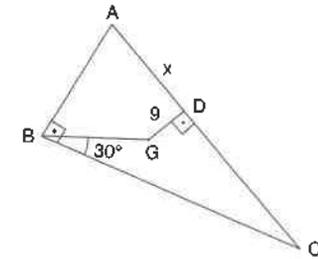
7.



- A) 5 B) $\frac{15}{2}$ C) 15 D) $\frac{5}{2}$ E) $\frac{5}{4}$

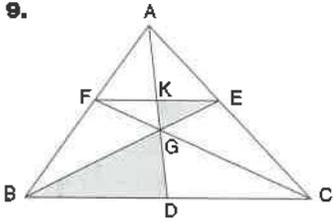
G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $[GD] \perp [BC]$
 $|AB| = 9 \text{ br}$
 $|AC| = 12 \text{ br}$
 $\Rightarrow |AG| = x = ?$

8.

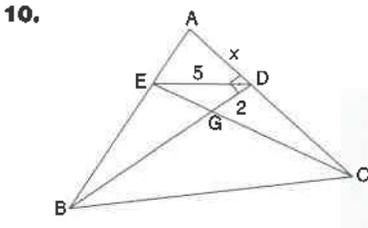


- A) $3\sqrt{3}$ B) $6\sqrt{3}$ C) $9\sqrt{3}$ D) $12\sqrt{3}$ E) $15\sqrt{3}$

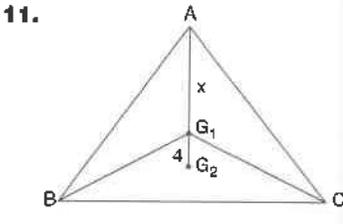
G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[AB] \perp [BC]$
 $[GD] \perp [AC]$
 $m(\widehat{GBC}) = 30^\circ$
 $|GD| = 9 \text{ br}$
 $\Rightarrow |AD| = x = ?$

9.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $A(KEG) + A(BDG) = 15 \text{ br}^2$
 $\Rightarrow A(ABC) = ?$

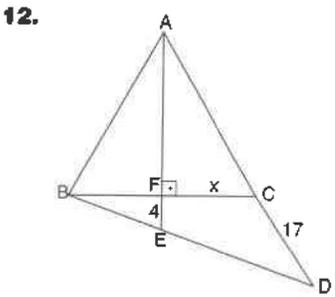
A) 96 B) 72 C) 54 D) 36 E) 32

10.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $[AD] \perp [BD]$
 $|ED| = 5 \text{ br}$
 $|GD| = 2 \text{ br}$
 $\Rightarrow |AD| = x = ?$

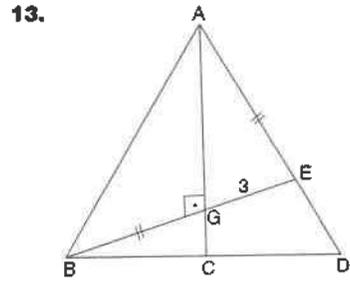
A) 5 B) 6 C) 8 D) 10 E) 12

11.  G_1 , ABC üçgeninin ağırlık merkezi
 G_1 , center of gravity ABC triangle's
 G_2 , BCG_1 üçgeninin ağırlık merkezi
 G_2 , center of gravity BCG_1 triangle's
 $|G_1G_2| = 4 \text{ br}$
 $\Rightarrow |AG_1| = x = ?$

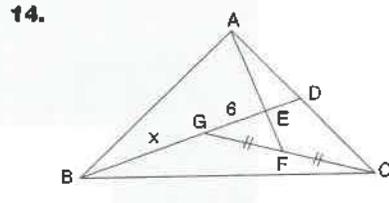
A) 3 B) 6 C) 9 D) 12 E) 15

12.  $[AF] \perp [BC]$
 F , ağırlık merkezi
 F , center of gravity
 $|FE| = 4 \text{ br}$
 $|DC| = 17 \text{ br}$
 $|FC| = x$
 $\Rightarrow x = ?$

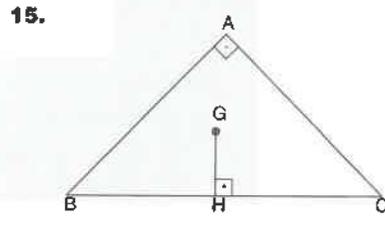
A) 17 B) $\frac{15}{2}$ C) $\frac{17}{2}$ D) 8 E) 15

13.  G , ABD üçgeninin ağırlık merkezi
 G , center of gravity ABD triangle's
 $[AG] \perp [BE]$
 $|AE| = |BG|$
 $|GE| = 3 \text{ br}$
 $\Rightarrow |BC| = ?$

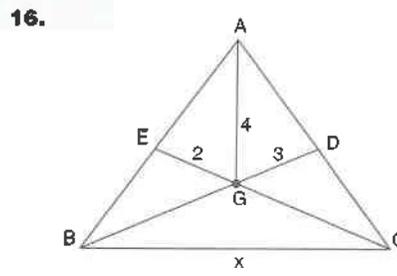
A) $\frac{2}{3}\sqrt{3}$ B) $2\sqrt{13}$ C) $\sqrt{13}$
 D) $\frac{3}{2}\sqrt{19}$ E) $\frac{\sqrt{19}}{2}$

14.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $|GF| = |FC|$
 $|GE| = 6 \text{ br}$
 $\Rightarrow |BG| = x = ?$

A) 3 B) 6 C) 9 D) 12 E) 18

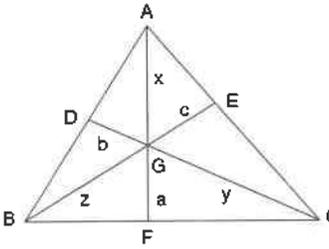
15.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $[GH] \perp [BC]$
 $[BA] \perp [AC]$
 $|BH| = 15 \text{ br}$
 $|HC| = 9 \text{ br}$
 $|GH| = x$
 $\Rightarrow x = ?$

A) $\sqrt{5}$ B) $\sqrt{7}$ C) 5 D) 8 E) 4

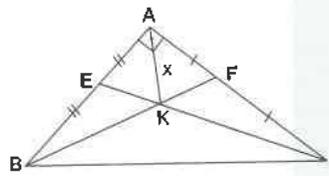
16.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $|AG| = 4 \text{ br}$
 $|GD| = 3 \text{ br}$
 $|EG| = 2 \text{ br}$
 $|BC| = x$
 $\Rightarrow x = ?$

A) $4\sqrt{11}$ B) $2\sqrt{7}$ C) $\sqrt{17}$ D) $2\sqrt{22}$ E) $\sqrt{22}$

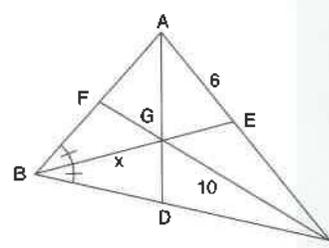
PUZAYYINILARI

1.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $|GF| = a \text{ br}$
 $|GD| = b \text{ br}$
 $|GE| = c \text{ br}$
 $a + b + c = 5 \text{ br}$
 $|AG| = x \text{ br}$
 $|GC| = y \text{ br}$
 $|BG| = z \text{ br}$
 $\Rightarrow x + y + z = ?$

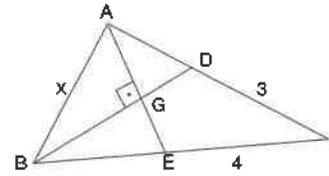
A) 5 B) 10 C) 15 D) 20 E) 25

2.  $[BA] \perp [AC]$
 $|KE| = 3\sqrt{5} \text{ br}$
 $|KF| = 4\sqrt{5} \text{ br}$
 $|AE| = |EB|$
 $|AF| = |FC|$
 $\Rightarrow |AK| = x = ?$

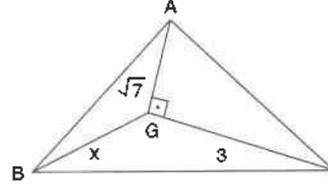
A) 5 B) 10 C) 15 D) 20 E) 25

3.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $m(\widehat{ABE}) = m(\widehat{ECB})$
 $|GC| = 10 \text{ br}$
 $|AE| = 6 \text{ br}$
 $\Rightarrow |BG| = x = ?$

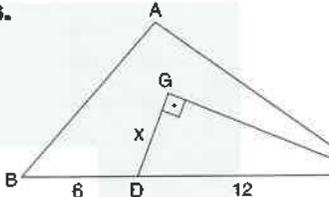
A) 4 B) 8 C) 12 D) 16 E) 20

4.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[AG] \perp [BG]$
 $|DC| = 3 \text{ br}$
 $|EC| = 4 \text{ br}$
 $\Rightarrow |AB| = x = ?$

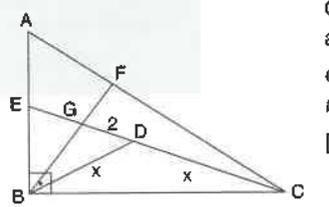
A) $\sqrt{5}$ B) $2\sqrt{5}$ C) 5 D) $5\sqrt{2}$ E) 10

5.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[AG] \perp [GC]$
 $|AG| = \sqrt{7} \text{ br}$
 $|GC| = 3 \text{ br}$
 $\Rightarrow |BG| = x = ?$

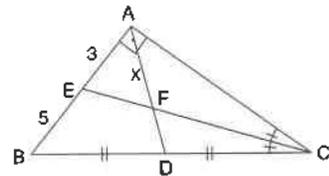
A) 4 B) 5 C) $\sqrt{20}$ D) 6 E) $2\sqrt{29}$

6.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[DG] \perp [GC]$
 $|AB| = |AC|$
 $|BD| = 6 \text{ br}$
 $|DC| = 12 \text{ br}$
 $\Rightarrow |GD| = x = ?$

A) 12 B) 9 C) 8 D) 6 E) 4

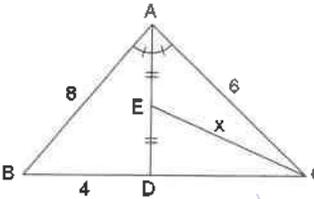
7.  G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
 $[AB] \perp [BC]$
 $|GD| = 2 \text{ br}$
 $\Rightarrow |BD| = |DC| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

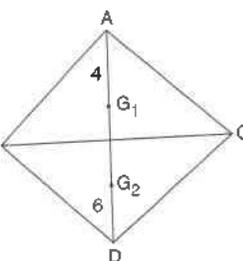
8.  $[BA] \perp [AC]$
 $m(\widehat{ACE}) = m(\widehat{ECB})$
 $|BD| = |DC|$
 $|AE| = 3 \text{ br}$
 $|EB| = 5 \text{ br}$
 $\Rightarrow |AF| = x = ?$

A) $\frac{10}{3}$ B) $\frac{30}{11}$ C) 2 D) 4 E) 5

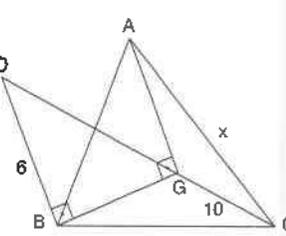
PUZUYAYINLARI

9.  $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AE| = |ED|$
 $|AB| = 8 \text{ br}$
 $|AC| = 6 \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow |EC| = x = ?$

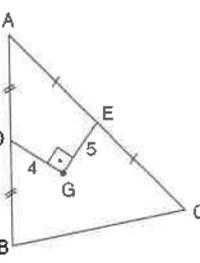
A) 2 B) 4 C) $\sqrt{10}$ D) $\frac{3\sqrt{6}}{2}$ E) 8

10.  G_1 , ABC üçgeninin ağırlık merkezi
 G_1 center of gravity ABC triangle's
 G_2 , BDC üçgeninin ağırlık merkezi
 G_2 center of gravity BDC triangle's
 $|AG_1| = 4 \text{ br}$
 $|DG_2| = 6 \text{ br}$
 $\Rightarrow |G_1G_2| = ?$

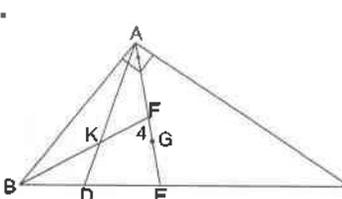
A) 2 B) 3 C) 5 D) 10 E) 20

11.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $[DB] \perp [BG]$
 $[BG] \perp [GA]$
 $|DB| = 6 \text{ br}$
 $|GC| = 10 \text{ br}$
 $\Rightarrow |AC| = x = ?$

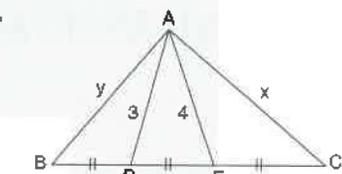
A) 6 B) $2\sqrt{13}$ C) 8 D) 10 E) $4\sqrt{13}$

12.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $[DG] \perp [GE]$
 $|AD| = |DB|$
 $|AE| = |EC|$
 $|DG| = 4 \text{ br}$
 $|GE| = 5 \text{ br}$
 $\Rightarrow A(ABC) = ?$

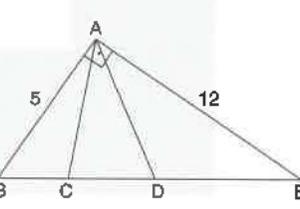
A) 20 B) 60 C) 80 D) 100 E) 120

13.  G , ABC üçgeninin ağırlık merkezi
 G center of gravity ABC triangle's
 K , ABE üçgeninin ağırlık merkezi
 G_2 center of gravity ABE triangle's
 $[BA] \perp [AC]$
 $|FG| = 4 \text{ br}$
 $\Rightarrow |DE| = ?$

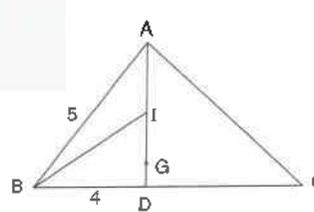
A) 4 B) 6 C) 8 D) 12 E) 16

14.  $|BD| = |DE| = |EC|$
 $|AD| = 3 \text{ br}$
 $|AE| = 4 \text{ br}$
 $|AC| = x$
 $|AB| = y$
 $\Rightarrow x^2 - y^2 = ?$

A) 7 B) 14 C) 21 D) 28 E) 35

15.  $[BA] \perp [AE]$
 $|AB| = 5 \text{ br}$
 $|AE| = 12 \text{ br}$
 $m(\widehat{BAC}) = 45^\circ$
 $|BD| = |DE|$
 $\Rightarrow |BC| = ?$

A) $\frac{65}{13}$ B) $\frac{13}{2}$ C) $\frac{13}{7}$ D) $\frac{17}{3}$ E) $\frac{65}{17}$

16.  I , ABC üçgeninin iç teğet çemberinin merkezi
 I is the inner tangential circle of ABC triangle
 G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $\Rightarrow \frac{|IG|}{|GD|} = ?$

A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{2}{3}$ D) 1 E) 2



KENARORTAY MEDIAN

YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	D	A	D	E	A	C	D	A	B	D	B	C	D	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	D	D	C	D	B	B	C	D	D	B	A	A	D	B

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	B	D	D	B	E	B	A	A	A	D	E	E	C	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	D	D	E	A	E	C	B	B	D	B	D	C	B	E

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	C	A	E	C	A	E	B	C	D	E	D	E	B	D

TEST 6

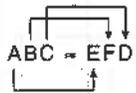
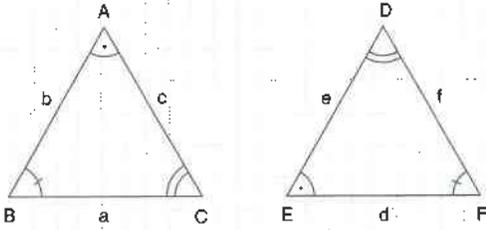
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	D	B	A	D	E	B	D	C	E	E	D	C	E	B



ÜÇGENDE BENZERLİK
TRIANGLE SIMILARITIES

ÜÇGENDE BENZERLİK

ÖZELLİK | Property 1



$$ABC \sim EFD$$

$$1. \begin{aligned} m(\widehat{A}) &= m(\widehat{E}) \\ m(\widehat{B}) &= m(\widehat{F}) \\ m(\widehat{C}) &= m(\widehat{D}) \end{aligned}$$

$$1. \begin{aligned} m(\widehat{A}) &= m(\widehat{E}) \\ m(\widehat{B}) &= m(\widehat{F}) \\ m(\widehat{C}) &= m(\widehat{D}) \end{aligned}$$

$$2. \frac{|AB|}{|EF|} = \frac{|BC|}{|FD|} = \frac{|AC|}{|ED|} = k$$

$$2. \frac{|AB|}{|EF|} = \frac{|BC|}{|FD|} = \frac{|AC|}{|ED|} = 1$$

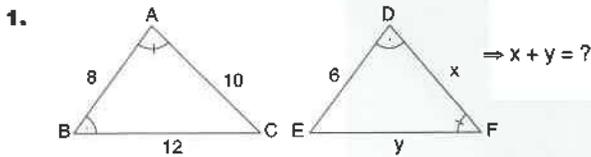
$$\frac{b}{d} = \frac{a}{f} = \frac{c}{e} = k$$

$$\frac{b}{d} = \frac{a}{f} = \frac{c}{e} = 1$$

$k \in \mathbb{R}^+$ k , oran sabiti
 k , ratio constant

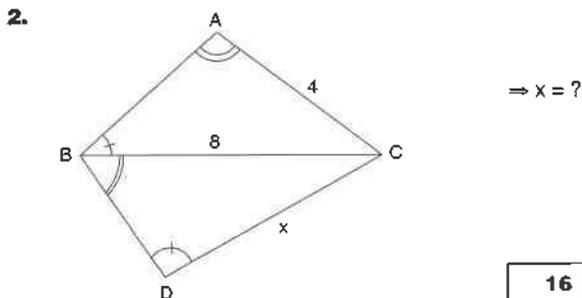
$$b = d, a = f, c = e$$

PUZAYYANILARI



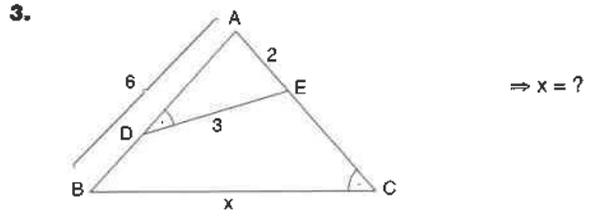
$$\Rightarrow x + y = ?$$

9



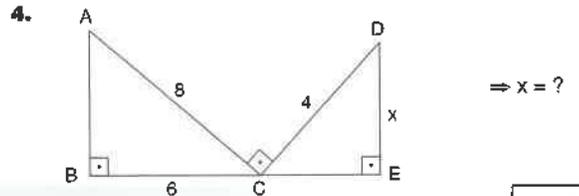
$$\Rightarrow x = ?$$

16



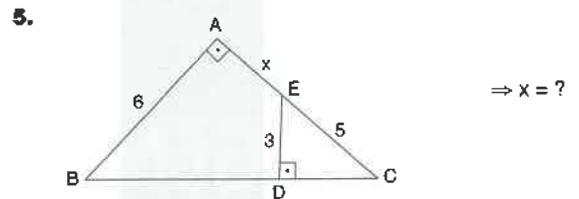
$$\Rightarrow x = ?$$

9



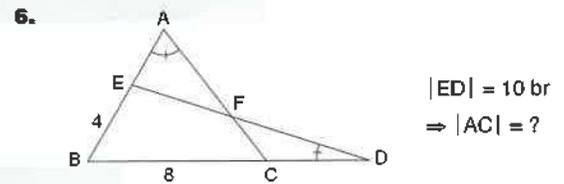
$$\Rightarrow x = ?$$

3



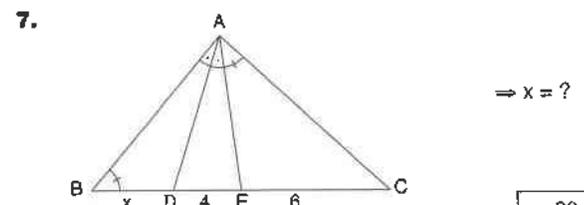
$$\Rightarrow x = ?$$

3



$$|ED| = 10 \text{ br} \\ \Rightarrow |AC| = ?$$

20



$$\Rightarrow x = ?$$

$\frac{20}{3}$

ÖZELLİK | Property 2

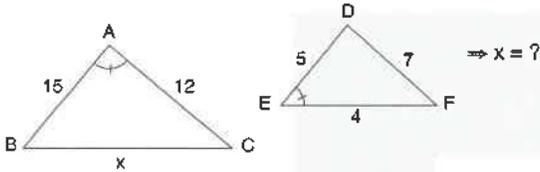
Kenar-Açı-Kenar Benzerliği
Line-Angle-Line Similarity



$$\frac{C(ABC)}{C(DEF)} = \frac{xk}{x} = \frac{yk}{y} = \frac{|BC|}{|EF|} = k$$

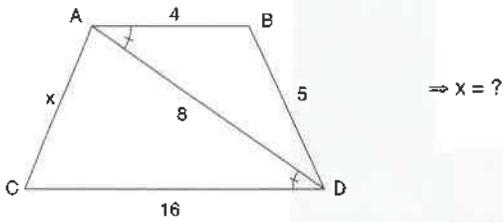
$$\frac{C(ABC)}{C(DEF)} = \frac{h_a}{h_d} = \frac{v_b}{v_e} = \frac{n_c}{n_f} = k, \quad \frac{A(ABC)}{A(DEF)} = k^2$$

1.



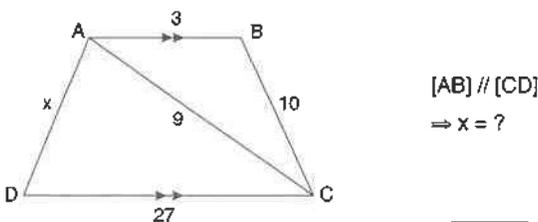
21

2.



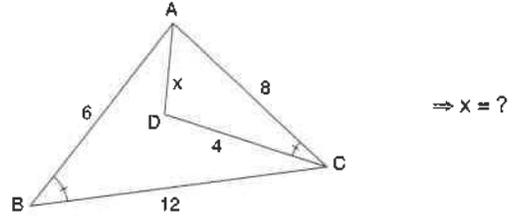
10

3.



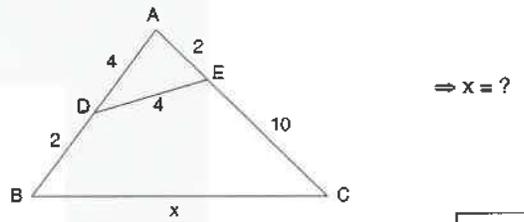
30

4.



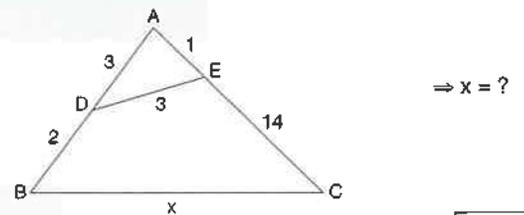
$\frac{16}{3}$

5.



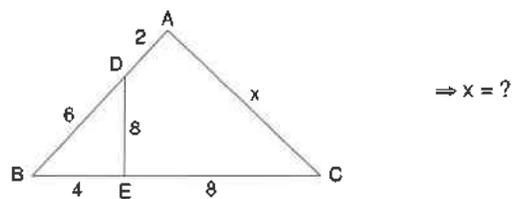
12

6.



15

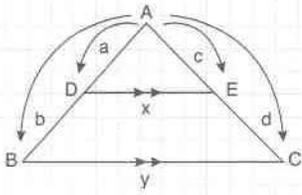
7.



16

ÜÇGENDE BENZERLİK

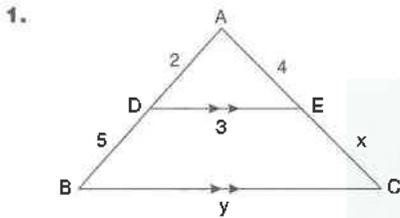
ÖZELLİK | Property 3



$[DE] \parallel [BC]$

$$\frac{a}{b} = \frac{c}{d}$$

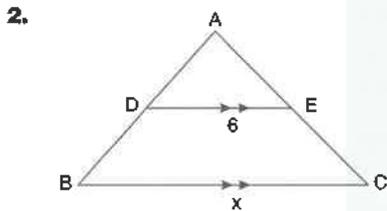
$$\frac{a}{a+b} = \frac{x}{y} = \frac{c}{c+d}$$



$[DE] \parallel [BC]$

$\Rightarrow x + y = ?$

$$\frac{41}{2}$$

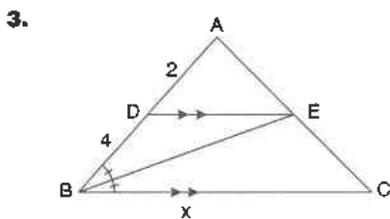


$[DE] \parallel [BC]$

$[AD] = 2[BD]$

$\Rightarrow x = ?$

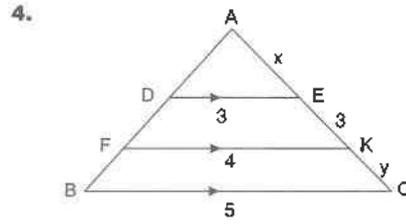
$$9$$



$[DE] \parallel [BC]$

$\Rightarrow x = ?$

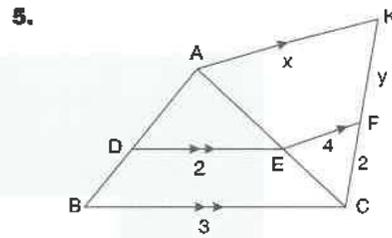
$$12$$



$[DE] \parallel [FK] \parallel [BC]$

$\Rightarrow x - y = ?$

$$6$$

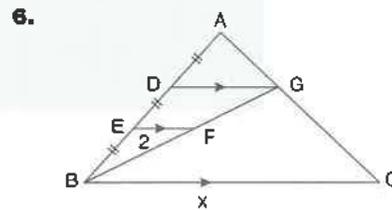


$[DE] \parallel [BC]$

$[EF] \parallel [AK]$

$\Rightarrow x - y = ?$

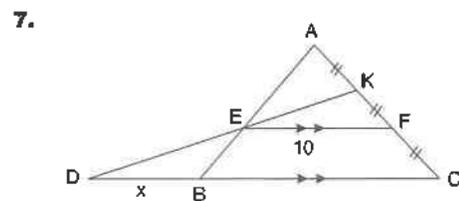
$$8$$



$[DG] \parallel [EF] \parallel [BC]$

$\Rightarrow x = ?$

$$12$$

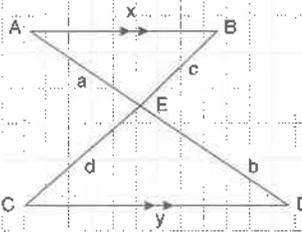


$[EF] \parallel [DC]$

$\Rightarrow x = ?$

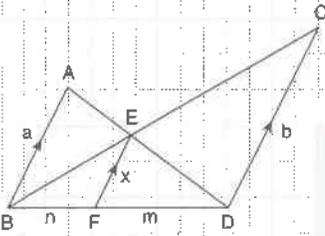
$$5$$

ÖZELLİK | Property 4



$[AB] \parallel [CD]$

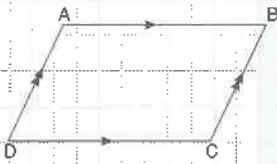
$$\frac{x}{y} = \frac{a}{c} = \frac{b}{d}$$



$[AB] \parallel [EF] \parallel [CD]$

$$\frac{1}{x} = \frac{1}{a} + \frac{1}{b}$$

$$b \cdot n = m \cdot a$$

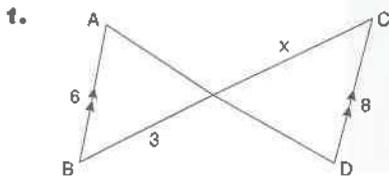


ABCD paralelkenar

$[AB] \parallel [DC]$

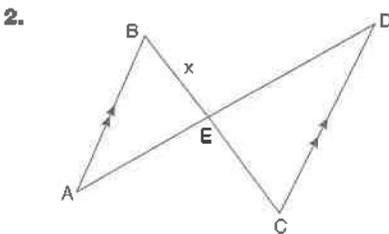
$[AD] \parallel [BC]$

$|AB| = |DC|, |AD| = |BC|$



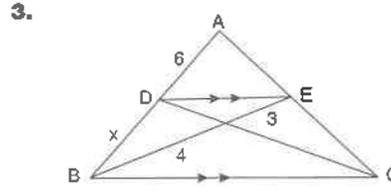
$[AB] \parallel [CD]$
 $\Rightarrow x = ?$

4



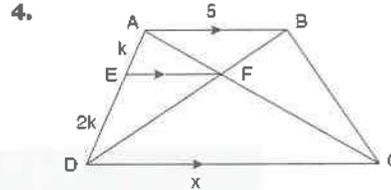
$[AB] \parallel [CD]$
 $|ED| = 3|AE|$
 $|BC| = 16$
 $\Rightarrow x = ?$

4



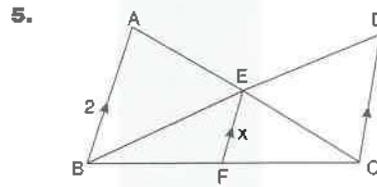
$[DE] \parallel [BC]$
 $\Rightarrow x = ?$

2



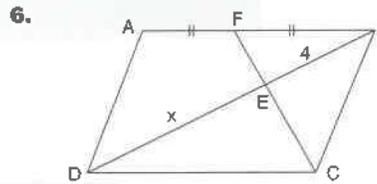
$[AB] \parallel [CD] \parallel [EF]$
 $\Rightarrow x = ?$

10



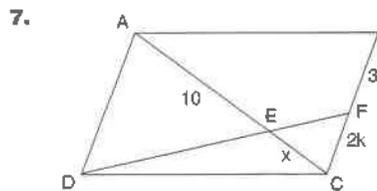
$[AB] \parallel [EF] \parallel [CD]$
 $\Rightarrow x = ?$

$\frac{4}{3}$



ABCD paralelkenar
ABCD paralelogram
 $\Rightarrow x = ?$

8

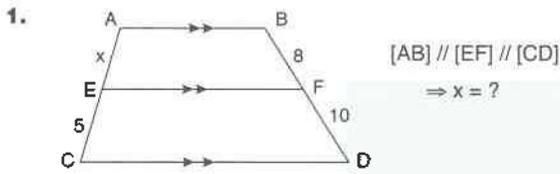
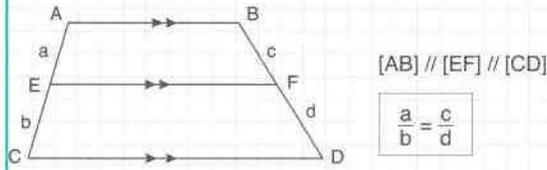


ABCD paralelkenar
ABCD paralelogram
 $\Rightarrow x = ?$

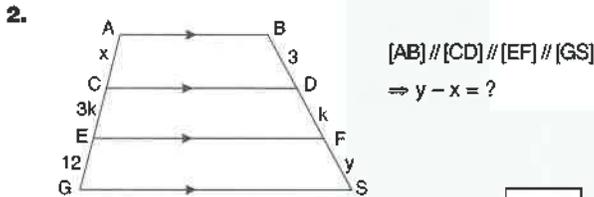
4

ÜÇGENDE BENZERLİK

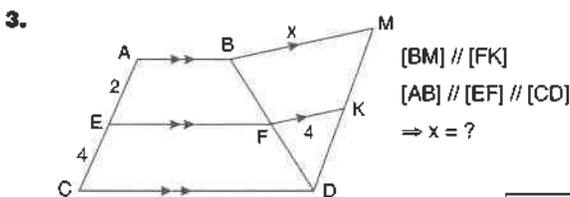
ÖZELLİK | Property 5



4

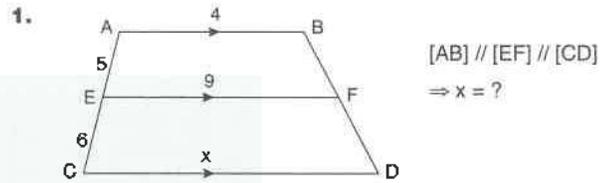
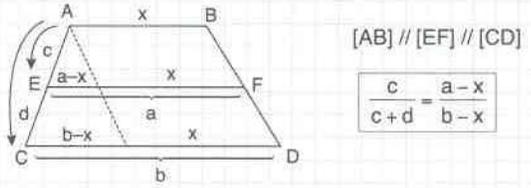


- 5

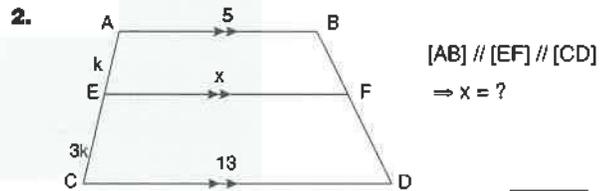


6

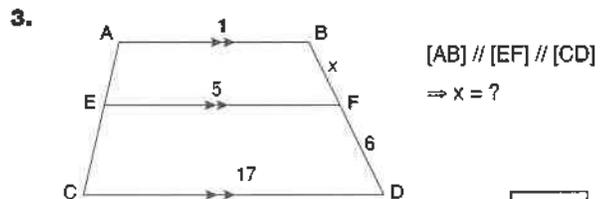
ÖZELLİK | Property 6



15

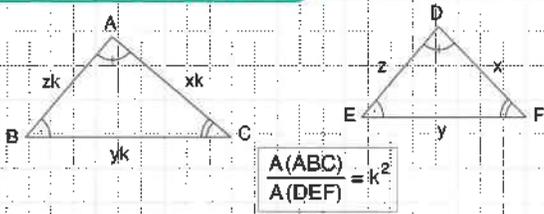


7

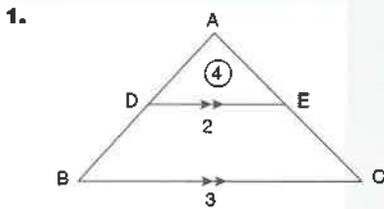
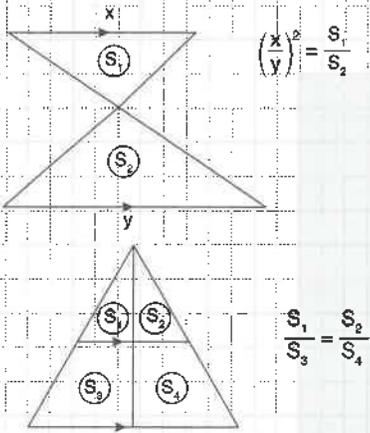


2

ÖZELLİK | Property 7

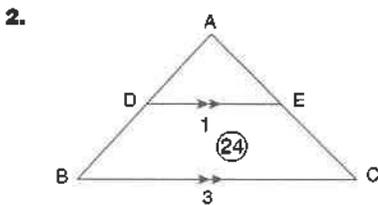


Benzerlik oranının karesi alanları oranını verir.
The square of the similarity ratio gives the ratio of the areas.



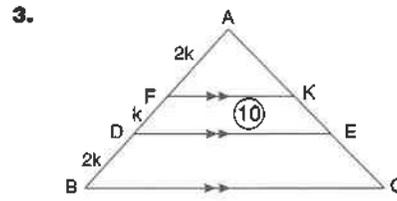
[DE] // [BC]
⇒ A(DECB) = ?

5



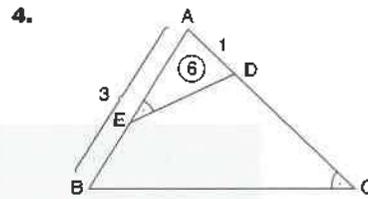
[DE] // [BC]
⇒ A(ADE) = ?

3



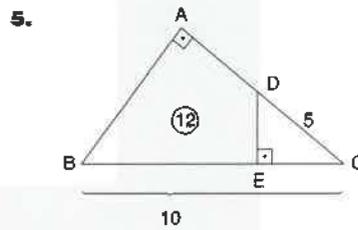
[FK] // [DE] // [BC]
A(DECB) = ?

32



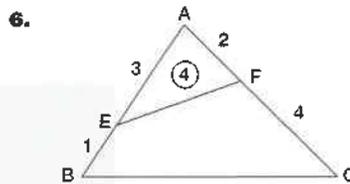
⇒ A(EDCB) = ?

48



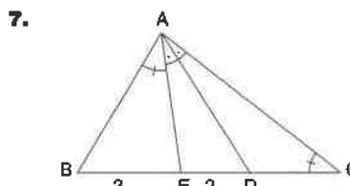
⇒ A(DEC) = ?

4



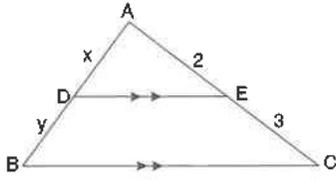
⇒ A(EFCB) = ?

12

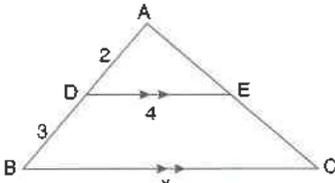


⇒ $\frac{A(ABE)}{A(ABC)} = ?$

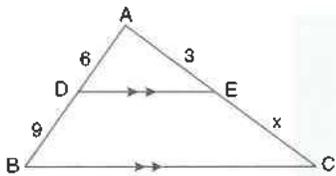
$\frac{9}{25}$

1.  $[DE] \parallel [BC]$
 $|AE| = 2 \text{ br}$
 $|EC| = 3 \text{ br}$
 $|AD| = x$
 $|DB| = y$
 $\Rightarrow \frac{x}{y} = ?$

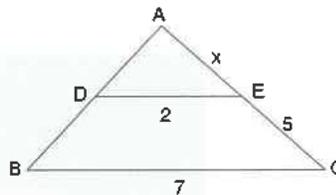
A) $\frac{1}{3}$ B) $\frac{2}{3}$ C) 1 D) $\frac{3}{2}$ E) 3

5.  $[DE] \parallel [BC]$
 $2|AD| = |DE| = 4 \text{ br}$
 $|BD| = 3 \text{ br}$
 $\Rightarrow |BC| = x = ?$

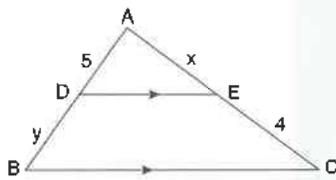
A) 5 B) 6 C) 8 D) 10 E) 12

2.  $[DE] \parallel [BC]$
 $|AE| = 3 \text{ br}$
 $|AD| = 6 \text{ br}$
 $|DB| = 9 \text{ br}$
 $\Rightarrow |EC| = x = ?$

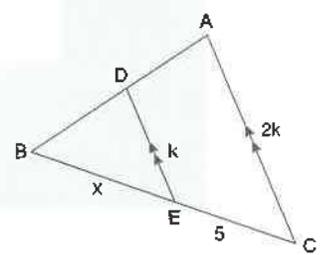
A) 2 B) 3 C) $\frac{9}{2}$ D) $\frac{11}{2}$ E) 6

6.  $[DE] \parallel [BC]$
 $|DE| = 2 \text{ br}$
 $|EC| = 5 \text{ br}$
 $|BC| = 7 \text{ br}$
 $\Rightarrow |AE| = x = ?$

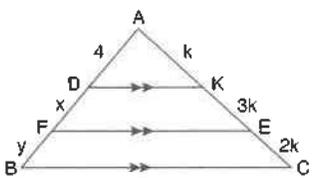
A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

3.  $[DE] \parallel [BC]$
 $|AD| = 5 \text{ br}$
 $|EC| = 4 \text{ br}$
 $|AE| = x$
 $|DB| = y$
 $\Rightarrow x - y = ?$

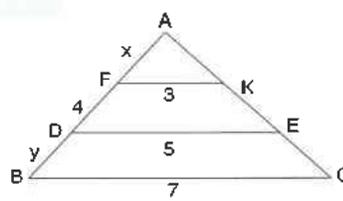
A) 2 B) 4 C) 5 D) 10 E) 20

7.  $[DE] \parallel [AC]$
 $2|DE| = |AC|$
 $|EC| = 5 \text{ br}$
 $\Rightarrow |BE| = x = ?$

A) 2 B) $\frac{3}{2}$ C) 5 D) $\frac{5}{2}$ E) 10

4.  $[DK] \parallel [FE] \parallel [BC]$
 $6|AK| = 2|KE| = 3|EC|$
 $|AD| = 4 \text{ br}$
 $|FD| = x$
 $|BF| = y$
 $\Rightarrow x + y = ?$

A) 4 B) 6 C) 8 D) 12 E) 20

8.  $[FK] \parallel [DE] \parallel [BC]$
 $|FK| = 3 \text{ br}$
 $|DE| = 5 \text{ br}$
 $|BC| = 7 \text{ br}$
 $|FD| = 4 \text{ br}$
 $|AF| = x$
 $|BD| = y$
 $\Rightarrow x + y = ?$

A) 10 B) 8 C) 7 D) 5 E) 4

9.

[DE] // [BC]
 [EF] // [AK]
 $2|AD| = |KF| = 6 \text{ br}$
 $|BD| = 5 \text{ br}$
 $\Rightarrow |FC| = x = ?$

A) $\frac{5}{2}$ B) 5 C) $\frac{15}{2}$ D) 10 E) 15

13.

[DE] // [BC]
 $2|AD| = |BD| = 6 \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) 3 B) 6 C) 9 D) 12 E) 18

10.

[DE] // [BC]
 [KE] // [FC]
 $|AK| = 2 \text{ br}$
 $|BD| = 6 \text{ br}$
 $|AD| = x$
 $|KF| = y$
 $\Rightarrow x \cdot y = ?$

A) 12 B) 8 C) 6 D) 3 E) 2

14.

[DE] // [AC]
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|EB| = 2 \text{ br}$
 $|AC| = 12 \text{ br}$
 $\Rightarrow |ED| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

11.

[DK] // [BC]
 [KE] // [FC]
 $3|AD| = |BD|$
 $|KE| = 6 \text{ br}$
 $\Rightarrow |CF| = x = ?$

A) 9 B) 12 C) 18 D) 24 E) 30

15.

[FK] // [DE] // [BC]
 $|AF| = 2|DF| = 2|BD|$
 $|DE| = 4 \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) 2 B) 4 C) 8 D) 16 E) 32

12.

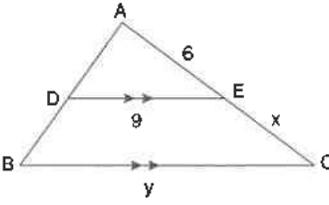
[DE] // [BC]
 [EK] // [AP]
 $|DE| = 3 \text{ br}$
 $|BC| = 7 \text{ br}$
 $|EK| = 2 \text{ br}$
 $\Rightarrow |AP| = x = ?$

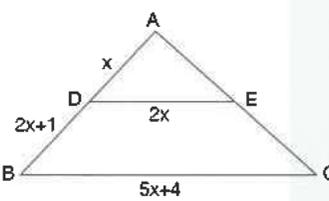
A) $\frac{7}{4}$ B) $\frac{7}{2}$ C) 7 D) 14 E) 21

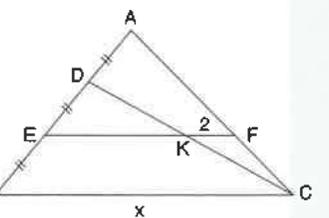
16.

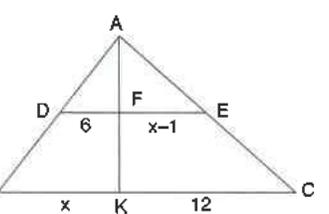
[ED] // [BC]
 $|EB| = 3x$
 $|AE| = 2x$
 $|ED| = x$
 $|BC| = 2x + 1$
 $\Rightarrow x = ?$

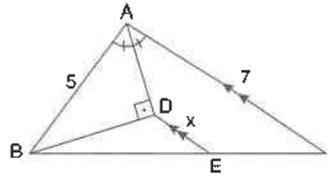
A) 1 B) 2 C) 3 D) 4 E) 5

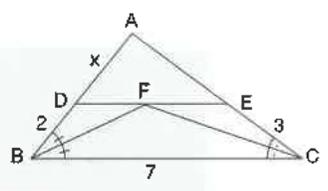
1.  $[DE] \parallel [BC]$
 $4|AD| = 3|DB|$
 $|AE| = 6 \text{ br}$
 $|DE| = 9 \text{ br}$
 $|EC| = x$
 $|BC| = y$
 $\Rightarrow y - x = ?$
- A) 21 B) 18 C) 15 D) 13 E) 18

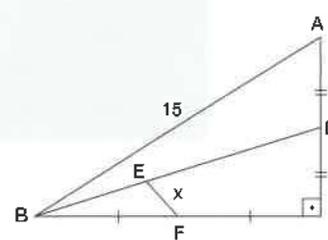
2.  $[DE] \parallel [BC]$
 $|AD| = x$
 $|BD| = 2x + 1$
 $|DE| = 2x$
 $|BC| = 5x + 4$
 $\Rightarrow |DE| = ?$
- A) 1 B) 2 C) 4 D) 6 E) 8

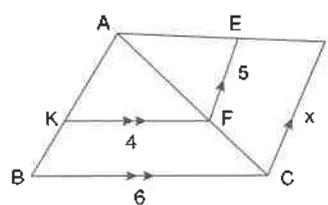
3.  $[EF] \parallel [BC]$
 $|AD| = |DE| = |EB|$
 $|KF| = 2 \text{ br}$
 $\Rightarrow |BC| = x = ?$
- A) 5 B) 6 C) 8 D) 12 E) 16

4.  $[DE] \parallel [BC]$
 $2|DF| = |KC| = 12 \text{ br}$
 $|BK| = x$
 $|FE| = x - 1$
 $\Rightarrow x = ?$
- A) 1 B) 3 C) 6 D) 9 D) 12

5.  $m(\widehat{BAD}) = m(\widehat{DAC})$
 $[AD] \perp [BD]$
 $[DE] \parallel [AC]$
 $|AB| = 5 \text{ br}$
 $|AC| = 7 \text{ br}$
 $\Rightarrow |DE| = x = ?$
- A) 1 B) 2 C) 3 D) 4 E) 5

6.  $[DE] \parallel [BC]$
 $m(\widehat{ABF}) = m(\widehat{FBC})$
 $m(\widehat{BCF}) = m(\widehat{FCA})$
 $|EC| = 3 \text{ br}$
 $|BD| = 2 \text{ br}$
 $|BC| = 7 \text{ br}$
 $\Rightarrow |AD| = x = ?$
- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 5

7.  $[AC] \perp [BC]$
 $|AD| = |DC|$
 $|BF| = |FC|$
 $2|BE| = |ED|$
 $|AB| = 15 \text{ br}$
 $\Rightarrow |EF| = x = ?$
- A) $\frac{5}{2}$ B) 5 C) $\frac{15}{2}$ D) 10 E) $\frac{25}{2}$

8.  $[EF] \parallel [DC]$
 $[KF] \parallel [BC]$
 $|KF| = 4 \text{ br}$
 $|BC| = 6 \text{ br}$
 $|EF| = 5 \text{ br}$
 $\Rightarrow |DC| = x = ?$
- A) $\frac{7}{3}$ B) 3 C) $\frac{10}{3}$ D) 4 E) $\frac{15}{2}$

9.

$[DE] \parallel [BC]$
 $[DF] \parallel [BE]$
 $2|AD| = |AF| = 4 \text{ br}$
 $|BD| = 3 \text{ br}$
 $\Rightarrow |EC| = x = ?$

A) 20 B) 15 C) 10 D) 5 E) 1

10.

$[FE] \parallel [DC]$
 $[DE] \parallel [BC]$
 $2|AF| = |DF| = 6 \text{ br}$
 $\Rightarrow |BD| = x = ?$

A) 24 B) 18 C) 15 D) 12 E) 6

11.

$[DE] \parallel [BC]$
 $[EK] \parallel [AF]$
 $2|DE| = |BC| = 6 \text{ br}$
 $|EK| = 5 \text{ br}$
 $\Rightarrow |AF| = x = ?$

A) 3 B) 5 C) $\frac{15}{2}$ D) 10 E) $\frac{25}{2}$

12.

$|AL| = |LC|$
 $|BT| = |TC|$
 $|DF| = |FT|$
 $|DE| = |EL|$
 $|EF| = 2 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 16

13.

$[EF] \parallel [BC]$
 $|AK| = |KE| = |EB|$
 $|EF| = 8 \text{ br}$
 $\Rightarrow |CD| = x = ?$

A) 4 B) 6 C) 8 D) 10 E) 12

14.

G_1 , ABD üçgeninin ağırlık merkezi
 G_2 , ADC üçgeninin ağırlık merkezi
 $|BC| = 18 \text{ br}$
 $\Rightarrow |G_1G_2| = ?$

A) 3 B) 6 C) 9 D) 12 E) 15

15.

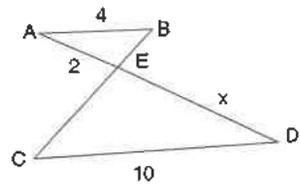
$[FK] \perp [BC]$
 $[DE] \perp [BC]$
 $|AD| = |DC|$
 $2|AF| = |BF|$
 $|FK| = 6 \text{ br}$
 $\Rightarrow |DE| = x = ?$

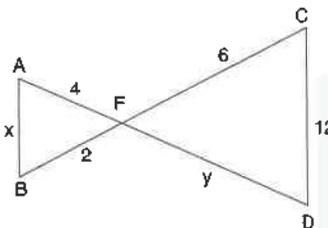
A) 3 B) 4 C) $\frac{9}{2}$ D) 6 E) 9

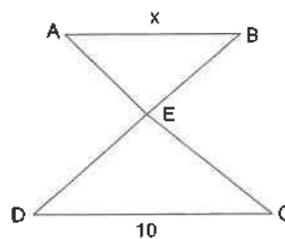
16.

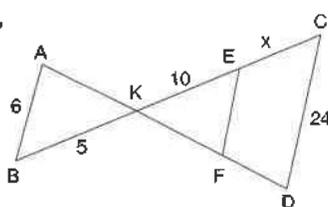
$[EF] \parallel [BC]$
 $2|AD| = 5|BD|$
 $|EF| = x$
 $|BC| = y$
 $= \frac{x}{y} = ?$

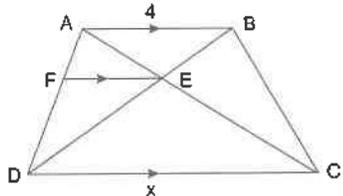
A) $\frac{5}{14}$ B) $\frac{5}{7}$ C) $\frac{10}{7}$ D) 3 E) $\frac{13}{4}$

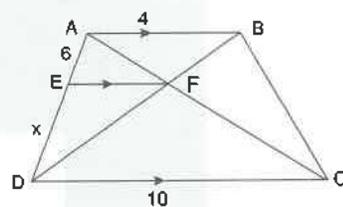
1.  $[AB] \parallel [CD]$
 $|AB| = 4 \text{ br}$
 $|AE| = 2 \text{ br}$
 $|CD| = 10 \text{ br}$
 $\Rightarrow |ED| = x = ?$
- A) 5 B) 4 C) 3 D) 2 E) 1

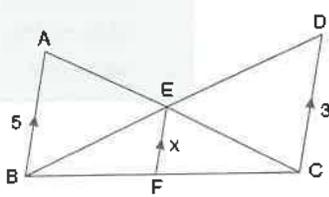
2.  $[AB] \parallel [CD]$
 $|AB| = x$
 $|FD| = y$
 $|AF| = 2|BF| = 4 \text{ br}$
 $|CD| = 2|FC| = 12 \text{ br}$
 $\Rightarrow x + y = ?$
- A) 8 B) 10 C) 12 D) 16 E) 20

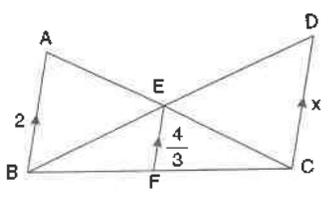
3.  $[AB] \parallel [DC]$
 $2|BE| = 3|DE|$
 $|DC| = 10 \text{ br}$
 $\Rightarrow |AB| = x = ?$
- A) 20 B) 15 C) $\frac{20}{3}$ D) 5 E) 3

4.  $[AB] \parallel [EF] \parallel [CD]$
 $4|AB| = |CD| = 24 \text{ br}$
 $|BK| = 5 \text{ br}$
 $|KE| = 10 \text{ br}$
 $\Rightarrow |EC| = x = ?$
- A) 2 B) 4 C) 5 D) 6 E) 10

5.  $[AB] \parallel [FE] \parallel [DC]$
 $|AB| = 4 \text{ br}$
 $3|AF| = 2|FD|$
 $\Rightarrow |DC| = x = ?$
- A) 9 B) 8 C) 6 D) $\frac{8}{3}$ E) $\frac{4}{3}$

6.  $[AB] \parallel [EF] \parallel [DC]$
 $|AB| = 4 \text{ br}$
 $|AE| = 6 \text{ br}$
 $|DC| = 10 \text{ br}$
 $\Rightarrow |ED| = x = ?$
- A) $\frac{35}{2}$ B) 15 C) 12 D) $\frac{25}{2}$ E) 10

7.  $[AB] \parallel [EF] \parallel [CD]$
 $|CD| = 3 \text{ br}$
 $|AB| = 5 \text{ br}$
 $\Rightarrow |EF| = x = ?$
- A) 8 B) 5 C) 2 D) $\frac{15}{8}$ E) $\frac{8}{15}$

8.  $[AB] \parallel [EF] \parallel [DC]$
 $|AB| = 2 \text{ br}$
 $|EF| = \frac{4}{3} \text{ br}$
 $\Rightarrow |DC| = x = ?$
- A) 1 B) 2 C) 3 D) 4 E) 5

9.

$[DE] \parallel [BC]$
 $|AD| = 1 \text{ br}$
 $|EF| = 2 \text{ br}$
 $|BF| = 5 \text{ br}$
 $\Rightarrow |BD| = x = ?$

A) 5 B) 4 C) 3 D) $\frac{5}{2}$ E) $\frac{3}{2}$

13.

ABCD paralelkenar
 ABCD *parallelogram*
 $2|AE| = 2|EF| = |FB|$
 $|EK| = 5 \text{ br}$
 $\Rightarrow |KC| = x = ?$

A) $\frac{5}{4}$ B) $\frac{5}{2}$ C) 5 D) 10 E) 20

10.

$[DE] \parallel [BC]$
 $|BD| = 2 \text{ br}$
 $4|DF| = 3|FC|$
 $\Rightarrow |AD| = x = ?$

A) 10 B) 8 C) 6 D) 4 E) 2

14.

ABCD paralelkenar
 ABCD *parallelogram*
 $|DC| = 2|CE|$
 $|AF| = 12 \text{ br}$
 $\Rightarrow |FE| = x = ?$

A) 3 B) 6 C) 9 D) 12 E) 24

PUZAYAYINLARI

11.

ABCD paralelkenar
 ABCD *parallelogram*
 $|AK| = |KB|$
 $|KF| = 3 \text{ br}$
 $\Rightarrow |FC| = x = ?$

A) $\frac{1}{3}$ B) 1 C) $\frac{8}{3}$ D) 3 E) 6

15.

$[AB] \parallel [CD]$
 $|AF| = 3 \text{ br}$
 $|BF| = 2 \text{ br}$
 $|CK| = 6 \text{ br}$
 $\Rightarrow |KD| = x = ?$

A) 12 B) 9 C) 6 D) 4 E) 2

12.

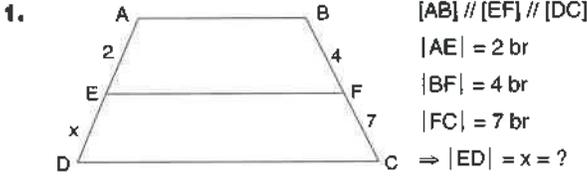
ABCD paralelkenar
 ABCD *parallelogram*
 $2|BE| = 5|EC|$
 $|AF| = 14 \text{ br}$
 $\Rightarrow |FC| = x = ?$

A) 1 B) 2 C) 4 D) 6 E) 8

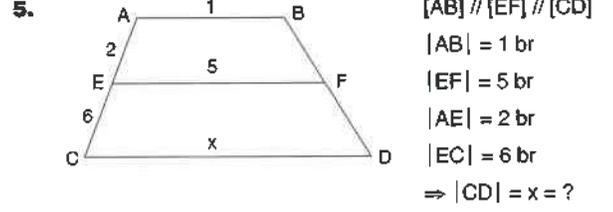
16.

$[DE] \parallel [AC]$
 $|DF| = |FE|$
 $|AK| = 2|KF| = 12 \text{ br}$
 $\Rightarrow |FB| = x = ?$

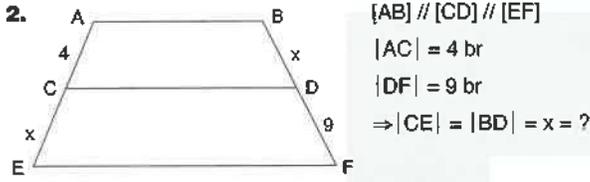
A) 18 B) 12 C) 9 D) 6 E) 3



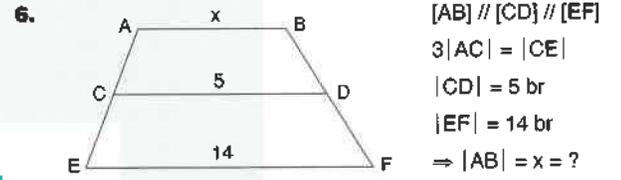
- A) 21 B) 14 C) 7 D) $\frac{7}{2}$ E) $\frac{7}{4}$



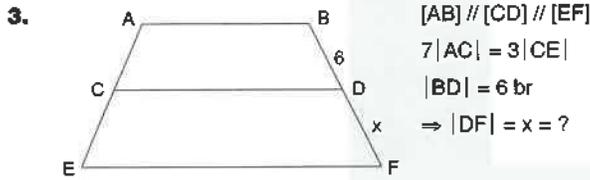
- A) 21 B) 17 C) 13 D) 11 E) 7



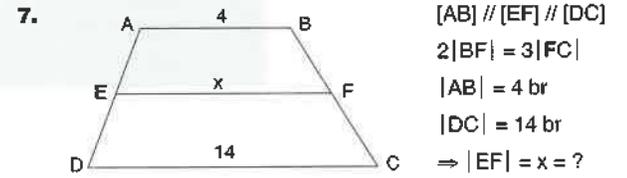
- A) 1 B) 3 C) 6 D) 9 E) 12



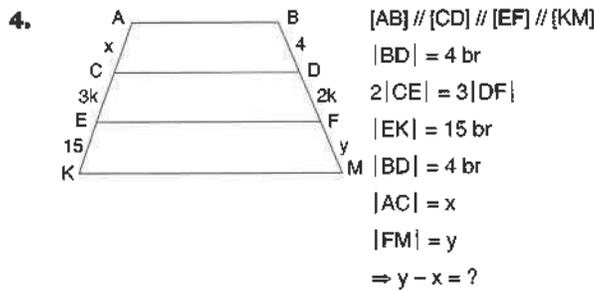
- A) 4 B) 3 C) $\frac{7}{2}$ D) 2 E) 1



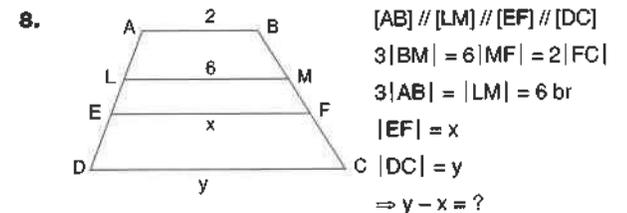
- A) $\frac{1}{7}$ B) $\frac{2}{7}$ C) $\frac{7}{2}$ D) 7 E) 14



- A) 5 B) 7 C) 10 D) 12 E) 13



- A) 10 B) 8 C) 6 D) 4 E) 2



- A) 6 B) 5 C) 4 D) 2 E) 1

9.

$[AB] \parallel [CD] \parallel [EF]$
 $|AB| = 3 \text{ br}$
 $|CD| = 9 \text{ br}$
 $|EF| = 13 \text{ br}$
 $|BD| = 2 \text{ br}$
 $\Rightarrow |DF| = x = ?$

- A) 1 B) $\frac{4}{3}$ C) $\frac{5}{3}$ D) 3 E) 4

13.

$[AB] \parallel [CD] \parallel [EF]$
 $|BD| = x - 1$
 $|CE| = x + 2$
 $\Rightarrow |DF| = |AC| = x = ?$

- A) 1 B) 2 C) 3 D) 4 E) 5

10.

$[BK] \parallel [CM]$
 $[AB] \parallel [DC] \parallel [FE]$
 $|AB| = 2 \text{ br}$
 $|DC| = 3 \text{ br}$
 $|FE| = 5 \text{ br}$
 $|BK| = 6 \text{ br}$
 $\Rightarrow |CM| = x = ?$

- A) 12 B) 9 C) 6 D) 4 E) 3

14.

$[BM] \parallel [DK]$
 $[AB] \parallel [CD] \parallel [EF]$
 $|BM| = 5 \text{ br}$
 $|DK| = 3 \text{ br}$
 $|AC| = 6 \text{ br}$
 $\Rightarrow |CE| = x = ?$

- A) 10 B) 9 C) 6 D) $\frac{18}{5}$ E) $\frac{9}{5}$

11.

$[KM] \parallel [BC]$
 $[AF] \parallel [ME] \parallel [CD]$
 $|KM| = 4 \text{ br}$
 $|BC| = 6 \text{ br}$
 $|ME| = 7 \text{ br}$
 $|CD| = 3 \text{ br}$
 $\Rightarrow |AF| = x = ?$

- A) 7 B) 11 C) 13 D) 15 E) 17

15.

$[AB] \parallel [CD] \parallel [EK]$
 $|AB| = 3 \text{ br}$
 $|CD| = 5 \text{ br}$
 $|EF| = 9 \text{ br}$
 $\Rightarrow |FK| = x = ?$

- A) 6 B) 5 C) 4 D) 3 E) 2

12.

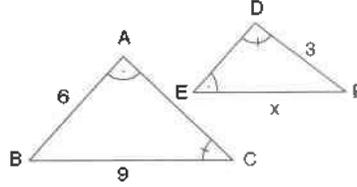
$[AB] \parallel [CD] \parallel [EF]$
 $[CK] \parallel [BF]$
 $|AC| = 12 \text{ br}$
 $|BD| = 9 \text{ br}$
 $|CE| = 8 \text{ br}$
 $\Rightarrow |KC| = x = ?$

- A) 2 B) 4 C) 5 D) 6 E) 8

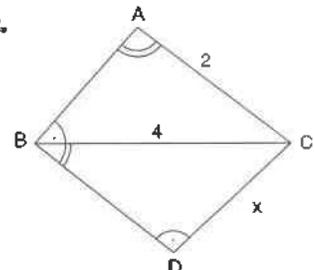
16.

$[AB] \parallel [CD] \parallel [EF]$
 $|AC| = 2|CE|$
 $|AB| = 6 \text{ br}$
 $|EF| = 15 \text{ br}$
 $\Rightarrow |KM| = x = ?$

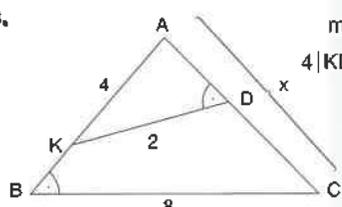
- A) 10 B) 9 C) 8 D) 6 E) 4

1.  $m(\widehat{A}) = m(\widehat{E})$
 $m(\widehat{C}) = m(\widehat{D})$
 $|AB| = 6 \text{ br}$
 $|BC| = 9 \text{ br}$
 $|DF| = 3 \text{ br}$
 $\Rightarrow |EF| = x = ?$

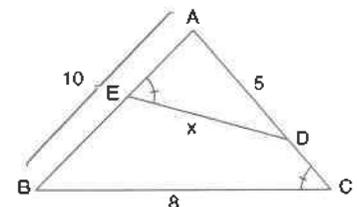
A) 1 B) 2 C) 3 D) $\frac{9}{2}$ E) 6

2.  $m(\widehat{BAC}) = m(\widehat{CBD})$
 $m(\widehat{ABC}) = m(\widehat{BDC})$
 $2|AC| = |BC| = 4 \text{ br}$
 $\Rightarrow |DC| = x = ?$

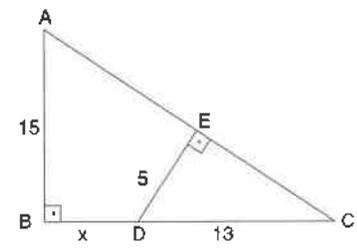
A) 1 B) 2 C) 4 D) 8 E) 6

3.  $m(\widehat{ADK}) = m(\widehat{ABC})$
 $4|KD| = 2|AK| = |BC| = 8 \text{ br}$
 $\Rightarrow |AC| = x = ?$

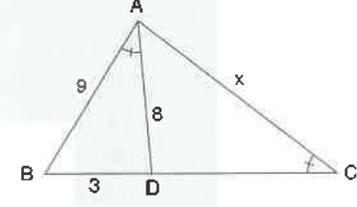
A) 16 B) 12 C) 8 D) 4 E) 2

4.  $m(\widehat{AED}) = m(\widehat{ACB})$
 $|AB| = 10 \text{ br}$
 $|AD| = 5 \text{ br}$
 $|BC| = 8 \text{ br}$
 $\Rightarrow |ED| = x = ?$

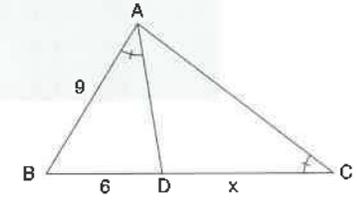
A) 8 B) 6 C) 5 D) 4 E) 2

5.  $[AB] \perp [BC]$
 $[DE] \perp [AC]$
 $|AB| = 15 \text{ br}$
 $|DC| = 13 \text{ br}$
 $|DE| = 5 \text{ br}$
 $\Rightarrow |BD| = x = ?$

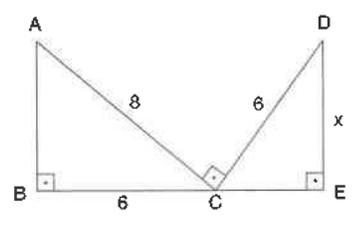
A) 39 B) 26 C) 23 D) 11 E) 9

6.  $m(\widehat{BAD}) = m(\widehat{ACB})$
 $|AB| = 9 \text{ br}$
 $|AD| = 8 \text{ br}$
 $|BD| = 3 \text{ br}$
 $\Rightarrow |AC| = x = ?$

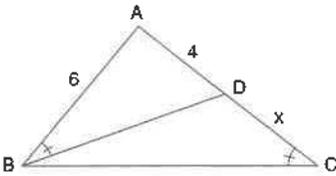
A) 36 B) 24 C) 21 D) 18 E) 15

7.  $m(\widehat{BAD}) = m(\widehat{ACB})$
 $|AB| = 9 \text{ br}$
 $|BD| = 6 \text{ br}$
 $\Rightarrow |DC| = x = ?$

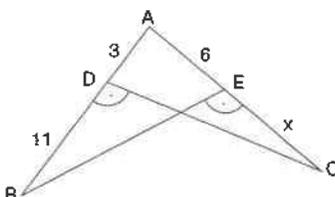
A) $\frac{5}{2}$ B) 3 C) 5 D) 6 E) $\frac{15}{2}$

8.  $[AB] \perp [BE]$
 $[AC] \perp [CD]$
 $[BE] \perp [DE]$
 $|BC| = |CD| = 6 \text{ br}$
 $|AC| = 8 \text{ br}$
 $\Rightarrow |DE| = x = ?$

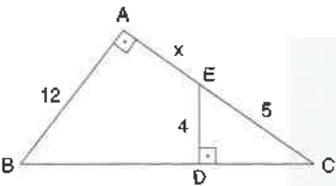
A) 8 B) 6 C) $\frac{11}{2}$ D) $\frac{9}{2}$ E) 3

9.  $m(\widehat{ABD}) = m(\widehat{ACB})$
 $|AD| = 4 \text{ br}$
 $|AB| = 6 \text{ br}$
 $\Rightarrow |DC| = x = ?$

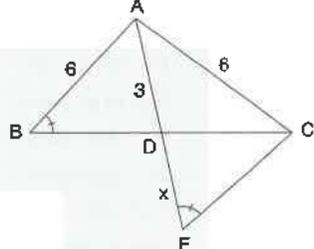
A) 1 B) 2 C) 3 D) 4 E) 5

13.  $m(\widehat{BDC}) = m(\widehat{BEC})$
 $2|AD| = |AE| = 6 \text{ br}$
 $|BD| = 11 \text{ br}$
 $\Rightarrow |EC| = x = ?$

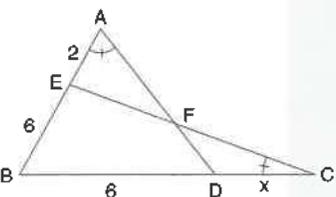
A) 1 B) 2 C) 3 D) 4 E) 5

10.  $[BA] \perp [AC]$
 $[ED] \perp [BC]$
 $|ED| = 4 \text{ br}$
 $|EC| = 5 \text{ br}$
 $|AB| = 12 \text{ br}$
 $\Rightarrow |AE| = x = ?$

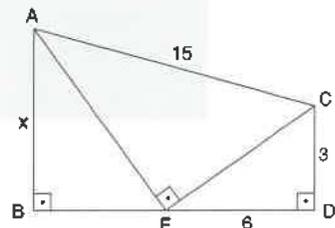
A) 11 B) 10 C) 9 D) 5 E) 4

14.  $m(\widehat{ABC}) = m(\widehat{AFC})$
 $|AB| = |AC| = 6 \text{ br}$
 $|AD| = 3 \text{ br}$
 $\Rightarrow |DF| = x = ?$

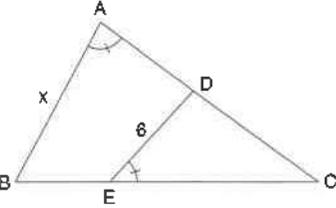
A) 12 B) 9 C) 7 D) $\frac{13}{2}$ E) $\frac{9}{2}$

11.  $m(\widehat{BAD}) = m(\widehat{ECB})$
 $|AE| = 2 \text{ br}$
 $|EB| = 6 \text{ br}$
 $|BD| = 6 \text{ br}$
 $\Rightarrow |DC| = x = ?$

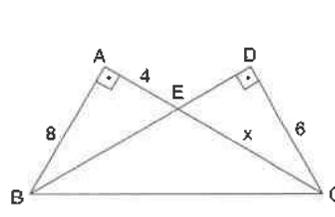
A) 1 B) 2 C) 3 D) 4 E) 5

15.  $[AB] \perp [BD]$
 $[AE] \perp [EC]$
 $[CD] \perp [BD]$
 $|ED| = 6 \text{ br}$
 $|CD| = 3 \text{ br}$
 $|AC| = 15 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) $12\sqrt{5}$ B) $6\sqrt{5}$ C) 12 D) 6 E) $\sqrt{5}$

12.  $m(\widehat{BAC}) = m(\widehat{DEC})$
 $3|DC| = 2|BC|$
 $|ED| = 6 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) 2 B) $\frac{7}{3}$ C) 4 D) 6 E) 9

16.  $[BA] \perp [AC]$
 $[BD] \perp [DC]$
 $|AB| = 8 \text{ br}$
 $|AE| = 4 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow |EC| = x = ?$

A) 12 B) $6\sqrt{5}$ C) $4\sqrt{5}$ D) $3\sqrt{5}$ E) 3

1. $m(\widehat{BAC}) = m(\widehat{EDF})$
 $|AB| = 3 \text{ br}$
 $|AC| = |DF| = 6 \text{ br}$
 $|DE| = 12 \text{ br}$
 $|BC| = 4 \text{ br}$
 $\Rightarrow |EF| = x = ?$

A) 16 B) 12 C) 8 D) 6 E) 4

5. $m(\widehat{ABC}) = m(\widehat{ACD})$
 $|AB| = 6 \text{ br}$
 $|AC| = 10 \text{ br}$
 $|DC| = 5 \text{ br}$
 $|BC| = 12 \text{ br}$
 $\Rightarrow |AD| = x = ?$

A) 24 B) 15 C) 12 D) $\frac{25}{3}$ E) $\frac{25}{6}$

2. $m(\widehat{BAC}) = m(\widehat{DEF})$
 $|AC| = 8 \text{ br}$
 $|AB| = 9 \text{ br}$
 $|BC| = 15 \text{ br}$
 $|ED| = 3 \text{ br}$
 $|DF| = 5 \text{ br}$
 $\Rightarrow |EF| = x = ?$

A) 2 B) $\frac{8}{3}$ C) 4 D) 16 E) 24

6. $|AE| = 2 \text{ br}$
 $|AD| = |DE| = 6 \text{ br}$
 $|BE| = 3 \text{ br}$
 $|DC| = 9 \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) 6 B) 9 C) 10 D) 12 E) 15

3. $m(\widehat{BAC}) = m(\widehat{CAD})$
 $|AB| = 20 \text{ br}$
 $|AC| = 10 \text{ br}$
 $|AD| = 5 \text{ br}$
 $|BC| = 12 \text{ br}$
 $\Rightarrow |DC| = x = ?$

A) 4 B) 6 C) 12 D) 24 E) 36

7. $|EC| = |DE| = 8 \text{ br}$
 $|BD| = 6 \text{ br}$
 $|BE| = 4 \text{ br}$
 $|AD| = 2 \text{ br}$
 $\Rightarrow |AC| = x = ?$

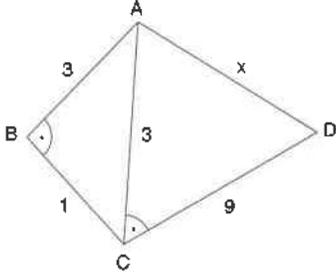
A) 24 B) 16 C) 12 D) 8 E) 4

4. $[AB] \parallel [DC]$
 $|AB| = 4 \text{ br}$
 $|BC| = 10 \text{ br}$
 $|AC| = 12 \text{ br}$
 $|DC| = 36 \text{ br}$
 $\Rightarrow |AD| = x = ?$

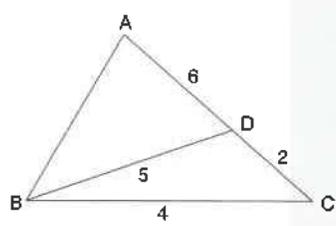
A) $\frac{10}{3}$ B) 5 C) 10 D) 30 E) 90

8. $|AD| = 3 \text{ br}$
 $|AE| = 5 \text{ br}$
 $|DE| = 6 \text{ br}$
 $|EB| = 1 \text{ br}$
 $|DC| = 7 \text{ br}$
 $\Rightarrow |BC| = x = ?$

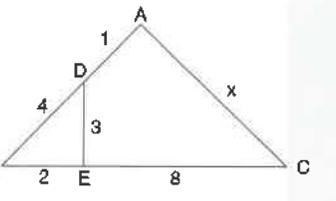
A) 18 B) 16 C) 12 D) 8 E) 6

9.  $m(\widehat{ABC}) = m(\widehat{ACD})$
 $|AB| = 3 \text{ br}$
 $|BC| = 1 \text{ br}$
 $|AC| = 3 \text{ br}$
 $|DC| = 9 \text{ br}$
 $\Rightarrow |AD| = x = ?$

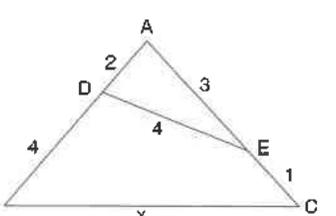
A) 27 B) 24 C) 18 D) 9 E) 3

10.  $|AD| = 6 \text{ br}$
 $|DC| = 2 \text{ br}$
 $|BD| = 5 \text{ br}$
 $|BC| = 4 \text{ br}$
 $\Rightarrow \angle(ABC) = ?$

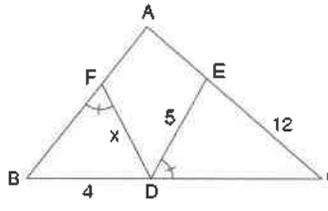
A) 5 B) 10 C) 17 D) 22 E) 25

11.  $|BD| = 2|BE| = 4 \text{ br}$
 $|AD| = 1 \text{ br}$
 $|EC| = 8 \text{ br}$
 $|DE| = 3 \text{ br}$
 $\Rightarrow |AC| = x = ?$

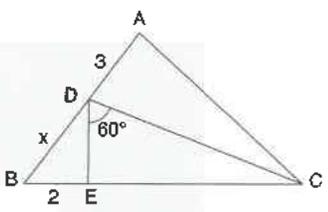
A) $\frac{7}{2}$ B) 4 C) 6 D) $\frac{15}{2}$ E) 10

12.  $|AD| = 2 \text{ br}$
 $|AE| = 3 \text{ br}$
 $|DE| = |BD| = 4 \text{ br}$
 $|EC| = 1 \text{ br}$
 $\Rightarrow |BC| = x = ?$

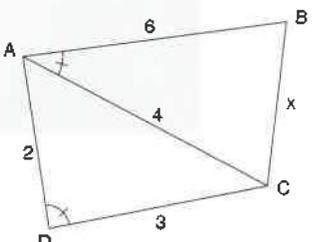
A) 16 B) 12 C) 8 D) 4 E) 2

13.  $|AB| = |AC|$
 $m(\widehat{BFD}) = m(\widehat{EDC})$
 $|EC| = 12 \text{ br}$
 $|DE| = 5 \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow |FD| = x = ?$

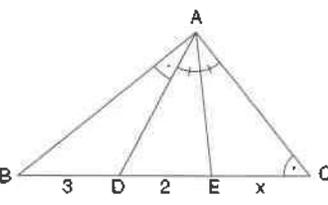
A) $\frac{1}{2}$ B) $\frac{2}{5}$ C) 1 D) $\frac{5}{3}$ E) 5

14.  ABC eşkenar üçgen
 ABC equilateral triangle
 $m(\widehat{EDC}) = 60^\circ$
 $|AD| = 3 \text{ br}$
 $|BE| = 2 \text{ br}$
 $\Rightarrow |BD| = x = ?$

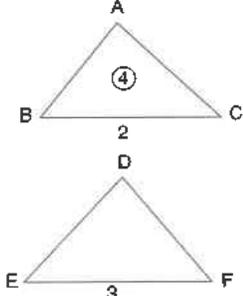
A) 2 B) $\frac{5}{2}$ C) $\frac{7}{2}$ D) 4 E) 6

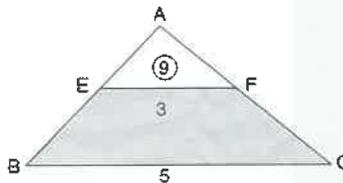
15.  $m(\widehat{BAC}) = m(\widehat{ADC})$
 $|AB| = 6 \text{ br}$
 $|AC| = 4 \text{ br}$
 $|AD| = 2 \text{ br}$
 $|DC| = 3 \text{ br}$
 $\Rightarrow |BC| = x = ?$

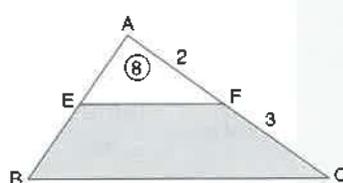
A) 8 B) 6 C) 5 D) 4 E) 2

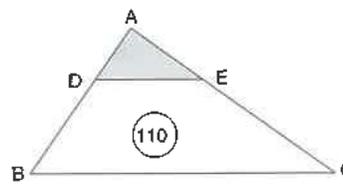
16.  $m(\widehat{BAD}) = m(\widehat{ACB})$
 $m(\widehat{DAE}) = m(\widehat{EAC})$
 $|BD| = 3 \text{ br}$
 $|DE| = 2 \text{ br}$
 $\Rightarrow |EC| = x = ?$

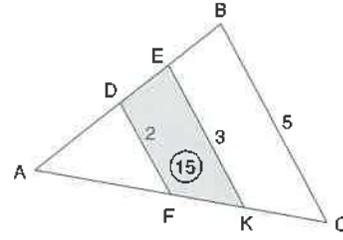
A) 1 B) 2 C) $\frac{10}{3}$ D) 4 E) $\frac{13}{3}$

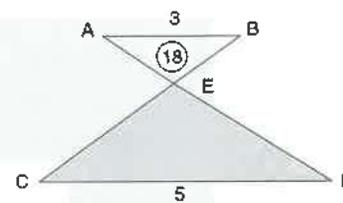
1.  $\widehat{ABC} \approx \widehat{DEF}$
 $|BC| = 2 \text{ br}$
 $|EF| = 3 \text{ br}$
 $A(ABC) = 4 \text{ br}^2$
 $\Rightarrow A(DEF) = ?$
- A) 3 B) 4 C) 6 D) 9 E) 18

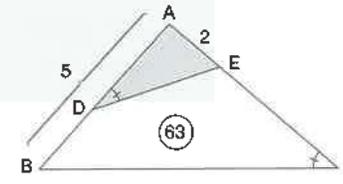
2.  $[EF] \parallel [BC]$
 $|EF| = 3 \text{ br}$
 $|BC| = 5 \text{ br}$
 $A(AEF) = 9 \text{ br}^2$
 $\Rightarrow A(EFCB) = ?$
- A) 50 B) 25 C) 16 D) 15 E) 6

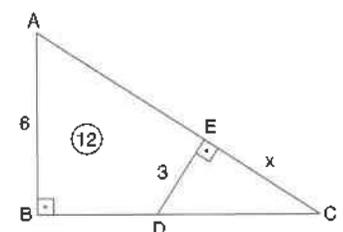
3.  $[EF] \parallel [BC]$
 $|AF| = 2 \text{ br}$
 $|FC| = 3 \text{ br}$
 $A(AEF) = 8 \text{ br}^2$
 $\Rightarrow A(EFCB) = ?$
- A) 50 B) 42 B) 25 C) 27 D) 17

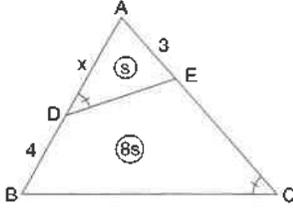
4.  $[DE] \parallel [BC]$
 $5|AE| = 3|EC|$
 $A(DECB) = 110 \text{ br}^2$
 $\Rightarrow A(ADE) = ?$
- A) 27 B) 18 C) 12 D) 9 E) 3

5.  $[DF] \parallel [EK] \parallel [BC]$
 $|DF| = 2 \text{ br}$
 $|EK| = 3 \text{ br}$
 $|BC| = 5 \text{ br}$
 $A(DFKE) = 15 \text{ br}^2$
 $\Rightarrow A(ADF) + A(EBCK) = ?$
- A) 60 B) 45 C) 35 D) 30 E) 20

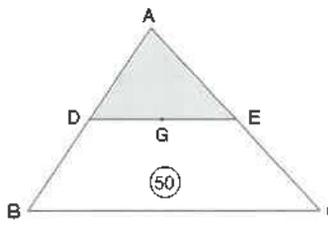
6.  $[AB] \parallel [CD]$
 $|AB| = 3 \text{ br}$
 $|CD| = 5 \text{ br}$
 $A(AEB) = 18 \text{ br}^2$
 $\Rightarrow A(CED) = ?$
- A) 100 B) 50 C) 30 D) 25 E) 18

7.  $m(\widehat{ADE}) = m(\widehat{ACB})$
 $|AE| = 2 \text{ br}$
 $|AB| = 5 \text{ br}$
 $A(DECB) = 63 \text{ br}^2$
 $\Rightarrow A(DAE) = ?$
- A) 4 B) 8 C) 12 D) 14 E) 16

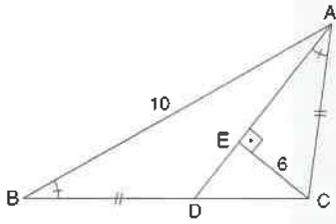
8.  $[AB] \perp [BC]$
 $[DE] \perp [AC]$
 $|AB| = 6 \text{ br}$
 $|ED| = 3 \text{ br}$
 $A(ABDE) = 12 \text{ br}^2$
 $\Rightarrow |EC| = x = ?$
- A) $\frac{6}{2}$ B) 2 C) $\frac{8}{3}$ D) 3 E) 6

9.  $m(\widehat{ADE}) = m(\widehat{ACB})$
 $8A(\triangle ADE) = A(\triangle DEC)$
 $|AE| = 3 \text{ br}$
 $|DB| = 4 \text{ br}$
 $\Rightarrow |AD| = x = ?$

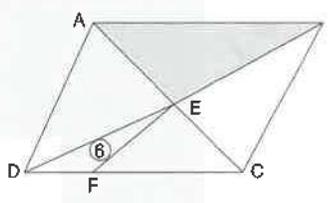
A) 9 B) 6 C) 5 D) 4 E) 3

13.  $G, ABC \text{ üçgeninin}$
 ağırlık merkezi
 $G, \text{ center of gravity of}$
 $ABC \text{ triangle's}$
 $[DE] \parallel [BC]$
 $A(\triangle DEC) = 50 \text{ br}^2$
 $\Rightarrow A(\triangle ADE) = ?$

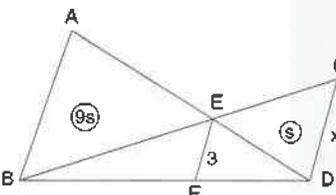
A) 5 B) 10 C) 20 D) $\frac{200}{9}$ E) 40

10.  $m(\widehat{DAC}) = m(\widehat{ABC})$
 $|AC| = |BD|$
 $[CE] \perp [AD]$
 $|AB| = 10 \text{ br}$
 $|EC| = 6 \text{ br}$
 $\Rightarrow A(\triangle ABD) = ?$

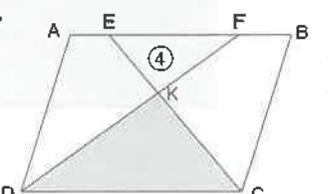
A) 10 B) 12 C) 15 D) 30 E) 60

14.  ABCD paralelkenar
 $ABCD \text{ paralelkenar}$
 $3|DF| = 2|FC|$
 $A(\triangle DEF) = 6 \text{ br}^2$
 $\Rightarrow A(\triangle ABE) = ?$

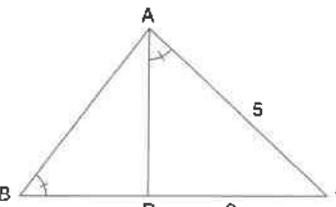
A) 10 B) 15 C) 25 E) $\frac{75}{2}$ E) 50

11.  $[AB] \parallel [EF] \parallel [CD]$
 $A(\triangle ABE) = 9A(\triangle ECD)$
 $|EF| = 3 \text{ br}$
 $\Rightarrow |CD| = x$

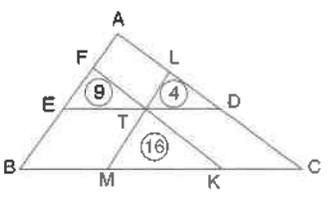
A) 1 B) 3 C) 4 D) $\frac{14}{3}$ E) 12

15.  ABCD paralelkenar
 $ABCD \text{ paralelkenar}$
 $3|AE| = 6|EF| = 2|FB|$
 $A(\triangle EFK) = 4 \text{ br}^2$
 $\Rightarrow A(\triangle DKC) = ?$

A) 144 B) 72 C) 36 D) 24 E) 18

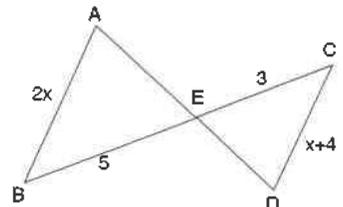
12.  $m(\widehat{DAC}) = m(\widehat{ABC})$
 $|AC| = 5 \text{ br}$
 $|DC| = 3 \text{ br}$
 $= \frac{A(\triangle ABD)}{A(\triangle ADC)} = ?$

A) $\frac{2}{3}$ B) $\frac{5}{3}$ C) $\frac{16}{9}$ D) $\frac{25}{9}$ E) $\frac{25}{3}$

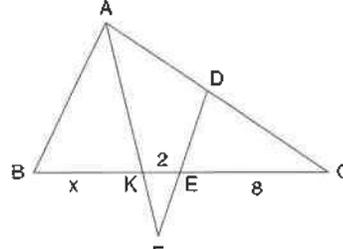
16.  $[ED] \parallel [BC]$
 $[ML] \parallel [AB]$
 $[FK] \parallel [AC]$
 $A(\triangle EFT) = 9 \text{ br}^2$
 $A(\triangle TLD) = 4 \text{ br}^2$
 $A(\triangle TMK) = 16 \text{ br}^2$
 $\Rightarrow A(\triangle ABC) = ?$

A) 27 B) 29 C) 48 D) 64 E) 81

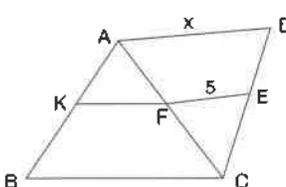
PUZAYINLARI

1.  $[AB] \parallel [CD]$
 $|BE| = 5 \text{ br}$
 $|EC| = 3 \text{ br}$
 $|AB| = 2x$
 $|CD| = x + 4$
 $\Rightarrow x = ?$

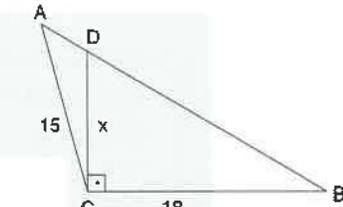
A) 20 B) 12 C) 10 D) 4 E) $\frac{20}{11}$

5.  $[DF] \parallel [AB]$
 $|DE| = 2|EF|$
 $|EC| = 8 \text{ br}$
 $|KE| = 2 \text{ br}$
 $\Rightarrow |BK| = x = ?$

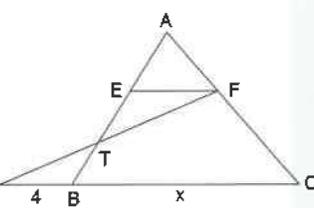
A) 10 B) 8 C) 6 D) 4 E) 2

2.  $[KF] \parallel [BC]$
 $[FE] \parallel [AD]$
 $3|KF| = |BC|$
 $|EF| = 5 \text{ br}$
 $\Rightarrow |AD| = x = ?$

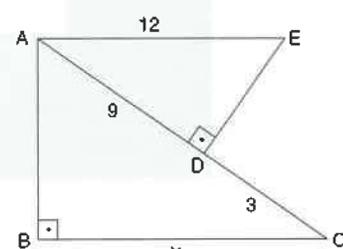
A) 1 B) $\frac{6}{5}$ C) $\frac{10}{3}$ D) $\frac{15}{2}$ E) 15

6.  $[DC] \perp [CB]$
 $2|AD| = |DB|$
 $|AC| = 15 \text{ br}$
 $|CB| = 18 \text{ br}$
 $\Rightarrow |DC| = x = ?$

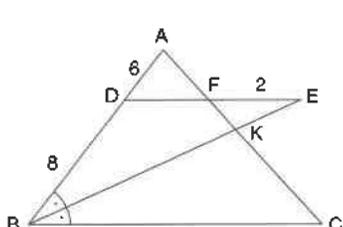
A) 6 B) 8 C) 12 D) 16 E) 20

3.  $[EF] \parallel [DC]$
 $2|AE| = 2|ET| = |BT|$
 $|DB| = 4 \text{ br}$
 $\Rightarrow |BC| = x = ?$

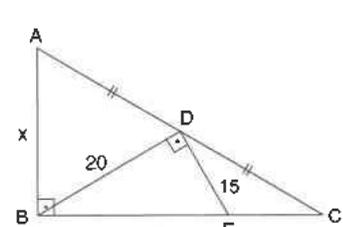
A) 2 B) 3 C) 4 D) 6 E) 8

7.  $[AE] \parallel [BC]$
 $[ED] \perp [AC]$
 $[AB] \perp [BC]$
 $|AE| = 12 \text{ br}$
 $|AD| = 9 \text{ br}$
 $|DC| = 3 \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) 10 B) 9 C) $\frac{45}{4}$ D) $\frac{15}{2}$ E) 5

4.  $[DE] \parallel [BC]$
 $|EF| = 2 \text{ br}$
 $|AD| = 6 \text{ br}$
 $|BD| = 8 \text{ br}$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $\Rightarrow |BC| = x = ?$

A) $\frac{56}{3}$ B) 14 C) 8 D) 6 E) 4

8.  $[AB] \perp [BC]$
 $[BD] \perp [DE]$
 $|AD| = |DC|$
 $|BD| = 20 \text{ br}$
 $|DE| = 15 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) 36 B) 24 C) 12 D) 8 E) 6

PUZAYYINLARI

9.

$|BD| = |DC|$
 $[BA] \perp [AC]$
 $[BE] \perp [ED]$
 $|EB| = 8 \text{ br}$
 $|ED| = 6 \text{ br}$
 $m(\widehat{EBC}) = m(\widehat{ACB})$
 $\Rightarrow A(ABC) = ?$

A) 48 B) 64 C) 96 D) 100 E) 114

13.

$[AB] \parallel [EC]$
 $|AB| = 12 \text{ br}$
 $|EF| = 6 \text{ br}$
 $|FT| = |TB| = 4 \text{ br}$
 $\Rightarrow |DC| = x = ?$

A) 9 B) 12 C) 16 D) 21 E) 30

10.

$[BA] \perp [AC]$
 $DEFK$ dikdörtgen
 $DEFK$ rectangle
 $|BK| = 9 \text{ br}$
 $|FC| = 4 \text{ br}$
 $\Rightarrow |EF| = x = ?$

A) $\frac{2}{3}$ B) 4 C) $\frac{9}{2}$ D) 6 E) 36

14.

$DEKF$ kare
 $DEKF$ square
 $|EK| = 4 \text{ br}$
 $|BC| = 10 \text{ br}$
 $\Rightarrow |AP| = x = ?$

A) 1 B) $\frac{4}{3}$ C) $\frac{8}{3}$ D) 4 E) 32

11.

$[AB] \parallel [CD]$
 $m(\widehat{ABC}) = m(\widehat{AKC})$
 $|AF| = 10 \text{ br}$
 $|BF| = 4 \text{ br}$
 $|FK| = 2 \text{ br}$
 $\Rightarrow |KD| = x = ?$

A) 21 B) $\frac{21}{2}$ C) 12 D) 6 E) $\frac{11}{2}$

15.

$m(\widehat{BEC}) = m(\widehat{BDC})$
 $|DC| = 3 \text{ br}$
 $|BE| = 15 \text{ br}$
 $|AE| = 3 \text{ br}$
 $\Rightarrow |AD| = x = ?$

A) 3 B) 4 C) 6 D) 9 E) 12

12.

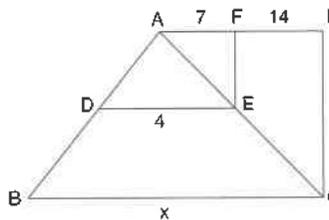
$m(\widehat{BAC}) = m(\widehat{EBC})$
 $|BD| = |BE| = 4 \text{ br}$
 $|EC| = 1 \text{ br}$
 $\Rightarrow |AD| = x = ?$

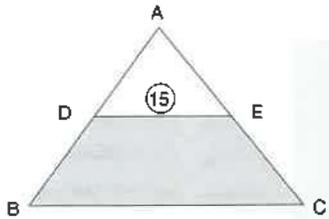
A) 16 B) 8 C) 4 D) 2 E) 1

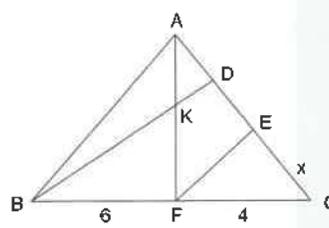
16.

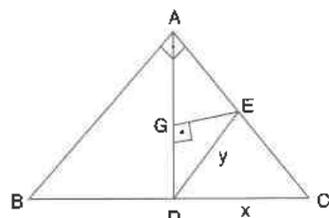
$[DE] \parallel [BC]$
 I iç teğet çemberin merkezi
 I center point of the incircle
 $|AD| = 6 \text{ br}$
 $|BD| = 2 \text{ br}$
 $|EC| = 5 \text{ br}$
 $\Rightarrow |BC| = x = ?$

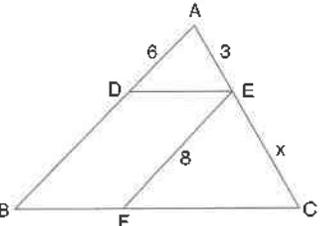
A) $\frac{28}{3}$ B) 8 C) 6 D) $\frac{21}{4}$ E) 5

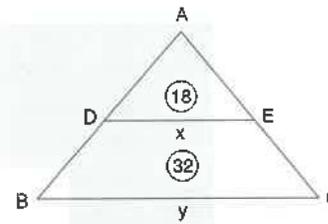
1.  [DE] // [BC]
[FE] // [KC]
|AF| = 7 br
|FK| = 14 br
|DE| = 4 br
 $\Rightarrow |BC| = x = ?$
- A) 2 B) 6 C) 8 D) 10 E) 12

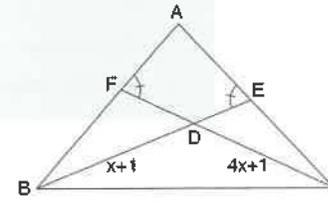
2.  [DE] // [BC]
 $5|AD| = 3|AB|$
 $A(ADE) = 15 \text{ br}^2$
 $\Rightarrow A(DECB) = ?$
- A) $\frac{5}{3}$ B) $\frac{80}{3}$ C) 30 D) $\frac{225}{3}$ E) 80

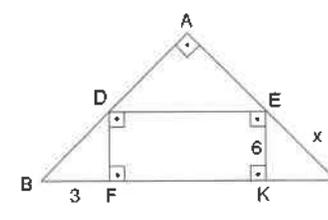
3.  [BD] // [FE]
 $2|AK| = 3|KF|$
|BF| = 6 br
|FC| = 4 br
|AC| = 19 br
 $\Rightarrow |EC| = x = ?$
- A) 2 B) 3 C) 4 D) 6 E) 8

4.  G, ABC üçgeninin
ağırlık merkezi
G, center of gravity of
ABC triangle's
[AB] // [ED]
[BA] \perp [AC]
[EG] \perp [AD]
|ED| = y
|DC| = x
 $= \frac{x}{y} = ?$
- A) $\frac{1}{\sqrt{3}}$ B) 1 C) $\sqrt{3}$ D) 3 E) $3\sqrt{3}$

5.  DEFB paralelkenar
DEFB paralelogram
|AD| = 2|AE| = 6 br
|EF| = 8 br
 $\Rightarrow |EC| = x = ?$
- A) 1 B) 2 C) 3 D) 4 E) 5

6.  [DE] // [BC]
 $A(ADE) = 18 \text{ br}^2$
 $A(DECB) = 32 \text{ br}^2$
|DE| = x
|BC| = y
 $= \frac{x}{y} = ?$
- A) $\frac{3}{4}$ B) $\frac{3}{5}$ C) $\frac{3}{7}$ D) $\frac{9}{25}$ E) $\frac{9}{49}$

7.  $m(\widehat{AFC}) = m(\widehat{AEB})$
|FD| = x
|DE| = 2x + 2
|DC| = 4x + 1
|BD| = x + 1
 $\Rightarrow \frac{A(BFD)}{A(DEC)} = ?$
- A) $\frac{1}{9}$ B) $\frac{1}{3}$ C) 1 D) 3 E) 9

8.  DEKF dikdörtgen
DEKF rectangle
[BA] \perp [AC]
|BF| = 3 br
|EK| = 6 br
 $\Rightarrow |EC| = x = ?$
- A) $\sqrt{5}$ B) 5 C) $3\sqrt{5}$ D) $6\sqrt{5}$ E) $12\sqrt{5}$

9.

DEFB ve DECK
paralelkenar
*DEFB and DECK
parallelogram*
 $|DE| = 6$ br
 $|BC| = 16$ br
 $\Rightarrow \frac{A(DET)}{A(FTK)} = ?$

- A) 1 B) $\frac{3}{2}$ C) $\frac{9}{4}$ D) 3 E) 9

10.

$|AB| = |AC|$
 $m(\widehat{FDE}) = 72^\circ$
 $|BF| = 6$ br
 $|EC| = 4$ br
 $|BD| = 3$ br
 $|DC| = 8$ br
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

- A) 144 B) 72 C) 36 D) 18 E) 9

11.

ABC, DEC eşkenar
üçgen
*ABC, DEC equilateral
triangle*
 $|EC| = 6$ br
 $|BC| = 10$ br
 $\Rightarrow |FC| = x = ?$

- A) 2 B) 3,6 C) 4 D) 4,8 E) 8

12.

ABC eşkenar üçgen
*ABC equilateral
triangle*
 $m(\widehat{AED}) = m(\widehat{FDC})$
 $|BF| = 3$ br
 $|DC| = 3$ br
 $\Rightarrow |AE| = x = ?$

- A) 1 B) $\frac{3}{2}$ C) 2 D) 3 E) 4

13.

DEKF kare
DEKF square
 $|AH| = 12$ br
 $|BC| = 10$ br
 $\Rightarrow |EK| = x = ?$

- A) 60 B) 30 C) 15 D) $\frac{32}{5}$ E) $\frac{60}{11}$

14.

$m(\widehat{EAC}) = m(\widehat{ABC})$
 $m(\widehat{BAD}) = m(\widehat{DAE})$
 $|DE| = 4$ br
 $|EC| = 6$ br
 $\Rightarrow |BD| = x = ?$

- A) 2 B) 4 C) $\frac{22}{5}$ D) $\frac{20}{3}$ E) $\frac{35}{2}$

15.

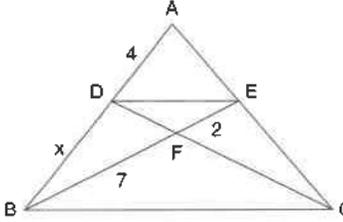
$[ET] \perp [BC]$
 $[KL] \perp [AB]$
 $[FS] \perp [AC]$
 $|EF| = 4$ br
 $|FK| = 6$ br
 $|AC| = 12$ br
 $\Rightarrow |BC| = x = ?$

- A) 2 B) 4 C) 6 D) 8 E) 12

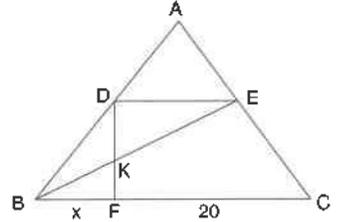
16.

$m(\widehat{CAE}) = m(\widehat{BAD})$
 $m(\widehat{AED}) = m(\widehat{ABC})$
 $|AD| = 9$ br
 $|DC| = 9$ br
 $|DF| = 6$ br
 $\Rightarrow |AF| = x = ?$

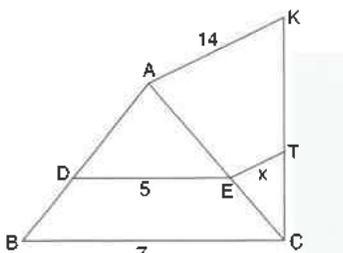
- A) 3 B) 6 C) 8 D) 9 E) 12

1.  $[DE] \parallel [BC]$
 $|EF| = 2 \text{ br}$
 $|BF| = 7 \text{ br}$
 $|AD| = 4 \text{ br}$
 $\Rightarrow |BD| = x = ?$

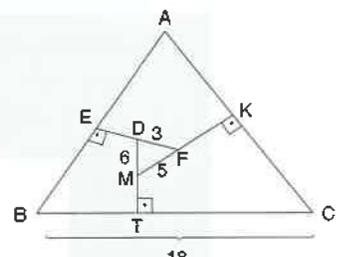
A) $\frac{1}{2}$ B) 3 C) 10 D) 14 E) 18

5.  $[DE] \parallel [BC]$
 $|AD| = 2|BD|$
 $|EK| = 3|BK|$
 $|FC| = 20 \text{ br}$
 $\Rightarrow |BF| = x = ?$

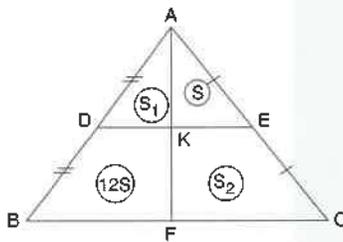
A) $\frac{20}{7}$ B) $\frac{10}{3}$ C) $\frac{40}{7}$ D) 20 E) 40

2.  $[DE] \parallel [BC]$
 $[AK] \parallel [ET]$
 $|AK| = 14 \text{ br}$
 $|DE| = 5 \text{ br}$
 $|BC| = 7 \text{ br}$
 $\Rightarrow |ET| = x = ?$

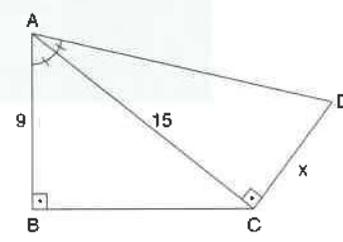
A) 2 B) 3 C) 4 D) $\frac{49}{6}$ E) $\frac{98}{5}$

6.  $[FE] \perp [AB]$
 $[MK] \perp [AC]$
 $[DT] \perp [BC]$
 $|DF| = 3 \text{ br}$
 $|DM| = 6 \text{ br}$
 $|MF| = 5 \text{ br}$
 $|BC| = 18 \text{ br}$
 $\Rightarrow \angle(ABC) = ?$

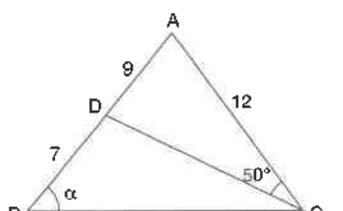
A) 28 B) 42 C) 56 D) 70 E) 84

3.  $|AD| = |DB|$
 $|AE| = |EC|$
 $12A(AKE) = A(DKFB)$
 $A(ADK) = S_1$
 $A(KECF) = S_2$
 $\Rightarrow \frac{S_1}{S_2} = ?$

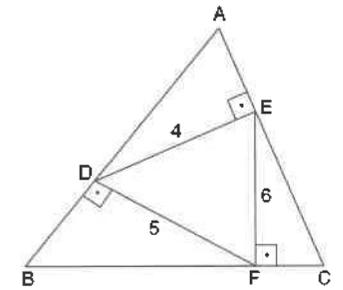
A) $\frac{1}{12}$ B) $\frac{3}{4}$ C) 1 D) $\frac{4}{3}$ E) 12

7.  $[AB] \perp [BC]$
 $[AC] \perp [CD]$
 $|AB| = 9 \text{ br}$
 $|AC| = 15 \text{ br}$
 $\Rightarrow |DC| = x = ?$

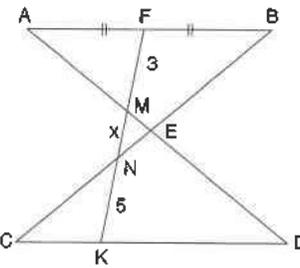
A) 9 B) 12 C) 15 D) 20 E) 25

4.  $|AD| = 9 \text{ br}$
 $|BD| = 7 \text{ br}$
 $|AC| = 12 \text{ br}$
 $m(\widehat{ACD}) = 50^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

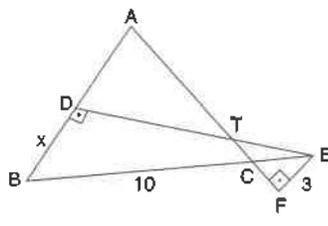
A) 25 B) 40 C) 50 D) 80 E) 100

8.  $[DE] \perp [AC]$
 $[FD] \perp [AB]$
 $[EF] \perp [BC]$
 $|DF| = 5 \text{ br}$
 $|DE| = 4 \text{ br}$
 $|EF| = 6 \text{ br}$
 $|BC| = 12 \text{ br}$
 $\Rightarrow \angle(ABC) = ?$

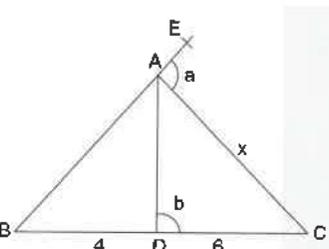
A) 15 B) 30 C) 45 D) 60 E) 75

9.  $|AF| = |FB|$
 $7|CK| = 3|KD|$
 $|AB| \parallel |CD|$
 $|FM| = 3 \text{ br}$
 $|NK| = 5 \text{ br}$
 $\Rightarrow |MN| = x = ?$

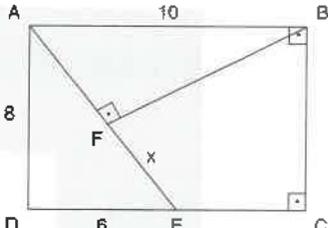
A) 5 B) 4 C) 3 D) 2 E) 1

13.  $|AC| = |AB|$
 $|ED| \perp |AB|$
 $|EF| \perp |AC|$
 $|BC| = 10 \text{ br}$
 $|CE| = 5 \text{ br}$
 $|EF| = 3 \text{ br}$
 $\Rightarrow |BD| = x = ?$

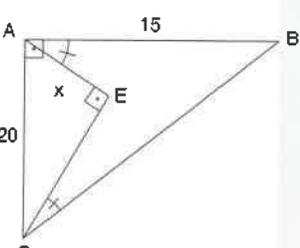
A) 6 B) 8 C) 9 D) 12 E) 15

10.  $m(\widehat{EAC}) = a$
 $m(\widehat{ADC}) = b$
 $a + b = 180^\circ$
 $|BD| = 4 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow |AC| = x = ?$

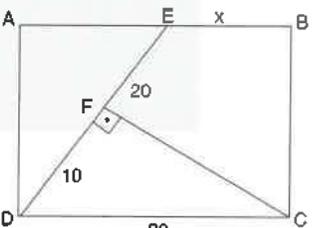
A) $\sqrt{5}$ B) $\sqrt{10}$ C) $\sqrt{15}$ D) $\sqrt{30}$ E) $2\sqrt{15}$

14.  ABCD dikdörtgen
 ABCD rectangle
 $|BF| \perp |AE|$
 $|AB| = 10 \text{ br}$
 $|AD| = 8 \text{ br}$
 $|DE| = 6 \text{ br}$
 $\Rightarrow |FE| = x = ?$

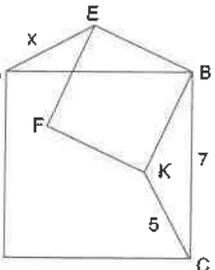
A) 10 B) 8 C) 6 D) 4 E) 2

11.  $|CA| \perp |AB|$
 $|AE| \perp |EC|$
 $m(\widehat{BAE}) = m(\widehat{ECB})$
 $|AC| = 20 \text{ br}$
 $|AB| = 15 \text{ br}$
 $\Rightarrow |AE| = x = ?$

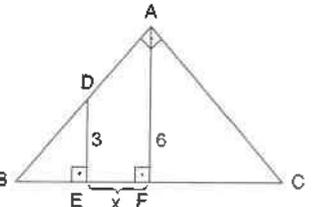
A) $\sqrt{5}$ B) $\sqrt{10}$ C) $2\sqrt{10}$ D) $4\sqrt{10}$ E) $8\sqrt{10}$

15.  ABCD dikdörtgen
 ABCD rectangle
 $|DE| \perp |FC|$
 $|EF| = 20 \text{ br}$
 $|DF| = 10 \text{ br}$
 $|DC| = 20 \text{ br}$
 $\Rightarrow |EB| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

12.  ABCD ve EBKF kare
 ABCD and EBKF square
 $|BC| = 7 \text{ br}$
 $|KC| = 5 \text{ br}$
 $\Rightarrow |AE| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 7

16.  $|BA| \perp |AC|$
 $|DE| \perp |BC|$
 $|AF| \perp |BC|$
 $|AF| = 6 \text{ br}$
 $|DE| = 3 \text{ br}$
 $A(\widehat{AFC}) = 4A(\widehat{BDE})$
 $\Rightarrow |EF| = x = ?$

A) 6 B) 5 C) 4 D) 3 E) 2

ÜÇGENDE BENZERLİK

TRIANGLE SIMILARITIES

YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	E	E	D	C	C	A	D	A	D	B	E	C	D	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	D	D	A	E	A	E	B	B	D	D	A	B	C	A

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	B	E	C	B	D	D	E	C	E	C	E	B	B	A

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	E	D	B	D	C	A	B	D	D	D	B	B	A	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	A	D	C	B	E	D	E	E	B	E	A	B	C	D

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	B	D	D	E	B	C	D	D	D	C	D	E	A	C

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	B	B	A	B	C	C	C	D	C	C	E	B	A	E

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	E	B	A	B	B	B	C	D	B	A	D	C	C	A

TEST 9

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	C	C	D	B	A	D	C	C	B	D	E	D	D	B

TEST 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	D	C	C	B	D	B	D	E	C	D	D	D	E	D



MENELAUS-SEVA
CARNOT-STEWART

MENELAUS-CEVA
CARNOT-STEWART

MENELAUS-SEVA-CARNOT-STEWART

ÖZELLİK | Property 1

$$\frac{a}{a+b} \cdot \frac{c}{c+d} \cdot \frac{e}{e+f} = 1$$

$$\frac{d}{d+c} \cdot \frac{b}{b+a} \cdot \frac{g}{g+h} = 1$$

1.

$\Rightarrow x = ?$

$\frac{4}{3}$

ÖZELLİK | Property 2

$$a \cdot c \cdot e = b \cdot d \cdot f$$

1.

$\Rightarrow x = ?$

6

2.

$\Rightarrow x = ?$

2

2.

$|AB| = 3|AF|$
 $\Rightarrow x = ?$

3

3.

$\Rightarrow x = ?$

4

3.

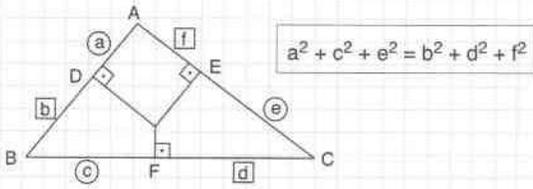
$\Rightarrow x = ?$

$\frac{30}{13}$

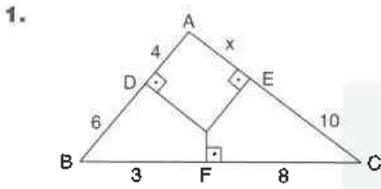
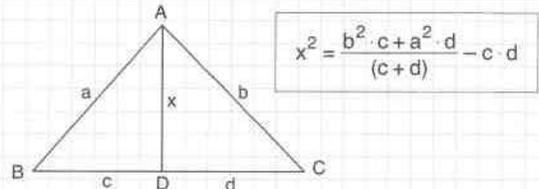
PUZAYYINLARI

MENELAUS-CEVA-CARNOT-STEWART

ÖZELLİK | Property 3

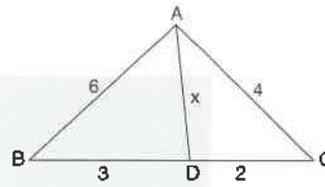


ÖZELLİK | Property 4



$$\Rightarrow x = ?$$

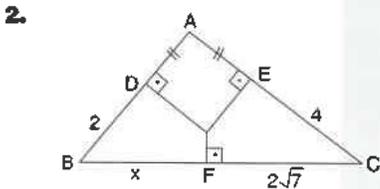
5



$$\Rightarrow x = ?$$

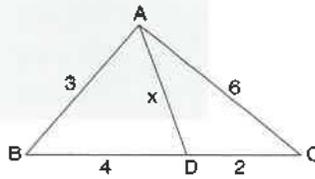
$3\sqrt{2}$

PUZAYAYINLARI



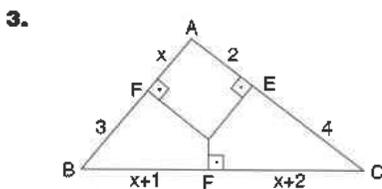
$$\Rightarrow x = ?$$

4



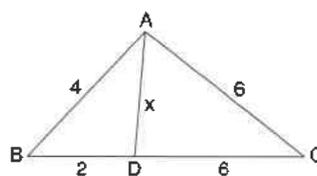
$$\Rightarrow x = ?$$

$\sqrt{19}$



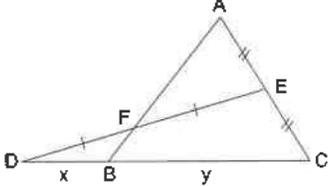
$$\Rightarrow x = ?$$

2

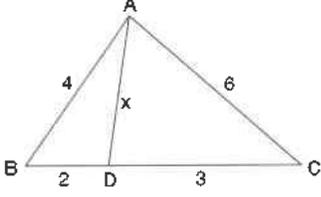


$$\Rightarrow x = ?$$

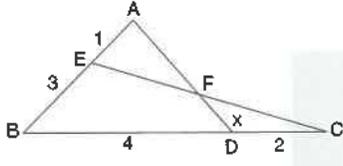
3

1.  $|AE| = |EC|$
 $|DF| = |FE|$
 $|DB| = x$
 $|BC| = y$
 $\Rightarrow \frac{x}{y} = ?$

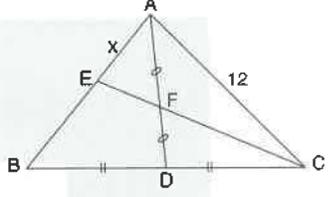
A) $\frac{1}{4}$ B) $\frac{1}{2}$ C) 1 D) 2 E) 4

5.  $|BD| = 2 \text{ br}$
 $|DC| = 3 \text{ br}$
 $|AB| = 4 \text{ br}$
 $|AC| = 6 \text{ br}$
 $\Rightarrow |AD| = x = ?$

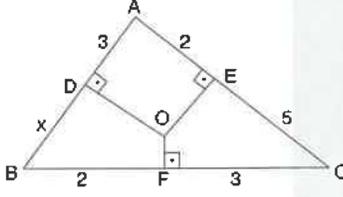
A) $\sqrt{6}$ B) $2\sqrt{3}$ C) $\sqrt{14}$ D) $3\sqrt{2}$ E) 5

2.  $|EA| = 1 \text{ br}$
 $|EB| = 3 \text{ br}$
 $|BD| = 4 \text{ br}$
 $|DC| = 2 \text{ br}$
 $|AD| = 5 \text{ br}$
 $\Rightarrow |FD| = x = ?$

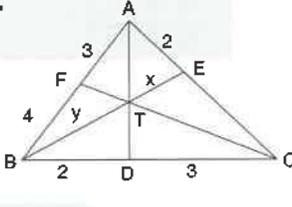
A) $\frac{2}{5}$ B) $\frac{5}{4}$ C) $\frac{5}{2}$ D) $\frac{8}{5}$ E) $\frac{8}{7}$

6.  ABC eşkenar üçgen
ABC, equilateral triangle
 $|AC| = 12 \text{ br}$
 $|AF| = |FD|$
 $|BD| = |DC|$
 $\Rightarrow |AE| = x = ?$

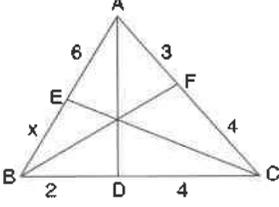
A) 4 B) 6 C) 8 D) 9 E) 10

3.  $[OD] \perp [AB]$
 $[OE] \perp [AC]$
 $[OF] \perp [BC]$
 $|AD| = 3 \text{ br}$
 $|AE| = 2 \text{ br}$
 $|FC| = 3 \text{ br}$
 $|BF| = 2 \text{ br}$
 $|EC| = 5 \text{ br}$
 $\Rightarrow |DB| = x = ?$

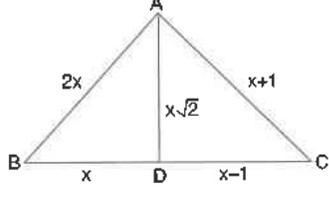
A) 4 B) 5 C) $4\sqrt{2}$ D) $4\sqrt{3}$ E) 8

7.  $|AE| = |BD| = 2 \text{ br}$
 $|BF| = 4 \text{ br}$
 $|AF| = |DC| = 3 \text{ br}$
 $|ET| = x$
 $|BT| = y$
 $\Rightarrow \frac{x}{y} = ?$

A) $\frac{1}{3}$ B) $\frac{1}{2}$ C) 1 D) 2 E) 3

4.  $|BD| = 2 \text{ br}$
 $|AF| = 3 \text{ br}$
 $|DC| = |FC| = 4 \text{ br}$
 $|AE| = 6 \text{ br}$
 $\Rightarrow |BE| = x = ?$

A) 2 B) 3 C) 4 D) 6 E) 12

8.  $|AB| = 2|BD| = 2x$
 $|AC| = x + 1$
 $|DC| = x - 1$
 $|AD| = x\sqrt{2}$
 $\Rightarrow x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

9. $|EC| = |BD| = 2$ br
 $|AE| = 4$ br
 $|FC| = 3$ br
 $\Rightarrow |BF| = x = ?$

A) 2 B) 3 C) 4 D) 6 E) 12

13. G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $2|BF| = |FG|$
 $|GC| = 20$ br
 $\Rightarrow |EK| = x = ?$

A) 1 B) 2 C) 4 D) 8 E) 6

10. $[OE] \perp [AC]$
 $[OF] \perp [AB]$
 $[OD] \perp [BC]$
 $|BF| = 3x$
 $|AE| = 4x$
 $|EC| = 5x$
 $|AF| = 2$ br
 $|BD| = 3$ br
 $\Rightarrow |DC| = x = ?$

A) 2 B) 3 C) $\sqrt{6}$ D) $\sqrt{11}$ E) $\sqrt{13}$

14. $|AC| = 3$ br
 $|AB| = 6$ br
 $|BD| = 2$ br
 $|DC| = 4$ br
 $\Rightarrow |AD| = x = ?$

A) $\sqrt{19}$ B) 4 C) $2\sqrt{3}$ D) $2\sqrt{2}$ E) 12

11. $[BA] \perp [AC]$
 $|AF| = |FC| = 6$ br
 $|AE| = 3$ br
 $|EB| = 2$ br
 $\Rightarrow |DB| = x = ?$

A) 1 B) $\frac{13}{5}$ C) 3 D) $\frac{26}{5}$ E) $\frac{35}{3}$

15. $|BD| = |DC|$
 $|AF| = |BF| = 4$ br
 $|EF| = 2$ br
 $|EC| = 3$ br
 $\Rightarrow |FD| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 6

12. $|BF| = |FA|$
 $|AC| = 8$ br
 $3|BD| = 6|DE| = 2|EC|$
 $\Rightarrow |FK| = x = ?$

A) $\frac{1}{3}$ B) $\frac{3}{4}$ C) 1 D) 2 E) 3

16. $[AC] \perp [CE]$
 $|AD| = 4\sqrt{2}$ br
 $|AB| = 10$ br
 $|DC| = 3$ br
 $|EC| = 12$ br
 $|BD| = 6$ br
 $\Rightarrow |AE| = x = ?$

A) $\sqrt{29}$ B) $\sqrt{30}$ C) 6 D) 10 E) 13

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YANIT ANAHTARI | ANSWER KEY

TEST 1

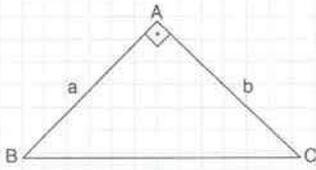
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	B	C	D	A	B	B	D	E	D	D	B	A	B	E



ÜÇGENDE ALAN
AREAS OF TRIANGLES

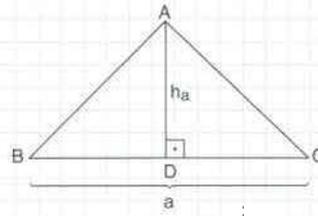
ÜÇGENDE ALAN

ÖZELLİK | Property 1



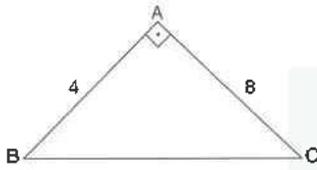
$$A(ABC) = \frac{a \cdot b}{2}$$

ÖZELLİK | Property 2



$$A(ABC) = \frac{a \cdot h_a}{2}$$

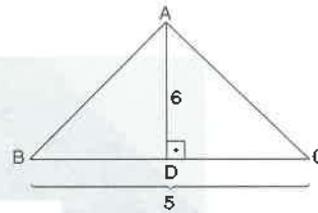
1.



$$\Rightarrow A(ABC) = ?$$

16

1.

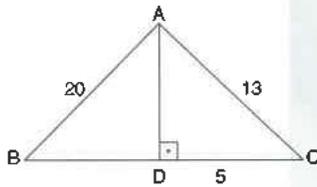


$$\Rightarrow A(ABC) = ?$$

15

PUZAYYINLARI

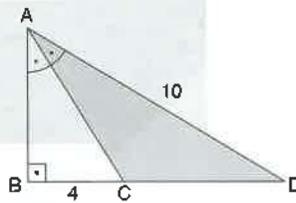
2.



$$\Rightarrow A(ABC) = ?$$

126

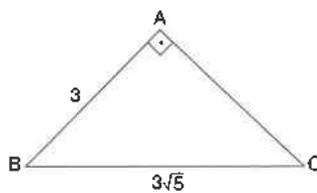
2.



$$\Rightarrow A(ACD) = ?$$

20

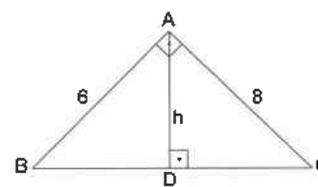
3.



$$\Rightarrow A(ABC) = ?$$

9

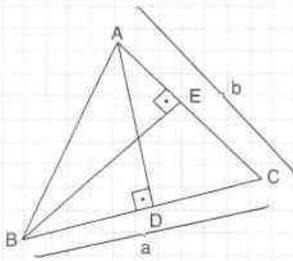
3.



$$\Rightarrow h = ?$$

4,8

ÖZELLİK | Property 3

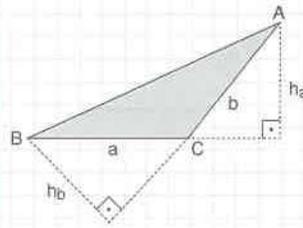


$$|AD| = h_a$$

$$|BE| = h_b$$

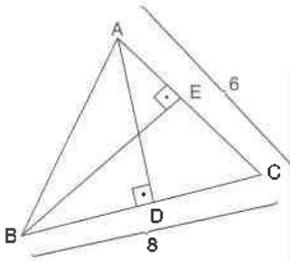
$$A(ABC) = \frac{a \cdot h_a}{2} = \frac{b \cdot h_b}{2}$$

ÖZELLİK | Property 4



$$A(ABC) = \frac{a \cdot h_a}{2} = \frac{b \cdot h_b}{2}$$

1.

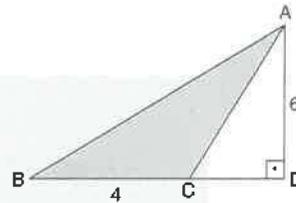


$$|AD| = 3 \text{ br}$$

$$\Rightarrow |BE| = ?$$

4

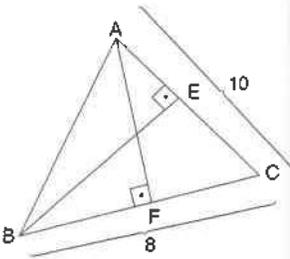
1.



$$\Rightarrow A(ABC) = ?$$

12

2.

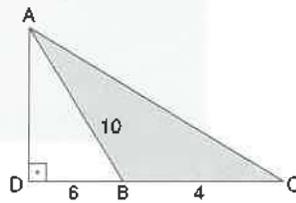


$$|BE| = 6 \text{ br}$$

$$\Rightarrow |AF| = ?$$

$\frac{15}{2}$

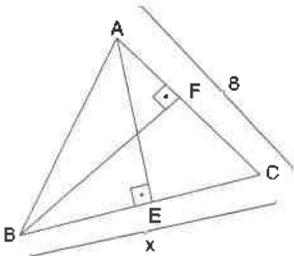
2.



$$\Rightarrow A(ABC) = ?$$

16

3.



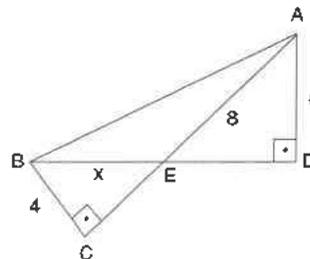
$$|AE| = 4 \text{ br}$$

$$|BF| = 6 \text{ br}$$

$$\Rightarrow x = ?$$

12

3.

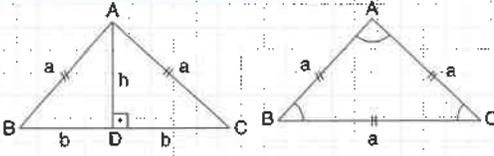


$$\Rightarrow x = ?$$

$\frac{16}{3}$

ÜÇGENDE ALAN

ÖZELLİK | Property 5



İkizkenar üçgen

Isosceles triangle

$$b^2 + h^2 = a^2$$

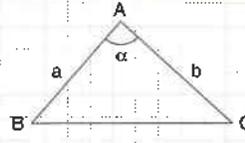
$$A(ABC) = \frac{2b \cdot h}{2} = b \cdot h$$

Eşkenar üçgen

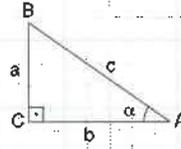
Equilateral triangle

$$A(ABC) = \frac{a^2 \sqrt{3}}{4}$$

ÖZELLİK | Property 6



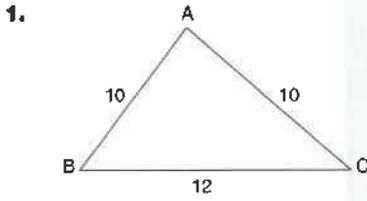
$$A(ABC) = \frac{a \cdot b}{2} \cdot \sin \alpha$$



ABC dik üçgen

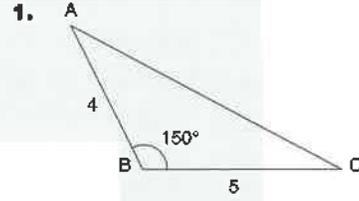
ABC right triangle

$$\sin \alpha = \frac{a}{c}$$



$$\Rightarrow A(ABC) = ?$$

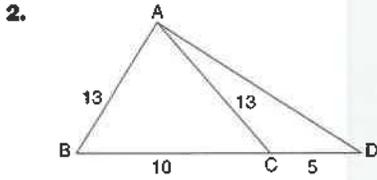
48



$$\Rightarrow A(ABC) = ?$$

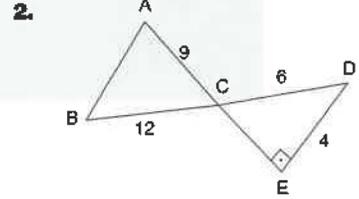
5

PUZAYAYINLARI



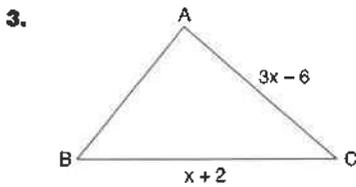
$$\Rightarrow A(ACD) = ?$$

30



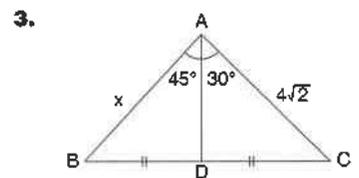
$$\Rightarrow A(ABC) = ?$$

36



ABC eşkenar üçgen
ABC equilateral triangle
 $\Rightarrow A(ABC) = ?$

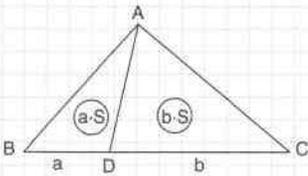
$9\sqrt{3}$



$$\Rightarrow x = ?$$

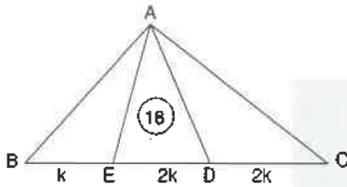
4

ÖZELLİK | Property 7



$$\frac{A(ABD)}{A(ADC)} = \frac{a}{b}$$

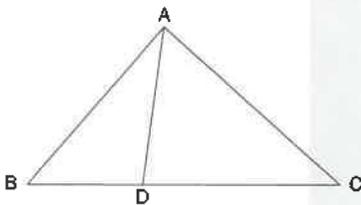
1.



$$\Rightarrow A(ABC) = ?$$

45

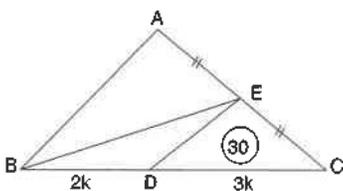
2.



$$\begin{aligned} A(ABC) &= 70 \\ 3|BD| &= 4|DC| \\ \Rightarrow A(ADC) &= ? \end{aligned}$$

30

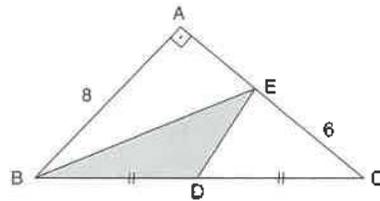
3.



$$\Rightarrow A(ABC) = ?$$

100

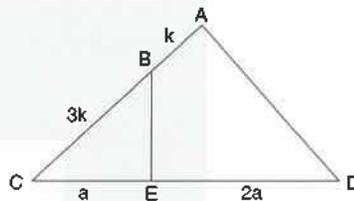
4.



$$\Rightarrow A(EBD) = ?$$

12

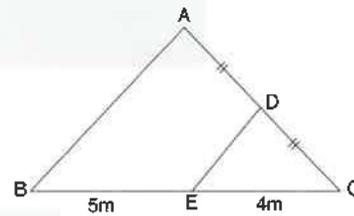
5.



$$= \frac{A(BCE)}{A(ADC)} = ?$$

$\frac{1}{4}$

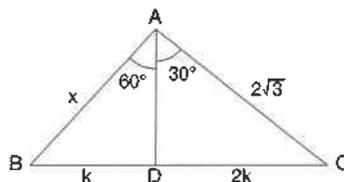
6.



$$\begin{aligned} A(EDC) &= 40 \text{ br}^2 \\ \Rightarrow A(ABC) &= ? \end{aligned}$$

180

7.



$$\Rightarrow x = ?$$

4

ÜÇGENDE ALAN

ÖZELLİK | Property 8

G ağırlık merkezi
G, center of gravity

1.

F Ağırlık merkezi
E, center of gravity
 $\Rightarrow A(ABD) = ?$

$27\sqrt{3}$

PUZAYYINILARI

2.

F Ağırlık merkezi
E, center of gravity
 $|AB| = |AC|$
 $\Rightarrow A(ABC) = ?$

144

3.

F Ağırlık merkezi
E, center of gravity
 $A(ABC) = 72 \text{ br}^2$
 $\Rightarrow A(EDF) = ?$

6

ÖZELLİK | Property 9

$A(BACE) = \frac{1}{2} |BC| |AE| \sin \alpha$

1.

$A(BADE) = 54 \text{ br}^2$
 $\Rightarrow x = ?$

18

2.

$\Rightarrow A(ABDC) = ?$

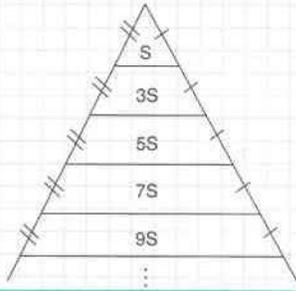
90

3.

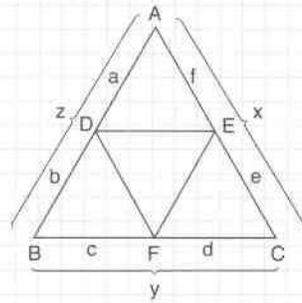
$\Rightarrow A(ABDC) = ?$

30

ÖZELLİK | Property 10

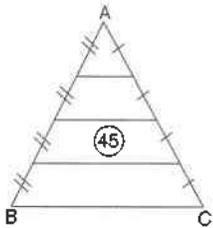


ÖZELLİK | Property 11



$$\frac{A(DEF)}{A(ABC)} = \frac{c \cdot e \cdot a + d \cdot f \cdot b}{x \cdot y \cdot z}$$

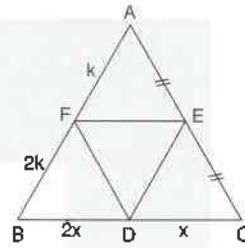
1.



$$\Rightarrow A(ABC) = ?$$

144

1.

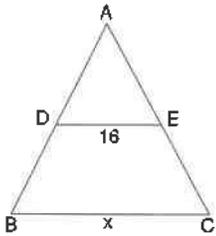


$$\begin{aligned} A(DEF) &= 4br^2 \\ \Rightarrow A(ABC) &= ? \end{aligned}$$

18

PUZAYAYINLARI

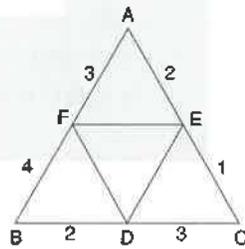
2.



$$\begin{aligned} A(ADE) &= A(BCED) \\ \Rightarrow x &= ? \end{aligned}$$

$16\sqrt{2}$

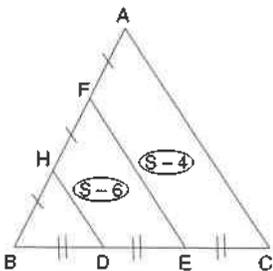
2.



$$\Rightarrow \frac{A(DEF)}{A(ABC)} = ?$$

$\frac{2}{7}$

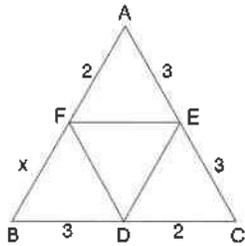
3.



$$\Rightarrow A(ABC) = ?$$

9

3.

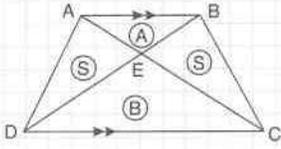


$$\begin{aligned} \frac{A(DEF)}{A(ABC)} &= \frac{7}{30} \\ \Rightarrow x &= ? \end{aligned}$$

4

ÜÇGENDE ALAN

ÖZELLİK | Property 12

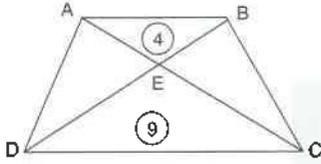


$[AB] \parallel [DC]$

$$A(AED) = A(EBC)$$

$$S \cdot S = A \cdot B$$

1.

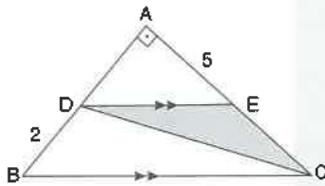


$[AB] \parallel [CD]$

$$\Rightarrow A(ABCD) = ?$$

25

2.



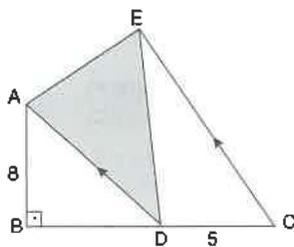
$[BA] \perp [AC]$

$[DE] \parallel [BC]$

$$\Rightarrow A(DEC) = ?$$

5

3.



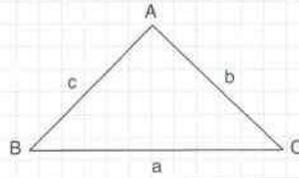
$[AB] \perp [BC]$

$[AD] \parallel [EC]$

$$\Rightarrow A(ADE) = ?$$

20

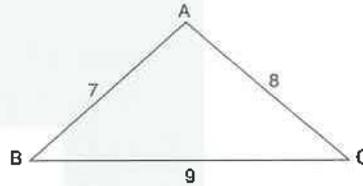
ÖZELLİK | Property 13



$$u = \frac{a+b+c}{2}$$

$$A(ABC) = \sqrt{u(u-a)(u-b)(u-c)}$$

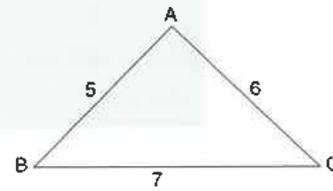
1.



$$\Rightarrow A(ABC) = ?$$

$12\sqrt{5}$

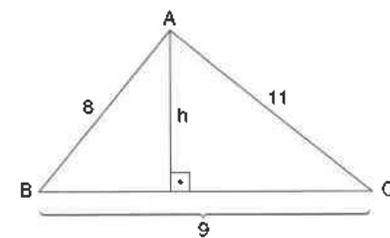
2.



$$\Rightarrow A(ABC) = ?$$

$6\sqrt{6}$

3.

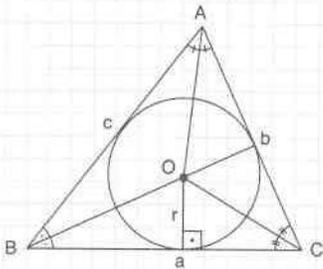


$$\Rightarrow h = ?$$

$\frac{4\sqrt{35}}{3}$

PUZAYVINYLARI

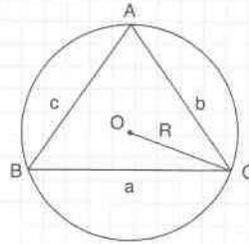
ÖZELLİK | Property 14



$$u = \frac{a+b+c}{2}$$

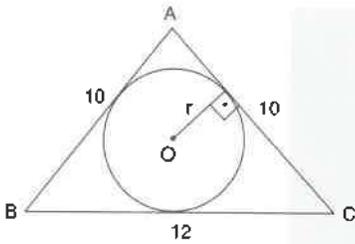
$$A(ABC) = u \cdot r$$

ÖZELLİK | Property 15



$$A(ABC) = \frac{a \cdot b \cdot c}{4 \cdot R}$$

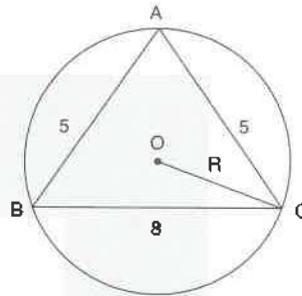
1.



$$\Rightarrow r = ?$$

$$\boxed{3}$$

1.

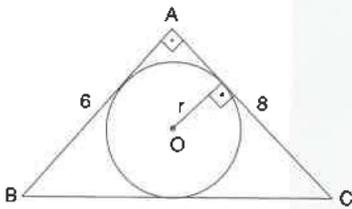


$$\Rightarrow R = ?$$

$$\boxed{\frac{25}{6}}$$

PUZAYAYINLARI

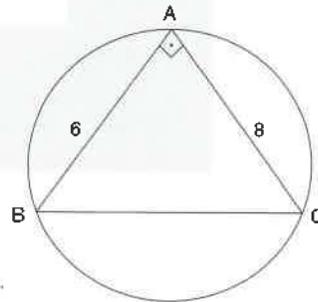
2.



$$\Rightarrow r = ?$$

$$\boxed{2}$$

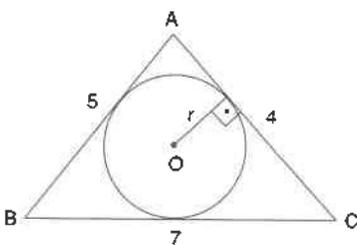
2.



$$\Rightarrow R = ?$$

$$\boxed{5}$$

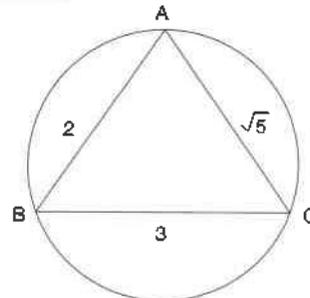
3.



$$\Rightarrow r = ?$$

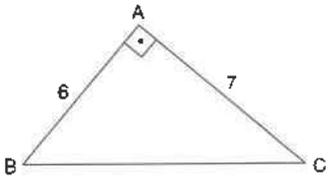
$$\boxed{\frac{\sqrt{6}}{2}}$$

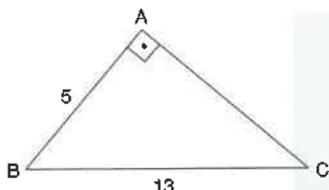
3.

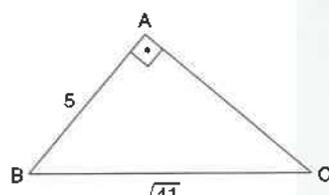


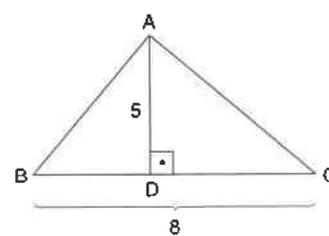
$$\Rightarrow R = ?$$

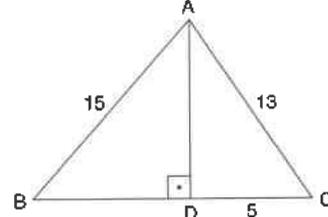
$$\boxed{\frac{3}{2}}$$

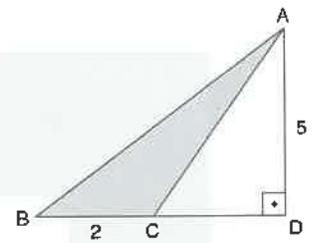
1.  $[BA] \perp [AC]$
 $|AB| = 6$ br
 $|AC| = 7$ br
 $\Rightarrow A(ABC) = ?$
- A) 6 B) 7 C) 14 D) 21 E) 42

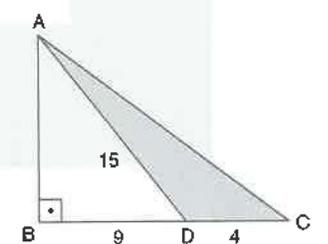
2.  $[BA] \perp [AC]$
 $|AB| = 5$ br
 $|BC| = 13$ br
 $\Rightarrow A(ABC) = ?$
- A) 15 B) 30 C) 60 D) 65 E) 75

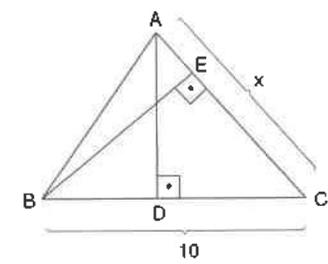
3.  $[BA] \perp [AC]$
 $|AB| = 5$ br
 $|BC| = \sqrt{41}$ br
 $\Rightarrow A(ABC) = ?$
- A) 10 B) 20 C) 60
 D) $5\sqrt{41}$ E) $10\sqrt{41}$

4.  $[AD] \perp [BC]$
 $|AD| = 5$ br
 $|BC| = 8$ br
 $\Rightarrow A(ABC) = ?$
- A) 5 B) 8 C) 10 D) 20 E) 40

5.  $[AD] \perp [BC]$
 $|AB| = 15$ br
 $|AC| = 13$ br
 $|DC| = 5$ br
 $\Rightarrow A(ABC) = ?$
- A) 30 B) 54 C) 60 D) 64 E) 84

6.  $[AD] \perp [BD]$
 $|AD| = 5$ br
 $|BC| = 2$ br
 $\Rightarrow A(ABC) = ?$
- A) 2 B) $\frac{5}{2}$ C) 5 D) 10 E) 20

7.  $[AB] \perp [BC]$
 $|AD| = 15$ br
 $|BD| = 9$ br
 $|DC| = 4$ br
 $\Rightarrow A(ADC) = ?$
- A) 9 B) 18 C) 24 D) 48 E) 96

8.  $[AD] \perp [BC]$
 $[BE] \perp [AC]$
 $|AD| = 6$ br
 $|BE| = 5$ br
 $|BC| = 10$ br
 $\Rightarrow |AC| = x = ?$
- A) 12 B) 13 C) 15 D) 16 E) 18

9.

$[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $|DC| = 9$ br
 $|BD| = 4$ br
 $\Rightarrow A(ABC) = ?$

A) 78 B) 39 C) 36 D) 18 E) 12

10.

$[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $|AB| = 6$ br
 $|DC| = 5$ br
 $\Rightarrow A(ABC) = ?$

A) 15 B) 30 C) $9\sqrt{5}$ D) $18\sqrt{5}$ E) $36\sqrt{5}$

11.

$m(\widehat{ABC}) = 45^\circ$
 $|AB| = 8\sqrt{2}$ br
 $|DC| = 3$ br
 $\Rightarrow A(ADC) = ?$

A) 6 B) 12 C) $12\sqrt{2}$ D) 24 E) $24\sqrt{2}$

12.

$m(\widehat{ACB}) = 30^\circ$
 $|AC| = 10$ br
 $|BD| = 4$ br
 $\Rightarrow A(ABD) = ?$

A) 40 B) $20\sqrt{3}$ C) 20 D) $10\sqrt{3}$ E) 10

13.

$m(\widehat{ABC}) = 45^\circ$
 $|AB| = 8\sqrt{2}$ br
 $|AC| = 10$ br
 $\Rightarrow A(ABC) = ?$

A) $4\sqrt{2}$ B) 6 C) 8 D) 12 E) 16

14.

$[AB] \perp [BC]$
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|BD| = 2\sqrt{2}$ br
 $|AC| = 4\sqrt{2}$ br
 $\Rightarrow A(ADC) = ?$

A) 4 B) $4\sqrt{2}$ C) 8 D) $8\sqrt{2}$ E) 16

15.

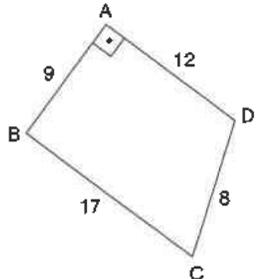
$[AB] \perp [BC]$
 $[DE] \perp [AC]$
 $|AB| = 6$ br
 $|DC| = 3$ br
 $|DE| = 2$ br
 $\Rightarrow |AC| = x = ?$

A) 9 B) 10 C) 12 D) 15 E) 18

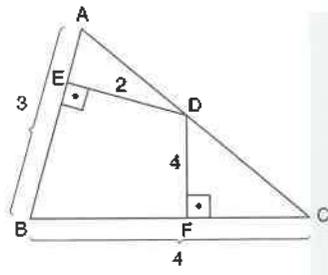
16.

$[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $m(\widehat{ABC}) = 15^\circ$
 $|AD| = 3$ br
 $\Rightarrow A(ABC) = ?$

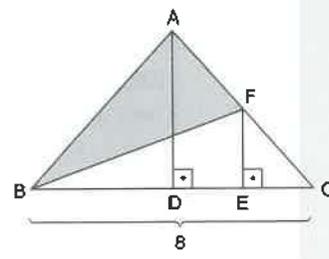
A) 6 B) 12 C) $\frac{27}{2}$ D) 18 E) 36

1.  $[BA] \perp [AD]$
 $|AB| = 9 \text{ br}$
 $|AD| = 12 \text{ br}$
 $|BC| = 17 \text{ br}$
 $|CD| = 8 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

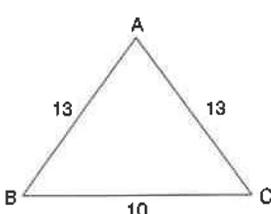
A) 114 B) 122 C) 132 D) 144 E) 160

2.  $[DE] \perp [AB]$
 $[DF] \perp [BC]$
 $|DE| = 2 \text{ br}$
 $|DF| = |BC| = 4 \text{ br}$
 $|AB| = 3 \text{ br}$
 $\Rightarrow A(ABC) = ?$

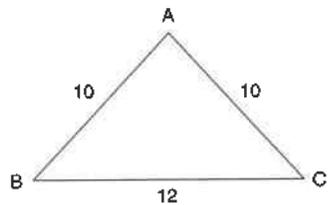
A) 7 B) 8 C) 10 D) 11 E) 22

3.  $[AD] \perp [BC]$
 $[FE] \perp [BC]$
 $|BC| = 8 \text{ br}$
 $|AD| = 5 \text{ br}$
 $|FE| = 2 \text{ br}$
 $\Rightarrow A(ABF) = ?$

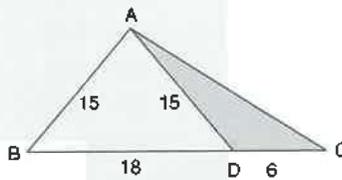
A) 24 B) 20 C) 16 D) 12 E) 8

3.  $|AB| = |AC| = 13 \text{ br}$
 $|BC| = 10 \text{ br}$
 $\Rightarrow A(ABC) = ?$

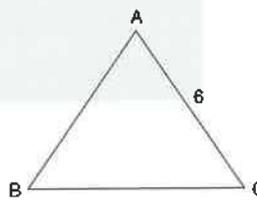
A) 20 B) 30 C) 45 D) 60 E) 130

5.  $|AB| = |AC| = 10 \text{ br}$
 $|BC| = 12 \text{ br}$
 $\Rightarrow A(ABC) = ?$

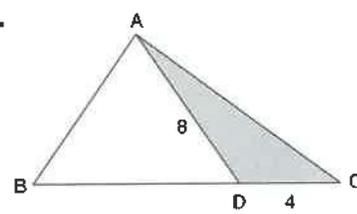
A) 120 B) 96 C) 60 D) 48 E) 24

6.  $|AB| = |AD| = 15 \text{ br}$
 $|BD| = 18 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow A(ADC) = ?$

A) 45 B) 40 C) 36 D) 15 E) 12

7.  ABC eşkenar üçgen
ABC equilateral triangle
 $|AC| = 6 \text{ br}$
 $\Rightarrow A(ABC) = ?$

A) $36\sqrt{3}$ B) 36 C) $12\sqrt{3}$ D) $9\sqrt{3}$ E) 12

8.  ABD eşkenar üçgen
ABD equilateral triangle
 $|DC| = 4 \text{ br}$
 $|AD| = 8 \text{ br}$
 $\Rightarrow A(ADC) = ?$

A) 64 B) 32 C) $16\sqrt{3}$ D) $12\sqrt{3}$ E) $8\sqrt{3}$

9.

$[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $m(\widehat{ACB}) = 30^\circ$
 $|DC| = 6\sqrt{3} \text{ br}$
 $\Rightarrow A(ABC) = ?$

A) $84\sqrt{3}$ B) $42\sqrt{3}$ C) $24\sqrt{3}$ D) $16\sqrt{3}$ E) $12\sqrt{3}$

10.

$[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $m(\widehat{ABC}) = 30^\circ$
 $|AC| = 12 \text{ br}$
 $\Rightarrow A(ABC) = ?$

A) $72\sqrt{3}$ B) 72 C) 36 D) 24 E) $18\sqrt{3}$

11.

$|AB| = |AC|$
 $m(\widehat{ADB}) = 45^\circ$
 $|AD| = 5\sqrt{2} \text{ br}$
 $|DC| = 2 \text{ br}$
 $\Rightarrow A(ABC) = ?$

A) 170 B) 85 C) 70 D) 35 E) 25

12.

$[AB] \perp [BC]$
 $|AC| = 17 \text{ br}$
 $|AD| = 10 \text{ br}$
 $|DC| = 9 \text{ br}$
 $\Rightarrow A(ADC) = ?$

A) 54 B) 45 C) 36 D) 27 E) 18

13.

$[DE] \perp [AB]$
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|ED| = 3 \text{ br}$
 $|AC| = 6 \text{ br}$
 $\Rightarrow A(DAC) = ?$

A) 9 B) 12 C) $9\sqrt{3}$ D) 18 E) $18\sqrt{3}$

14.

$[BA] \perp [AC]$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $|AD| = 4 \text{ br}$
 $|BC| = 15 \text{ br}$
 $\Rightarrow A(DBC) = ?$

A) $\frac{15}{2}$ B) 15 C) 30 D) $30\sqrt{3}$ E) 60

15.

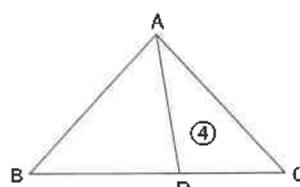
$[BA] \perp [AC]$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $A(ABD) = S_1$
 $A(DBC) = S_2$
 $S_2 - S_1 = 6 \text{ br}^2$
 $|AD| = 4 \text{ br}$
 $\Rightarrow |DC| = x = ?$

A) 5 B) 6 C) 7 D) 8 E) 9

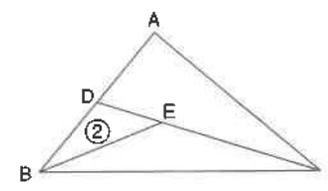
16.

$[DE] \perp [AB]$
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|AC| = 9 \text{ br}$
 $|DC| = 5 \text{ br}$
 $|AE| = 6 \text{ br}$
 $\Rightarrow A(ADC) = ?$

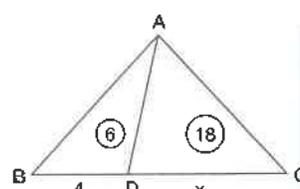
A) 6 B) 9 C) 18 D) $\frac{45}{2}$ E) 45

1.  $A(ADC) = 4 \text{ br}^2$
 $3|DC| = 2|BD|$
 $\Rightarrow A(ABC) = ?$

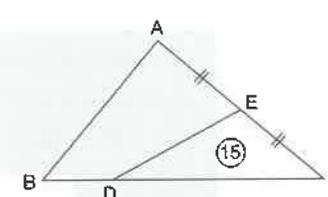
A) $\frac{8}{3}$ B) 6 C) $\frac{32}{3}$ D) 10 E) 12

5.  $A(BDE) = 2 \text{ br}^2$
 $3|AD| = 2|BD|$
 $2|DE| = |EC|$
 $\Rightarrow A(ABC) = ?$

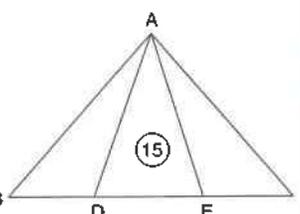
A) $\frac{11}{3}$ B) 4 C) 5 D) 7 E) 10

2.  $A(ABD) = 6 \text{ br}^2$
 $A(ADC) = 18 \text{ br}^2$
 $|BD| = 4 \text{ br}$
 $\Rightarrow |DC| = x = ?$

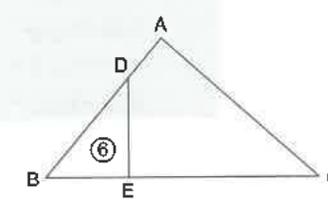
A) $\frac{4}{3}$ B) 4 C) 8 D) 12 E) 15

6.  $A(EDC) = 15 \text{ br}^2$
 $|AE| = |EC|$
 $3|BD| = |DC|$
 $\Rightarrow A(ABC) = ?$

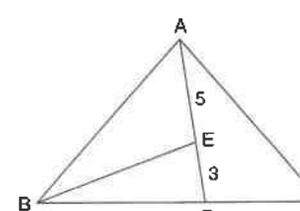
A) 50 B) 40 C) 30 D) 20 E) 15

3.  $A(ADE) = 15 \text{ br}^2$
 $6|BD| = 2|DE| = 3|EC|$
 $\Rightarrow A(ABC) = ?$

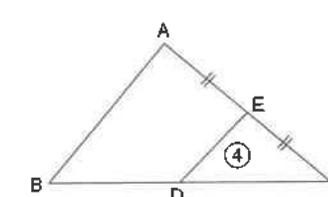
A) 15 B) 20 C) 30 D) 45 E) 60

7.  $A(DBE) = 6 \text{ br}^2$
 $2|AD| = |BD|$
 $3|BE| = |EC|$
 $\Rightarrow A(ADEC) = ?$

A) 27 B) 30 C) 33 D) 36 E) 39

4.  $3|BD| = 2|DC|$
 $|AE| = 5 \text{ br}$
 $|ED| = 3 \text{ br}$
 $\Rightarrow \frac{A(ADC)}{A(EBD)} = ?$

A) 4 B) 5 C) 6 D) 8 E) 10

8.  $A(EDC) = 4 \text{ br}^2$
 $|AE| = |EC|$
 $2|BD| = 3|DC|$
 $\Rightarrow A(ABC) = ?$

A) 8 B) 10 C) 12 D) 16 E) 20

9.

$[BA] \perp [AC]$
 $|AB| = 6 \text{ br}$
 $|EC| = 5 \text{ br}$
 $3|BD| = 2|DC|$
 $\Rightarrow A(EBD) = ?$

A) 30 B) 15 C) 12 D) 9 E) 6

13.

$A(DFE) = 6 \text{ br}^2$
 $2|AD| = |DE| = 2|EB|$
 $3|AF| = 2|FC|$
 $\Rightarrow A(ABC) = ?$

A) 8 B) 12 C) 15 D) 20 E) 30

10.

$[AB] \perp [BC]$
 $2|AE| = |EC|$
 $|AB| = 8 \text{ br}$
 $|DC| = 3 \text{ br}$
 $\Rightarrow A(AED) = ?$

A) 4 B) 6 C) 8 D) 12 E) 15

14.

$[AB] \perp [BC]$
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $|AD| = 5 \text{ br}$
 $|DC| = 15 \text{ br}$
 $|BD| = 12 \text{ br}$
 $\Rightarrow A(EDC) = ?$

A) 5 B) $\frac{45}{8}$ C) $\frac{135}{8}$ D) $\frac{45}{2}$ E) 45

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11.

$[AE] \perp [BC]$
 $|AD| = 6 \text{ br}$
 $|BC| = 10 \text{ br}$
 $\Rightarrow A(ABDC) = ?$

A) 120 B) 60 C) 45 D) 30 E) 15

15.

$[ED] \perp [BC]$
 $|AE| = |EC|$
 $|ED| = 3 \text{ br}$
 $|BC| = 8 \text{ br}$
 $\Rightarrow A(ABC) = ?$

A) 60 B) 48 C) 36 D) 24 E) 12

12.

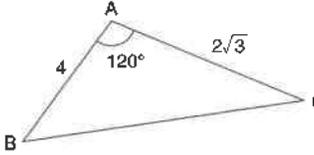
$[AD] \perp [BC]$
 $|AE| = 2 \text{ br}$
 $|BD| = 4 \text{ br}$
 $|DC| = 3 \text{ br}$
 $\Rightarrow A(ABEC) = ?$

A) 3 B) 4 C) 6 D) 7 E) 14

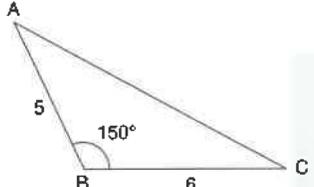
16.

$|AF| = |BD| = |DC| = 3 \text{ br}$
 $|FB| = |EC| = 2 \text{ br}$
 $|AE| = 4 \text{ br}$
 $\Rightarrow \frac{A(FED)}{A(ABC)} = ?$

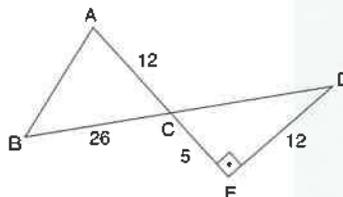
A) $\frac{1}{5}$ B) $\frac{2}{7}$ C) $\frac{7}{30}$ D) $\frac{7}{15}$ E) $\frac{1}{2}$

1.  $m(\widehat{BAC}) = 120^\circ$
 $|AB| = 4 \text{ br}$
 $|AC| = 2\sqrt{3} \text{ br}$
 $\Rightarrow A(ABC) = ?$

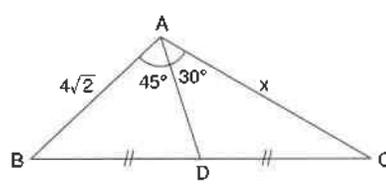
- A) 15 B) $8\sqrt{3}$ C) 12 D) $4\sqrt{3}$ E) 6

2.  $m(\widehat{ABC}) = 150^\circ$
 $|AB| = 5 \text{ br}$
 $|BC| = 6 \text{ br}$
 $\Rightarrow A(ABC) = ?$

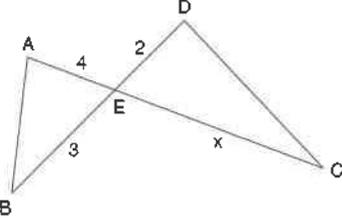
- A) $\frac{15}{2}$ B) $\frac{15\sqrt{3}}{2}$ C) 15 D) $15\sqrt{3}$ E) 30

3.  $[DE] \perp [AE]$
 $|AC| = |ED| = 12 \text{ br}$
 $|BC| = 26 \text{ br}$
 $|CE| = 5 \text{ br}$
 $\Rightarrow A(ABC) = ?$

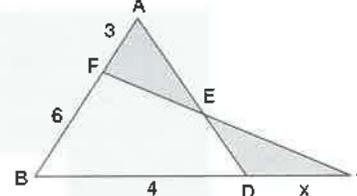
- A) 144 B) 81 C) 72 D) 69 E) 60

4.  $|BD| = |DC|$
 $m(\widehat{BAD}) = 45^\circ$
 $m(\widehat{DAC}) = 30^\circ$
 $|AB| = 4\sqrt{2} \text{ br}$
 $\Rightarrow |AC| = x = ?$

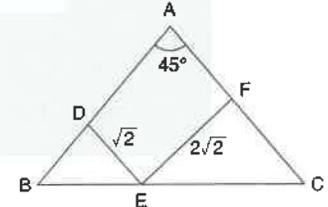
- A) 2 B) 4 C) 6 D) 8 E) 12

5.  $A(ABE) = A(ECD)$
 $|ED| = 2 \text{ br}$
 $|AE| = 4 \text{ br}$
 $|BE| = 3 \text{ br}$
 $\Rightarrow |EC| = x = ?$

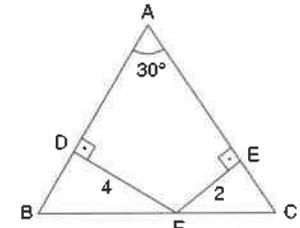
- A) 12 B) 8 C) 6 D) 3 E) $\frac{3}{2}$

6.  $A(AFE) = A(EDC)$
 $|AF| = 3 \text{ br}$
 $|BF| = 6 \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow |DC| = x = ?$

- A) 1 B) 2 C) 3 D) 4 E) 6

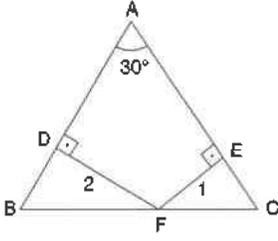
7.  $AFED$ paralelkenar
 $AFED$ paralelogram
 $|AB| = |AC|$
 $m(\widehat{BAC}) = 45^\circ$
 $|DE| = \sqrt{2} \text{ br}$
 $|FE| = 2\sqrt{2} \text{ br}$
 $\Rightarrow A(ABC) = ?$

- A) 4 B) $4\sqrt{2}$ C) $\frac{9\sqrt{2}}{2}$ D) $6\sqrt{2}$ E) $9\sqrt{2}$

8.  $[FD] \perp [AB]$
 $[FE] \perp [AC]$
 $|AB| = |AC|$
 $m(\widehat{BAC}) = 30^\circ$
 $|FD| = 2 \text{ br}$
 $|FE| = 4 \text{ br}$
 $\Rightarrow A(ABC) = ?$

- A) 9 B) 12 C) $9\sqrt{2}$ D) 18 E) 36

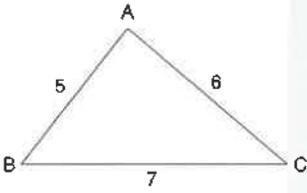
9.



$m(\widehat{BAC}) = 30^\circ$
 $|AB| = |AC|$
 $[FE] \perp [AC]$
 $[FD] \perp [AB]$
 $|DF| = 2 \text{ br}$
 $|EF| = 1 \text{ br}$
 $\Rightarrow A(ABC) = ?$

- A) $36\sqrt{3}$ B) 36 C) 27 D) $18\sqrt{3}$ E) 9

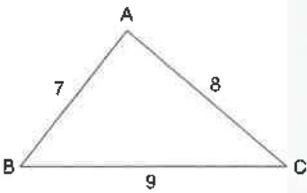
10.



$|AB| = 5 \text{ br}$
 $|AC| = 6 \text{ br}$
 $|BC| = 7 \text{ br}$
 $\Rightarrow A(ABC) = ?$

- A) $2\sqrt{6}$ B) $3\sqrt{6}$ C) $6\sqrt{6}$ D) $12\sqrt{3}$ E) $24\sqrt{3}$

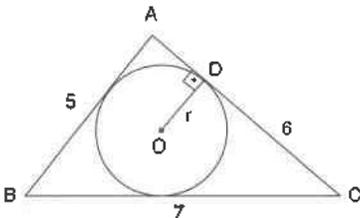
11.



$|AB| = 7 \text{ br}$
 $|AC| = 8 \text{ br}$
 $|BC| = 9 \text{ br}$
 $\Rightarrow A(ABC) = ?$

- A) $6\sqrt{5}$ B) $6\sqrt{7}$ C) $9\sqrt{5}$ D) $12\sqrt{7}$ E) $12\sqrt{5}$

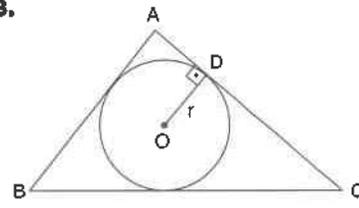
12.



$[OD] \perp [AC]$
 $|AB| = 5 \text{ br}$
 $|AC| = 6 \text{ br}$
 $|BC| = 7 \text{ br}$
 $\Rightarrow |OD| = r = ?$

- A) $\sqrt{6}$ B) $2\sqrt{3}$ C) $\frac{2\sqrt{6}}{3}$ D) $2\sqrt{6}$ E) $3\sqrt{6}$

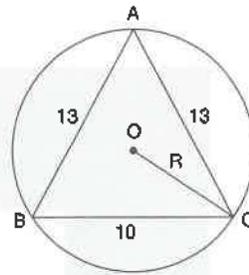
13.



$[OD] \perp [AC]$
 $|AB| = |AC| = 10 \text{ br}$
 $|BC| = 12 \text{ br}$
 $\Rightarrow |OD| = r = ?$

- A) 5 B) 4 C) 3 D) 2 E) 1

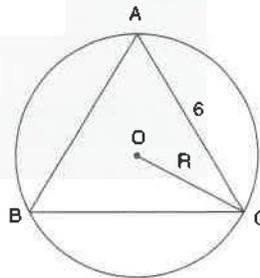
14.



$|AB| = |AC| = 13 \text{ br}$
 $|BC| = 10 \text{ br}$
 $\Rightarrow |OC| = R = ?$

- A) $\frac{5}{72}$ B) $\frac{24}{169}$ C) $\frac{169}{24}$ D) $\frac{72}{5}$ E) 12

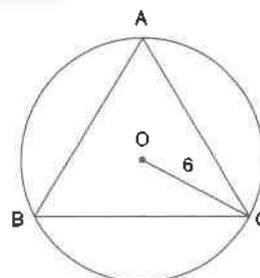
15.



ABC eşkenar üçgen
ABC equilateral triangle
 $|AC| = 6 \text{ br}$
 $\Rightarrow |OC| = R = ?$

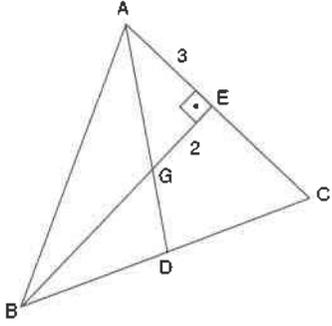
- A) $\sqrt{3}$ B) 2 C) 3 D) $2\sqrt{3}$ E) $4\sqrt{3}$

16.

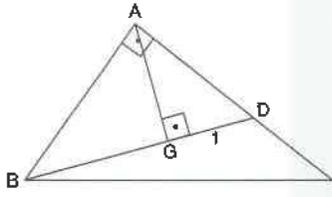


ABC eşkenar üçgen
ABC equilateral triangle
 $|OC| = 6 \text{ br}$
 $\Rightarrow A(ABC) = ?$

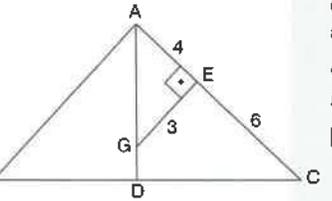
- A) 18 B) $18\sqrt{3}$ C) 27 D) $27\sqrt{3}$ E) 36

1.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $[BE] \perp [AC]$
 $|GE| = 2 \text{ br}$
 $|AE| = 3 \text{ br}$
 $\Rightarrow A(ABC) = ?$

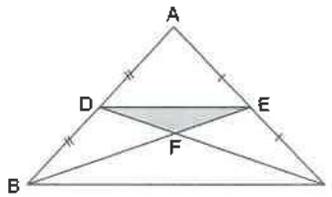
A) 6 B) 8 C) 12 D) 18 E) 36

2.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $[AG] \perp [BD]$
 $|GD| = 1 \text{ br}$
 $\Rightarrow A(ABC) = ?$

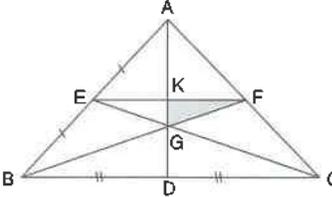
A) $\sqrt{2}$ B) $2\sqrt{2}$ C) $3\sqrt{2}$ D) $6\sqrt{2}$ E) $12\sqrt{2}$

3.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $[AC] \perp [GE]$
 $|AE| = 4 \text{ br}$
 $|GE| = 3 \text{ br}$
 $|EC| = 6 \text{ br}$
 $\Rightarrow A(ABC) = ?$

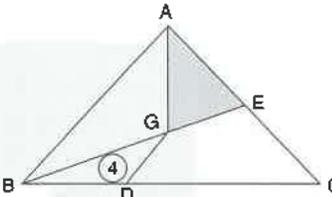
A) 15 B) 30 C) 45 D) 60 E) 90

4.  $|AD| = |DB|$
 $|AE| = |EC|$
 $A(DEF) = 4 \text{ br}^2$
 $\Rightarrow A(ABC) = ?$

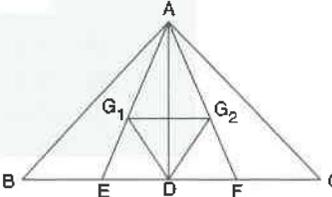
A) 16 B) 24 C) 36 D) 48 E) 96

5.  $|AE| = |EB|$
 $|BD| = |DC|$
 $A(ABC) = 96 \text{ br}^2$
 $\Rightarrow A(KFG) = ?$

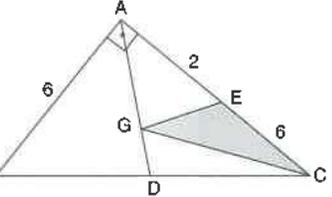
A) 4 B) $\frac{16}{3}$ C) 12 D) 16 E) 18

6.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $3|BD| = |DC|$
 $A(GBD) = 4 \text{ br}^2$
 $\Rightarrow A(AGE) = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

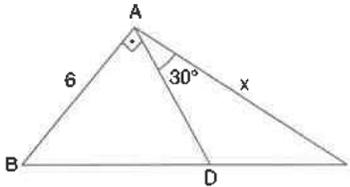
7.  G_1 , ABD üçgeninin ağırlık merkezi
 G_2 , ADC üçgeninin ağırlık merkezi
 $A(G_1DG_2) = 6 \text{ br}^2$
 $\Rightarrow A(ABC) = ?$

A) 54 B) 48 C) 36 D) 27 E) 18

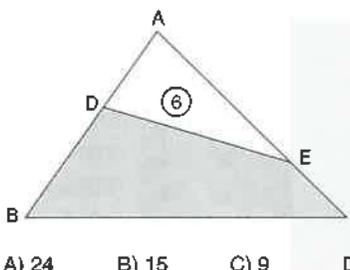
8.  G , ABC üçgeninin ağırlık merkezi
 G , center of gravity ABC triangle's
 $[BA] \perp [AC]$
 $|AB| = |EC| = 6 \text{ br}$
 $|AE| = 2 \text{ br}$
 $\Rightarrow A(EGC) = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

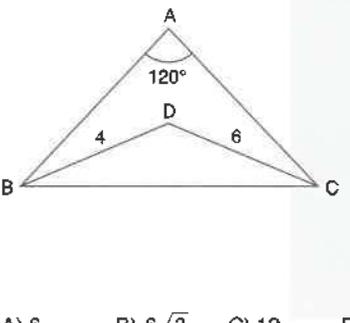
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9.  $[BA] \perp [AD]$
 $m(\widehat{DAC}) = 30^\circ$
 $|BD| = 3|DC|$
 $|AB| = 6 \text{ br}$
 $\Rightarrow |AC| = x = ?$

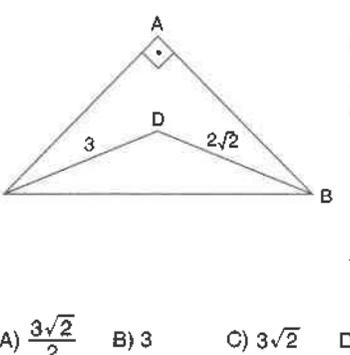
- A) 2 B) 4 C) $4\sqrt{2}$ D) 6 E) 12

10.  $2|AD| = |BD|$
 $3|EC| = 2|AE|$
 $A(ADE) = 6 \text{ br}^2$
 $\Rightarrow A(DECB) = ?$

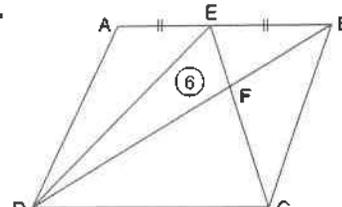
- A) 24 B) 15 C) 9 D) 6 E) 5

11.  D , iç teget çemberin merkezi
 D , central point of the incircle
 $m(\widehat{BAC}) = 120^\circ$
 $|BD| = 4 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow A(BDC) = ?$

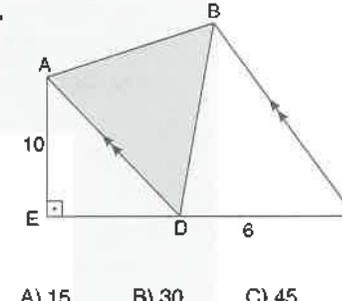
- A) 6 B) $6\sqrt{3}$ C) 12 D) $12\sqrt{3}$ E) 24

12.  D , iç teget çemberin merkezi
 D , central point of the incircle
 $m(\widehat{BAC}) = 90^\circ$
 $|DC| = 3 \text{ br}$
 $|DB| = 2\sqrt{2} \text{ br}$
 $\Rightarrow A(BDC) = ?$

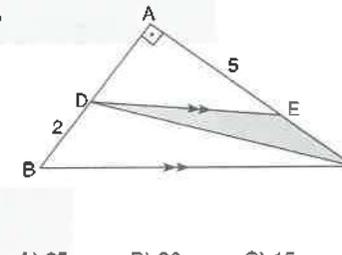
- A) $\frac{3\sqrt{2}}{2}$ B) 3 C) $3\sqrt{2}$ D) 6 E) $6\sqrt{2}$

13.  $ABCD$ paralelkenar
 $ABCD$ paralelogram
 $|AE| = |EB|$
 $A(EFD) = 6 \text{ br}^2$
 $\Rightarrow A(EFB) = ?$

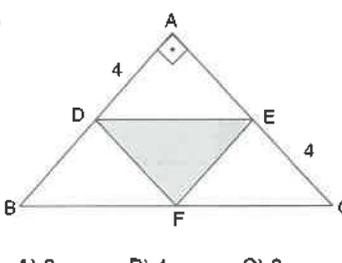
- A) 3 B) 6 C) 9 D) 12 E) 15

14.  $[AE] \perp [EC]$
 $[AD] \parallel [BC]$
 $|AE| = 10 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow A(ABD) = ?$

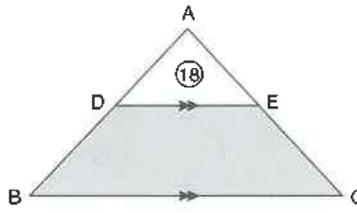
- A) 15 B) 30 C) 45 D) 60 E) 120

15.  $[BA] \perp [AC]$
 $[DE] \parallel [BC]$
 $|AE| = 5 \text{ br}$
 $|BD| = 2 \text{ br}$
 $\Rightarrow A(DEC) = ?$

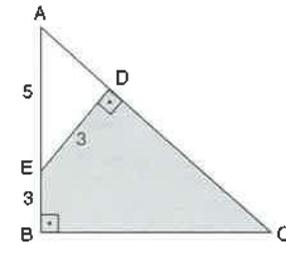
- A) 25 B) 20 C) 15 D) 10 E) 5

16.  $[BA] \perp [AC]$
 $[DE] \parallel [BC]$
 $|AD| = |EC| = 4 \text{ br}$
 $\Rightarrow A(DEF) = ?$

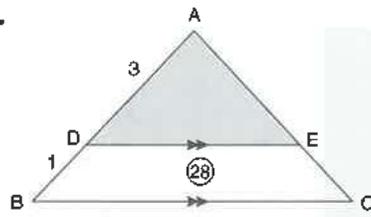
- A) 2 B) 4 C) 8 D) 12 E) 16

1.  $[DE] \parallel [BC]$
 $5|DE| = 3|BC|$
 $A(ADE) = 18 \text{ br}^2$
 $\Rightarrow A(DECB) = ?$

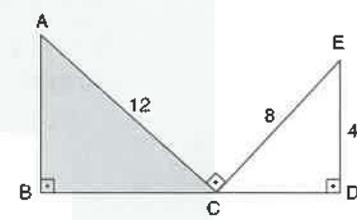
A) 9 B) 12 C) 16 D) 30 E) 32

5.  $[AB] \perp [BC]$
 $[ED] \perp [AC]$
 $|ED| = |EB| = 3 \text{ br}$
 $|AE| = 5 \text{ br}$
 $\Rightarrow A(EDCB) = ?$

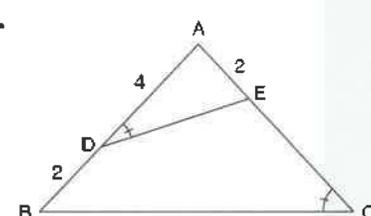
A) 42 B) 36 C) 27 D) 18 E) 9

2.  $[DE] \parallel [BC]$
 $|AD| = 3|BD| = 3 \text{ br}$
 $A(DECB) = 28 \text{ br}^2$
 $\Rightarrow A(ADE) = ?$

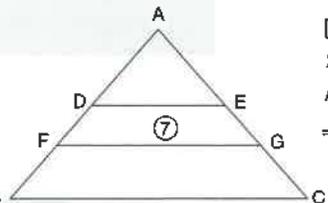
A) 45 B) 36 C) 27 D) 21 E) 9

6.  $[AB] \perp [BD]$
 $[AC] \perp [CE]$
 $[BD] \perp [ED]$
 $|EC| = 8 \text{ br}$
 $|ED| = 4 \text{ br}$
 $|AC| = 12 \text{ br}$
 $\Rightarrow A(ABC) = ?$

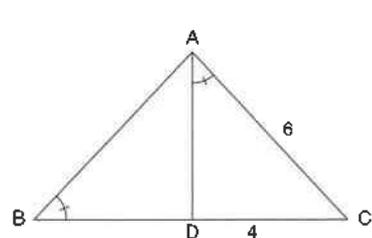
A) $36\sqrt{3}$ B) 36 C) $18\sqrt{3}$ D) 18 E) 9

3.  $m(\widehat{ADE}) = m(\widehat{ACB})$
 $|AE| = |BD| = 2 \text{ br}$
 $|AD| = 4 \text{ br}$
 $\Rightarrow \frac{A(ADE)}{A(DECB)} = ?$

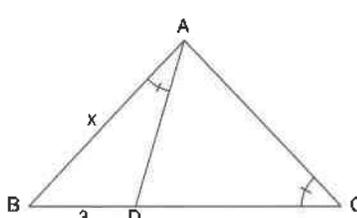
A) 1 B) $\frac{1}{2}$ C) $\frac{1}{3}$ D) $\frac{1}{8}$ E) $\frac{1}{9}$

7.  $[DE] \parallel [FG] \parallel [BC]$
 $2|AD| = 6|FD| = 3|FB|$
 $A(DEF) = 7 \text{ br}^2$
 $\Rightarrow A(ADE) + A(FGCB) = ?$

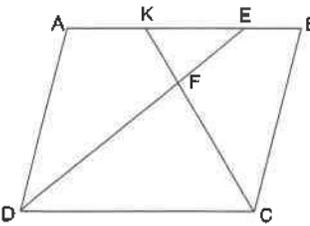
A) 40 B) 31 C) 30 D) 29 E) 20

4.  $m(\widehat{DAC}) = m(\widehat{ACB})$
 $|AC| = 6 \text{ br}$
 $|DC| = 4 \text{ br}$
 $\Rightarrow \frac{A(ADC)}{A(ABD)} = ?$

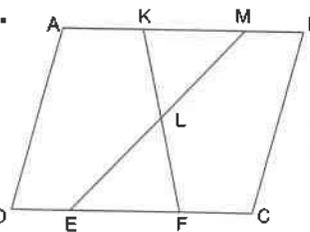
A) $\frac{4}{9}$ B) $\frac{2}{3}$ C) $\frac{4}{5}$ D) $\frac{3}{2}$ E) 2

8.  $m(\widehat{BAD}) = m(\widehat{ACB})$
 $8 \cdot A(ABD) = A(ADC)$
 $|BD| = 3 \text{ br}$
 $\Rightarrow |AB| = x = ?$

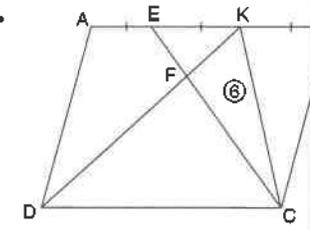
A) 1 B) 6 C) 9 D) 12 E) 24

9.  ABCD paralelkenar
ABCD parallelogram
 $2|AK| = 2|EB| = |KE|$
 $\Rightarrow \frac{A(KEF)}{A(DFC)} = ?$

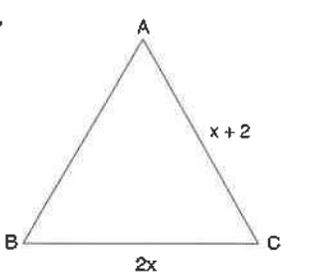
A) $\frac{1}{4}$ B) $\frac{1}{2}$ C) 1 D) 2 E) 4

10.  ABCD paralelkenar
ABCD parallelogram
 $6|BM| = 2|KM| = 3|AK|$
 $2|DE| = 2|FC| = |EF|$
 $\Rightarrow \frac{A(KML)}{A(EFL)} = ?$

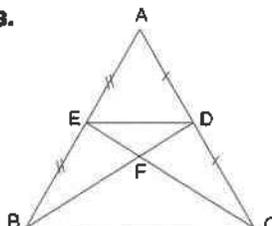
A) $\frac{2}{9}$ B) $\frac{1}{4}$ C) 1 D) $\frac{3}{2}$ E) 4

11.  ABCD paralelkenar
ABCD parallelogram
 $|AE| = |EK| = |KB|$
 $A(FKC) = 6 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

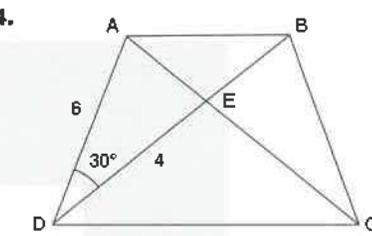
A) 18 B) 24 C) 32 D) 48 E) 60

12.  ABC eşkenar üçgen
ABC equilateral triangle
 $|AC| = x + 2$
 $|BC| = 2x$
 $\Rightarrow A(ABC) = ?$

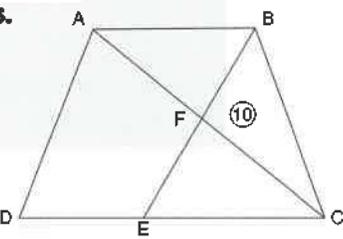
A) $2\sqrt{3}$ B) $4\sqrt{3}$ C) $16\sqrt{3}$ D) 16 E) 24

13.  $|AD| = |DC|$
 $|AE| = |EB|$
 $\Rightarrow \frac{A(EDF)}{A(ABC)} = ?$

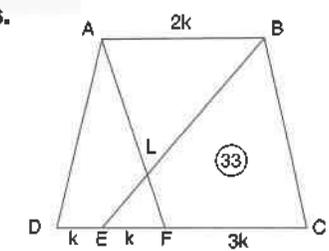
A) $\frac{1}{8}$ B) $\frac{1}{4}$ C) $\frac{2}{21}$ D) $\frac{1}{12}$ E) $\frac{1}{24}$

14.  $[AB] \parallel [DC]$
 $2|AB| = |DC|$
 $m(\widehat{ADB}) = 30^\circ$
 $|AD| = 6 \text{ br}$
 $|DE| = 4 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

A) $9\sqrt{3}$ B) 18 C) $18\sqrt{3}$ D) 27 E) $27\sqrt{3}$

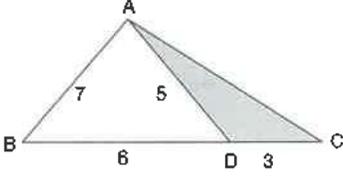
15.  $[AB] \parallel [DC]$
 $6|AB| = 3|EC| = 2|DE|$
 $A(BFC) = 10 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

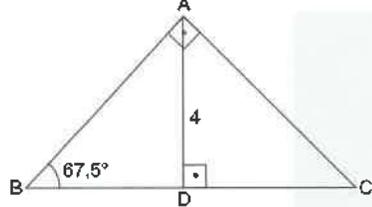
A) 120 B) 90 C) 75 D) 45 E) 30

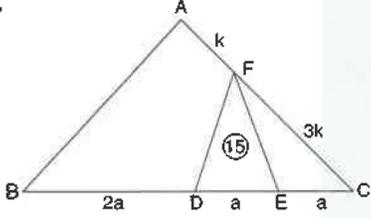
16.  $[AB] \parallel [DC]$
 $|DE| = |EF| = k$
 $|AB| = 2k$
 $|EF| = 3k$
 $A(LBCF) = 33 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

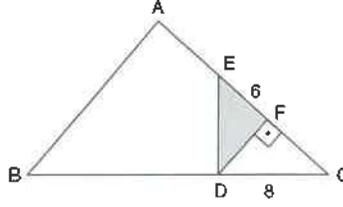
A) 99 B) 90 C) 77 D) 63 E) 54

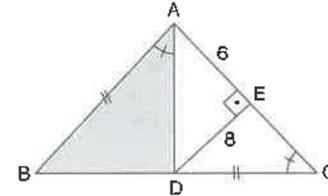
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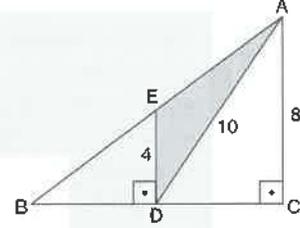
1.  $|AB| = 7 \text{ br}$
 $|AD| = 5 \text{ br}$
 $|BD| = 6 \text{ br}$
 $|DC| = 3 \text{ br}$
 $\Rightarrow A(\triangle ADC) = ?$
- A) $12\sqrt{6}$ B) $15\sqrt{2}$ C) $6\sqrt{6}$ D) $4\sqrt{6}$ E) $3\sqrt{6}$

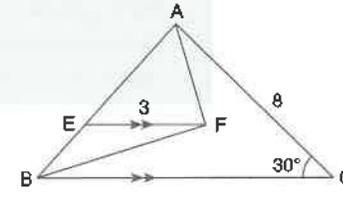
2.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $m(\widehat{ABC}) = 67,5^\circ$
 $|AD| = 4 \text{ br}$
 $\Rightarrow A(\triangle ABC) = ?$
- A) $4\sqrt{2}$ B) 6 C) $8\sqrt{2}$ D) 16 E) $16\sqrt{2}$

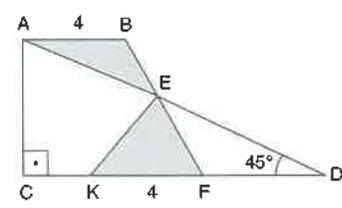
3.  $3|AF| = |FC|$
 $|BD| = 2|DE| = 2|EC|$
 $A(\triangle FDE) = 15 \text{ br}^2$
 $\Rightarrow A(\triangle ABC) = ?$
- A) 45 B) 60 C) 65 D) 75 E) 80

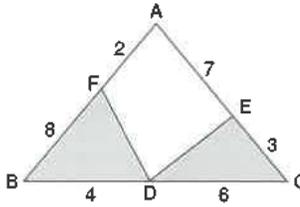
4.  ABC eşkenar üçgen
 ABC equilateral triangle
 $|EF| = 6 \text{ br}$
 $|DC| = 8 \text{ br}$
 $[DF] \perp [AC]$
 $\Rightarrow A(\triangle EFD) = ?$
- A) 12 B) $12\sqrt{3}$ C) 24 D) $24\sqrt{3}$ E) 48

5.  $m(\widehat{BAD}) = m(\widehat{ACB})$
 $[DE] \perp [AC]$
 $|AB| = |DC|$
 $|AE| = 6 \text{ br}$
 $|DE| = 8 \text{ br}$
 $\Rightarrow A(\triangle ABD) = ?$
- A) 20 B) 24 C) 30 D) 40 E) 48

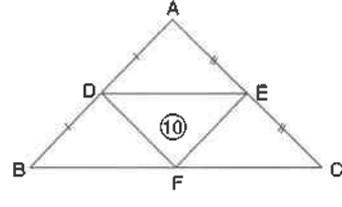
6.  $[AC] \perp [BC]$
 $[ED] \perp [BC]$
 $|AC| = 8 \text{ br}$
 $|ED| = 4 \text{ br}$
 $|AD| = 10 \text{ br}$
 $\Rightarrow A(\triangle EDA) = ?$
- A) 30 B) 24 C) 18 D) 12 E) 6

7.  $[EF] \parallel [BC]$
 $m(\widehat{ACB}) = 30^\circ$
 $|AC| = 8 \text{ br}$
 $|EF| = 3 \text{ br}$
 $\Rightarrow A(\triangle ABF) = ?$
- A) $24\sqrt{3}$ B) $12\sqrt{3}$ C) 12 D) $6\sqrt{3}$ E) 6

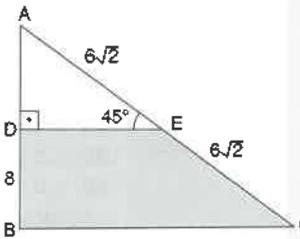
8.  $[AB] \parallel [CD]$
 $[AC] \perp [CD]$
 $m(\widehat{ADC}) = 45^\circ$
 $|AB| = |KF| = 4 \text{ br}$
 $|AD| = 10\sqrt{2} \text{ br}$
 $\Rightarrow A(\triangle ABE) + A(\triangle EKF) = ?$
- A) 60 B) 50 C) 40 D) 30 E) 20

9.  $|BF| = 8 \text{ br}$
 $|AF| = 2 \text{ br}$
 $|AE| = 7 \text{ br}$
 $|EC| = 3 \text{ br}$
 $|DC| = 6 \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow A(BFD) + A(ECD) = ?$

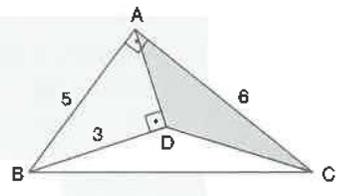
A) $25\sqrt{3}$ B) $\frac{29\sqrt{3}}{2}$ C) $\frac{25\sqrt{3}}{2}$ D) $8\sqrt{3}$ E) $\frac{9\sqrt{3}}{2}$

13.  $|AD| = |DB|$
 $|AE| = |EC|$
 $A(DEF) = 10 \text{ br}^2$
 $\Rightarrow A(ABC) = ?$

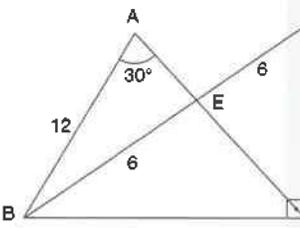
A) 20 B) 30 C) 40 D) 60 E) 80

10.  $[ED] \perp [AB]$
 $|AE| = |EC| = 6\sqrt{2} \text{ br}$
 $|BD| = 8 \text{ br}$
 $m(\widehat{AED}) = 45^\circ$
 $\Rightarrow A(DECB) = ?$

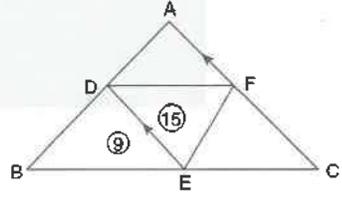
A) 66 B) 56 C) 54 D) 50 E) 48

14.  $[BA] \perp [AC]$
 $[AD] \perp [DB]$
 $|AB| = 5 \text{ br}$
 $|AC| = 6 \text{ br}$
 $|BD| = 3 \text{ br}$
 $\Rightarrow A(ADC) = ?$

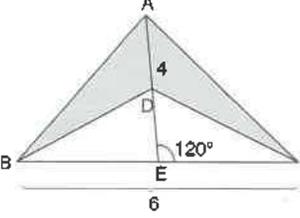
A) $\frac{24}{5}$ B) $\frac{48}{5}$ C) 12 D) 15 E) 18

11.  $[DC] \perp [BC]$
 $m(\widehat{BAC}) = 30^\circ$
 $|DE| = |EB| = 6 \text{ br}$
 $|AB| = 12 \text{ br}$
 $\Rightarrow A(BDC) = ?$

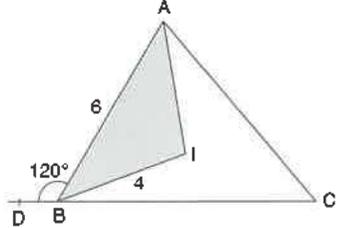
A) 36 B) 27 C) $18\sqrt{3}$ D) 19 E) 9

15.  $[DE] \parallel [AC]$
 $A(DEF) = 15 \text{ br}^2$
 $A(BDE) = 9 \text{ br}^2$
 $\Rightarrow A(ABC) = ?$

A) 40 B) 48 C) 54 D) 55 E) 64

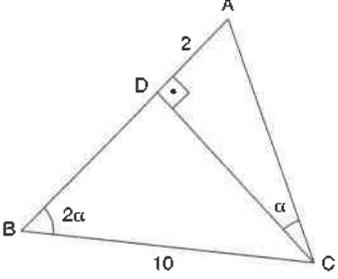
12.  $m(\widehat{AEC}) = 120^\circ$
 $|AD| = 4 \text{ br}$
 $|BC| = 6 \text{ br}$
 $\Rightarrow A(ABDC) = ?$

A) 6 B) $4\sqrt{3}$ C) $6\sqrt{3}$ D) 12 E) $12\sqrt{3}$

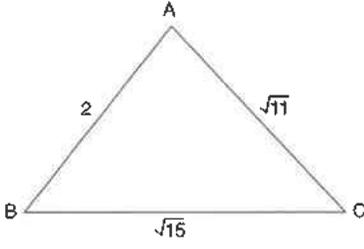
16.  I iç teget çemberin merkezi
 I, central point of the incircle
 $m(\widehat{ABD}) = 120^\circ$
 $|AB| = 6 \text{ br}$
 $|BI| = 4 \text{ br}$
 $\Rightarrow A(AIB) = ?$

A) $6\sqrt{3}$ B) $6\sqrt{2}$ C) $4\sqrt{3}$ D) 6 E) 4

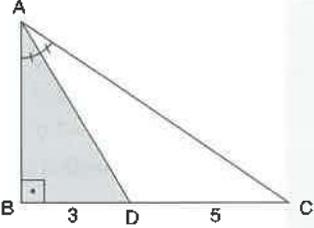
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1.  $[CD] \perp [AB]$
 $2m(\widehat{ACD}) = m(\widehat{ABC})$
 $|AD| = 2 \text{ br}$
 $|BC| = 10 \text{ br}$
 $\Rightarrow A(ABC) = ?$

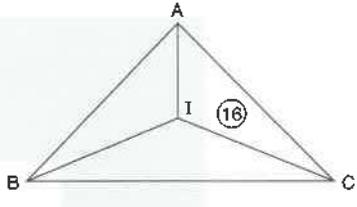
A) 10 B) 20 C) 30 D) 40 E) 60

5.  $|AC| = \sqrt{11} \text{ br}$
 $|AB| = 2 \text{ br}$
 $|BC| = \sqrt{15} \text{ br}$
 $\Rightarrow A(ABC) = ?$

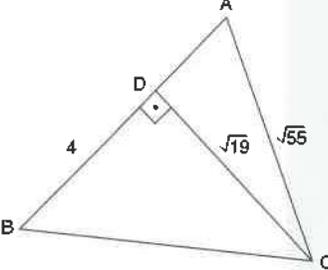
A) $2\sqrt{15}$ B) $2\sqrt{11}$ C) $\frac{\sqrt{165}}{2}$ D) $\sqrt{15}$ E) $\sqrt{11}$

2.  $[AB] \perp [BC]$
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $|BD| = 3 \text{ br}$
 $|DC| = 5 \text{ br}$
 $\Rightarrow A(BAD) = ?$

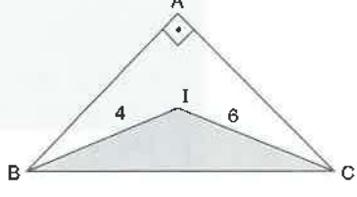
A) $\frac{15}{2}$ B) 9 C) 12 D) 24 E) 48

6.  I iç teget çemberin merkezi
I, central point of the incircle
 $A(AIC) = 16 \text{ br}^2$
 $|AC| = 4 \text{ k}$
 $|BC| = 5 \text{ k}$
 $|AB| = 6 \text{ k}$
 $\Rightarrow A(ABC) = ?$

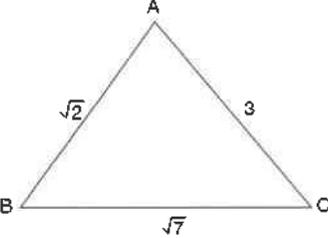
A) 32 B) 48 C) 60 D) 64 E) 76

3.  $[CD] \perp [AB]$
 $|AC| = \sqrt{55} \text{ br}$
 $|DC| = \sqrt{19} \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow A(BAC) = ?$

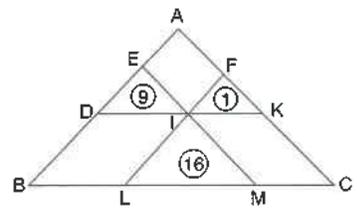
A) $\frac{5}{3}\sqrt{19}$ B) $2\sqrt{19}$ C) $5\sqrt{19}$ D) $10\sqrt{19}$ E) 138

7.  I iç teget çemberin merkezi
I, central point of the incircle
 $[BA] \perp [AC]$
 $|BI| = 4 \text{ br}$
 $|IC| = 6 \text{ br}$
 $\Rightarrow A(BIC) = ?$

A) $12\sqrt{3}$ B) 12 C) $6\sqrt{3}$ D) $6\sqrt{2}$ E) 6

4.  $|AB| = \sqrt{2} \text{ br}$
 $|AC| = 3 \text{ br}$
 $|BC| = \sqrt{7} \text{ br}$
 $\Rightarrow A(ABC) = ?$

A) $\frac{3\sqrt{2}}{2}$ B) $\frac{3\sqrt{7}}{2}$ C) $\frac{\sqrt{14}}{2}$ D) $3\sqrt{7}$ E) $7\sqrt{2}$

8.  $[FL] \parallel [AB]$
 $[EM] \parallel [AC]$
 $[DK] \parallel [BC]$
 $A(FIK) = 1 \text{ br}^2$
 $A(DEI) = 9 \text{ br}^2$
 $A(ILM) = 16 \text{ br}^2$
 $\Rightarrow A(ABC) = ?$

A) 36 B) 49 C) 64 D) 81 E) 100

9.

$[AD] \perp [DC]$
 $m(\widehat{ABC}) = 45^\circ$
 $|AB| = 8\sqrt{2}$ br
 $|DC| = 5$ br
 $|ED| = 12$ br
 $\Rightarrow A(AEC) = ?$

A) $20\sqrt{2}$ B) 42 C) $42\sqrt{2}$ D) 52 E) $52\sqrt{2}$

13.

$|AF| = |FC|$
 $|AE| = 3|ED|$
 $m(\widehat{ABC}) = 45^\circ$
 $|AB| = 9\sqrt{2}$ br
 $|DC| = 6$ br
 $\Rightarrow A(EFD) = ?$

A) 3 B) $\frac{27}{8}$ C) $\frac{27}{2}$ D) 18 E) 27

10.

$2|AF| = |BD| = 4$ br
 $2|DC| = |FC| = 6$ br
 $\Rightarrow \frac{A(EAF)}{A(EBF)} = ?$

A) $\frac{1}{4}$ B) $\frac{1}{2}$ C) 1 D) 2 E) 4

14.

$[BA] \perp [AD]$
 $[AD] \perp [DC]$
 $|AB| = 6$ br
 $2|DC| = |DB| = 10$ br
 $\Rightarrow A(BDC) = ?$

A) 40 B) 30 C) 25 D) 20 E) 10

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11.

$[BA] \perp [AC]$
 $[BE] \perp [ED]$
 $m(\widehat{EBC}) = m(\widehat{DEC})$
 $|AE| = 4$ br
 $|EC| = 5$ br
 $\Rightarrow A(ABC) = ?$

A) 10 B) 20 C) 40 D) 48 E) 54

15.

$[DE] \parallel [BC]$
 $|AD| = 2|ED|$
 $\Rightarrow A(ADE) = ?$

A) 5 B) $\frac{20}{3}$ C) 10 D) 12 E) $\frac{40}{3}$

12.

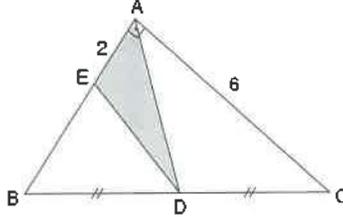
$[AD] \perp [BD]$
 $m(\widehat{BDC}) = 120^\circ$
 $|BD| = |DC| = 4$ br
 $|AD| = 5$ br
 $\Rightarrow A(ABC) = ?$

A) $20 + 4\sqrt{3}$ B) $15 + 4\sqrt{3}$ C) $10 + 9\sqrt{3}$
 D) $10 + 6\sqrt{3}$ E) 23

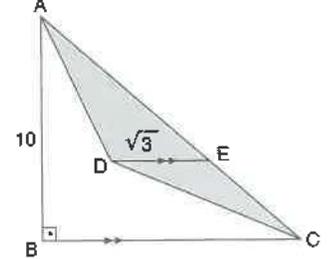
16.

ABC, ADE eşkenar üçgenler
 ABC and ADE are equilateral triangles
 $[AD] \perp [BC]$
 $|AB| = 12$ br
 $\Rightarrow A(DFC) = ?$

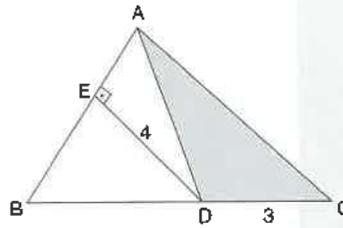
A) $18\sqrt{3}$ B) 18 C) $9\sqrt{3}$ D) 9 E) $\frac{9\sqrt{3}}{2}$

1.  $[BA] \perp [AC]$
 $|BD| = |DC|$
 $|AE| = 2br$
 $|AC| = 6br$
 $\Rightarrow A(AED) = ?$

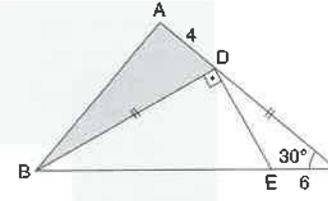
A) 3 B) 6 C) 9 D) 12 E) 18

5.  $[AB] \perp [BC]$
 $[DE] \parallel [BC]$
 $|AB| = 10br$
 $|DE| = \sqrt{3}br$
 $\Rightarrow A(ADC) = ?$

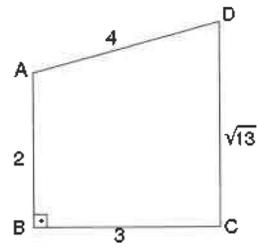
A) 30 B) $20\sqrt{3}$ C) 15 D) $10\sqrt{3}$ E) $5\sqrt{3}$

2.  $|AB| = |BD|$
 $[DE] \perp [AB]$
 $|ED| = 4br$
 $|DC| = 3br$
 $\Rightarrow A(ADC) = ?$

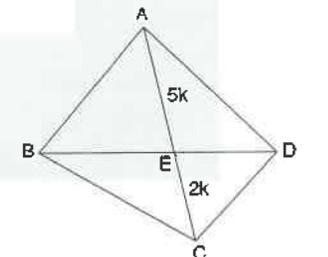
A) 3 B) $3\sqrt{3}$ C) $4\sqrt{3}$ D) 6 E) $6\sqrt{3}$

6.  $[BD] \perp [DE]$
 $|BD| = |DC|$
 $m(\widehat{ACB}) = 30^\circ$
 $|EC| = 6br$
 $|AD| = 4br$
 $\Rightarrow A(ABD) = ?$

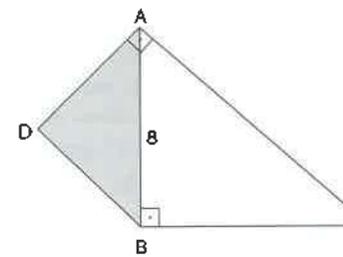
A) 36 B) $12\sqrt{3}$ C) 18 D) 9 E) $6\sqrt{3}$

3.  $[AB] \perp [BC]$
 $2|AB| = |AD| = 4br$
 $|DC| = \sqrt{13}br$
 $|BC| = 3br$
 $\Rightarrow A(ADCB) = ?$

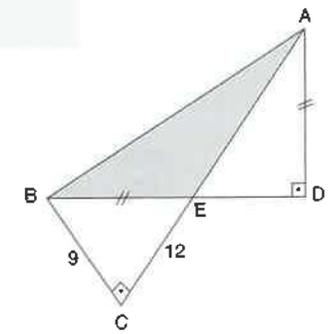
A) $\frac{9}{2}$ B) 9 C) $4 + 2\sqrt{3}$
 D) $8\sqrt{3}$ E) $16\sqrt{3}$

7.  $2|AE| = 5|EC|$
 $\Rightarrow \frac{A(ABD)}{A(ABCD)} = ?$

A) $\frac{5}{2}$ B) $\frac{3}{2}$ C) $\frac{5}{7}$ D) $\frac{3}{5}$ E) $\frac{2}{5}$

4.  $[AD] \perp [AC]$
 $[AB] \perp [BC]$
 $3|AD| = |AC|$
 $|AB| = 8br$
 $\Rightarrow A(ADB) = ?$

A) $\frac{32}{3}$ B) $\frac{64}{3}$ C) 24 D) 32 E) 64

8.  $[AD] \perp [BD]$
 $[BC] \perp [CA]$
 $|BE| = |AD|$
 $|BC| = 9br$
 $|CE| = 12br$
 $\Rightarrow A(ABE) = ?$

A) $\frac{225}{2}$ B) $\frac{135}{2}$ C) $\frac{125}{2}$ D) 54 E) 48

9.

$m(\widehat{DAE}) = 30^\circ$
 $m(\widehat{CEA}) = 30^\circ$
 $m(\widehat{BAD}) = 60^\circ$
 $|BC| = 4 \text{ br}$
 $|AE| = 6\sqrt{3} \text{ br}$
 $\Rightarrow A(BCD) = ?$

A) $6\sqrt{3}$ B) 9 C) 12 D) $12\sqrt{3}$ E) 24

10.

$[BA] \perp [AC]$
 $|AB| = |AC| = |AD|$
 $|ED| = 4\sqrt{2} \text{ br}$
 $|EC| = 3 \text{ br}$
 $\Rightarrow A(EDC) = ?$

A) $12\sqrt{2}$ B) 12 C) $6\sqrt{2}$ D) 6 E) $3\sqrt{2}$

11.

$[AF] \perp [FC]$
 $m(\widehat{EAC}) = m(\widehat{FAC})$
 $|AD| = 2 \text{ br}$
 $|AB| = 3 \text{ br}$
 $|FC| = 5 \text{ br}$
 $\Rightarrow A(ABD) = ?$

A) $\frac{5}{4}$ B) $\frac{5}{2}$ C) 5 D) $\frac{15}{2}$ E) 10

12.

$[BA] \perp [AC]$
 $|AB| = 3 \text{ br}$
 $|AC| = 4 \text{ br}$
 $|BD| = 1 \text{ br}$
 $\Rightarrow A(ADC) = ?$

A) $\frac{6}{5}$ B) 2 C) $\frac{12}{5}$ D) $\frac{24}{5}$ E) 8

13.

$[BA] \perp [AC]$
 $|AB| = 15 \text{ br}$
 $|AC| = 20 \text{ br}$
 $|DE| = 6 \text{ br}$
 $\Rightarrow A(DAE) = ?$

A) 75 B) 45 C) 36 D) 30 E) 18

14.

$|AC| = |BC|$
 $[EK] \perp [AC]$
 $[EF] \perp [BC]$
 $[BD] \perp [DC]$
 $m(\widehat{ACB}) = m(\widehat{BCD})$
 $|EK| = 2 \text{ br}$
 $|EF| = 3 \text{ br}$
 $|BC| = 13 \text{ br}$
 $\Rightarrow A(BDC) = ?$

A) $\frac{65}{2}$ B) 30 C) 60 D) 65 E) 75

15.

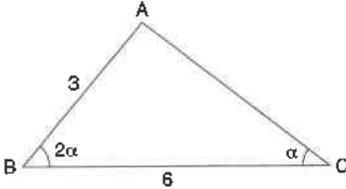
$[DE] \perp [BC]$
 $|BE| = |EC|$
 $m(\widehat{BAC}) = 15^\circ$
 $|DC| = 2 \text{ br}$
 $|AD| = 4 + 2\sqrt{3} \text{ br}$
 $\Rightarrow A(ABC) = ?$

A) $2 + \sqrt{3}$ B) $2 + 2\sqrt{3}$ C) $4 + 2\sqrt{3}$
 D) $6 + 2\sqrt{3}$ E) $8 + 4\sqrt{3}$

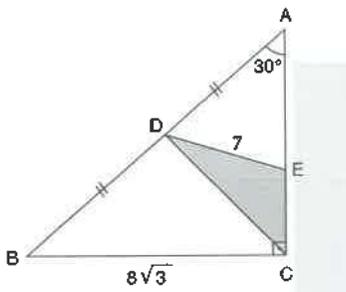
16.

$|AB| = |AC| = 10 \text{ br}$
 $|KD| = 8 \text{ br}$
 $|DE| = 3 \text{ br}$
 $[DK] \perp [AB]$
 $[DE] \perp [EA]$
 $\Rightarrow A(ABC) = ?$

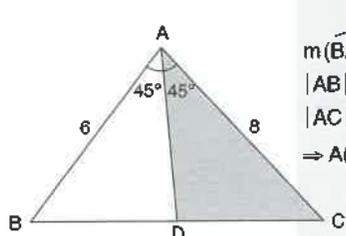
A) 25 B) 30 C) 40 D) 50 E) 55

1.  $2m(\widehat{ACB}) = m(\widehat{ABC})$
 $2|AB| = |BC| = 6 \text{ br}$
 $\Rightarrow A(ABC) = ?$

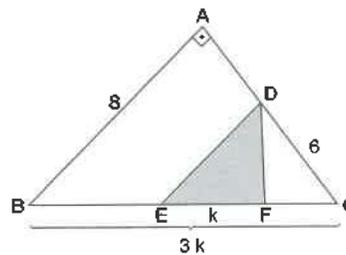
A) 3 B) $\frac{9\sqrt{3}}{2}$ C) $6\sqrt{3}$ D) 9 E) $9\sqrt{3}$

2.  $m(\widehat{BAC}) = 30^\circ$
 $[AC] \perp [BC]$
 $|AD| = |DE|$
 $|BC| = 8\sqrt{3} \text{ br}$
 $|DE| = 7 \text{ br}$
 $\Rightarrow A(DEC) = ?$

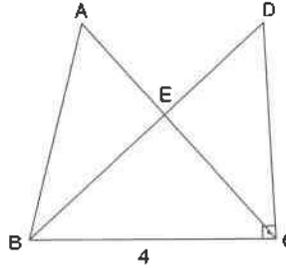
A) 11 B) $11\sqrt{3}$ C) $12\sqrt{3}$ D) $22\sqrt{3}$ E) $24\sqrt{3}$

3.  $m(\widehat{BAD}) = m(\widehat{DAC}) = 45^\circ$
 $|AB| = 6 \text{ br}$
 $|AC| = 8 \text{ br}$
 $\Rightarrow A(ADC) = ?$

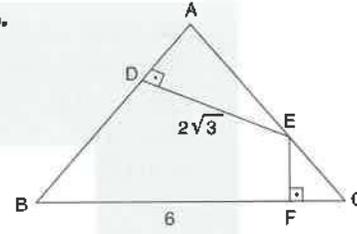
A) 24 B) $\frac{24}{7}$ C) $\frac{72}{7}$ D) $\frac{96}{7}$ E) 48

4.  $[BA] \perp [AC]$
 $3|EF| = |BC|$
 $|AB| = 8 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow A(DEF) = ?$

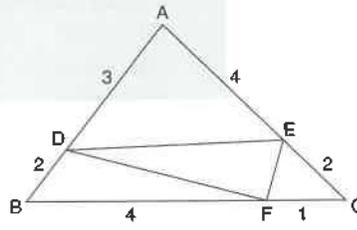
A) 24 B) 16 C) 12 D) 8 E) 6

5.  ABC eşkenar üçgen
 ABC equilateral triangle
 $[DC] \perp [CB]$
 $A(AEB) = A(EDC)$
 $|BC| = 4 \text{ br}$
 $\Rightarrow |DC| = ?$

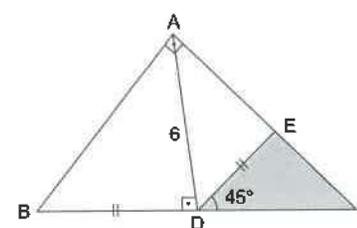
A) $2\sqrt{3}$ B) 5 C) $2\sqrt{7}$ D) $4\sqrt{3}$ E) 8

6.  ABC eşkenar üçgen
 ABC equilateral triangle
 $[ED] \perp [AB]$
 $[EF] \perp [BC]$
 $|DE| = 2\sqrt{3} \text{ br}$
 $|BF| = 6 \text{ br}$
 $\Rightarrow A(ABC) = ?$

A) 8 B) $8\sqrt{3}$ C) $12\sqrt{3}$ D) $16\sqrt{3}$ E) 24

7.  $3|FC| = |AD| = 3 \text{ br}$
 $|AE| = |BF| = 4 \text{ br}$
 $|EC| = |BD| = 2 \text{ br}$
 $\Rightarrow \frac{A(DEF)}{A(ABC)} = ?$

A) $\frac{3}{12}$ B) $\frac{5}{12}$ C) $\frac{8}{75}$ D) $\frac{16}{75}$ E) $\frac{28}{75}$

8.  $[BA] \perp [AC]$
 $[AD] \perp [BC]$
 $m(\widehat{EDC}) = 45^\circ$
 $|BD| = |DE|$
 $|AD| = 6 \text{ br}$
 $\Rightarrow A(EDC) = ?$

A) 3 B) 6 C) $6\sqrt{2}$ D) $9\sqrt{2}$ E) 36

9.

$[DC] \perp [BC]$
 $2|AF| = 3|FE|$
 $|BE| = 8 \text{ br}$
 $|DC| = 5 \text{ br}$
 $\Rightarrow A(ABD) = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

13.

G, ABC üçgeninin ağırlık merkezi
 $G, \text{center of gravity } ABC \text{ triangle's}$
 $[DE] \parallel [BC]$
 $A(ABC) = 90 \text{ br}^2$
 $\Rightarrow A(DEF) = ?$

A) 10 B) 20 C) 30 D) 45 E) 60

10.

$[AB] \perp [BC]$
 $[BD] \perp [AC]$
 $|BD| = 8 \text{ br}$
 $|EB| = 4 \text{ br}$
 $|BC| = 16 \text{ br}$
 $\Rightarrow A(EDB) = ?$

A) 4 B) 8 C) $8\sqrt{3}$ D) 16 E) $16\sqrt{3}$

14.

$[AC] \perp [BC]$
 $m(\widehat{ABD}) = m(\widehat{DBC})$
 $|AE| = |AD|$
 $|BE| = 12 \text{ br}$
 $|ED| = 8 \text{ br}$
 $\Rightarrow A(ABD) = ?$

A) 24 B) 40 C) 48 D) 60 E) 80

11.

$m(\widehat{BAD}) = 15^\circ$
 $m(\widehat{ADC}) = 45^\circ$
 $|AB| = 8 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow A(ADC) = ?$

A) $32\sqrt{2}$ B) 32 C) $16\sqrt{2}$ D) 12 E) 8

15.

$m(\widehat{DAC}) = 75^\circ$
 $|AB| = 5 \text{ br}$
 $|AD| = 2 \text{ br}$
 $|BD| = 6k$
 $|DC| = 4k$
 $\Rightarrow A(ABD) = ?$

A) $\frac{5}{4}$ B) $\frac{5}{3}$ C) $\frac{5}{2}$ D) $\frac{5\sqrt{3}}{3}$ E) $\frac{5\sqrt{3}}{2}$

12.

$[DE] \parallel [BC]$
 $A(DEF) = 30 \text{ br}^2$
 $3|AD| = 2|DB|$
 $\Rightarrow A(ABC) = ?$

A) 50 B) 60 C) 75 D) 90 E) 125

16.

$m(\widehat{DAC}) = m(\widehat{BAE})$
 $|AB| = 2|AD| = 8 \text{ br}$
 $|BD| = 6 \text{ br}$
 $\Rightarrow A(ADC) = ?$

A) $5\sqrt{3}$ B) $3\sqrt{15}$ C) 12 D) 16 E) 24

ÜÇGENDE ALAN

AREAS OF TRIANGLES

YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	A	D	E	C	C	A	B	C	B	E	C	C	A	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	D	D	D	C	D	E	C	A	D	C	A	C	A	C

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	D	C	A	E	B	B	E	E	A	D	D	E	C	D	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	A	A	D	C	B	C	E	E	C	E	C	C	C	D	D

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	D	A	D	A	C	B	A	A	B	A	B	E	C

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	D	C	D	C	D	C	A	C	D	B	D	D	B	D

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	E	E	B	D	D	E	E	C	A	A	C	C	B	E	D

TEST 8

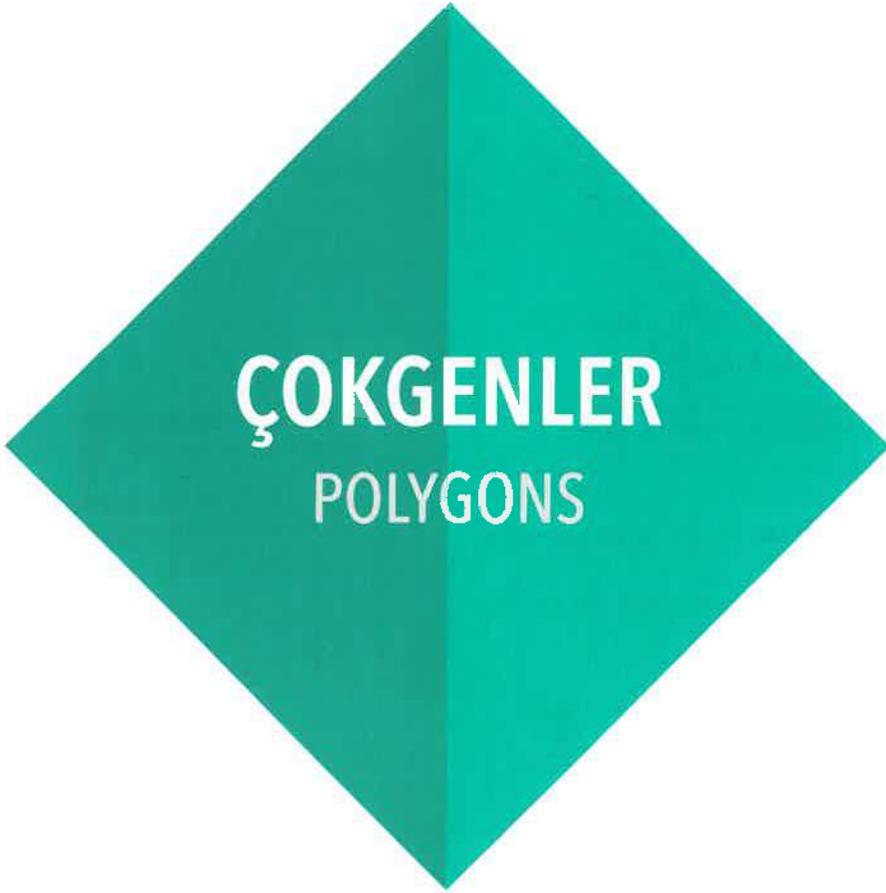
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	C	C	E	C	D	C	D	A	E	B	B	D	E	E

TEST 9

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	B	A	E	C	C	A	A	D	B	D	C	B	D	A

TEST 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	D	D	A	D	D	D	B	B	D	E	B	E	C	B



ÇOKGENLER
POLYGONS

ÖZELLİK | Property 1

- **n kenarlı bir konveks çokgen için**
 - * Konveks - bir çokgenin çizilebilmesi için en az $(2n - 3)$ tane elemanı bilinmelidir. Bunların en az $(n - 2)$ tanesi uzunluk, $(n - 1)$ tanesi açı olmalıdır.
 - * İç açıları toplamı $(n - 2) \cdot 180^\circ$ dir.
 - * Dış açıları toplamı 360° dir.
 - * Bir köşeden çizilen köşegen sayısı $(n - 3)$ 'tür.
 - * Bütün köşegenlerin sayısı $\frac{n(n-3)}{2}$ 'tür.
 - * Bir köşeden çizilen tüm köşegenler, çokgeni $(n - 2)$ tane üçgene ayırır.
- **For a polygon with n edges**
 - * In order to be drawn a convex polygon, at least $(2n-3)$ elements must be known. At least $(n-2)$ of them must be edge lengths, and $(n-1)$ of them must be angle measurements.
 - * The sum of the interior angles is $(n-2) \cdot 180^\circ$
 - * The sum of exterior angles is 360°
 - * The number of diagonals drawn from a vertex is $(n-3)$
 - * The number of all the diagonals is $\frac{n(n-3)}{2}$
 - * The diagonals that are drawn from a vertex to each other corners separate the polygon into $(n-2)$ triangles

1. İç açıları toplamı 720° olan konveks bir çokgenin kenar sayısı nedir?

What number is the edges of a convex polygon with the sum of interior angles of 720° ?

6

2. Bir köşeden çizilen tüm köşegen sayısı 7 olan konveks bir çokgenin iç açıları toplamı ve tüm köşegenlerinin sayısı nedir?

what number is diagonals and sum of interior angles a convex polygon which the number of diagonals drawn from a vertex is 7?

1440, 35

3. İç açıları toplamı dış açıları toplamının 3 katı olan konveks bir çokgenin tüm köşegen sayısı nedir?

What number is the vertex of a convex polygon which the sum of interior angles is 3 times of the sum of exterior angles?

20

4. Bir konveks çokgen 13 elemanı ile belirlenebiliyor. Bu konveks çokgenin bir köşesinden çizilen tüm köşegenler çokgeni kaç tane üçgene ayırır?

A convex polygon can determine by 13 element. How many triangles are produced by drawing diagonals from a vertex of this convex polygon?

6

5. 11 elemanı ile belirlenebilen bir çokgenin bir köşesinden çizilen bütün köşegenlerin sayısı nedir?

What is the diagonals of a polygon which can be determined by 11 element, drawn from a vertex?

4

6. Dış açıları toplamının iç açıları toplamına oranı $\frac{2}{3}$ olan konveks bir çokgenin kenar sayısı nedir?

What number is the edges of a convex polygon which the sum of exterior angles to the sum of interior angles ratio is $\frac{2}{3}$?

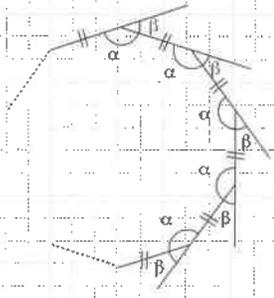
5

7. Üç iç açısı 120° , 150° , 70° ve diğer iç açıları birbirine eşit ve 140° olan konveks çokgen kaç kenarlıdır?

What number is the edges of a convex polygon which three interior angles are 120° , 150° , 70° and the other angles are equal to each other and 140° ?

7

ÖZELLİK | Property 2

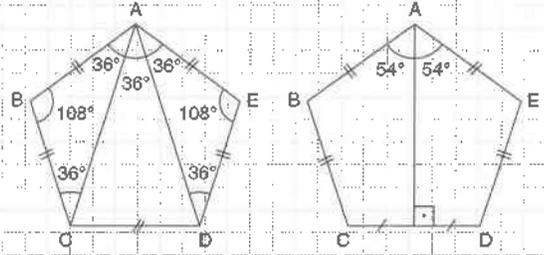


$$\alpha = \frac{(n-2) \cdot 180^\circ}{n}$$

$$\beta = \frac{360^\circ}{n}$$

$$\alpha + \beta = 180^\circ$$

ÖZELLİK | Property 3



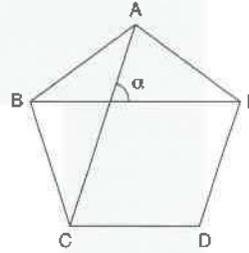
Düzgün beşgenin bir iç açısı 108° , dış açısı 72° dir.
One interior angle is 108° and one exterior angle is 72° of a regular pentagon.

1. Bir dış açısı 30° olan düzgün bir çokgenin kenar sayısı nedir?

What number is the edges of a regular polygon have with an exterior angles of 30° ?

12

- 1.



ABCDE düzgün beşgen.

ABCDE is a regular pentagon.

$\Rightarrow \alpha = ?$

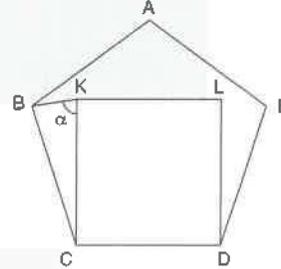
72

2. Bir iç açısı 135° olan düzgün bir çokgenin tüm köşegen sayısı nedir?

what number is the sum of diagonals of a regular polygon with a intensive angle of 135° ?

20

- 2.



ABCDE düzgün beşgen, KLCD kare

ABCDE is a regular pentagon.

KLDC square

$\Rightarrow \alpha = ?$

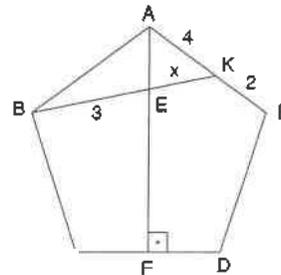
81

3. Bir iç açısı bir dış açısının 5 katı olan düzgün bir çokgenin iç açıları toplamı kaçtır?

What number is the sum of interior angles of a regular polygon which a interior angle is 5 time of an exterior angle?

1800

- 3.



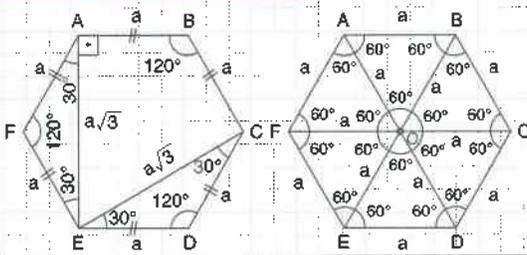
ABCDE düzgün beşgen

ABCDE is a regular pentagon.

$\Rightarrow x = ?$

2

ÖZELLİK | Property 4

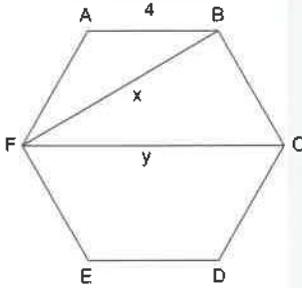


Düzgün bir altıgenin iç açısı 120° , dış açısı 60° 'dir.
One interior angle is 120° and one exterior angle is 60° of a regular hexagon.

$$A(OED) = \frac{a^2 \sqrt{3}}{4}$$

$$A(ABCDEF) = 6 \cdot \frac{a^2 \sqrt{3}}{4}$$

1.



ABCDEF düzgün altıgen

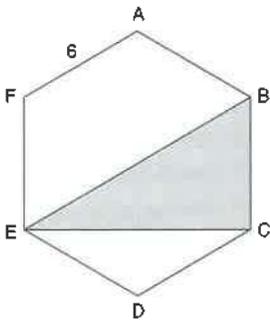
ABCDEF is a regular hexagon

$$\Rightarrow x = ?$$

$$\Rightarrow y = ?$$

$$\boxed{4\sqrt{3}, 3}$$

2.



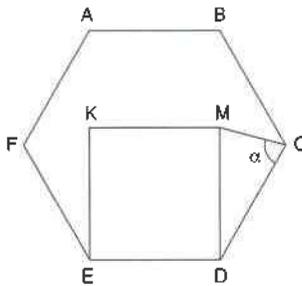
ABCDEF düzgün altıgen

ABCDEF is a regular hexagon

$$\Rightarrow A(EBC) = ?$$

$$\boxed{18\sqrt{3}}$$

3.



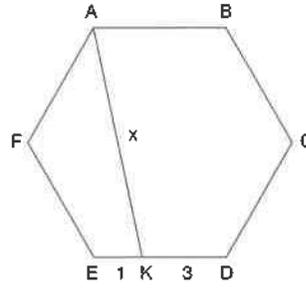
ABCDEF düzgün altıgen, KMDE kare

ABCDEF regular hexagon, KMDE square

$$\Rightarrow \alpha = ?$$

$$\boxed{75}$$

4.



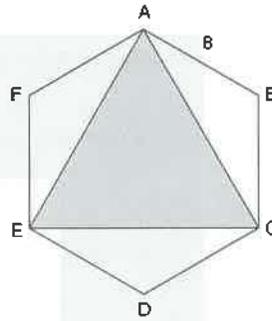
ABCDEF düzgün altıgen

ABCDEF regular hexagon

$$\Rightarrow |AK| = x = ?$$

$$\boxed{7}$$

5.



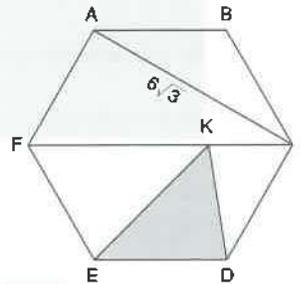
ABCDEF düzgün altıgen

ABCDEF is a regular hexagon

$$\Rightarrow A(AEC) = ?$$

$$\boxed{48\sqrt{3}}$$

6.



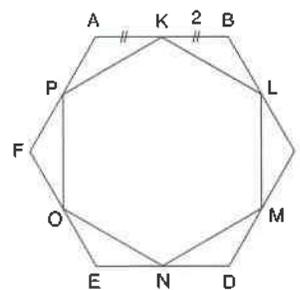
ABCDEF düzgün altıgen

ABCDEF regular hexagon

$$\Rightarrow A(EKD) = ?$$

$$\boxed{9\sqrt{3}}$$

7.



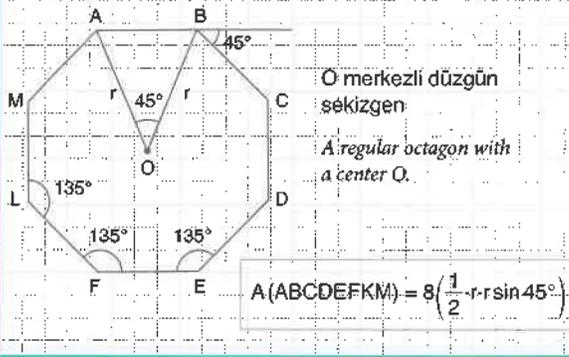
ABCDEF ve KLMNOP düzgün altıgen

ABCDEF and KLMNOP regular hexagon

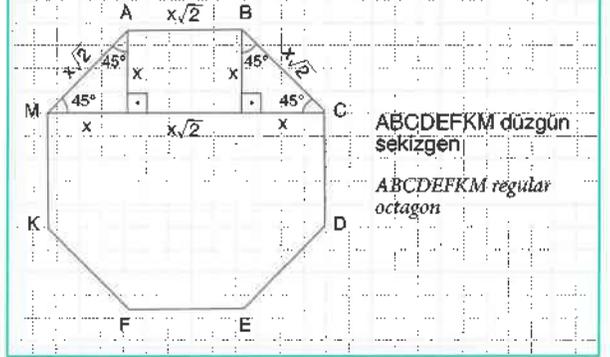
$$\Rightarrow A(KLMNOP) = ?$$

$$\boxed{18\sqrt{3}}$$

ÖZELLİK | Property 5



ÖZELLİK | Property 6



1. ABCDEFKM düzgün sekizgen
ABCDEFKM regular octagon
 $\Rightarrow A(ABCDEFGH) = ?$

$$32\sqrt{2}$$

1. ABCDEFKM düzgün sekizgen
ABCDEFKM regular octagon
 $\Rightarrow x = ?$

$$16 + 8\sqrt{2}$$

2. ABCDEFKM düzgün sekizgen
ABCDEFKM regular octagon
 $A(ABCDEFGH) = 72\sqrt{2}$
 $\Rightarrow x = ?$

$$6$$

2. ABCDEFKM düzgün sekizgen
ABCDEFKM regular octagon
 $\Rightarrow \text{Ç}(ABCD\dots) = ?$

$$48\sqrt{2}$$

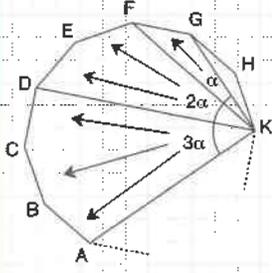
3. ABCDEFKM düzgün sekizgen
ABCDEFKM regular octagon
 $\Rightarrow A(ABCDEFGH) = ?$

$$128\sqrt{2}$$

3. ABCDEFKM düzgün sekizgen
ABCDEFKM regular octagon
 $\Rightarrow x = ?$

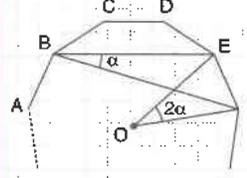
$$2$$

ÖZELLİK | Property 7



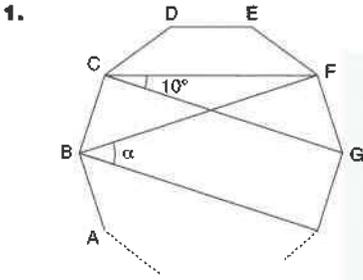
ABCD... düzgün çokgen
ABCDE... is a regular polygon

ÖZELLİK | Property 8



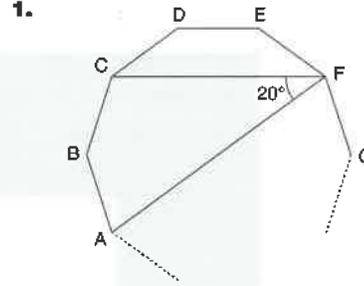
O merkezli n kenarlı düzgün çokgen
A regular polygon having n edges, with a center O

$$\Rightarrow \frac{2 \cdot \alpha}{360^\circ} = \frac{1}{n} \Rightarrow n = \frac{180^\circ}{\alpha}$$



ABCD... düzgün çokgen
ABCDE... is a regular polygon
 $\Rightarrow \alpha = ?$

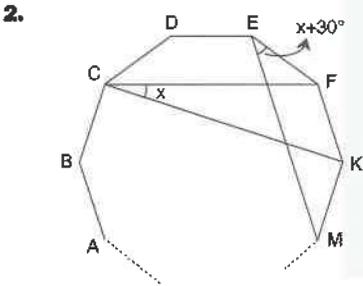
20



ABCD... düzgün çokgeni kaç kenarlıdır?
How many edges does the ABCDE... a regular polygon have?

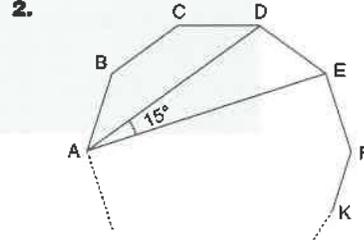
18

PUZUYAYINLARI



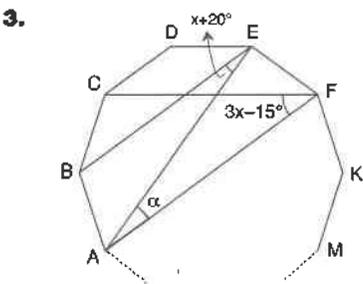
ABCD... düzgün çokgen
ABCDE... is a regular polygon
 $\Rightarrow x = ?$

30



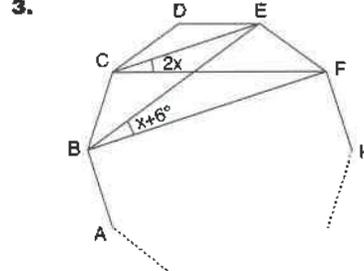
ABCD... düzgün çokgeni kaç kenarlıdır?
How many edges does the ABCDE... a regular polygon have?

12



ABCD... düzgün çokgen
ABCDE... is a regular polygon
 $\Rightarrow \alpha = ?$

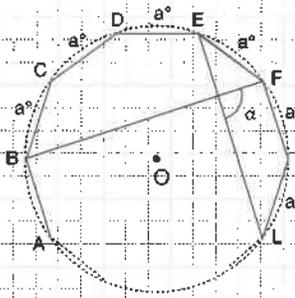
75



ABCD... düzgün çokgeni kaç kenarlıdır?
How many edges does the ABCDE... a regular polygon have?

15

ÖZELLİK | Property 9



O merkezli n kenarlı düzgün çokgen

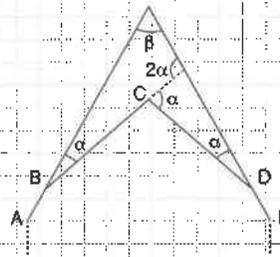
A regular polygon having n edges, with a center O

$$\frac{3a + 2a}{2} = \alpha$$

$$a = \frac{2 \cdot \alpha}{5}$$

$$\frac{2\alpha}{360^\circ} = \frac{1}{n}$$

ÖZELLİK | Property 10



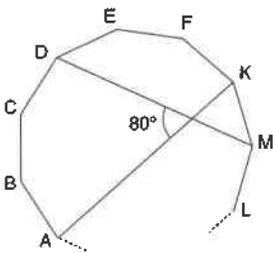
ABCDE... n kenarlı düzgün çokgen

ABCDE... is a regular polygon with n edges

$$3\alpha + \beta = 180^\circ$$

$$\frac{360^\circ}{n} = \alpha$$

1.

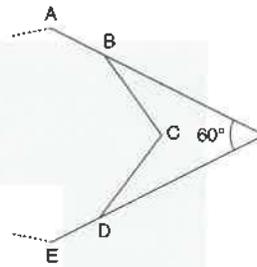


ABCD... düzgün çokgeni kaç kenarlıdır?

How many edges does the ABCDE... a regular polygon have?

9

1.



ABCDE... n kenarlı düzgün çokgen

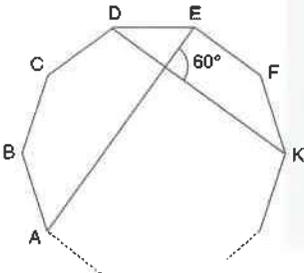
ABCDE... is a regular polygon with n edges

$$\Rightarrow n = ?$$

9

PUZUYAVINILARI

2.

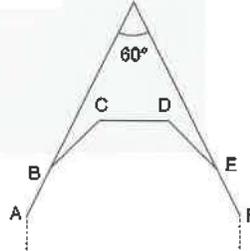


ABCD... düzgün çokgeni kaç kenarlıdır?

How many edges does the ABCDE... a regular polygon have?

15

2.



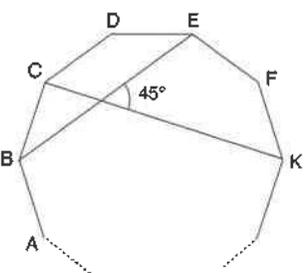
ABCDE... n kenarlı düzgün çokgen

ABCDE... is a regular polygon with n edges

$$\Rightarrow n = ?$$

12

3.

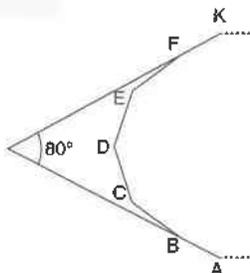


ABCD... düzgün çokgeni kaç kenarlıdır?

How many edges does the ABCDE... a regular polygon have?

12

3.



ABCDE... n kenarlı düzgün çokgen

ABCDE... is a regular polygon with n edges

$$\Rightarrow n = ?$$

18

1. Kenar sayısı 7 olan konveks bir çokgenin tüm köşegenlerinin sayısı nedir?

What number is the sum of diagonals of a convex polygon with the edge number of 7?

A) 28 B) 18 C) 15 D) 14 E) 12

2. Bir köşesinden çizilen tüm köşegenlerinin sayısı 5 olan çokgenin iç açıları toplamı kaç derecedir?

What is the sum of degree of a interior angles of a polygon which the number of diagonals drawn from a vertex is 5?

A) 1440 B) 1080 C) 900 D) 720 E) 540

3. Dış bükey bir yedigenin çizilebilmesi için en az kaç elemanı bilinmelidir?

How many elements should be determined at least, in order to be drawn a convex heptagon?

A) 21 B) 19 C) 17 D) 14 E) 11

4. Bir köşesinden çizilen tüm köşegenlerle dış bükey dokuzgen kaç üçgensel bölgeye ayrılır?

How many triangular sectors is a convex nonagon by diagonals drawn from a vertex to divided into?

A) 9 B) 8 C) 7 D) 6 E) 5

5. Dış açıların toplamının iç açıları toplamına oranı $\frac{1}{4}$ olan çokgenin çizilebilmesi için kaç elemanı bilinmelidir?

How many elements of a polygon should be determined which the ratio of the sum of exterior angles to the sum of interior angles is $\frac{1}{4}$?

A) 21 B) 17 C) 11 D) 10 E) 9

6. Tüm köşegen sayısı 14 olan konveks bir çokgenin iç açıları toplamı kaç derecedir?

What is the sum of degree of interior angles of a convex polygon with the number of diagonals 14?

A) 1440 B) 1080 C) 900 D) 720 E) 540

7. Tüm köşegen sayısı kenar sayısının 3 katı olan konveks çokgenin bir köşesinden çizilen tüm köşegenlerinin sayısı nedir?

What number is the sum of diagonals of a convex polygon drawn from a vertex each other vertex, which the number of diagonals is 3 times of the number of edges?

A) 6 B) 5 C) 4 D) 3 E) 2

8. Dış bükey onikigenin en az kaç iç açısı geniş açı olabilir?

How many of angles of a convex dodecagon can be obtuse angle at least?

A) 10 B) 9 C) 8 D) 7 E) 6

9. Bir iç açısı bir dış açısının 8 katı olan düzgün çokgen kaç kenarlıdır?

How many angles does a regular polygon have, that one of its interior angle is 8 time of an exterior angle?

A) 10 B) 12 C) 16 D) 18 E) 20

10. Bir dış büyük çokgenin iç açılarının üç tanesi 150° , 130° ve 60° dir.

Diğer iç açılan ölçüleri eşit ve 140° olduğuna göre bu çokgen kaç kenarlıdır?

What number is the angles of a polygon which the interior angles of a convex polygon is 150° , 130° , 60° .

The other interior angles are equal and 140° ?

A) 9 B) 8 C) 7 D) 6 E) 5

11. Bir iç açısı 140° olan düzgün bir çokgen kaç kenarlıdır?

What number is the edges of a regular polygon with the a interior angles of 140° ?

A) 5 B) 6 C) 7 D) 8 E) 9

12. Bir dış açısının ölçüsü 30° olan düzgün çokgen kaç kenarlıdır?

What number is the edge of a regular polygon with an exterior angles of 30° ?

A) 15 B) 12 C) 10 D) 8 E) 6

13. Bir iç açısı bir dış açısının 2 katından 30° eksik olan düzgün çokgenin bir iç açısı kaç derecedir?

What is the degree of a interior angles of a regular polygon which, one of interior angle is 30° lack of 2 times of an exterior angles?

A) 70 B) 80 C) 90 D) 100 E) 110

14. Bir iç açısı bir dış açısının 6 katından 40° fazla olan düzgün çokgenin tüm köşegenlerinin sayısı nedir?

What number is the sum of diagonals of a regular polygon that one of interior angles is 40° surplus of 6 times of an exterior angles?

A) 45 B) 90 C) 104 D) 135 E) 170

15. Bir dış açısının ölçüsünün bir iç açısının ölçüsüne oranı $\frac{1}{5}$ olan düzgün çokgenin tüm köşegenlerinin sayısı nedir?

What is the sum of diagonals of a regular polygon which the ratio of an exterior angle measurement to interior angle measurement is $1/5$?

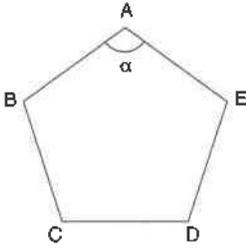
A) 12 B) 20 C) 28 D) 54 E) 80

16. Düzgün bir onikigenin ağırlık merkezinden geçen kaç köşegeni vardır?

What is the number of diagonals in a regular dodecagon which goes throw the center of gravity?

A) 6 B) 12 C) 27 D) 36 E) 54

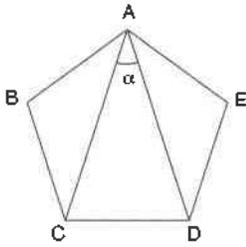
1.



ABCDE düzgün beşgen
 ABCDE regular pentagon
 $\Rightarrow m(\widehat{BAE}) = \alpha = ?$

- A) 36 B) 72 C) 108 D) 120 E) 150

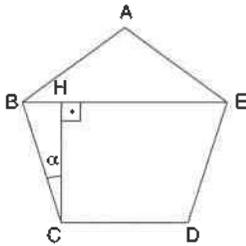
2.



ABCDE düzgün beşgen
 ABCDE regular pentagon
 $\Rightarrow m(\widehat{CAD}) = \alpha = ?$

- A) 18 B) 36 C) 72 D) 90 E) 108

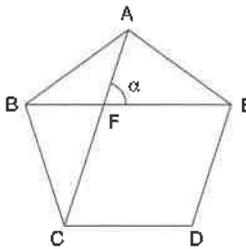
3.



ABCDE düzgün beşgen
 ABCDE regular pentagon
 $[CH] \perp [BE]$
 $\Rightarrow m(\widehat{BCH}) = \alpha = ?$

- A) 9 B) 18 C) 36 D) 54 E) 72

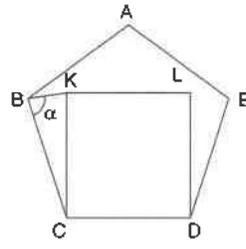
4.



ABCDE düzgün beşgen
 ABCDE regular pentagon
 $\Rightarrow m(\widehat{AFE}) = \alpha = ?$

- A) 144 B) 108 C) 72 D) 54 E) 36

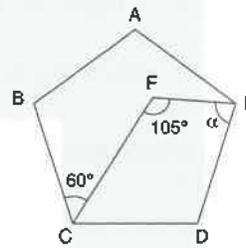
5.



ABCDE düzgün beşgen
 ABCDE regular pentagon
 KLDC kare
 KLDC square
 $\Rightarrow m(\widehat{KBC}) = \alpha = ?$

- A) 72 B) 78 C) 80 D) 81 E) 85

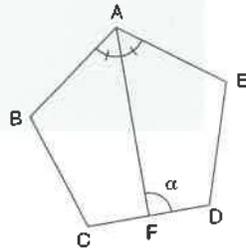
6.



ABCDE düzgün beşgen
 ABCDE regular pentagon
 $m(\widehat{BCF}) = 60^\circ$
 $m(\widehat{CFE}) = 105^\circ$
 $\Rightarrow m(\widehat{FED}) = \alpha = ?$

- A) 89 B) 95 C) 99 D) 105 E) 109

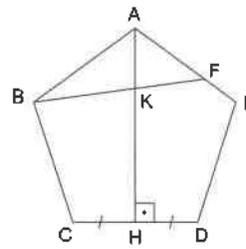
7.



ABCDE düzgün beşgen
 ABCDE regular pentagon
 $m(\widehat{BAF}) = m(\widehat{FAE})$
 $\Rightarrow m(\widehat{AFD}) = \alpha = ?$

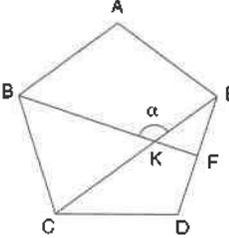
- A) 108 B) 90 C) 72 D) 54 E) 36

8.

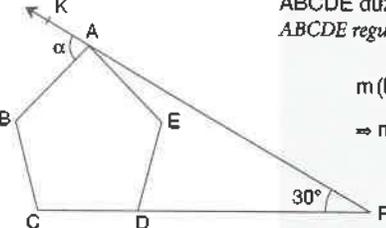


ABCDE düzgün beşgen
 ABCDE regular pentagon
 $[AH] \perp [CD]$
 $|CH| = |HD|$
 $|AF| = 4 \text{ br}$
 $|FE| = 2 \text{ br}$
 $|BK| = 4 \text{ br}$
 $\Rightarrow |KF| = x = ?$

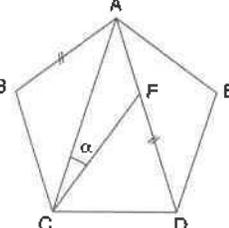
- A) $\frac{5}{3}$ B) 2 C) $\frac{8}{3}$ D) 4 E) 6

9.  ABCDE düzgün beşgen
ABCDE regular pentagon
 $|EF| = |FD|$
 $\Rightarrow m(\widehat{BKE}) = \alpha = ?$

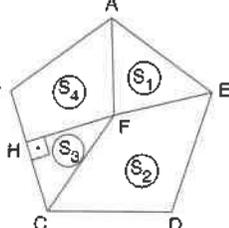
A) 144 B) 126 C) 108 D) 90 E) 72

10.  ABCDE düzgün beşgen
ABCDE regular pentagon
 $m(\widehat{KFC}) = 30^\circ$
 $\Rightarrow m(\widehat{KAB}) = \alpha = ?$

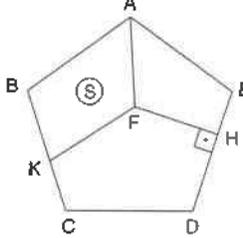
A) 54 B) 60 C) 66 D) 76 E) 82

11.  ABCDE düzgün beşgen
ABCDE regular pentagon
 $|AB| = |FD|$
 $\Rightarrow m(\widehat{ACF}) = \alpha = ?$

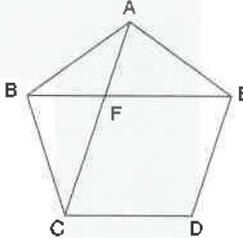
A) 18 B) 28 C) 36 D) 54 E) 72

12.  F merkezli
 ABCDE düzgün beşgen
With a center F
ABCDE regular pentagon
 $[EH] \perp [BC]$
 $\Rightarrow \frac{S_2 - S_3}{S_1 + S_4} = ?$

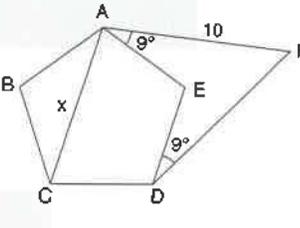
A) $\frac{1}{3}$ B) $\frac{3}{5}$ C) 1 D) $\frac{3}{2}$ E) $\frac{7}{3}$

13.  F merkezli
 ABCDE düzgün beşgen
With a center F
ABCDE regular pentagon
 $[FH] \perp [ED]$
 $|AE| = 6 \text{ br}$
 $|FH| = 4 \text{ br}$
 $|KC| = 2 \text{ br}$
 $\Rightarrow A(ABKF) = S = ?$

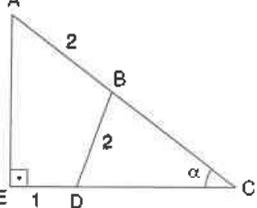
A) 12 B) 14 C) 16 D) 20 E) 24

14.  ABCDE düzgün beşgen
ABCDE regular pentagon
 $\text{Ç}(FEDC) = 36 \text{ br}$
 $\Rightarrow \text{Ç}(ABCDE) = ?$

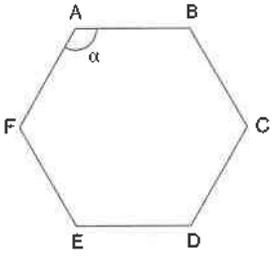
A) 10 B) 15 C) 30 D) 45 E) 60

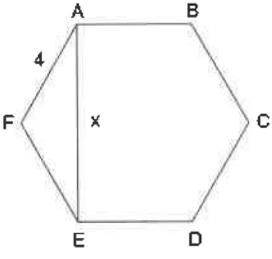
15.  ABCDE düzgün beşgen
ABCDE regular pentagon
 $m(\widehat{FAE}) = m(\widehat{EDF}) = 9^\circ$
 $|AF| = 10 \text{ br}$
 $\Rightarrow |AC| = x = ?$

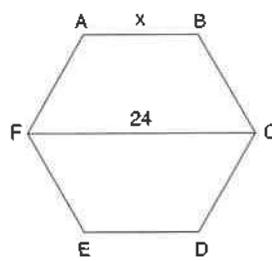
A) 5 B) $5\sqrt{2}$ C) 10 D) $10\sqrt{2}$ E) $10\sqrt{3}$

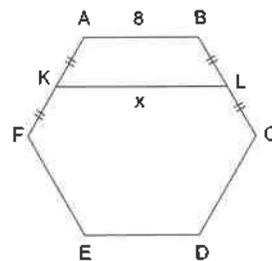
16.  $|AB| = 2 \text{ br}$
 $|BD| = 2 \text{ br}$
 $|ED| = 1 \text{ br}$
 $\Rightarrow m(\widehat{ACE}) = \alpha = ?$

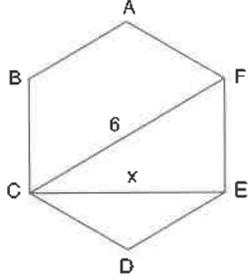
A) 36 B) 48 C) 54 D) 72 E) 81

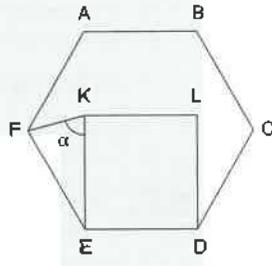
1.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $\Rightarrow m(\widehat{BAF}) = \alpha = ?$
- A) 150 B) 135 C) 120 D) 110 E) 108

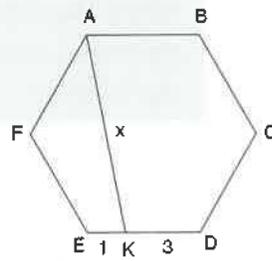
2.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|AF| = 4$ br
 $\Rightarrow |AE| = x = ?$
- A) 2 B) 4 C) $4\sqrt{3}$ D) 8 E) $8\sqrt{3}$

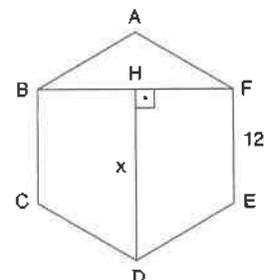
3.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|FC| = 24$ br
 $|AB| = x = ?$
- A) 6 B) 8 C) 10 D) 12 E) 16

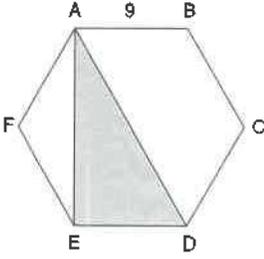
4.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|AK| = |KF|$
 $|BL| = |LC|$
 $|AB| = 8$ br
 $\Rightarrow |KL| = x = ?$
- A) 10 B) 11 C) 12 D) 13 E) 14

5.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|CF| = 6$ br
 $\Rightarrow |CE| = x = ?$
- A) 3 B) $3\sqrt{2}$ C) $3\sqrt{3}$ D) 16 E) $6\sqrt{3}$

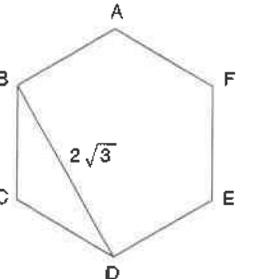
6.  ABCDEF düzgün altıgen,
ABCDEF regular hexagon
KLEF kare
KLEF square
 $\Rightarrow m(\widehat{FKE}) = \alpha = ?$
- A) 30 B) 45 C) 60 D) 75 E) 81

7.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|EK| = 1$ br
 $|KD| = 3$ br
 $\Rightarrow |AK| = x = ?$
- A) 4 B) $2\sqrt{3}$ C) $4\sqrt{3}$ D) 7 E) $4\sqrt{2}$

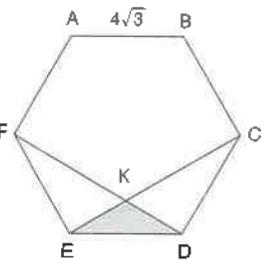
8.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $[DH] \perp [BF]$
 $|FE| = 12$ br
 $\Rightarrow |HD| = x = ?$
- A) 12 B) 14 C) 16 D) 18 E) 24

9.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|AB| = 9$ br
 $\Rightarrow A(AED) = ?$

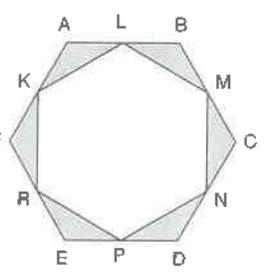
A) $\frac{27\sqrt{3}}{2}$ B) 50 C) $81\sqrt{3}$ D) 81 E) $\frac{81\sqrt{3}}{2}$

10.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|BD| = 2\sqrt{3}$ br
 $\Rightarrow A(ABCDEF) = ?$

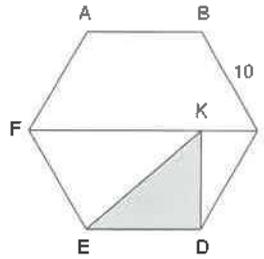
A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) $12\sqrt{3}$ D) $18\sqrt{3}$ E) $24\sqrt{3}$

11.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|AB| = 4\sqrt{3}$ br
 $\Rightarrow A(EKD) = ?$

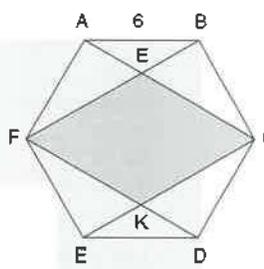
A) 16 B) $8\sqrt{3}$ C) 8 D) $4\sqrt{3}$ E) 4

12.  ABCDEF ve KLMNPR düzgün altıgen
ABCDEF and KLMNPR regular hexagon
 $|BM| = |MC|$
 $|BM| = 4$ br
 \Rightarrow Taralı alan = ?
Shaded area = ?

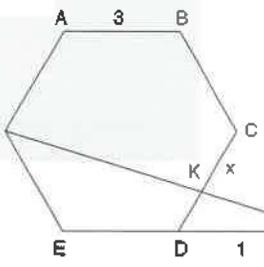
A) $48\sqrt{3}$ B) $24\sqrt{3}$ C) $16\sqrt{3}$ D) $12\sqrt{3}$ E) $8\sqrt{3}$

13.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|BC| = 10$ br
 $\Rightarrow A(EKD) = ?$

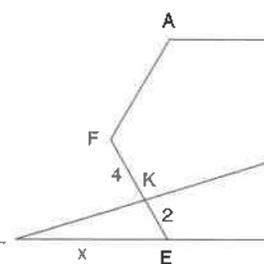
A) $25\sqrt{3}$ B) $20\sqrt{3}$ C) 20 D) $10\sqrt{3}$ E) 10

14.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|AB| = 6$ br
 \Rightarrow Taralı Alan = ?
Shaded area = ?

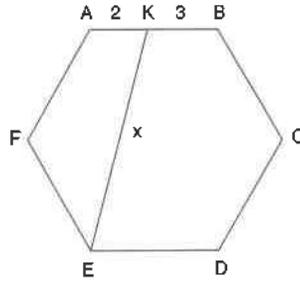
A) $24\sqrt{3}$ B) $16\sqrt{3}$ C) $8\sqrt{3}$ D) 8 E) $4\sqrt{3}$

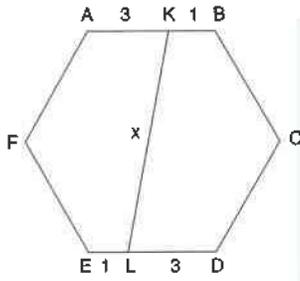
15.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|AB| = 3$ br
 $|DL| = 1$ br
 $\Rightarrow |KC| = x = ?$

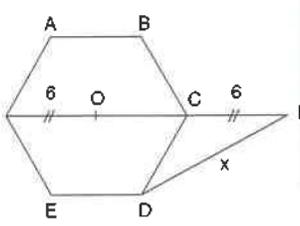
A) 1 B) 2 C) $\frac{18}{7}$ D) $\frac{18}{5}$ E) $\frac{32}{3}$

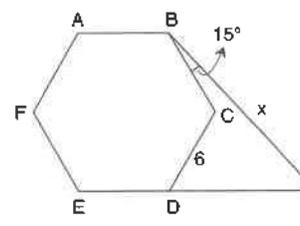
16.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|FK| = 4$ br
 $|KE| = 2$ br
 $\Rightarrow |LE| = x = ?$

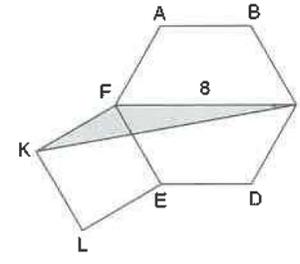
A) 2 B) 3 C) 4 D) 5 E) 6

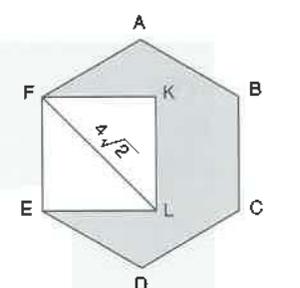
1.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|AK| = 2$ br
 $|KB| = 3$ br
 $\Rightarrow |KE| = x = ?$
- A) 5 B) $\sqrt{29}$ C) 8 D) $\sqrt{79}$ E) 13

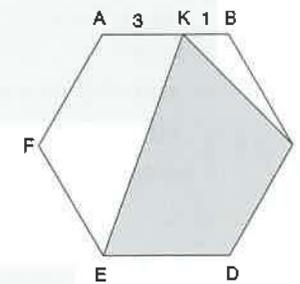
2.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|KB| = 1$ br
 $|AK| = 3$ br
 $|EL| = 1$ br
 $|LD| = 3$ br
 $\Rightarrow |KL| = x = ?$
- A) 6 B) $4\sqrt{3}$ C) 7 D) $5\sqrt{2}$ E) $2\sqrt{13}$

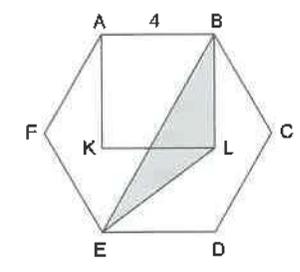
3.  O merkezli, ABCDEF düzgün altıgen
With a center O, ABCDEF regular hexagon
 $|FO| = 6$ br
 $|CL| = 6$ br
 $\Rightarrow |DL| = x = ?$
- A) $6\sqrt{3}$ B) $6\sqrt{2}$ C) 6 D) $3\sqrt{3}$ E) 3

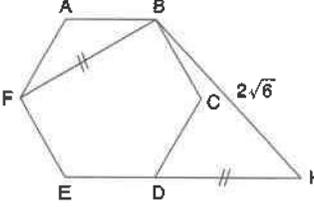
4.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|DC| = 6$ br
 $m(\widehat{CBK}) = 15^\circ$
 $\Rightarrow |BK| = x = ?$
- A) $3\sqrt{2}$ B) $3\sqrt{3}$ C) $6\sqrt{2}$ D) $6\sqrt{3}$ E) $6\sqrt{6}$

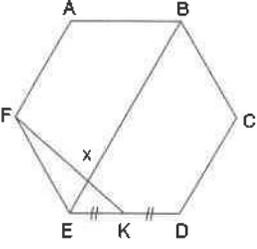
5.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
KLEF kare
KLEF square
 $|FC| = 8$ br
 $\Rightarrow A(KFC) = ?$
- A) $16\sqrt{3}$ B) $8\sqrt{3}$ C) 8 D) $4\sqrt{3}$ E) 4

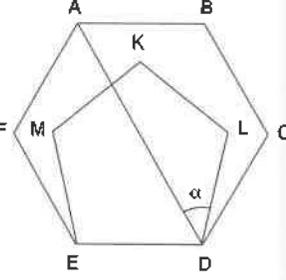
6.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
FKLE kare
FKLE square
 $|FL| = 4\sqrt{2}$ br
 \Rightarrow Taralı Alan = ?
Shaded area = ?
- A) $8\sqrt{3} + 8$ B) $12\sqrt{3} - 12$ C) $24\sqrt{3} - 16$
D) $4\sqrt{3}$ E) $2\sqrt{3}$

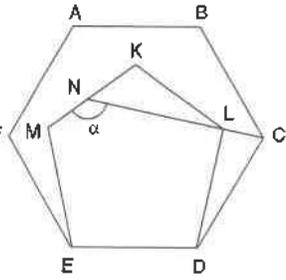
7.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|KB| = 1$ br
 $|AK| = 3$ br
 \Rightarrow Taralı Alan = ?
Shaded area = ?
- A) $24\sqrt{3}$ B) $17\sqrt{3}$ C) $13\sqrt{3}$ D) $12\sqrt{3}$ E) $11\sqrt{3}$

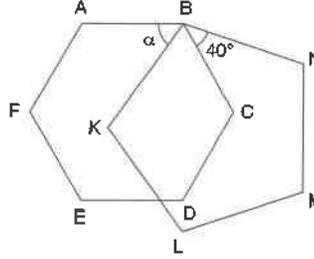
8.  ABCDEF düzgün altıgen
ABLK regular hexagon
ABLK kare
ABLK square
 $|AB| = 4$ br
 \Rightarrow Taralı Alan = ?
Shaded area = ?
- A) $4\sqrt{3}$ B) 8 C) $8\sqrt{3}$ D) 16 E) $16\sqrt{3}$

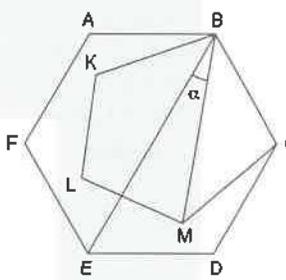
9.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|BK| = 2\sqrt{6}$ br
 $|FB| = |DK|$
 $\Rightarrow A(ABCDEF) = ?$
A) 24 B) $12\sqrt{3}$ C) $12\sqrt{2}$ D) $8\sqrt{3}$ E) $6\sqrt{3}$

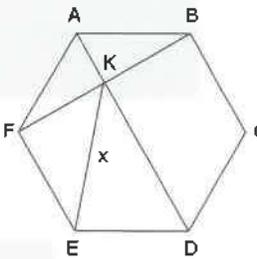
10.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|EB| = 12$ br
 $|EK| = |KD|$
 $\Rightarrow |FK| = x = ?$
A) $\sqrt{7}$ B) 6 C) $3\sqrt{7}$ D) $6\sqrt{3}$ E) $6\sqrt{7}$

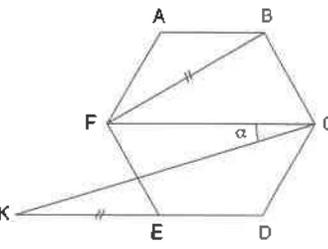
11.  ABCDEF düzgün altıgen,
ABCDEF regular hexagon
MKLDE düzgün beşgen
MKLDE regular pentagon
 $\Rightarrow m(\widehat{ADL}) = \alpha = ?$
A) 18 B) 30 C) 48 D) 60 E) 72

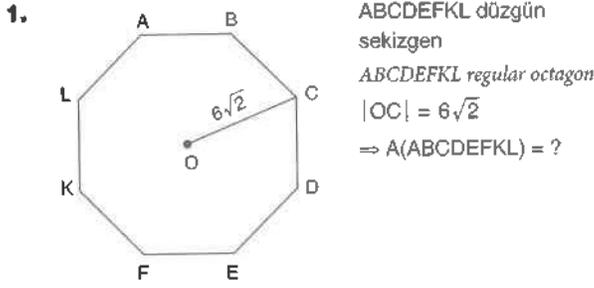
12.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
MKLDE düzgün beşgen
MKLDE regular pentagon
 $\Rightarrow m(\widehat{MNC}) = \alpha = ?$
A) 120 B) 118 C) 116 D) 112 E) 110

13.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
KBNML düzgün beşgen
KBNML regular pentagon
 $m(\widehat{CBN}) = 40^\circ$
 $\Rightarrow m(\widehat{ABK}) = \alpha = ?$
A) 28 B) 52 C) 54 D) 68 E) 70

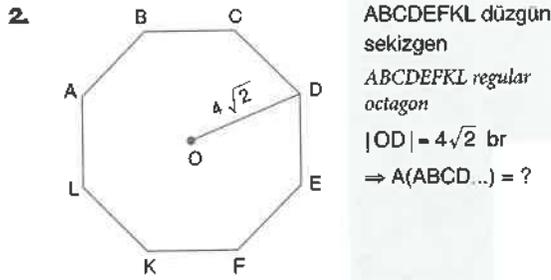
14.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
KBCML düzgün beşgen
KBCML regular pentagon
 $\Rightarrow m(\widehat{EBM}) = \alpha = ?$
A) 72 B) 60 C) 36 D) 24 E) 12

15.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|BF| = 12$ br
 $\Rightarrow |KE| = x = ?$
A) 6 B) $2\sqrt{15}$ C) $\sqrt{21}$ D) $6\sqrt{3}$ E) $2\sqrt{21}$

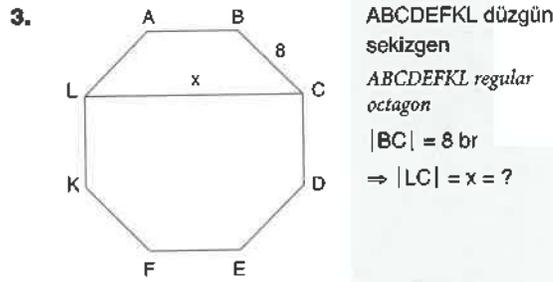
16.  ABCDEF düzgün altıgen
ABCDEF regular hexagon
 $|FB| = |KE|$
 $\Rightarrow m(\widehat{FCK}) = \alpha = ?$
A) 9 B) 15 C) 36 D) 54 E) 72



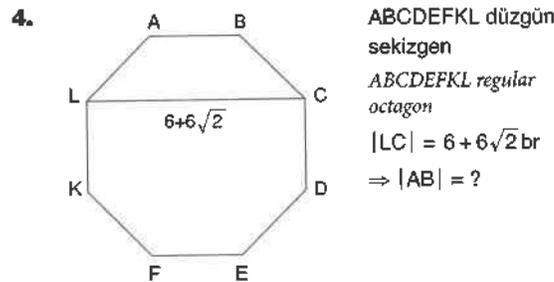
- A) $12\sqrt{3}$ B) $24\sqrt{2}$ C) $24\sqrt{3}$
D) $48\sqrt{2}$ E) $144\sqrt{2}$



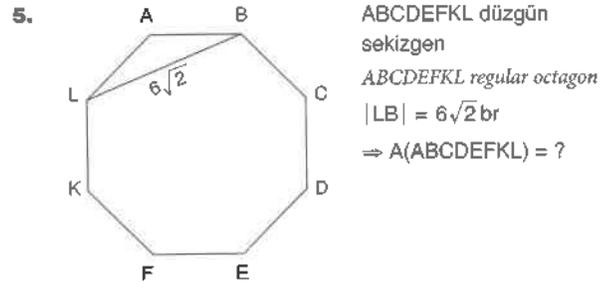
- A) 128 B) $64\sqrt{2}$ C) 64 D) $32\sqrt{2}$ E) 32



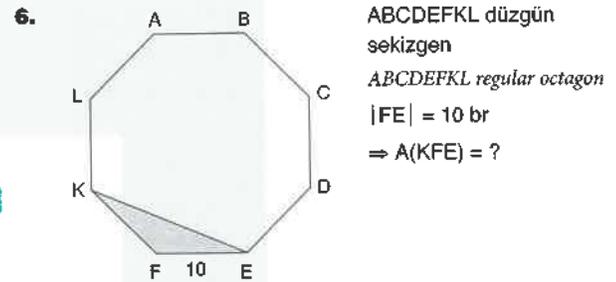
- A) $8\sqrt{2} + 8$ B) $4\sqrt{2} + 8$ C) $8\sqrt{2} + 4$
D) $4\sqrt{2} + 4$ E) 8



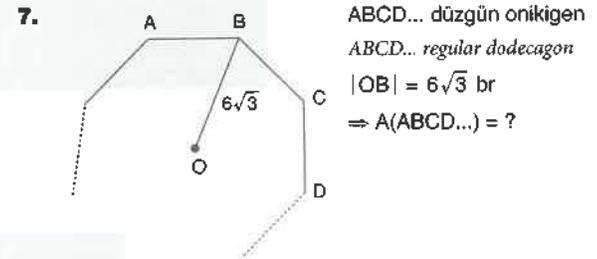
- A) 3 B) 6 C) 8 D) 12 E) 16



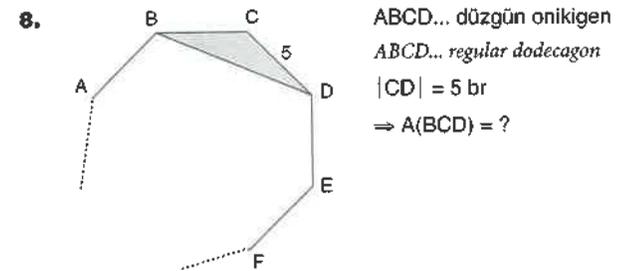
- A) $54\sqrt{2}$ B) $72\sqrt{2}$ C) 108
D) $108\sqrt{2}$ E) $144\sqrt{2}$



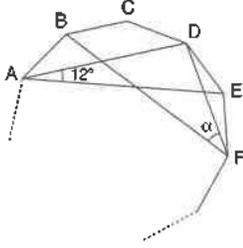
- A) 15 B) 25 C) $25\sqrt{2}$ D) 50 E) $50\sqrt{3}$



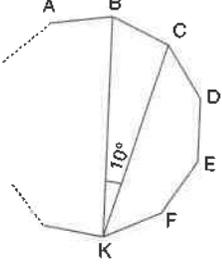
- A) 324 B) $108\sqrt{3}$ C) 144 D) $52\sqrt{3}$ E) 72



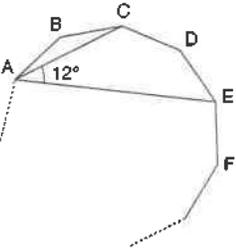
- A) 25 B) $\frac{25}{2}$ C) $\frac{25\sqrt{3}}{4}$ D) $\frac{25}{4}$ E) $\frac{25}{8}$

9.  ABCD... düzgün çokgen
 ABCD... regular polygon
 $m(\widehat{DAE}) = 12^\circ$
 $\Rightarrow m(\widehat{BFD}) = \alpha = ?$

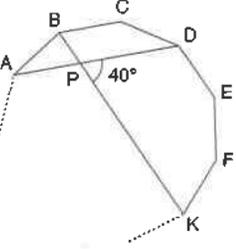
A) 6 B) 9 C) 12 D) 24 E) 48

10.  ABCD... düzgün çokgen
 ABCD... regular polygon
 $m(\widehat{BKC}) = 10^\circ$
 \Rightarrow Düzgün çokgen kaç kenarlıdır?
 How many edges does a regular polygon have?

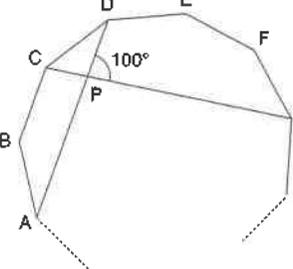
A) 10 B) 12 C) 14 D) 16 E) 18

11.  ABCD... düzgün çokgen
 ABCD... regular polygon
 $m(\widehat{CAE}) = 12^\circ$
 \Rightarrow Düzgün çokgen kaç kenarlıdır?
 How many edges does a regular polygon have?

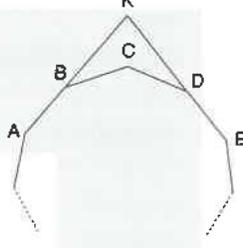
A) 30 B) 26 C) 24 D) 20 E) 18

12.  ABCD... düzgün çokgen
 ABCD... regular polygon
 $m(\widehat{DPK}) = 40^\circ$
 \Rightarrow Düzgün çokgen kaç kenarlıdır?
 How many edges does a regular polygon have?

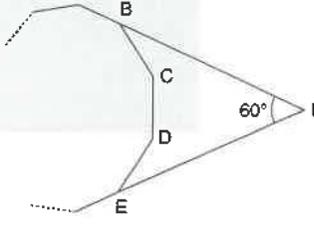
A) 14 B) 15 C) 16 D) 18 E) 22

13.  ABCD... düzgün çokgen
 ABCD... regular polygon
 $m(\widehat{DPK}) = 100^\circ$
 \Rightarrow Düzgün çokgen kaç kenarlıdır?
 How many edges does a regular polygon have?

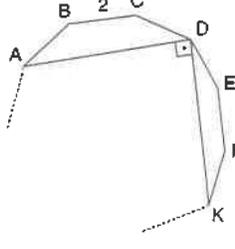
A) 7 B) 9 C) 11 D) 12 E) 15

14.  ABCD... düzgün çokgen
 ABCD... regular polygon
 $m(\widehat{BKD}) = 60^\circ$
 \Rightarrow Düzgün çokgen kaç kenarlıdır?
 How many edges does a regular polygon have?

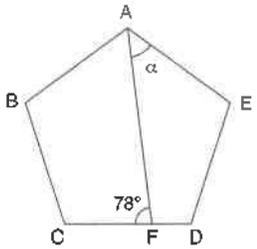
A) 7 B) 9 C) 10 D) 11 E) 12

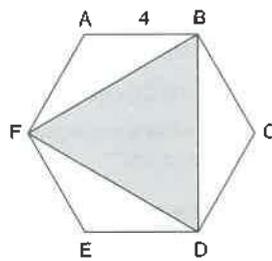
15.  ABCD... düzgün çokgen
 ABCD... regular polygon
 $m(\widehat{AKE}) = 60^\circ$
 \Rightarrow Düzgün çokgen kaç kenarlıdır?
 How many edges does a regular polygon have?

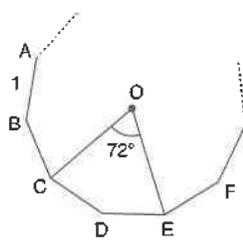
A) 12 B) 10 C) 9 D) 8 E) 7

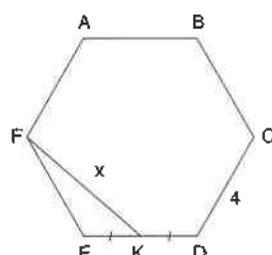
16.  ABCD... düzgün çokgen
 ABCD... regular polygon
 $[AD] \perp [DK]$
 $|BC| = 2 br$
 $\Rightarrow \text{Ç}(ABCD...) = ?$

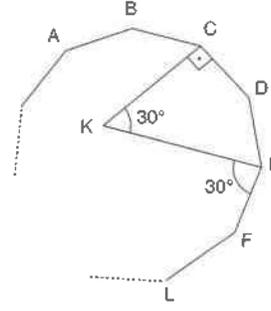
A) 24 B) 18 C) 16 D) 12 E) 8

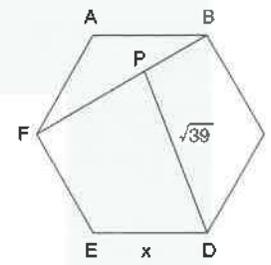
1.  ABCDE düzgün beşgen
ABCDE regular pentagon
 $m(\widehat{AFC}) = 78^\circ$
 $\Rightarrow m(\widehat{FAE}) = \alpha = ?$
- A) 42 B) 48 C) 54 D) 66 E) 96

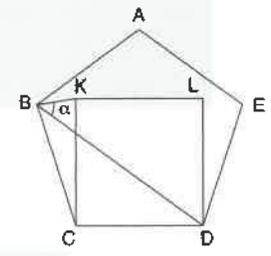
2.  ABCDEF düzgün altgen
ABCDEF regular hexagon
 $|AB| = 4$ br
 $\Rightarrow A(\widehat{FBD}) = ?$
- A) $4\sqrt{3}$ B) 8 C) $8\sqrt{3}$ D) 12 E) $12\sqrt{3}$

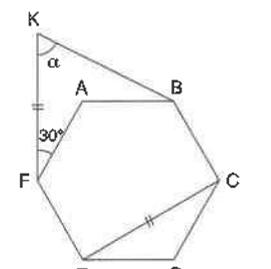
3.  ABCDE... düzgün çokgen
ABCDE... regular polygon
 $|AB| = 1$ br
 $m(\widehat{COE}) = 72^\circ$
 $\Rightarrow \zeta(ABCDE...) = ?$
- A) 15 B) 12 C) 10 D) 8 E) 6

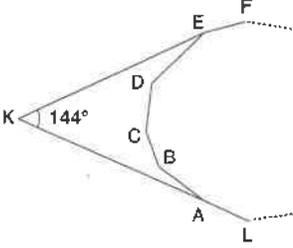
4.  ABCDEF düzgün altgen
ABCDEF regular hexagon
 $|CD| = 4$ br
 $|EK| = |KD|$
 $\Rightarrow |FK| = x = ?$
- A) 7 B) $4\sqrt{3}$ C) $\sqrt{30}$ D) $2\sqrt{7}$ E) 4

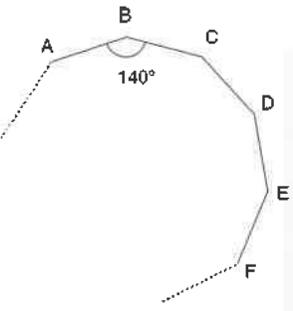
5.  ABCD... düzgün çokgen
ABCD... regular polygon
 $[CD] \perp [CK]$
 $m(\widehat{CKE}) = 30^\circ$
 $m(\widehat{KEF}) = 30^\circ$
 \Rightarrow Düzgün çokgenin bir dış açısı kaç derecedir?
How many degrees is an exterior angle of a regular polygon?
- A) 30 B) 45 C) 48 D) 54 E) 66

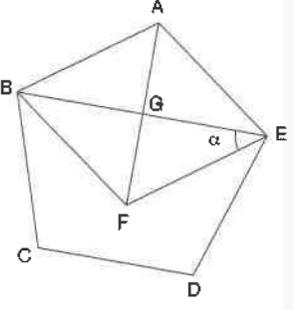
6.  ABCDEF düzgün altgen
ABCDEF regular hexagon
 $|PD| = \sqrt{39}$ br
 $3|PB| = |FP|$
 $\Rightarrow |ED| = x = ?$
- A) 12 B) 10 C) 8 D) 6 E) 4

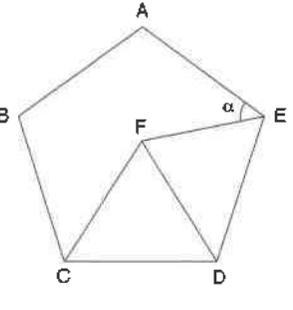
7.  ABCDE düzgün beşgen
ABCDE regular pentagon
 KLCD kare
KLCD square
 $= m(\widehat{KBD}) = \alpha = ?$
- A) 81 B) 62 C) 45 D) 39 E) 36

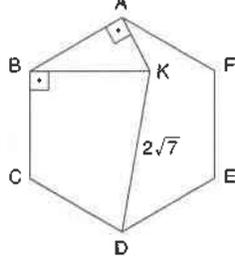
8.  ABCDEF düzgün altgen
ABCDEF regular hexagon
 $|KF| = |EC|$
 $m(\widehat{KFA}) = 30^\circ$
 $\Rightarrow m(\widehat{FKB}) = \alpha = ?$
- A) 90 B) 75 C) 60 D) 45 E) 30

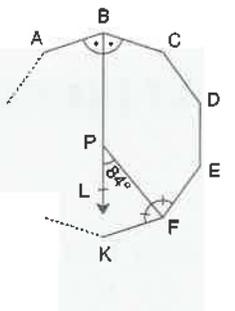
9.  ABCD... düzgün çokgen
 ABCD... regular polygon
 $m(\widehat{FKL}) = 144^\circ$
 \Rightarrow Düzgün çokgen kaç kenarlıdır?
 How many edges does a regular polygon have?
 A) 18 B) 24 C) 32 D) 36 E) 50

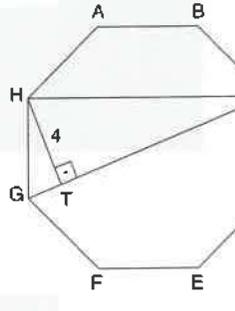
10.  ABCD... düzgün çokgen
 ABCD... regular polygon
 $m(\widehat{ABC}) = 140^\circ$
 \Rightarrow Düzgün çokgen kaç kenarlıdır?
 How many edges does a regular polygon have?
 A) 8 B) 9 C) 10 D) 11 E) 12

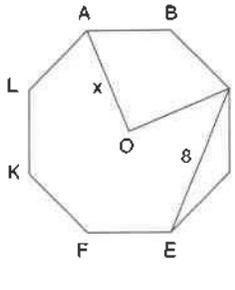
11.  ABCDE düzgün beşgen
 ABCDE regular pentagon
 ABF eşkenar üçgen
 ABF equilateral triangle
 $\Rightarrow m(\widehat{BEF}) = \alpha = ?$
 A) 48 B) 42 C) 36 D) 30 E) 24

12.  ABCDE düzgün beşgen
 ABCDE regular pentagon
 CDF eşkenar üçgen
 CDF equilateral triangle
 $\Rightarrow m(\widehat{FEA}) = \alpha = ?$
 A) 42 B) 40 C) 36 D) 30 E) 18

13.  ABCDEF düzgün altıgen
 ABCDEF regular hexagon
 $[BA] \perp [AK]$
 $[BK] \perp [BC]$
 $|KD| = 2\sqrt{7}$ br
 $\Rightarrow \angle(ABCDEF) = ?$
 A) 12 B) $12\sqrt{3}$ C) 12 D) 24 E) $24\sqrt{3}$

14.  ABCD... düzgün çokgen
 ABCD... regular polygon
 $m(\widehat{FPL}) = 84^\circ$
 $m(\widehat{ABL}) = m(\widehat{LBC})$
 $m(\widehat{KFP}) = m(\widehat{PFE})$
 \Rightarrow Düzgün çokgen kaç kenarlıdır?
 How many edges does a regular polygon have?
 A) 10 B) 12 C) 15 D) 16 E) 18

15.  ABCDEFGH düzgün sekizgen
 ABCDEFGH regular octagon
 $[HT] \perp [GC]$
 $|HT| = 4$ br
 $\Rightarrow A(GHC) = ?$
 A) 8 B) $8\sqrt{2}$ C) 16 D) $16\sqrt{2}$ E) 32

16.  O merkezli ABCDEFLK düzgün sekizgen
 With a center O
 ABCDEFLK regular octagon
 $|CE| = 8$ br
 $\Rightarrow |AO| = x = ?$
 A) 2 B) 5 C) $2\sqrt{7}$ D) $4\sqrt{2}$ E) 8



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	E	C	B	C	A	B	D	C	E	B	E	D	D	A

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	B	C	D	C	B	C	B	C	A	B	D	D	D	A

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	D	C	C	D	D	D	E	B	D	B	A	A	C	E

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	A	E	C	C	C	B	E	C	C	A	B	D	E	B

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	A	B	B	C	A	D	D	E	A	D	B	B	A	A

TEST 6

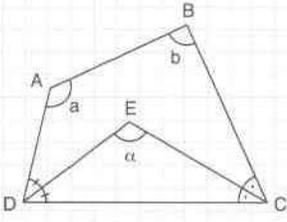
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	C	D	B	E	C	C	E	B	D	A	B	C	D	D



DÖRTGENLER
QUADRILATERALS

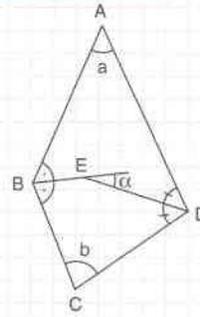
DÖRTGENLER

ÖZELLİK | Property 1



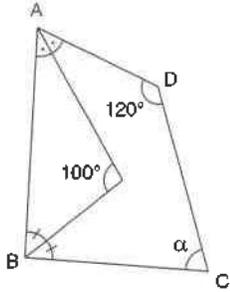
$$\alpha = \frac{a+b}{2}$$

ÖZELLİK | Property 2



$$\alpha = \frac{|b-a|}{2}$$

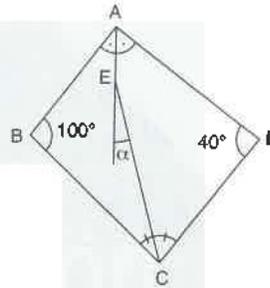
1.



$$\Rightarrow \alpha = ?$$

80

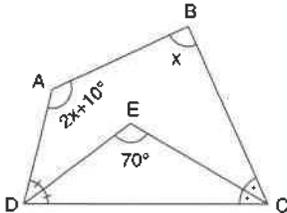
1.



$$\Rightarrow \alpha = ?$$

30

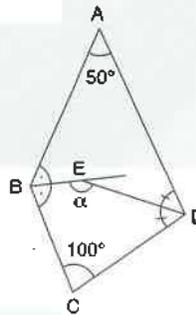
2.



$$\Rightarrow x = ?$$

$\frac{130}{3}$

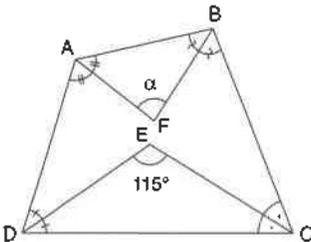
2.



$$\Rightarrow \alpha = ?$$

155

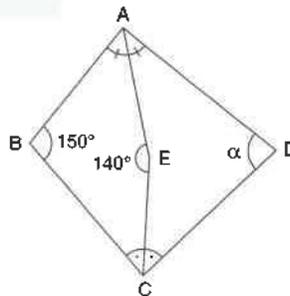
3.



$$\Rightarrow \alpha = ?$$

65

3.

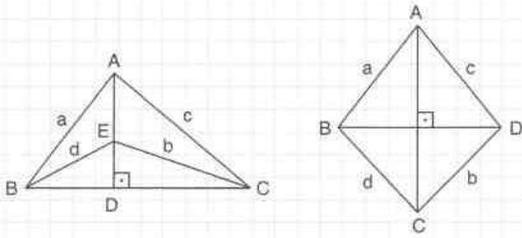


$$\Rightarrow \alpha = ?$$

70

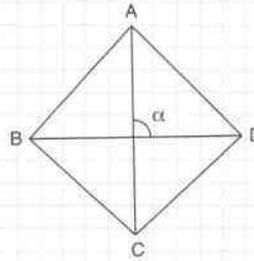
PUZZA YAYINLARI

ÖZELLİK | Property 3



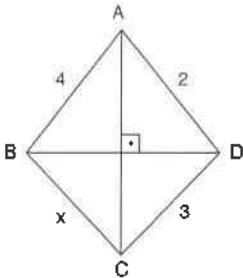
$$a^2 + b^2 = c^2 + d^2$$

ÖZELLİK | Property 4



$$A(ABCD) = \frac{1}{2} |AC| \cdot |BD| \cdot \sin \alpha$$

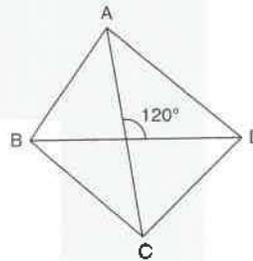
1.



$$\Rightarrow x = ?$$

$$\sqrt{21}$$

1.



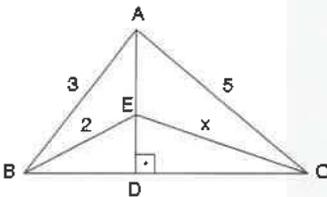
$$|AC| = 6 \text{ br}$$

$$|BD| = 4 \text{ br}$$

$$\Rightarrow A(ABCD) = ?$$

$$6\sqrt{3}$$

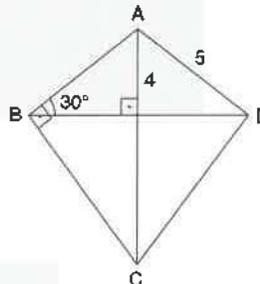
2.



$$\Rightarrow x = ?$$

$$2\sqrt{5}$$

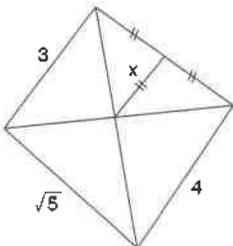
2.



$$\Rightarrow A(ABCD) = ?$$

$$24 + 32\sqrt{3}$$

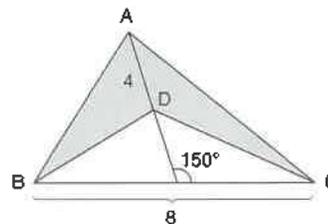
3.



$$\Rightarrow x = ?$$

$$\sqrt{5}$$

3.

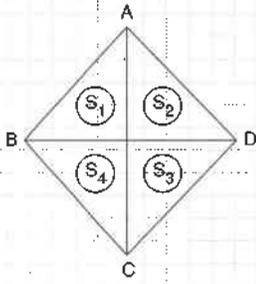


$$\Rightarrow A(ABDC) = ?$$

$$8$$

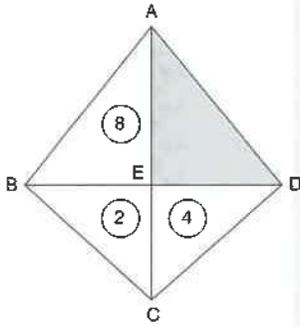
DÖRTGENLER

ÖZELLİK | Property 5



$$S_1 \cdot S_3 = S_2 \cdot S_4$$

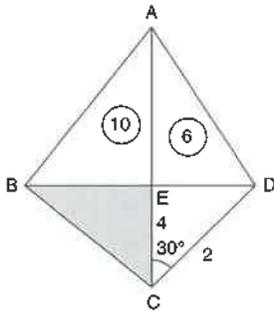
1.



$$\Rightarrow A(AED) = ?$$

16

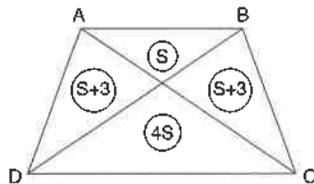
2.



$$\Rightarrow A(BEC) = ?$$

$\frac{10}{3}$

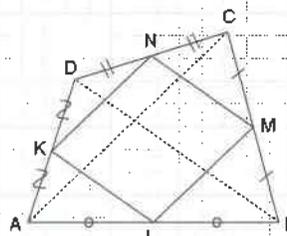
3.



$$\Rightarrow A(ABCD) = ?$$

27

ÖZELLİK | Property 6



K, L, M, N orta noktalar
K, L, M, N middle points

1) $[KN] \parallel [AC] \parallel [ML]$ ve
 $[NM] \parallel [DB] \parallel [KL]$

2) $|KN| = |LM| = \frac{|AC|}{2}$

3) $|NM| = |KL| = \frac{|BD|}{2}$

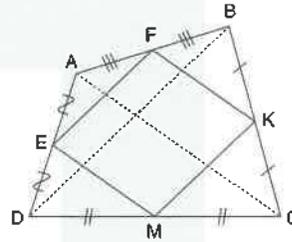
4) KLMN paralelkenar
KLMN parallelogram

5) $\text{Ç}(KLMN) = |AC| + |BD|$

6) $A(ABCD) = 2 \cdot A(KLMN)$

7) $A(DKN) + A(BML) = A(CNM) + A(KAL)$

1.



$$|AC| = 6 \text{ br}$$

$$|BD| = 4 \text{ br}$$

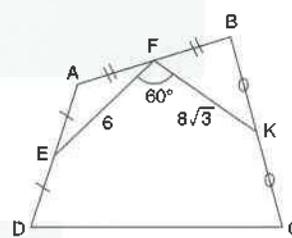
$$A(EFKM) = 10 \text{ br}^2$$

$$\Rightarrow \text{Ç}(EFKM) = ?$$

$$\Rightarrow A(ABCD) = ?$$

10, 20

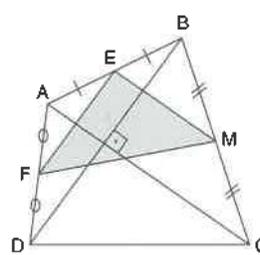
2.



$$\Rightarrow A(ABCD) = ?$$

144

3.



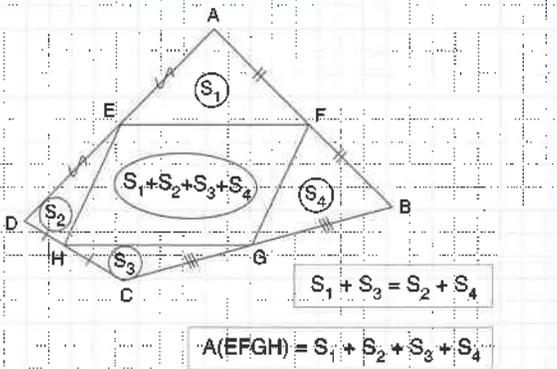
$$|AC| = 4 \text{ br}$$

$$|BD| = 6 \text{ br}$$

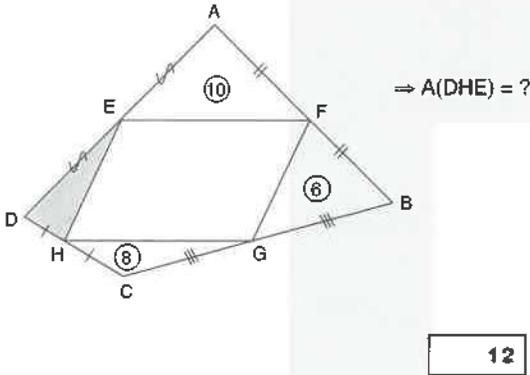
$$\Rightarrow A(EFM) = ?$$

3

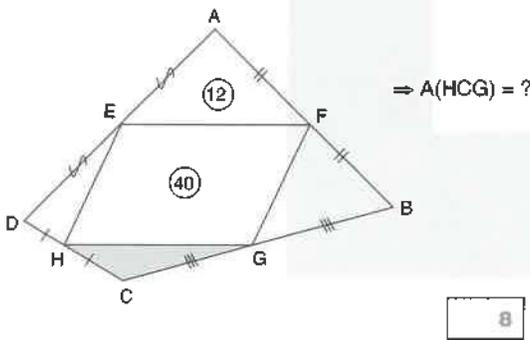
ÖZELLİK | Property 7



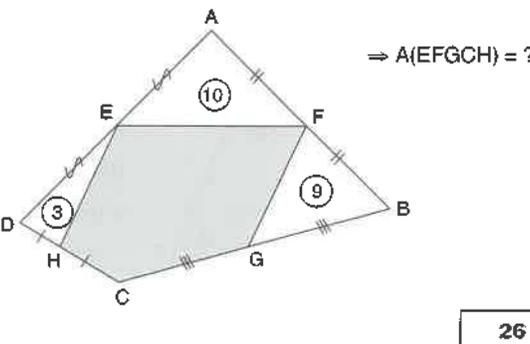
1.



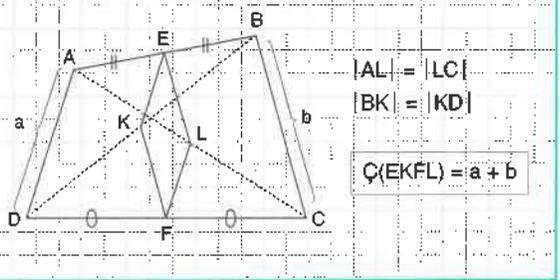
2.



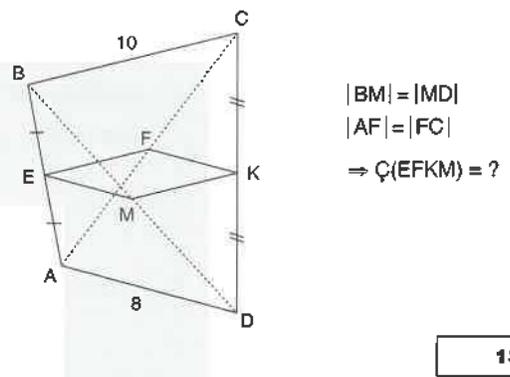
3.



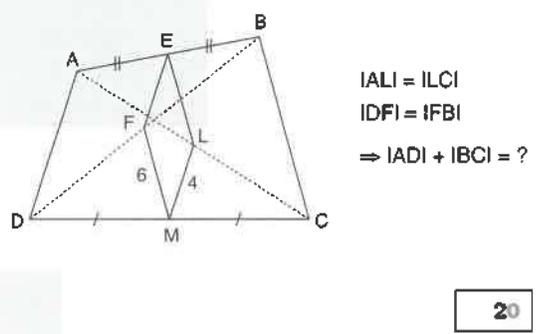
ÖZELLİK | Property 8



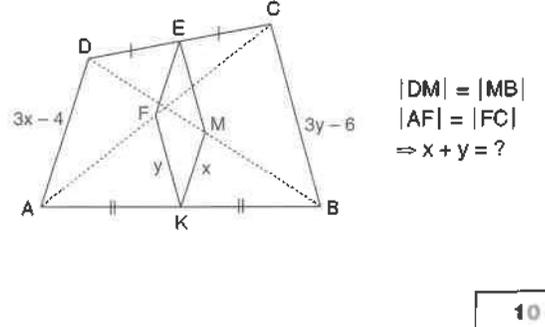
1.

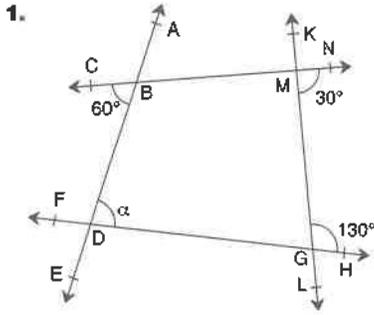


2.



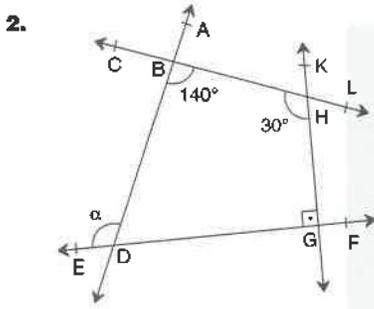
3.





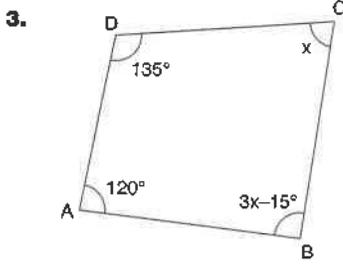
$$\begin{aligned} m(\widehat{CBE}) &= 60^\circ \\ m(\widehat{KGH}) &= 130^\circ \\ m(\widehat{NML}) &= 30^\circ \\ \Rightarrow m(\widehat{ADH}) &= \alpha = ? \end{aligned}$$

- A) 40 B) 50 C) 60 D) 70 E) 80



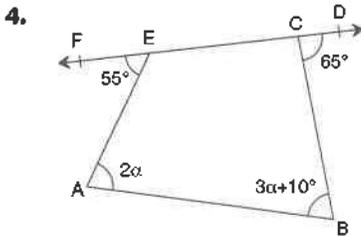
$$\begin{aligned} EF &\perp KG \\ m(\widehat{CHG}) &= 30^\circ \\ \Rightarrow m(\widehat{ADE}) &= \alpha = ? \end{aligned}$$

- A) 120 B) 100 C) 80 D) 70 E) 60



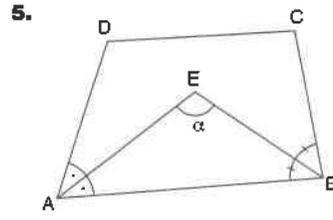
$$\begin{aligned} m(\widehat{A}) &= 120^\circ \\ m(\widehat{B}) &= 3x - 15^\circ \\ m(\widehat{C}) &= x \\ m(\widehat{D}) &= 135^\circ \\ \Rightarrow x &= ? \end{aligned}$$

- A) 30 B) 45 C) 50 D) 60 E) 65



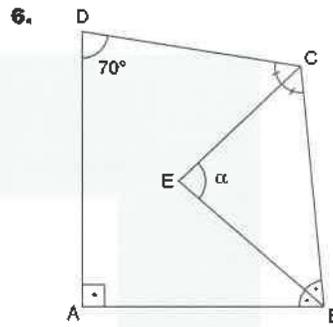
$$\begin{aligned} m(\widehat{FEA}) &= 55^\circ \\ m(\widehat{EAB}) &= 2\alpha \\ m(\widehat{ABC}) &= 3\alpha + 10^\circ \\ m(\widehat{DCB}) &= 65^\circ \\ \Rightarrow \alpha &= ? \end{aligned}$$

- A) 11 B) 18 C) 22 D) 30 E) 36



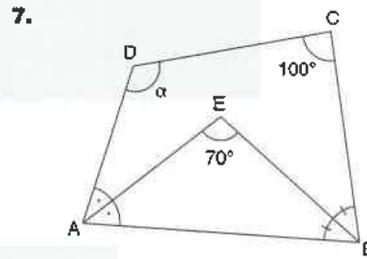
$$\begin{aligned} m(\widehat{DAE}) &= m(\widehat{EAB}) \\ m(\widehat{ABE}) &= m(\widehat{EBC}) \\ m(\widehat{ADC}) &= 48^\circ \\ m(\widehat{DCB}) &= 62^\circ \\ \Rightarrow m(\widehat{AEB}) &= \alpha = ? \end{aligned}$$

- A) 40 B) 45 C) 50 D) 55 E) 60



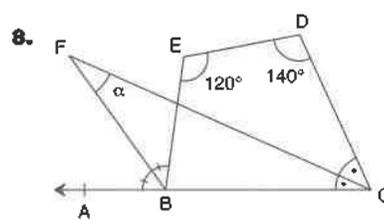
$$\begin{aligned} [AD] &\perp [AB] \\ m(\widehat{ABE}) &= m(\widehat{EBC}) \\ m(\widehat{BCE}) &= m(\widehat{ECD}) \\ m(\widehat{ADC}) &= 70^\circ \\ \Rightarrow m(\widehat{BEC}) &= \alpha = ? \end{aligned}$$

- A) 50 B) 60 C) 70 D) 80 E) 85



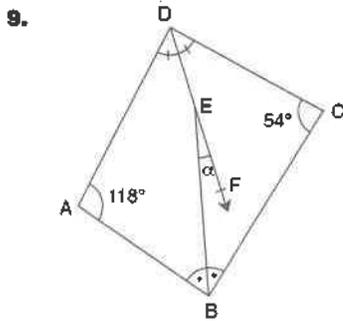
$$\begin{aligned} m(\widehat{DAE}) &= m(\widehat{EAB}) \\ m(\widehat{ABE}) &= m(\widehat{EBC}) \\ m(\widehat{AEB}) &= 70^\circ \\ m(\widehat{BCD}) &= 100^\circ \\ \Rightarrow m(\widehat{ADC}) &= \alpha = ? \end{aligned}$$

- A) 10 B) 20 C) 30 D) 40 E) 50



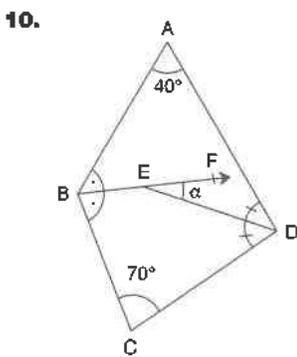
$$\begin{aligned} m(\widehat{ABF}) &= m(\widehat{FBE}) \\ m(\widehat{ACF}) &= m(\widehat{FCD}) \\ m(\widehat{CDE}) &= 140^\circ \\ m(\widehat{DEB}) &= 120^\circ \\ \Rightarrow m(\widehat{BFC}) &= \alpha = ? \end{aligned}$$

- A) 130 B) 100 C) 70 D) 50 E) 40



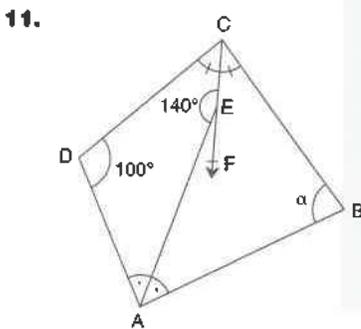
$$\begin{aligned} m(\widehat{ADF}) &= m(\widehat{FDC}) \\ m(\widehat{ABE}) &= m(\widehat{EBC}) \\ m(\widehat{DAB}) &= 118^\circ \\ m(\widehat{DCB}) &= 54^\circ \\ \Rightarrow m(\widehat{BEF}) &= \alpha = ? \end{aligned}$$

- A) 27 B) 32 C) 48 D) 54 E) 64



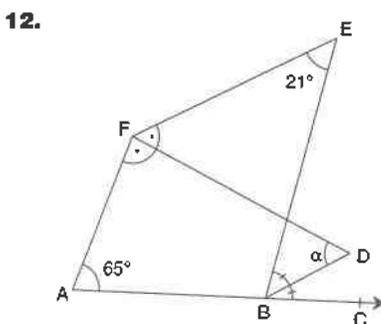
$$\begin{aligned} m(\widehat{ABF}) &= m(\widehat{FBC}) \\ m(\widehat{ADE}) &= m(\widehat{EDC}) \\ m(\widehat{BAD}) &= 40^\circ \\ m(\widehat{BCD}) &= 70^\circ \\ \Rightarrow m(\widehat{FED}) &= \alpha = ? \end{aligned}$$

- A) 70 B) 50 C) 40 D) 30 E) 15



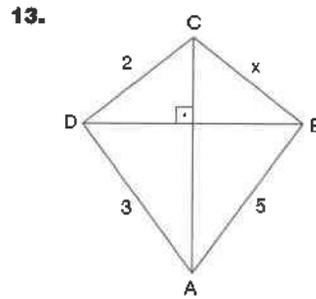
$$\begin{aligned} m(\widehat{DCF}) &= m(\widehat{FCB}) \\ m(\widehat{DAE}) &= m(\widehat{EAB}) \\ m(\widehat{CEA}) &= 140^\circ \\ m(\widehat{CDA}) &= 100^\circ \\ \Rightarrow m(\widehat{CBA}) &= \alpha = ? \end{aligned}$$

- A) 10 B) 20 C) 30 D) 40 E) 50



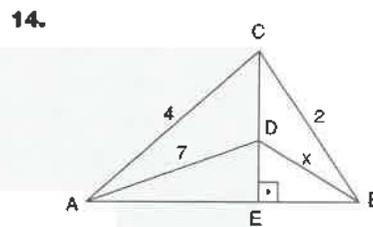
$$\begin{aligned} m(\widehat{EFD}) &= m(\widehat{DFA}) \\ m(\widehat{EBD}) &= m(\widehat{DBC}) \\ m(\widehat{FEB}) &= 21^\circ \\ m(\widehat{FAC}) &= 65^\circ \\ \Rightarrow m(\widehat{FDB}) &= \alpha = ? \end{aligned}$$

- A) 22 B) 44 C) 46 D) 56 E) 68



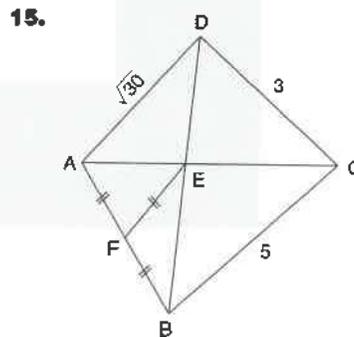
$$\begin{aligned} [AC] &\perp [DB] \\ |AB| &= 5 \text{ br} \\ |CD| &= 2 \text{ br} \\ |DA| &= 3 \text{ br} \\ \Rightarrow |BC| &= x = ? \end{aligned}$$

- A) 4 B) $2\sqrt{5}$ C) $2\sqrt{6}$ D) $3\sqrt{6}$ E) $4\sqrt{6}$



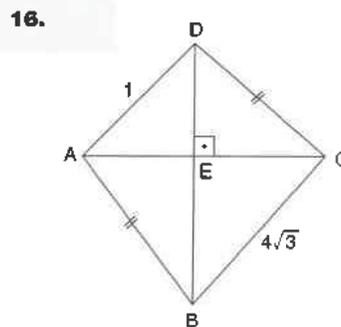
$$\begin{aligned} [EC] &\perp [AB] \\ |AC| &= 4 \text{ br} \\ |AD| &= 7 \text{ br} \\ |BC| &= 2 \text{ br} \\ \Rightarrow |BD| &= x = ? \end{aligned}$$

- A) $2\sqrt{10}$ B) $\sqrt{39}$ C) $\sqrt{38}$ D) $\sqrt{37}$ E) 6



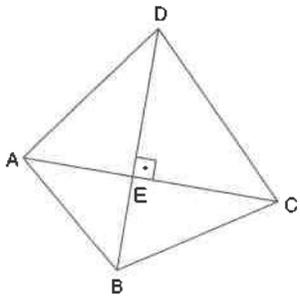
$$\begin{aligned} |AF| &= |FB| = |FE| \\ |AD| &= \sqrt{30} \text{ br} \\ |DC| &= 3 \text{ br} \\ |BC| &= 5 \text{ br} \\ \Rightarrow |AB| &= ? \end{aligned}$$

- A) 6 B) $2\sqrt{11}$ C) $\sqrt{46}$ D) $4\sqrt{3}$ E) 7

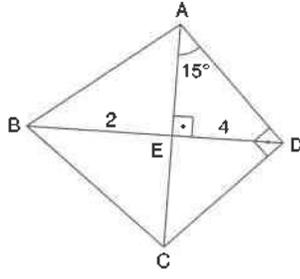


$$\begin{aligned} [AC] &\perp [BD] \\ |AD| &= 1 \text{ br} \\ |BC| &= 4\sqrt{3} \text{ br} \\ |AB| &= |DC| \\ \Rightarrow |AB| &= ? \end{aligned}$$

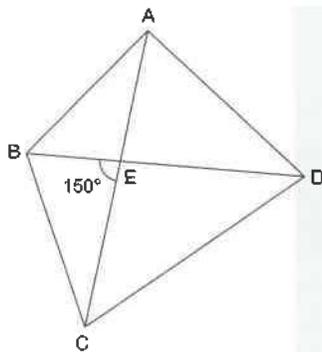
- A) $\sqrt{7}$ B) $\frac{7\sqrt{2}}{2}$ C) $\frac{7}{2}$ D) 7 E) 14

1.  $|AC| = 6 \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

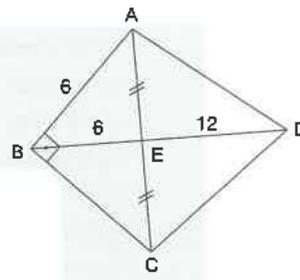
A) 6 B) $6\sqrt{3}$ C) 12 D) $12\sqrt{3}$ E) 24

5.  $[AE] \perp [BD]$
 $|BE| = 2 \text{ br}$
 $|ED| = 4 \text{ br}$
 $m(\widehat{DAC}) = 15^\circ$
 $\Rightarrow A(ABCD) = ?$

A) 48 B) $16\sqrt{3}$ C) $16\sqrt{2}$ D) 16 E) $8\sqrt{3}$

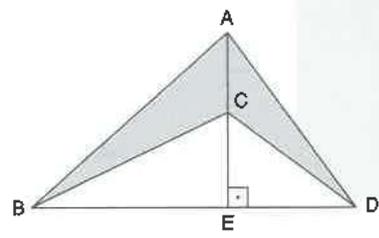
2.  $|AC| = 6 \text{ br}$
 $|BD| = 8 \text{ br}$
 $m(\widehat{BEC}) = 150^\circ$
 $\Rightarrow A(ABCD) = ?$

A) 6 B) $6\sqrt{3}$ C) 12 D) $12\sqrt{3}$ E) 24

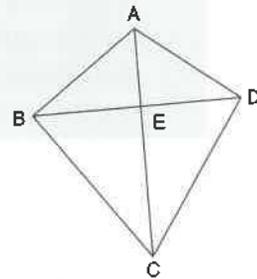
6.  $[AB] \perp [BC]$
 $|AE| = |EC|$
 $|BE| = 6 \text{ br}$
 $|AB| = 6 \text{ br}$
 $|ED| = 12 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

A) 27 B) $27\sqrt{2}$ C) $48\sqrt{3}$ D) 54 E) $54\sqrt{3}$

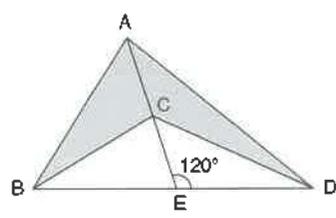
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3.  $[AE] \perp [BD]$
 $|BD| = 6 \text{ br}$
 $|AC| = 2 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

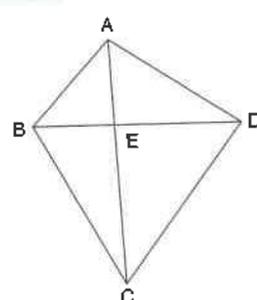
A) 3 B) $3\sqrt{2}$ C) $3\sqrt{3}$ D) 6 E) 12

7.  $|EC| = 2|AE|$
 $A(ABD) = 40 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

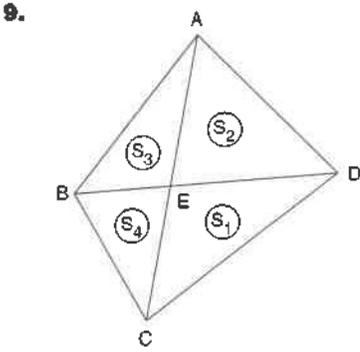
A) 20 B) 40 C) 60 D) 80 E) 120

4.  $|BD| = 8 \text{ br}$
 $|AC| = 4 \text{ br}$
 $m(\widehat{AED}) = 120^\circ$
 $\Rightarrow A(ABCD) = ?$

A) 8 B) $8\sqrt{2}$ C) $8\sqrt{3}$ D) 16 E) $16\sqrt{3}$

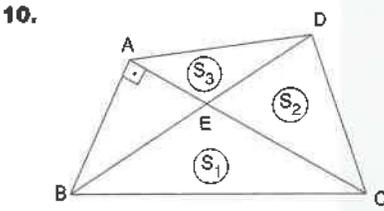
8.  $3|AE| = 2|EC|$
 $A(ABCD) = 60 \text{ br}^2$
 $\Rightarrow A(ABD) = ?$

A) 60 B) 48 C) 36 D) 24 E) 12



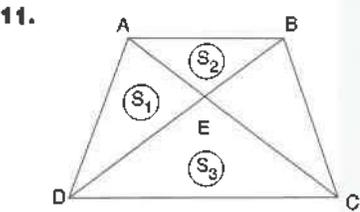
$S_2 = 6 br^2$
 $S_3 = 2 br^2$
 $S_4 = 4 br^2$
 $\Rightarrow S_1 = ?$

- A) 2 B) 4 C) 6 D) 12 E) 18



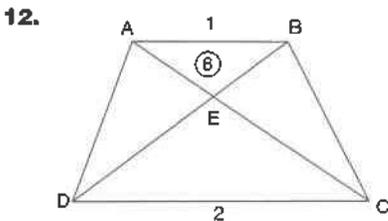
$[AB] \perp [CA]$
 $S_3 = 4 br^2$
 $S_2 = 4\sqrt{3} br^2$
 $|AE| = 2 br$
 $|BE| = 4 br$
 $\Rightarrow S_1 = ?$

- A) 12 B) 6 C) $4\sqrt{3}$ D) $3\sqrt{3}$ E) $2\sqrt{3}$



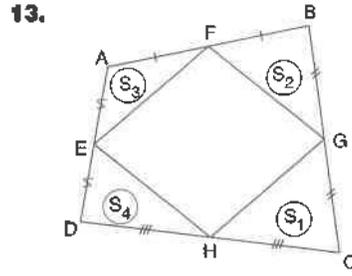
$[AB] \parallel [DC]$
 $S_2 = 4 br^2$
 $S_3 = 8 br^2$
 $\Rightarrow S_1 = ?$

- A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{2}$ E) $4\sqrt{3}$



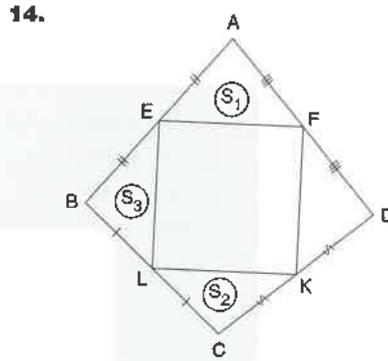
$[AB] \parallel [DC]$
 $|AB| = 1 br$
 $|DC| = 2 br$
 $A(ABE) = 6 br^2$
 $\Rightarrow A(ABCD) = ?$

- A) 18 B) 24 C) 27 D) 36 E) 54



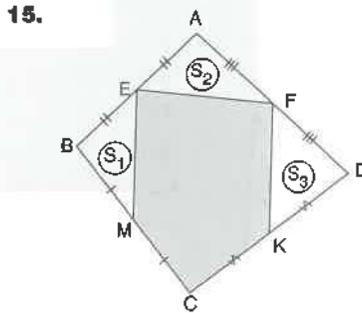
$|AF| = |FB|$
 $|BG| = |GC|$
 $|CH| = |HD|$
 $|DE| = |EA|$
 $S_2 = 12 br^2$
 $S_3 = 8 br^2$
 $S_4 = 14 br^2$
 $\Rightarrow S_1 = ?$

- A) 18 B) 20 C) 24 D) 26 E) 30



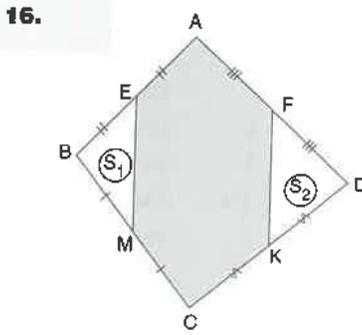
$|AE| = |EB|$
 $|BL| = |LC|$
 $|CK| = |KD|$
 $|DF| = |FA|$
 $S_1 = 10 br^2$
 $S_2 = 14 br^2$
 $S_3 = 10 br^2$
 $\Rightarrow A(EFKL) = ?$

- A) 12 B) 24 C) 36 D) 48 E) 96



$|AE| = |EB|$
 $|BM| = |MC|$
 $|CK| = |KD|$
 $|DF| = |FA|$
 $S_1 = 6 br^2$
 $S_2 = 4 br^2$
 $S_3 = 8 br^2$
 $\Rightarrow A(EFKM) = ?$

- A) 14 B) 28 C) 30 D) 38 E) 40

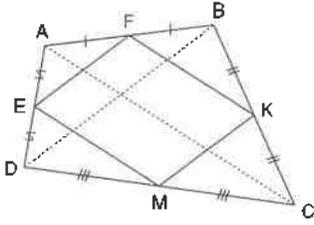


$|AE| = |EB|$
 $|BM| = |MC|$
 $|CK| = |KD|$
 $|DF| = |FA|$
 $S_1 = 5 br^2$
 $S_2 = 7 br^2$
 $\Rightarrow \text{Taralı Alan} = ?$
 Shaded Area = ?

- A) 12 B) 24 C) 36 D) 48 E) 60

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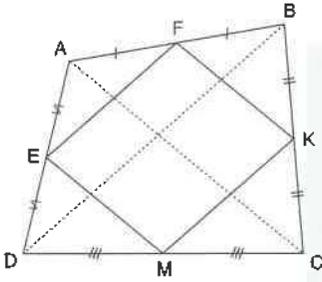
1.



$|AF| = |FB|$
 $|BK| = |KC|$
 $|CM| = |MD|$
 $|DE| = |EA|$
 $|AC| = 5 \text{ br}$
 $|BD| = 6 \text{ br}$
 $\Rightarrow \text{Ç}(\text{EFKM}) = ?$

- A) 6 B) 11 C) 22 D) 44 E) 54

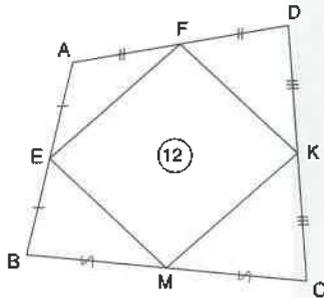
2.



$|AF| = |FB|$
 $|BK| = |KC|$
 $|CM| = |MD|$
 $|DE| = |EA|$
 $|EF| = 4 \text{ br}$
 $|FK| = 6 \text{ br}$
 $\Rightarrow |AC| + |BD| = ?$

- A) 60 B) 40 C) 30 D) 20 E) 10

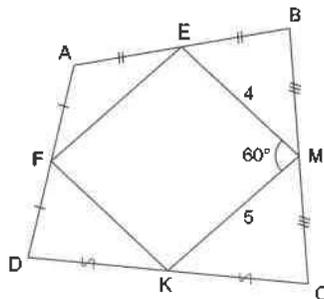
3.



$|AE| = |ED|$
 $|BM| = |MC|$
 $|DF| = |FA|$
 $|CK| = |KD|$
 $A(\text{EFKM}) = 12 \text{ br}^2$
 $\Rightarrow A(\text{ABCD}) = ?$

- A) 48 B) 24 C) 12 D) 8 E) 6

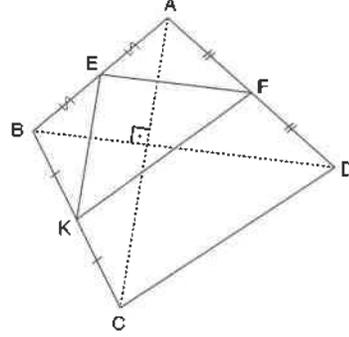
4.



$|AE| = |EB|$
 $|BM| = |MC|$
 $|CK| = |KD|$
 $|DF| = |FA|$
 $|EM| = 4 \text{ br}$
 $|KM| = 5 \text{ br}$
 $m(\widehat{KME}) = 60^\circ$
 $\Rightarrow A(\text{ABCD}) = ?$

- A) $5\sqrt{3}$ B) 10 C) $10\sqrt{3}$ D) $15\sqrt{3}$ E) $20\sqrt{3}$

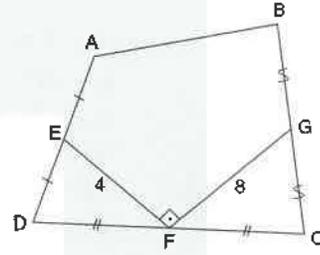
5.



$|AF| = |FD|$
 $|AE| = |EB|$
 $|BK| = |KC|$
 $AC \perp BD$
 $|AC| = 4\sqrt{2} \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow A(\text{EFK}) = ?$

- A) $2\sqrt{2}$ B) 4 C) $4\sqrt{2}$ D) 8 E) $8\sqrt{2}$

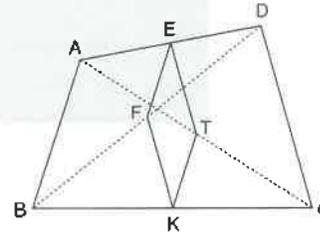
6.



$EF \perp FG$
 $|AE| = |ED|$
 $|DF| = |FC|$
 $|CG| = |GB|$
 $|EF| = 4 \text{ br}$
 $|FG| = 8 \text{ br}$
 $\Rightarrow A(\text{ABCD}) = ?$

- A) 16 B) 32 C) 36 D) 48 E) 64

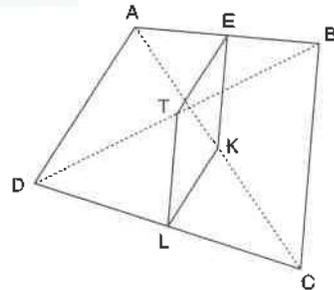
7.



$|AE| = |ED|$
 $|BK| = |KC|$
 $|AT| = |TC|$
 $|BF| = |FD|$
 $|AB| = 10 \text{ br}$
 $|DC| = 8 \text{ br}$
 $\Rightarrow \text{Ç}(\text{EFKT}) = ?$

- A) 8 B) 9 C) 16 D) 18 E) 24

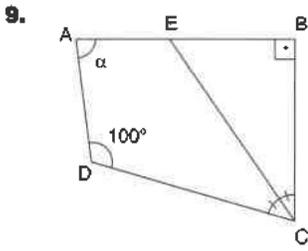
8.



$|AE| = |EB|$
 $|DL| = |LC|$
 $|AK| = |KC|$
 $|BT| = |TD|$
 $|TL| = 6 \text{ br}$
 $|LK| = 4 \text{ br}$
 $\Rightarrow |AD| + |BC| = ?$

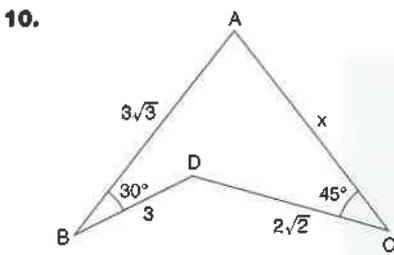
- A) 2 B) 4 C) 6 D) 10 E) 20

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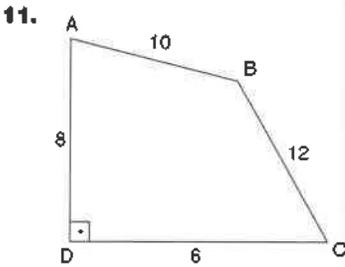
9. $[AB] \perp [BC]$
 $2|EB| = \sqrt{3}|EC|$
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $m(\widehat{ADC}) = 100^\circ$
 $\Rightarrow m(\widehat{DAB}) = \alpha = ?$

- A) 50 B) 70 C) 80 D) 110 E) 150



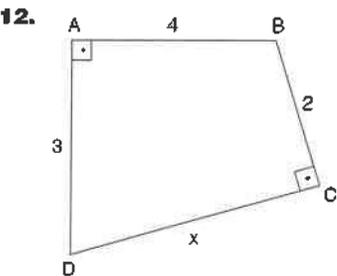
10. $|AB| = 3\sqrt{3}$ br
 $|BD| = 3$ br
 $|DC| = 2\sqrt{2}$ br
 $m(\widehat{ABD}) = 30^\circ$
 $m(\widehat{ACD}) = 45^\circ$
 $\Rightarrow |AC| = x = ?$

- A) $\sqrt{5}$ B) $2\sqrt{5}$ C) $2 + \sqrt{5}$
 D) $3 + \sqrt{5}$ E) 6



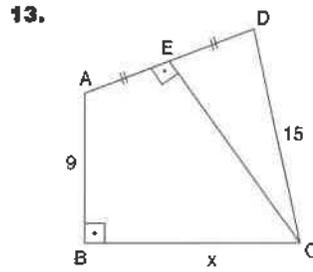
11. $[AD] \perp [DC]$
 $|AD| = 8$ br
 $|DC| = 6$ br
 $|BC| = 12$ br
 $|AB| = 10$ br
 $\Rightarrow A(ABCD) = ?$

- A) 16 B) 32 C) 48 D) 72 E) 86



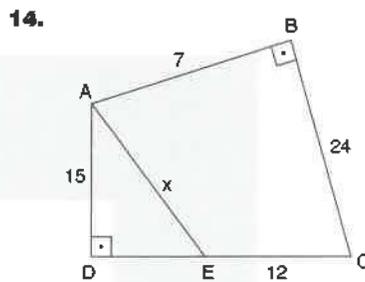
12. $[AD] \perp [AB]$
 $[BC] \perp [DC]$
 $|AD| = 3$ br
 $|AB| = 4$ br
 $|BC| = 2$ br
 $\Rightarrow |DC| = x = ?$

- A) $2\sqrt{3}$ B) $3\sqrt{2}$ C) 4 D) $\sqrt{21}$ E) $\sqrt{29}$



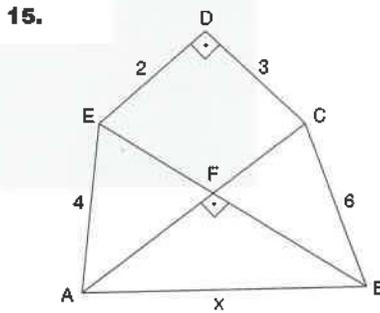
13. $[AD] \perp [EC]$
 $[AB] \perp [BC]$
 $|AB| = 9$ br
 $|AE| = |ED|$
 $|CD| = 15$ br
 $\Rightarrow |BC| = x = ?$

- A) 9 B) 12 C) 15 D) 17 E) 25



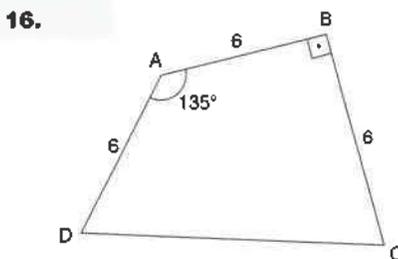
14. $[AB] \perp [BC]$
 $[AD] \perp [DC]$
 $|AD| = 15$ br
 $|AB| = 7$ br
 $|BC| = 24$ br
 $|EC| = 12$ br
 $\Rightarrow |AE| = x = ?$

- A) 8 B) 12 C) 17 D) 20 E) 25



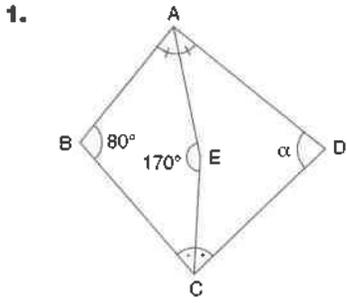
15. $[ED] \perp [DC]$
 $[AC] \perp [EB]$
 $|DE| = 2$ br
 $|EA| = 4$ br
 $|BC| = 6$ br
 $|CD| = 3$ br
 $\Rightarrow |AB| = x = ?$

- A) 4 B) $3\sqrt{3}$ C) 6 D) $\sqrt{39}$ E) 7



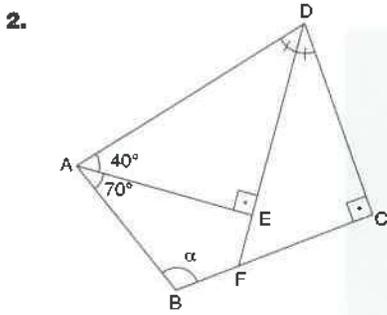
16. $[AB] \perp [BC]$
 $m(\widehat{DAB}) = 135^\circ$
 $|AB| = 6$ br
 $|AD| = 6$ br
 $|BC| = 6$ br
 $\Rightarrow A(ABCD) = ?$

- A) $18(\sqrt{3} + 1)$ B) $18(\sqrt{2} + 1)$ C) $9(\sqrt{3} + 1)$
 D) $9(\sqrt{2} + 1)$ E) $9\sqrt{2}$



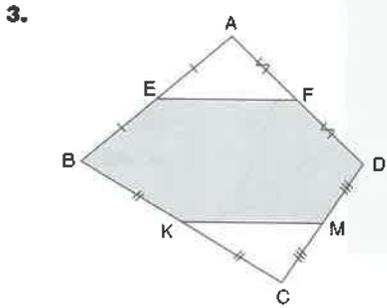
$$\begin{aligned} m(\widehat{D}) &< 100^\circ \\ m(\widehat{BAE}) &= m(\widehat{EAD}) \\ m(\widehat{BCE}) &= m(\widehat{ECD}) \\ m(\widehat{ABC}) &= 80^\circ \\ m(\widehat{AEC}) &= 170^\circ \\ \Rightarrow m(\widehat{ADC}) &= \alpha = ? \end{aligned}$$

- A) 90 B) 80 C) 70 D) 60 E) 50



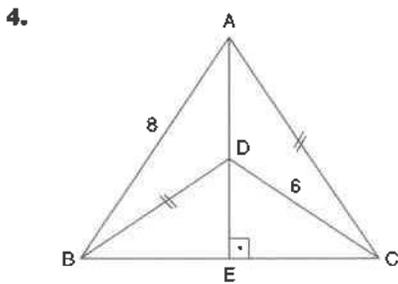
$$\begin{aligned} m(\widehat{ADF}) &= m(\widehat{FDC}) \\ [DC] &\perp [CB] \\ [AE] &\perp [DF] \\ m(\widehat{DAE}) &= 40^\circ \\ m(\widehat{EAB}) &= 70^\circ \\ \Rightarrow m(\widehat{ABC}) &= \alpha = ? \end{aligned}$$

- A) 80 B) 70 C) 60 D) 50 E) 40



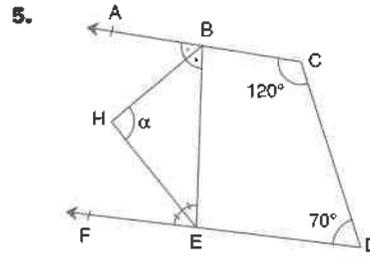
$$\begin{aligned} |AE| &= |EB| \\ |BK| &= |KC| \\ |CM| &= |MD| \\ |DF| &= |FA| \\ A(\widehat{AEF}) &= 6 \text{ br}^2 \\ A(\widehat{KMC}) &= 4 \text{ br}^2 \\ \Rightarrow A(\widehat{EFDMKB}) &= ? \end{aligned}$$

- A) 45 B) 30 C) 20 D) 15 E) 10



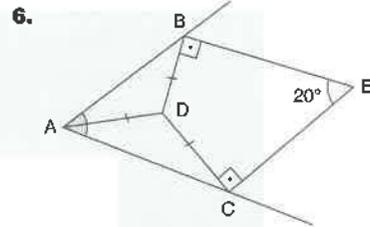
$$\begin{aligned} [AE] &\perp [BC] \\ |AC| &= |BD| \\ |DC| &= 6 \text{ br} \\ |AB| &= 8 \text{ br} \\ \Rightarrow |AC| &= x = ? \end{aligned}$$

- A) $10\sqrt{2}$ B) 10 C) $5\sqrt{2}$ D) 5 E) 4



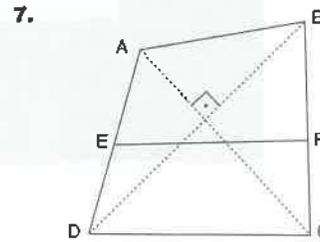
$$\begin{aligned} m(\widehat{ABH}) &= m(\widehat{HBE}) \\ m(\widehat{FEH}) &= m(\widehat{HEB}) \\ m(\widehat{ACD}) &= 120^\circ \\ m(\widehat{CDF}) &= 70^\circ \\ \Rightarrow m(\widehat{BHE}) &= \alpha = ? \end{aligned}$$

- A) 85 B) 95 C) 100 D) 105 E) 110



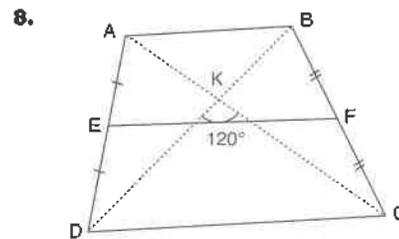
$$\begin{aligned} [BD] &\perp [BE] \\ [DC] &\perp [CE] \\ m(\widehat{BEC}) &= 20^\circ \\ |BD| &= |DC| = |AD| \\ \Rightarrow m(\widehat{BAC}) &= ? \end{aligned}$$

- A) 160 B) 120 C) 100 D) 80 E) 40



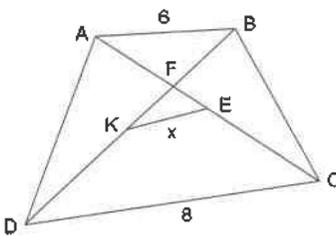
$$\begin{aligned} |AE| &= |ED| \\ |BF| &= |FC| \\ [AC] &\perp [BD] \\ |AC| &= 6 \text{ br} \\ |BD| &= 12 \text{ br} \\ \Rightarrow |EF| &= ? \end{aligned}$$

- A) $3\sqrt{5}$ B) $6\sqrt{5}$ C) $9\sqrt{2}$ D) $12\sqrt{5}$ E) $15\sqrt{2}$

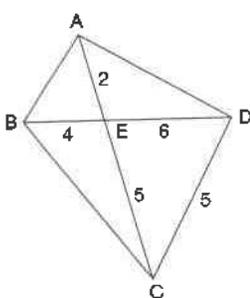


$$\begin{aligned} |AE| &= |ED| \\ |BF| &= |FC| \\ m(\widehat{DKC}) &= 120^\circ \\ |AC| &= 8 \text{ br} \\ |BD| &= 8 \text{ br} \\ \Rightarrow |EF| &= ? \end{aligned}$$

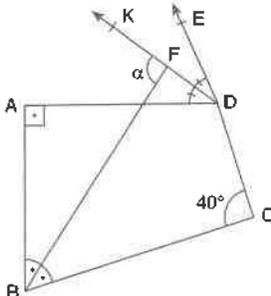
- A) $4\sqrt{3}$ B) 6 C) $8\sqrt{2}$ D) $8\sqrt{3}$ E) 10

9. 
 $|KB| = |DK|$
 $|AE| = |EC|$
 $|AB| = 6 \text{ br}$
 $|DC| = 8 \text{ br}$
 $x \in \mathbb{Z}$
 $|KE| = x$
 $\Rightarrow \sum x = ?$

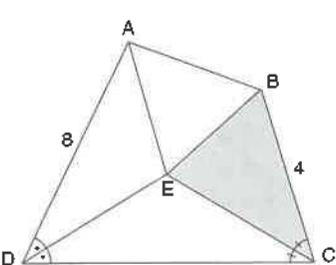
A) 18 B) 20 C) 21 D) 22 E) 24

10. 
 $|AE| = 2 \text{ br}$
 $|BE| = 4 \text{ br}$
 $|CE| = 5 \text{ br}$
 $|CD| = 5 \text{ br}$
 $|DE| = 6 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

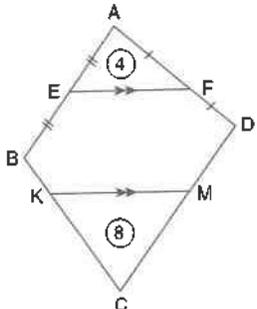
A) 14 B) 18 C) 20 D) 28 E) 40

11. 
 $m(\widehat{ADK}) = m(\widehat{KDE})$
 $m(\widehat{ABF}) = m(\widehat{FBC})$
 $m(\widehat{BCE}) = 40^\circ$
 $[AD] \perp [AB]$
 $\Rightarrow m(\widehat{KFB}) = \alpha = ?$

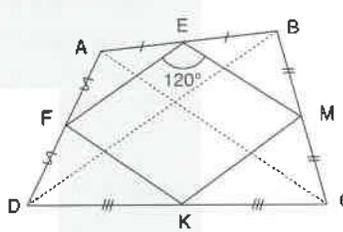
A) 115 B) 65 C) 50 D) 40 E) 25

12. 
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $|AD| = 8 \text{ br}$
 $|BC| = 4 \text{ br}$
 $A(AED) = 8\sqrt{3} \text{ br}^2$
 $\Rightarrow A(EBC) = ?$

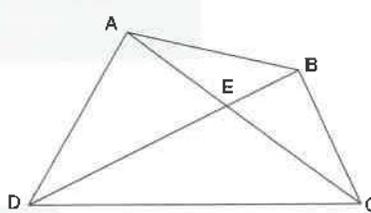
A) $3\sqrt{3}$ B) $4\sqrt{3}$ C) $6\sqrt{3}$ D) 12 E) $12\sqrt{3}$

13. 
 $[EF] \parallel [KM]$
 $|AE| = |BE|$
 $|AF| = |FD|$
 $|KC| = 2|BK|$
 $A(AEF) = 4 \text{ br}^2$
 $A(KMC) = 8 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

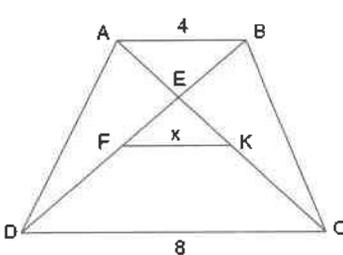
A) 12 B) 16 C) 24 D) 30 E) 34

14. 
 $|AE| = |EB|$
 $|BM| = |MC|$
 $|CK| = |KD|$
 $|DF| = |FA|$
 $m(\widehat{FEM}) = 120^\circ$
 $|AC| = 8 \text{ br}$
 $|BD| = 6 \text{ br}$
 $\Rightarrow A(EFKM) = ?$

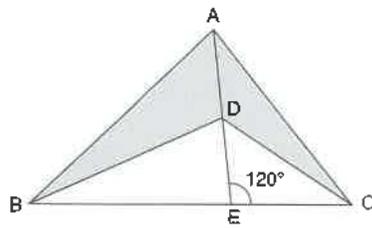
A) 3 B) $3\sqrt{3}$ C) 6 D) $6\sqrt{3}$ E) 12

15. 
 $A(AEB) = S - 2$
 $A(BEC) = S - 1$
 $A(DEC) = 3S - 1$
 $A(AED) = S + 1$
 $\Rightarrow A(ABCD) = ?$

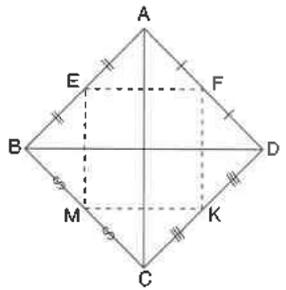
A) 9 B) 12 C) 15 D) 16 E) 18

16. 
 $x \in \mathbb{Z}^+$
 $|AK| = |KC|$
 $|BF| = |FD|$
 $|AB| = 4 \text{ br}$
 $|DC| = 8 \text{ br}$
 $\Rightarrow \min(|FK|) = x = ?$

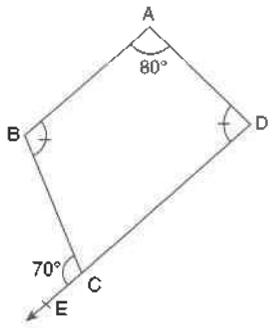
A) 1 B) 2 C) 3 D) 4 E) 5

1.  $|AD| = 2br$
 $|BC| = 4\sqrt{2}br$
 $m(\widehat{AEC}) = 120^\circ$
 $\Rightarrow A(ABDC) = ?$

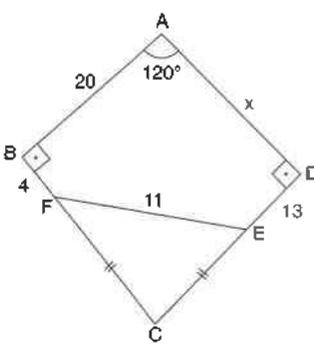
A) $2\sqrt{2}$ B) 4 C) $2\sqrt{6}$ D) $4\sqrt{2}$ E) 8

2.  $|BE| = |EA|$
 $|AF| = |FD|$
 $|BM| = |MC|$
 $|CK| = |KD|$
 $|AC| + |BD| = 12br$
 $\Rightarrow \text{Ç}(EFKM) = ?$

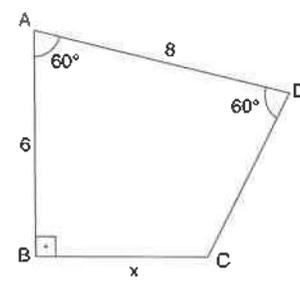
A) 6 B) 12 C) 24 D) 36 E) 48

3.  $m(\widehat{A}) = 80^\circ$
 $m(\widehat{BCE}) = 70^\circ$
 $m(\widehat{B}) = m(\widehat{D})$
 $\Rightarrow m(\widehat{ABC}) = ?$

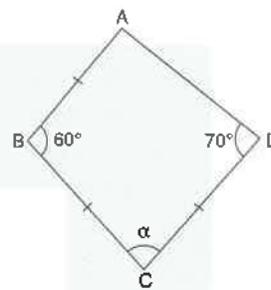
A) 65 B) 70 C) 80 D) 85 E) 90

4.  $|AB| = 20br$
 $|BF| = 4br$
 $|DE| = 13br$
 $|FE| = 11br$
 $|FC| = |CE|$
 $m(\widehat{A}) = 120^\circ$
 $\Rightarrow |AD| = x = ?$

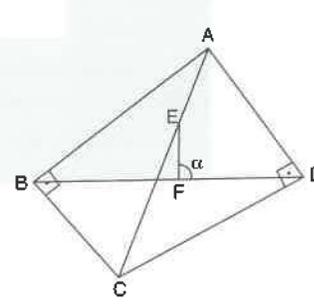
A) 6 B) 7 C) 8 D) 9 E) 10

5.  $[AB] \perp [BC]$
 $|AB| = 6br$
 $|AD| = 8br$
 $m(\widehat{A}) = m(\widehat{D}) = 60^\circ$
 $\Rightarrow |BC| = x = ?$

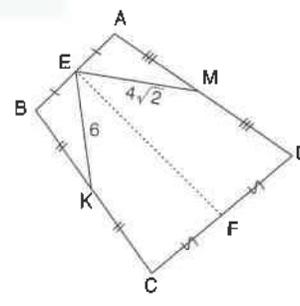
A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $3\sqrt{3}$ D) $4\sqrt{3}$ E) $6\sqrt{3}$

6.  $|AB| = |BC| = |CD|$
 $m(\widehat{D}) = 70^\circ$
 $m(\widehat{B}) = 60^\circ$
 $\Rightarrow m(\widehat{C}) = \alpha = ?$

A) 100 B) 80 C) 60 D) 50 E) 40

7.  $[AB] \perp [BC]$
 $[AD] \perp [DC]$
 $|BF| = |FD|$
 $|AE| = |EC|$
 $\Rightarrow m(\widehat{EFD}) = \alpha = ?$

A) 120 B) 110 C) 105 D) 100 E) 90

8.  $|AE| = |EB|$
 $|BK| = |KC|$
 $|CF| = |FD|$
 $|DM| = |MA|$
 $|EM| = 4\sqrt{2}br$
 $|EK| = 6br$
 $m(\widehat{MEK}) = 135^\circ$
 $\Rightarrow |EF| = ?$

A) $2\sqrt{5}$ B) $12\sqrt{2}$ C) 18 D) 24 E) 48

9. $[BA] \perp [AD]$
 $[AE] \perp [BD]$
 $m(\widehat{ABD}) = 60^\circ$
 $|AD| = 4\sqrt{3}$
 $|BC| = 2\sqrt{17}$
 $\Rightarrow |CD| = x = ?$

A) 10 B) $\sqrt{79}$ C) 8 D) $2\sqrt{15}$ E) 6

10. $|AE| = |EB|$
 $3|CF| = 2|FD|$
 $A(AKD) = 5 br^2$
 $A(BKC) = 12 br^2$
 $A(AEK) = S_1$
 $A(KFC) = S_2$
 $\Rightarrow S_1 \cdot S_2 = ?$

A) 9 B) 10 C) 12 D) 18 E) 24

11. $[AE] \perp [BC]$
 $|BG| = |GD|$
 $|DF| = |FC|$
 $|GE| = 3 br$
 $|FE| = 4 br$
 $|AC| = a$
 $|AB| = b$
 $\Rightarrow a^2 - b^2 = ?$

A) 5 B) $2\sqrt{7}$ C) $4\sqrt{3}$ D) 18 E) 28

12. $[AC] \perp [BD]$
 $|AE| = |ED|$
 $|BF| = |FC|$
 $|AC| = 15 br$
 $|BD| = 20 br$
 $\Rightarrow |EF| = ?$

A) 50 B) 25 C) 20 D) $\frac{25}{2}$ E) 12

13. $m(\widehat{BCE}) = m(\widehat{ECD})$
 $m(\widehat{BAF}) = m(\widehat{FAD})$
 $m(\widehat{ABC}) = 85^\circ$
 $m(\widehat{ADC}) = 25^\circ$
 $|EF| = 4\sqrt{2} br$
 $|CE| = 6 br$
 $\Rightarrow A(ECF) = ?$

A) 6 B) $6\sqrt{2}$ C) $6\sqrt{3}$ D) 12 E) $12\sqrt{2}$

14. $[AB] \perp [AD]$
 $[AD] \perp [DC]$
 $[DE] \perp [BC]$
 $|BE| = 2 br$
 $|EC| = 8 br$
 $|DC| = 10 br$
 $\Rightarrow |AB| = ?$

A) 1 B) 2 C) $2\sqrt{3}$ D) 6 E) 8

15. $[GK] \perp [FE]$
 $[AB] \perp [BC]$
 $[AD] \perp [DG]$
 $|AF| = 12 br$
 $|HC| = 4 br$
 $|GC| = 6 br$
 $\Rightarrow |AE| = x = ?$

A) 18 B) 16 C) 12 D) 8 E) 6

16. $|AF| = |FC|$
 $|BE| = |ED|$
 $|EF| = 3 br$
 $|AD| = 4 br$
 $|BC| = 6 br$
 $|AB| = 5 br$
 $|DC| = 7 br$
 $\Rightarrow |AC|^2 + |BD|^2 = ?$

A) 90 B) 81 C) 80 D) 78 E) 72



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	C	A	C	D	D	D	E	B	E	B	E	B	D	C	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	D	C	A	E	E	D	D	B	D	E	A	D	D	C

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	B	E	A	E	D	E	A	C	D	D	B	C	D	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	B	C	A	D	A	A	B	D	A	B	E	D	C	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	D	B	B	A	E	A	A	C	E	D	B	B	A	A



PARALELKENAR

PARALLELOGRAM

PARALELKENAR

ÖZELLİK | Property 1

ABCD paralelkenar
 ABCD *parallelogram*
 $[AB] \parallel [DC]$
 $[AD] \parallel [BC]$
 $\alpha + \beta = 180^\circ$

1. ABCD paralelkenar
 ABCD *parallelogram*
 $\Rightarrow m(\widehat{C}) = ?$

108

2. ABCD paralelkenar
 ABCD *parallelogram*
 $|AE| = |DC|$
 $\Rightarrow \alpha = ?$

20

3. ABCD paralelkenar
 ABCD *parallelogram*
 $\Rightarrow |BC| = ?$

27

4. ABCD paralelkenar
 ABCD *parallelogram*
 $\Rightarrow \alpha = ?$

30

5. ABCD paralelkenar
 ABCD *parallelogram*
 $\Rightarrow \alpha = ?$

90

6. ABCD paralelkenar
 ABCD *parallelogram*
 $|BE| = |DC|$
 $|BC| = |AE|$
 $\Rightarrow \alpha = ?$

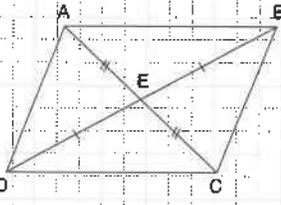
50

7. ABCD paralelkenar
 ABCD *parallelogram*
 $\Rightarrow \alpha = ?$

100

PUZAYAYINLARI

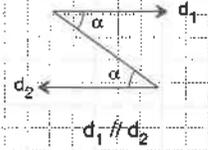
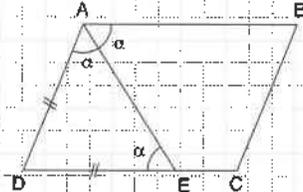
ÖZELLİK | Property 2



ABCD paralelkenar
 ABCD paralellogram
 $|AE| = |EC|$
 $|DE| = |EB|$

ÖZELLİK | Property 3

ABCD paralelkenar
 ABCD paralellogram



$|AD| = |DE|$

1. ABCD paralelkenar
 ABCD paralellogram
 $\Rightarrow \alpha = ?$

75

1. ABCD paralelkenar
 ABCD paralellogram
 $\Rightarrow x = ?$

4

2. ABCD paralelkenar
 ABCD paralellogram
 $\Rightarrow \alpha = ?$

20

2. ABCD paralelkenar
 ABCD paralellogram
 $\Rightarrow x = ?$

5

3. ABCD paralelkenar
 ABCD paralellogram
 $\Rightarrow \alpha = ?$

105

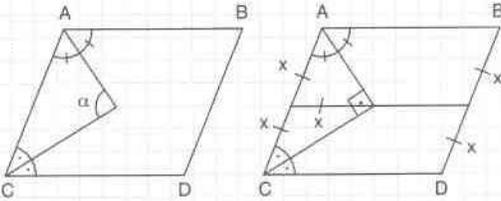
3. ABCD paralelkenar
 ABCD paralellogram
 $\Rightarrow x = ?$

3

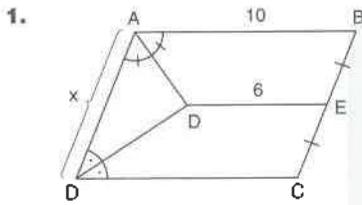
PARALELKENAR

ÖZELLİK | Property 4

ABCD paralelkenar | ABCD parallelogram

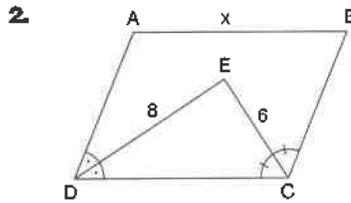


$$\alpha = 90^\circ$$



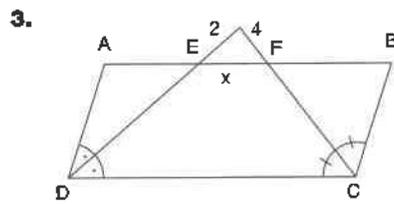
ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow x = ?$

8



ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow x = ?$

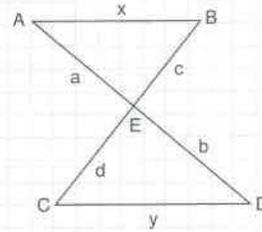
10



ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow x = ?$

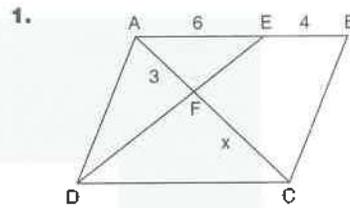
$2\sqrt{5}$

ÖZELLİK | Property 5



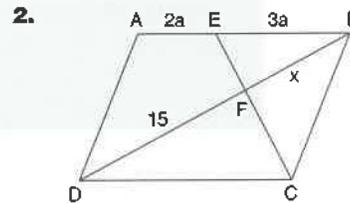
$[AB] \parallel [CD]$

$$\frac{x}{y} = \frac{a}{b} = \frac{c}{d}$$



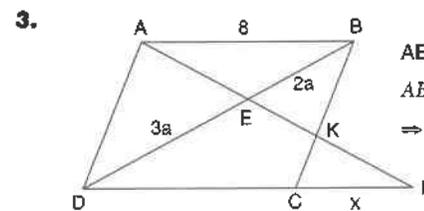
ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow x = ?$

5



ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow x = ?$

9

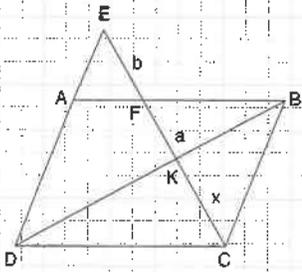


ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow x = ?$

4

PUZAYVANI LARI

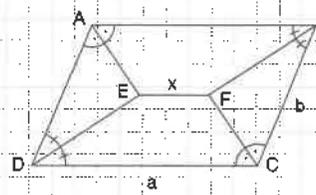
ÖZELLİK | Property 6



ABCD paralelkenar
ABCD paralelogram

$$x^2 = a(a + b)$$

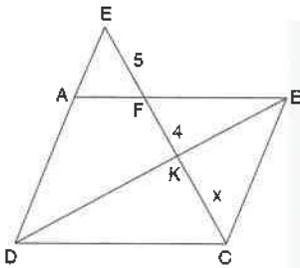
ÖZELLİK | Property 7



ABCD paralelkenar
ABCD paralelogram

$$x = a - b$$

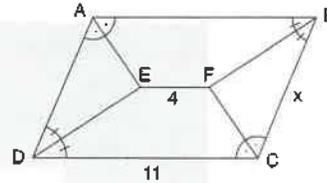
1.



ABCD paralelkenar
ABCD paralelogram
 $\Rightarrow x = ?$

6

1.

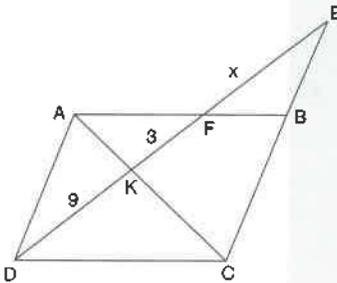


ABCD paralelkenar
ABCD paralelogram
 $\Rightarrow x = ?$

7

PUZAYAYINLARI

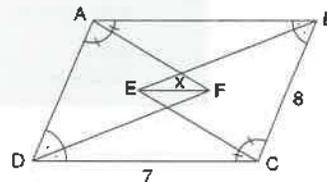
2.



ABCD paralelkenar
ABCD paralelogram
 $\Rightarrow x = ?$

24

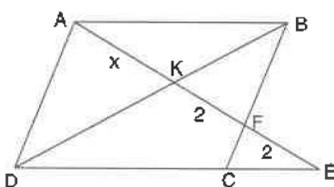
2.



ABCD paralelkenar
ABCD paralelogram
 $\Rightarrow x = ?$

1

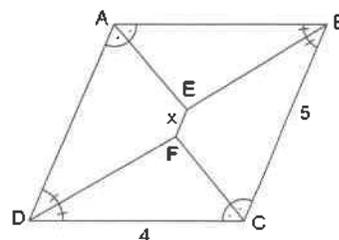
3.



ABCD paralelkenar
ABCD paralelogram
 $\Rightarrow x = ?$

$2\sqrt{2}$

3.

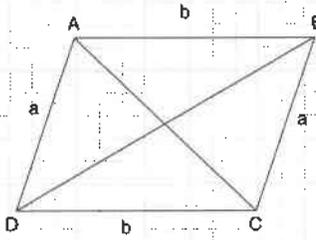


ABCD paralelkenar
ABCD paralelogram
 $\Rightarrow x = ?$

1

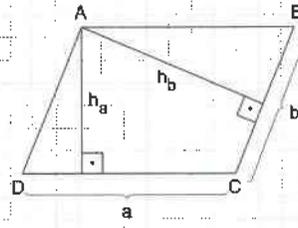
PARALELKENAR

ÖZELLİK | Property 8

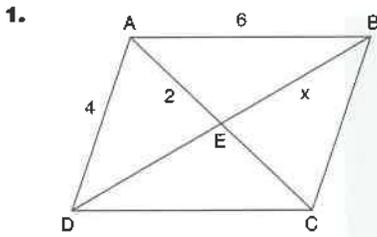


ABCD paralelkenar
 ABCD *parallelogram*
 $|AC| = e$
 $|BD| = f$
 $2(a^2 + b^2) = e^2 + f^2$

ÖZELLİK | Property 9

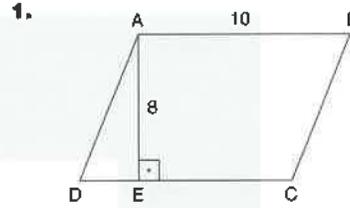


ABCD paralelkenar
 ABCD *parallelogram*
 $A(ABCD) = a \cdot h_a = b \cdot h_b$



ABCD paralelkenar
 ABCD *parallelogram*
 $\Rightarrow x = ?$

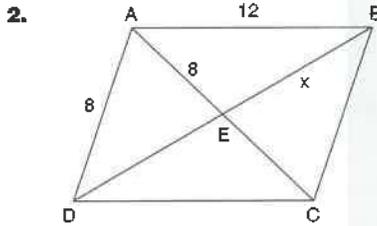
$\sqrt{22}$



ABCD paralelkenar
 ABCD *parallelogram*
 $\Rightarrow A(ABCD) = ?$

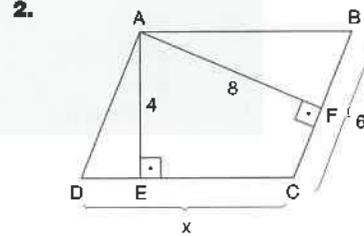
80

PUZAYVAYINLARI



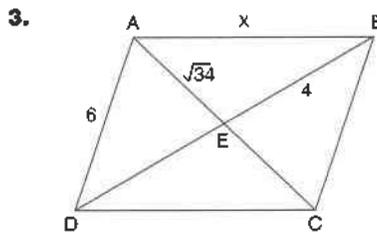
ABCD paralelkenar
 ABCD *parallelogram*
 $\Rightarrow x = ?$

$2\sqrt{10}$



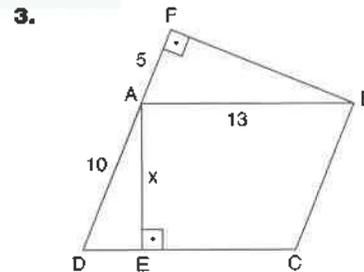
ABCD paralelkenar
 ABCD *parallelogram*
 $\Rightarrow x = ?$

12



ABCD paralelkenar
 ABCD *parallelogram*
 $\Rightarrow x = ?$

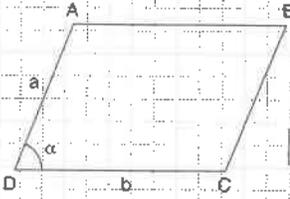
8



ABCD paralelkenar
 ABCD *parallelogram*
 $\Rightarrow x = ?$

120
13

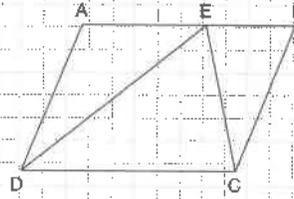
ÖZELLİK | Property 10



ABCD paralelkenar
ABCD parallelogram

$$A(ABCD) = a \cdot b \cdot \sin \alpha$$

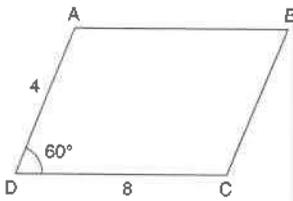
ÖZELLİK | Property 11



ABCD paralelkenar
ABCD parallelogram

$$2 \cdot A(EDC) = A(ABCD)$$

1.

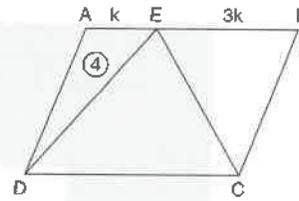


ABCD paralelkenar
ABCD parallelogram

$$\Rightarrow A(ABCD) = ?$$

$$16\sqrt{3}$$

1.



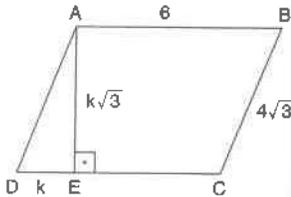
ABCD paralelkenar
ABCD parallelogram

$$\Rightarrow A(ABCD) = ?$$

$$32$$

PUZAYINILARI

2.

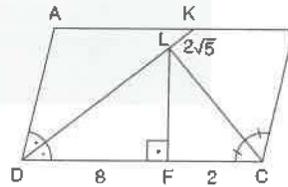


ABCD paralelkenar
ABCD parallelogram

$$\Rightarrow A(ABCD) = ?$$

$$36$$

2.

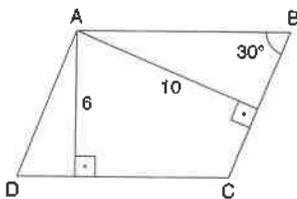


ABCD paralelkenar
ABCD parallelogram

$$\Rightarrow A(ABCD) = ?$$

$$60$$

3.

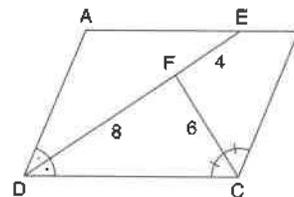


ABCD paralelkenar
ABCD parallelogram

$$\Rightarrow A(ABCD) = ?$$

$$120$$

3.



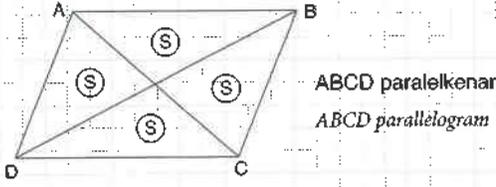
ABCD paralelkenar
ABCD parallelogram

$$\Rightarrow A(ABCD) = ?$$

$$72$$

PARALELKENAR

ÖZELLİK | Property 12



1. ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow A(ABCD) = ?$

48

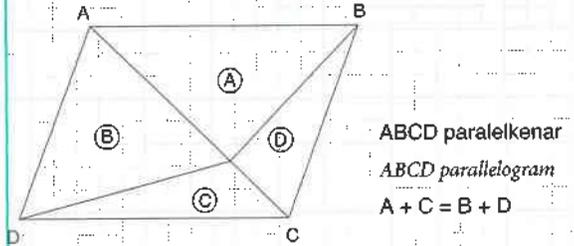
2. ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow A(ABCD) = ?$

32

3. ABCD paralelkenar
ABCD parallelogram
 $\frac{A(ABF)}{A(DAE)} = ?$

$\frac{6}{5}$

ÖZELLİK | Property 13



1. ABCD Paralelkenar
ABCD parallelogram
 $\Rightarrow A(ABCD) = ?$

44

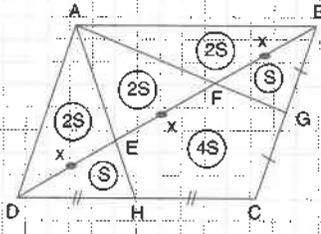
2. ABCD Paralelkenar
ABCD parallelogram
 $\Rightarrow A(ABCD) = ?$

54

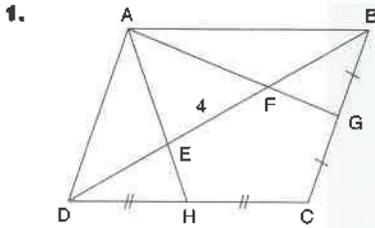
3. ABCD Paralelkenar
ABCD parallelogram
 $\Rightarrow S = ?$

5

ÖZELLİK | Property 14



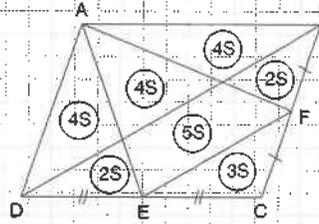
ABCD paralelkenar
ABCD parallelogram



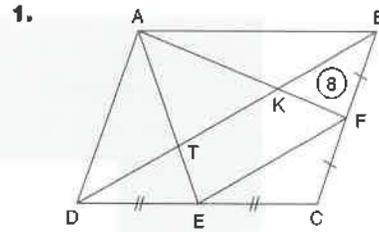
ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow |BD| = ?$

12

ÖZELLİK | Property 15



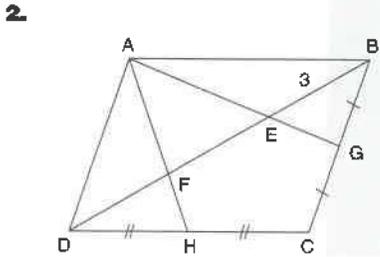
ABCD paralelkenar
ABCD parallelogram



ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow A(ABCD) = ?$

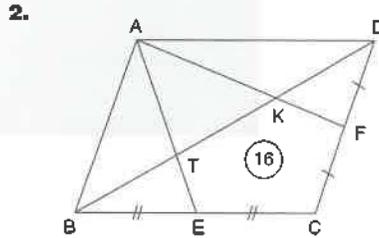
96

PUZAYANILARI



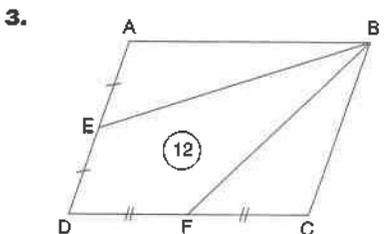
ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow |ED| = ?$

6



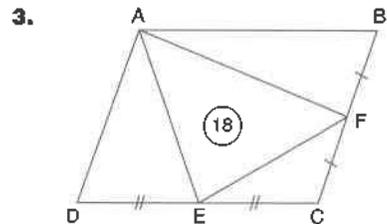
ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow A(AKD) = ?$

8



ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow A(ABCD) = ?$

24

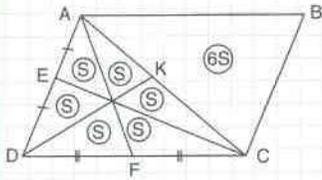


ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow A(ABCD) = ?$

48

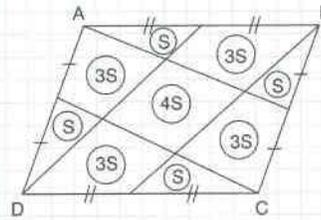
PARALELKENAR

ÖZELLİK | Property 16



ABCD paralelkenar
 ABCD paralellogram

ÖZELLİK | Property 17



ABCD paralelkenar
 ABCD paralellogram

1. ABCD paralelkenar
 ABCD paralellogram
 $\Rightarrow A(ABCD) = ?$

48

1. ABCD paralelkenar
 ABCD paralellogram
 $A(ABCD) = 180 \text{ br}^2$
 $\Rightarrow A(EFKL) = ?$

36

PUZAYANILARI

2. ABCD paralelkenar
 ABCD paralellogram
 $\Rightarrow A(AECD) = ?$

64

2. ABCD paralelkenar
 ABCD paralellogram
 $A(ADEK) = 55 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

100

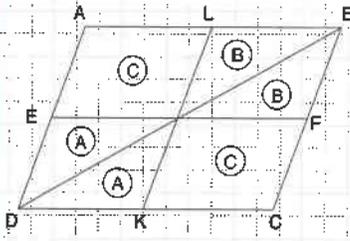
3. ABCD paralelkenar
 ABCD paralellogram
 $|DC| = 10 \text{ br}$
 $\Rightarrow h = ?$

7,2

3. ABCD paralelkenar
 ABCD paralellogram
 $\Rightarrow \frac{A(ADK)}{A(EKFB)} = ?$

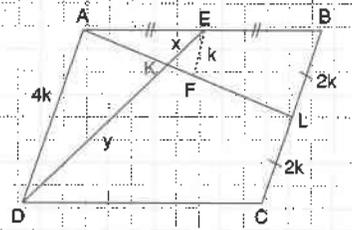
1

ÖZELLİK | Property 18



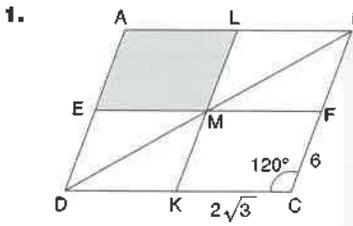
ABCD paralelkenar
ABCD parallelogram
 [BD] köşegen
[BD] diagonal
 [AB] // [EF] // [DC]
 [AD] // [KL] // [BC]

ÖZELLİK | Property 19



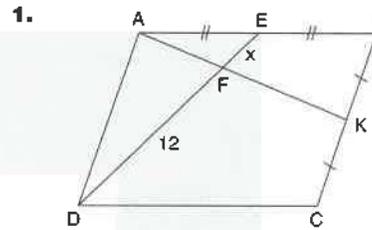
ABCD paralelkenar
ABCD parallelogram

$$\frac{4k}{k} = \frac{y}{x}$$



ABCD paralelkenar
ABCD parallelogram
 [BD] köşegen
[BD] diagonal
 [EF] // [DC]
 [KL] // [BC]
 $\Rightarrow A(ALME) = ?$

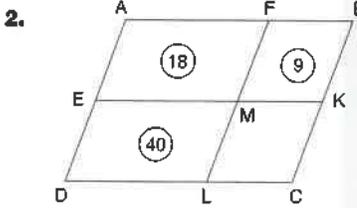
18



ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow |EF| = x = ?$

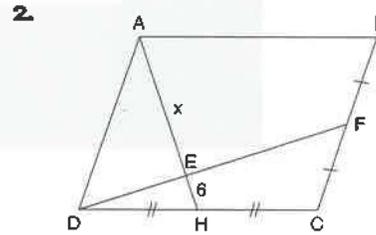
3

PUZAYAYINLARI



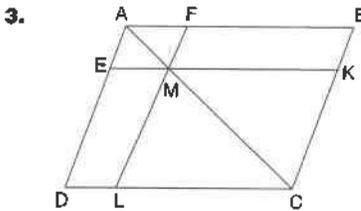
ABCD paralelkenar
ABCD parallelogram
 [EK] // [AB]
 [FL] // [AD]
 $\Rightarrow A(ABCD) = ?$

87



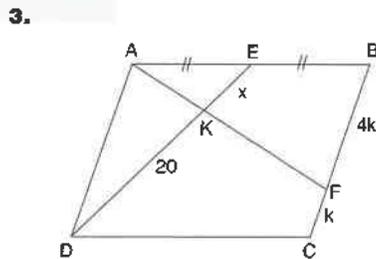
ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow |AE| = x = ?$

24



ABCD paralelkenar
ABCD parallelogram
 [EK] // [AB]
 [FL] // [AD]
 [AC] köşegen
[AC] diagonal
 $\Rightarrow \frac{A(FBKM)}{A(EMLD)} = ?$

1



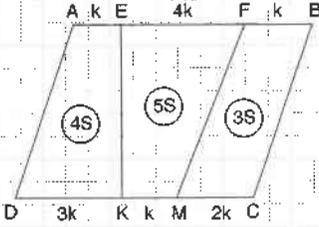
ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow |EK| = x = ?$

8

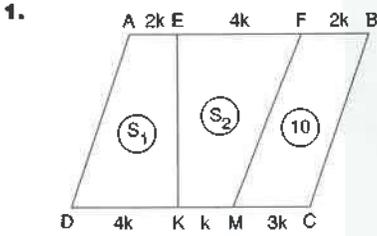
PARALELKENAR

ÖZELLİK | Property 20

ABCD paralelkenar / ABCD parallelogram

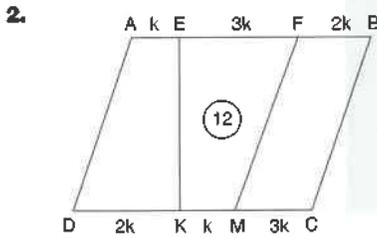


$$\begin{array}{l} 3k + k = 4k \quad \downarrow \quad 4S \\ 4k + k = 5k \quad \downarrow \quad 5S \\ k + 2k = 3k \quad \downarrow \quad 3S \end{array}$$



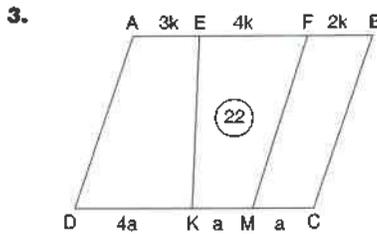
ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow S_1 = ?$
 $\Rightarrow S_2 = ?$

12, 10



ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow A(ABCD) = ?$

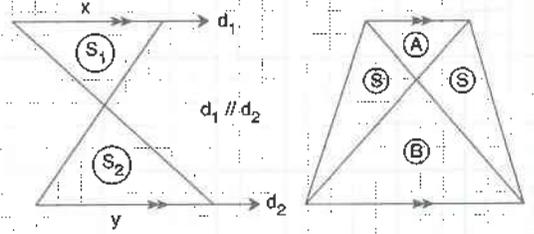
36



ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow A(ABCD) = ?$

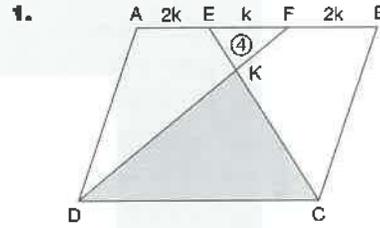
72

ÖZELLİK | Property 21



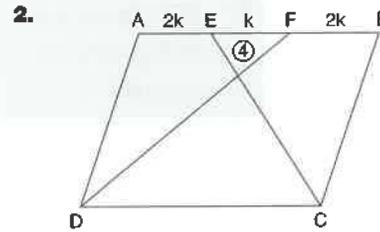
$$\left(\frac{x}{y}\right)^2 = \frac{S_1}{S_2}$$

$$S \cdot S = A \cdot B$$



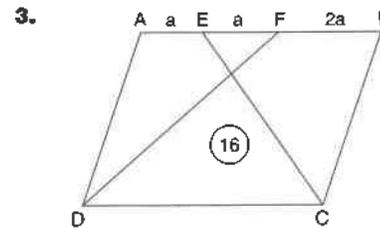
ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow A(DKC) = ?$

100



ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow A(ABCD) = ?$

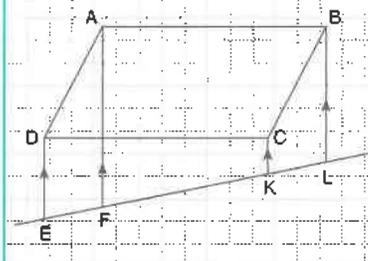
240



ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow A(ABCD) = ?$

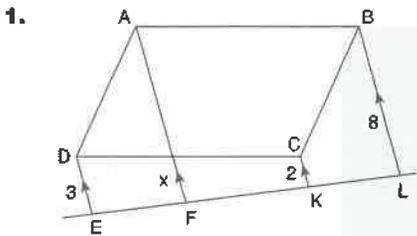
40

ÖZELLİK | Property 22



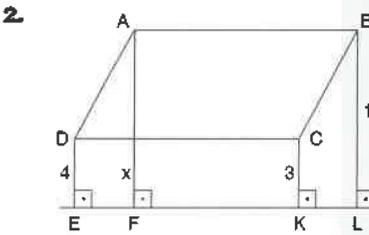
ABCD paralelkenar
ABCD paralellogram

$$|AF| + |CK| = |DE| + |BL|$$



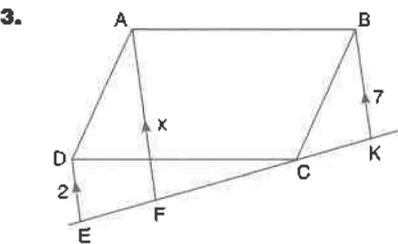
ABCD paralelkenar
ABCD paralellogram
 $\Rightarrow |AF| = x = ?$

9



ABCD paralelkenar
ABCD paralellogram
 $\Rightarrow |AF| = x = ?$

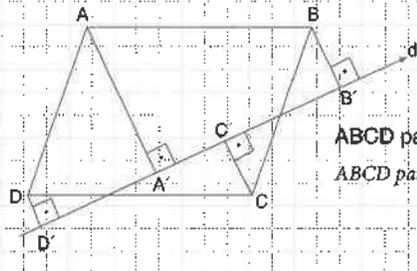
11



ABCD paralelkenar
ABCD paralellogram
 $\Rightarrow |AF| = x = ?$

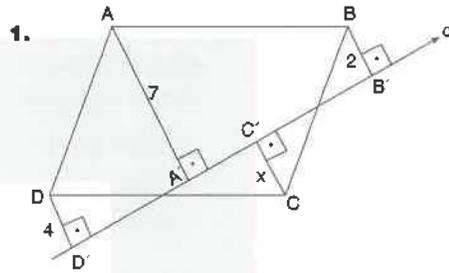
9

ÖZELLİK | Property 23



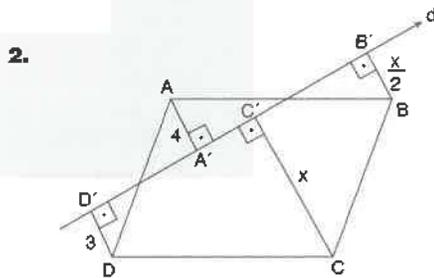
ABCD paralelkenar
ABCD paralellogram

$$|AA'| - |CC'| = |DD'| + |BB'|$$



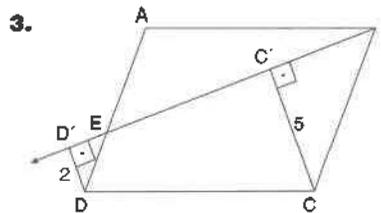
ABCD paralelkenar
ABCD paralellogram
 $\Rightarrow x = ?$

1



ABCD paralelkenar
ABCD paralellogram
 $\Rightarrow x = ?$

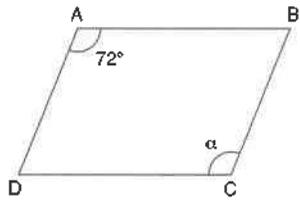
14



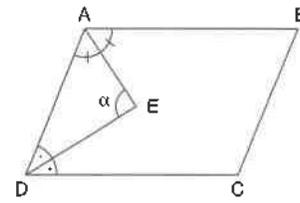
ABCD paralelkenar
ABCD paralellogram
 $|EB| = 18$ br
 $\Rightarrow A(ABE) = ?$

27

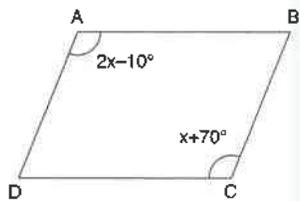
PUZAYANLARI

1.  ABCD paralelkenar
 ABCD *parallelogram*
 $m(\widehat{DAB}) = 72^\circ$
 $\Rightarrow m(\widehat{DCB}) = \alpha = ?$

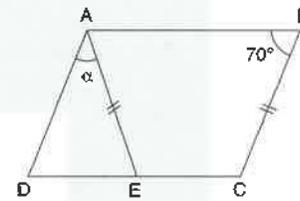
A) 18 B) 36 C) 72 D) 108 E) 144

5.  ABCD paralelkenar
 ABCD *parallelogram*
 $m(\widehat{DAE}) = m(\widehat{EAB})$
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $\Rightarrow m(\widehat{AED}) = \alpha = ?$

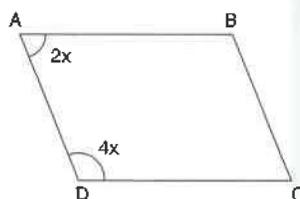
A) 30 B) 45 C) 60 D) 90 E) 120

2.  ABCD paralelkenar
 ABCD *parallelogram*
 $m(\widehat{DAB}) = 2x - 10^\circ$
 $m(\widehat{DCB}) = x + 70^\circ$
 $\Rightarrow m(\widehat{DAB}) = ?$

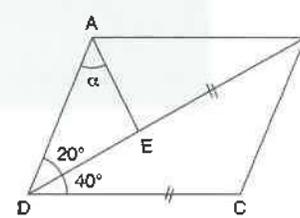
A) 10 B) 30 C) 80 D) 100 E) 150

6.  ABCD paralelkenar
 ABCD *parallelogram*
 $|AE| = |EC|$
 $m(\widehat{ABC}) = 70^\circ$
 $\Rightarrow m(\widehat{DAE}) = \alpha = ?$

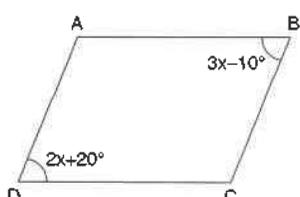
A) 40 B) 70 C) 90 D) 110 E) 140

3.  ABCD paralelkenar
 ABCD *parallelogram*
 $m(\widehat{DAB}) = 2x$
 $m(\widehat{ADC}) = 4x$
 $\Rightarrow m(\widehat{DAB}) = ?$

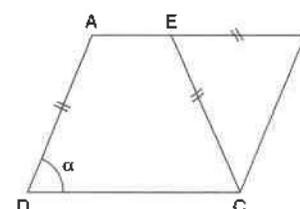
A) 30 B) 60 C) 90 D) 120 E) 150

7.  ABCD paralelkenar
 ABCD *parallelogram*
 $|BE| = |EC|$
 $m(\widehat{ADB}) = 20^\circ$
 $m(\widehat{BDC}) = 40^\circ$
 $\Rightarrow m(\widehat{DAE}) = \alpha = ?$

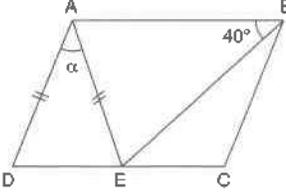
A) 20 B) 40 C) 50 D) 70 E) 120

4.  ABCD paralelkenar
 ABCD *parallelogram*
 $m(\widehat{ADC}) = 2x + 20^\circ$
 $m(\widehat{ABC}) = 3x - 10^\circ$
 $\Rightarrow m(\widehat{DAB}) = ?$

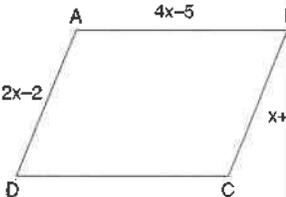
A) 6 B) 30 C) 80 D) 100 E) 148

8.  ABCD paralelkenar
 ABCD *parallelogram*
 $|AD| = |EC| = |EB|$
 $\Rightarrow m(\widehat{ADC}) = \alpha = ?$

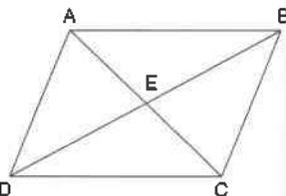
A) 120 B) 90 C) 75 D) 60 E) 30

9.  ABCD paralelkenar
ABCD parallelogram
 $|AD| = |AE|$
 $|BE| = |DC|$
 $m(\widehat{ABE}) = 40^\circ$
 $\Rightarrow m(\widehat{DAE}) = \alpha = ?$

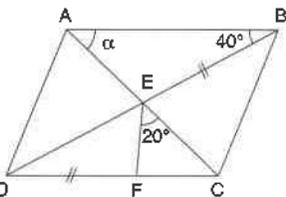
A) 20 B) 40 C) 70 D) 100 E) 110

10.  ABCD paralelkenar
ABCD parallelogram
 $|AB| = 4x - 5$
 $|AD| = 2x - 2$
 $|BC| = x + 7$
 $\Rightarrow |DC| = ?$

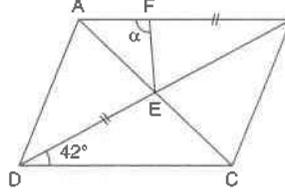
A) 9 B) 16 C) 31 D) 36 E) 41

11.  ABCD paralelkenar
ABCD parallelogram
 $|BE| = x + 5$
 $|DE| = 2x - 1$
 $\Rightarrow |BD| = ?$

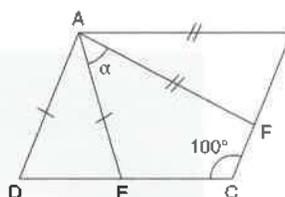
A) 2 B) 6 C) 7 D) 11 E) 22

12.  ABCD paralelkenar
ABCD parallelogram
 $m(\widehat{FEC}) = 20^\circ$
 $m(\widehat{ABD}) = 40^\circ$
 $|DF| = |BE|$
 $\Rightarrow m(\widehat{CAB}) = \alpha = ?$

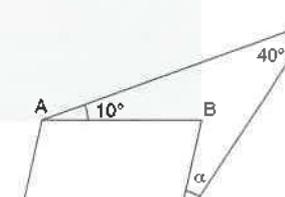
A) 20 B) 30 C) 40 D) 50 E) 70

13.  ABCD paralelkenar
ABCD parallelogram
 $m(\widehat{BDC}) = 42^\circ$
 $|DE| = |BF|$
 $\Rightarrow m(\widehat{AFE}) = \alpha = ?$

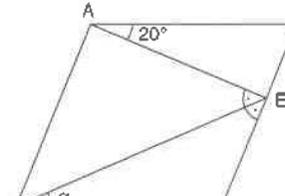
A) 122 B) 111 C) 84 D) 68 E) 42

14.  ABCD paralelkenar
ABCD parallelogram
 $m(\widehat{DCB}) = 100^\circ$
 $m(\widehat{EAF}) = \alpha$
 $|AD| = |AE|$
 $|AF| = |AB|$
 $\Rightarrow m(\widehat{EAF}) = \alpha = ?$

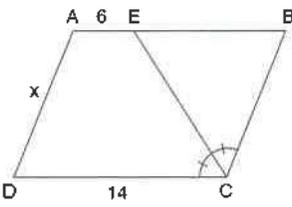
A) 80 B) 60 C) 50 D) 40 E) 20

15.  ABCD paralelkenar
ABCD parallelogram
 $m(\widehat{AEC}) = 40^\circ$
 $m(\widehat{EAB}) = 10^\circ$
 $m(\widehat{ADC}) = 80^\circ$
 $\Rightarrow m(\widehat{BCE}) = \alpha = ?$

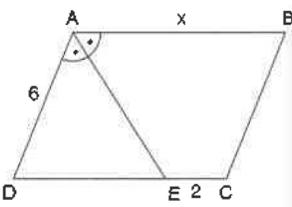
A) 70 B) 60 C) 50 D) 40 E) 30

16.  ABCD paralelkenar
ABCD parallelogram
 $m(\widehat{BAE}) = 20^\circ$
 $m(\widehat{AED}) = m(\widehat{DEC})$
 $|AE| = |DC|$
 $\Rightarrow m(\widehat{EDC}) = \alpha = ?$

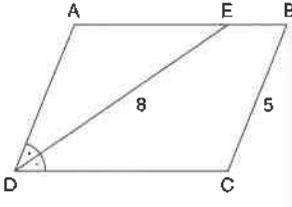
A) 30 B) 40 C) 50 D) 60 E) 70

1.  ABCD paralelkenar
 ABCD paralelogram
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $|DC| = 14$ br
 $|AE| = 6$ br
 $\Rightarrow |AD| = x = ?$

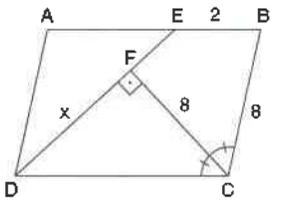
A) 4 B) 6 C) 7 D) 8 E) 10

2.  ABCD paralelkenar
 ABCD paralelogram
 $m(\widehat{DAE}) = m(\widehat{EAB})$
 $|AD| = 6$ br
 $|EC| = 2$ br
 $\Rightarrow |AB| = x = ?$

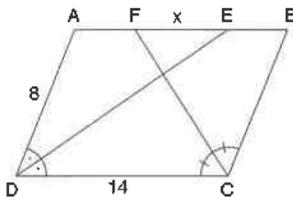
A) 16 B) 14 C) 12 D) 10 E) 8

3.  ABCD paralelkenar
 ABCD paralelogram
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $|DE| = 8$ br
 $|BC| = 5$ br
 $\Rightarrow \angle(ADE) = ?$

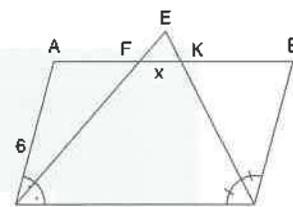
A) 5 B) 10 C) 12 D) 16 E) 18

4.  ABCD paralelkenar
 ABCD paralelogram
 $[CF] \perp [DE]$
 $m(\widehat{DCF}) = m(\widehat{FCB})$
 $|FC| = |BC| = 8$ br
 $|EB| = 2$ br
 $\Rightarrow |DF| = x = ?$

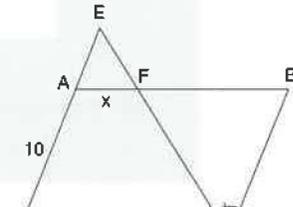
A) 4 B) 5 C) 6 D) 8 E) 10

5.  ABCD paralelkenar
 ABCD paralelogram
 $m(\widehat{DCF}) = m(\widehat{FCB})$
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $|AD| = 8$ br
 $|DC| = 14$ br
 $\Rightarrow |FE| = x = ?$

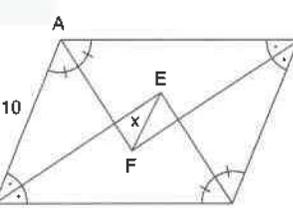
A) 2 B) 3 C) 4 D) 6 E) 8

6.  ABCD paralelkenar
 ABCD paralelogram
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $m(\widehat{EDC}) = m(\widehat{ADE})$
 $|AD| = 6$ br
 $|DC| = 15$ br
 $\Rightarrow |FK| = x = ?$

A) 3 B) 6 C) 9 D) 10 E) 12

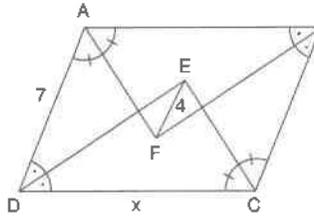
7.  ABCD paralelkenar
 ABCD paralelogram
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $|AD| = 10$ br
 $|DC| = 14$ br
 $\Rightarrow |AF| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

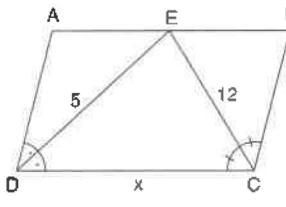
8.  ABCD paralelkenar
 ABCD paralelogram
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $m(\widehat{CBF}) = m(\widehat{FBA})$
 $m(\widehat{BAF}) = m(\widehat{FAD})$
 $|AD| = 10$ br
 $|DC| = 14$ br
 $\Rightarrow |EF| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

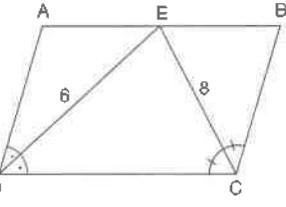
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9.  ABCD paralelkenar
 ABCD parallelogram
 $m(\widehat{DAF}) = m(\widehat{FAB})$
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $m(\widehat{CBF}) = m(\widehat{FBA})$
 $|AD| = 7$ br
 $|EF| = 4$ br
 $\Rightarrow |DC| = x = ?$

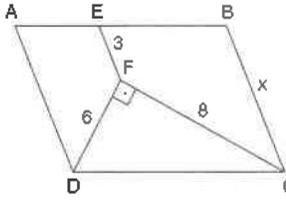
A) 3 B) 8 C) 10 D) 11 E) 14

10.  ABCD paralelkenar
 ABCD parallelogram
 [DE] ve [EC] açıortay
 [DE] and [EC] bisector
 $|DE| = 5$ br
 $|EC| = 12$ br
 $\Rightarrow |DC| = x = ?$

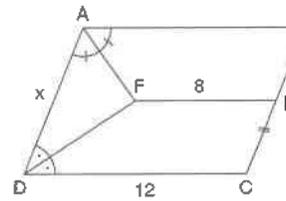
A) 5 B) 10 C) 12 D) 13 E) 17

11.  ABCD paralelkenar
 ABCD parallelogram
 [DE] ve [EC] açıortay
 [DE] and [EC] bisector
 $|DE| = 6$ br
 $|CE| = 8$ br
 $\Rightarrow \text{Çevre}(ABCD) = ?$

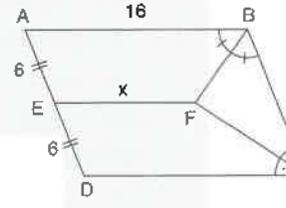
A) 10 B) 20 C) 30 D) 40 E) 50

12.  ABCD paralelkenar
 ABCD parallelogram
 $[AD] \parallel [EF] \parallel [BC]$
 $[DF] \perp [FC]$
 $|DF| = 6$ br
 $|FC| = 8$ br
 $|EF| = 3$ br
 $\Rightarrow |BC| = x = ?$

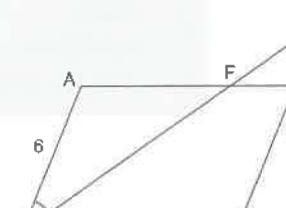
A) 5 B) 6 C) 8 D) 10 E) 13

13.  ABCD paralelkenar
 ABCD parallelogram
 [AF] ve [DF] açıortay
 [AF] and [DF] bisector
 $|FE| = 8$ br
 $|DC| = 12$ br
 $|BE| = |EC|$
 $\Rightarrow |AD| = x = ?$

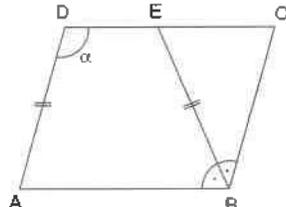
A) 2 B) 4 C) 6 D) 8 E) 12

14.  ABCD paralelkenar
 ABCD parallelogram
 [BF] ve [FC] açıortay
 [BF] and [FC] bisector
 $|AB| = 16$ br
 $|AE| = |ED| = 6$ br
 $\Rightarrow |EF| = x = ?$

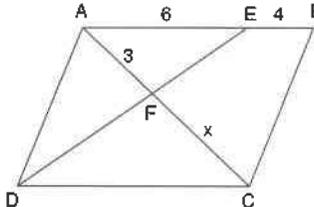
A) 3 B) 6 C) 8 D) 10 E) 11

15.  ABCD paralelkenar
 ABCD parallelogram
 [DE] açıortay
 [DE] bisector
 $|AD| = 6$ br
 $|EB| = 2$ br
 $\Rightarrow |DC| = ?$

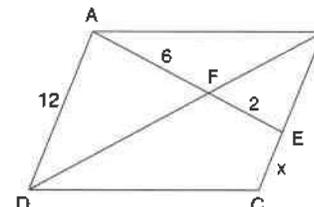
A) 6 B) 8 C) 10 D) 12 E) 14

16.  ABCD paralelkenar
 ABCD parallelogram
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $|AD| = |EB|$
 $\Rightarrow m(\widehat{ADC}) = \alpha = ?$

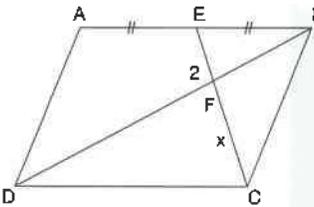
A) 100 B) 105 C) 110 D) 120 E) 135

1.  ABCD paralelkenar
ABCD paralelegram
 $|AE| = 6$ br
 $|EB| = 4$ br
 $|AF| = 3$ br
 $\Rightarrow |FC| = x = ?$

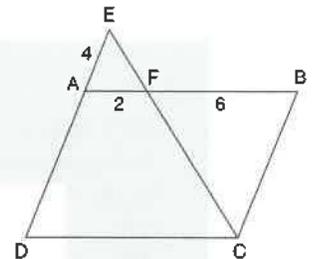
A) 2 B) 4 C) 5 D) 10 E) 20

5.  ABCD paralelkenar
ABCD paralelegram
 $|AD| = 12$ br
 $|AF| = 6$ br
 $|FE| = 2$ br
 $\Rightarrow |EC| = x = ?$

A) 4 B) 6 C) 7 D) 8 E) 10

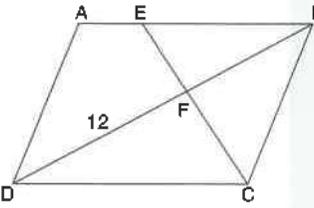
2.  ABCD paralelkenar
ABCD paralelegram
 $|EF| = 2$ br
 $|AE| = |EB|$
 $\Rightarrow |FC| = x = ?$

A) 16 B) 8 C) 4 D) 2 E) 1

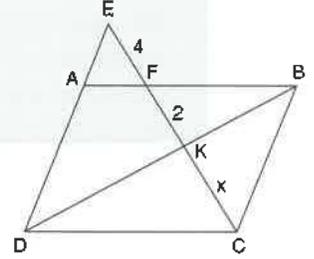
6.  ABCD paralelkenar
ABCD paralelegram
 $|AE| = 4$ br
 $|AF| = 2$ br
 $|FB| = 6$ br
 $\Rightarrow \angle(ABCD) = ?$

A) 42 B) 40 C) 36 D) 30 E) 20

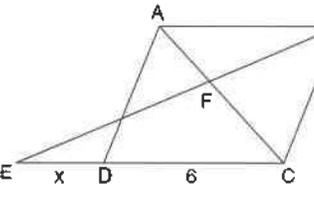
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3.  ABCD paralelkenar
ABCD paralelegram
 $|DF| = 12$ br
 $|EB| = 3 \cdot |AE|$
 $\Rightarrow |BD| = ?$

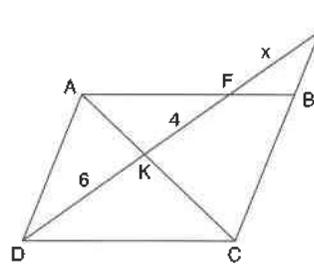
A) 9 B) 18 C) 21 D) 36 E) 48

7.  ABCD paralelkenar
ABCD paralelegram
 $|EF| = 4$ br
 $|FK| = 2$ br
 $\Rightarrow |KC| = x = ?$

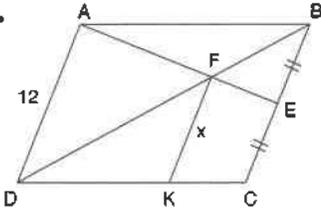
A) $2\sqrt{3}$ B) 6 C) $4\sqrt{3}$ D) 12 E) $12\sqrt{3}$

4.  ABCD paralelkenar
ABCD paralelegram
 $2|FC| = 3|AF|$
 $|DC| = 6$ br
 $\Rightarrow |ED| = x = ?$

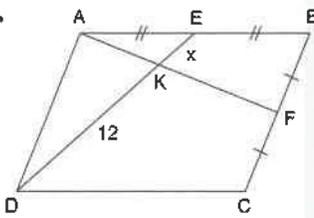
A) 1 B) 3 C) 6 D) 9 E) 12

8.  ABCD paralelkenar
ABCD paralelegram
 $|DK| = 6$ br
 $|KF| = 4$ br
 $\Rightarrow |FE| = x = ?$

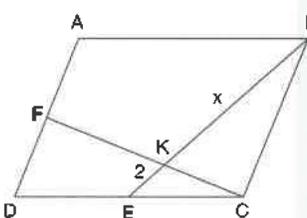
A) 5 B) 4 C) 3 D) 2 E) 1

9.  ABCD paralelkenar
 ABCD paralelkenar
 $[AD] \parallel [FK]$
 $|BE| = |EC|$
 $|AD| = 12$ br
 $\Rightarrow |FK| = x = ?$

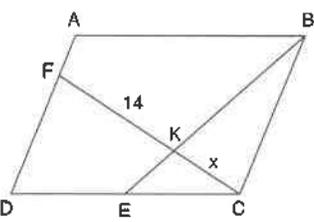
A) 6 B) 7 C) 8 D) 9 E) 10

10.  ABCD paralelkenar
 ABCD paralelkenar
 $|DK| = 12$ br
 $|AE| = |EB|$
 $|BF| = |FC|$
 $\Rightarrow |KE| = x = ?$

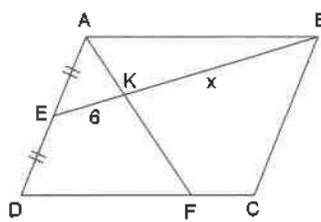
A) 2 B) 3 C) 4 D) 5 E) 6

11.  ABCD paralelkenar
 ABCD paralelkenar
 $|AF| = |FD|$
 $|DE| = |EC|$
 $|KE| = 2$ br
 $\Rightarrow |BK| = x = ?$

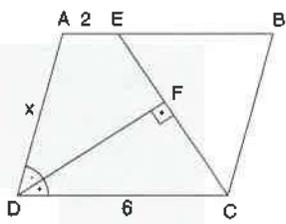
A) $\frac{5}{2}$ B) 4 C) $\frac{15}{2}$ D) 8 E) $\frac{25}{3}$

12.  ABCD paralelkenar
 ABCD paralelkenar
 $3|AF| = |DF|$
 $|FK| = 14$ br
 $|DE| = |EC|$
 $\Rightarrow |KC| = x = ?$

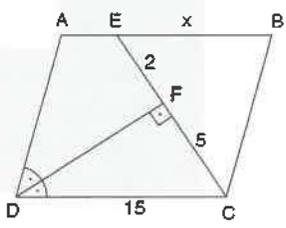
A) $\frac{3}{2}$ B) 6 C) 8 D) $\frac{32}{3}$ E) 12

13.  ABCD paralelkenar
 ABCD paralelkenar
 $|AE| = |ED|$
 $3|FC| = |DF|$
 $|EK| = 6$ br
 $\Rightarrow |KB| = x = ?$

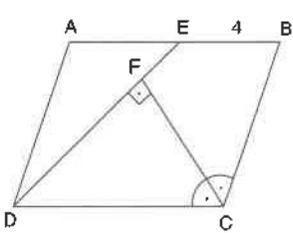
A) 6 B) $\frac{20}{3}$ C) 16 D) $\frac{33}{2}$ E) 24

14.  ABCD paralelkenar
 ABCD paralelkenar
 $|AE| = 2$ br
 $|DC| = 6$ br
 $[DF] \perp [EC]$
 $[DF]$ açıortay
 $[DF]$ bisector
 $\Rightarrow |AD| = x = ?$

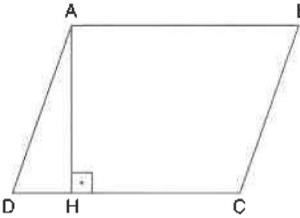
A) 10 B) 8 C) 6 D) 4 E) 2

15.  ABCD paralelkenar
 ABCD paralelkenar
 $|EF| = 2$ br
 $|FC| = 5$ br
 $|DC| = 15$ br
 $[DF] \perp [EC]$
 $[DF]$ açıortay
 $[DF]$ bisector
 $\Rightarrow |EB| = x = ?$

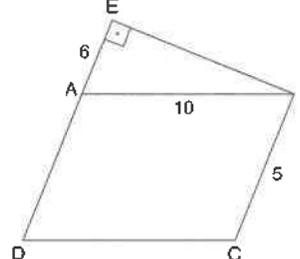
A) $\frac{3}{2}$ B) $\frac{9}{2}$ C) $\frac{21}{2}$ D) 12 E) 14

16.  ABCD paralelkenar
 ABCD paralelkenar
 $|EB| = 4$ br
 $2|FE| = |DF|$
 $[FC] \perp [DE]$
 $[FC]$ açıortay
 $[FC]$ bisector
 $\Rightarrow |DC| = ?$

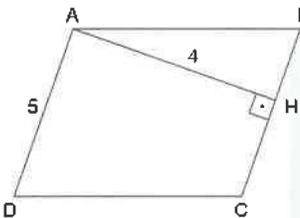
A) 16 B) 12 C) 10 D) 8 E) 6

1.  ABCD paralelkenar
ABCD parallelogram
 $[AH] \perp [DC]$
 $|AH| = 6$ br
 $|DC| = 10$ br
 $\Rightarrow A(ABCD) = ?$

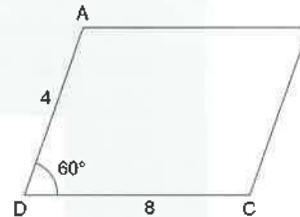
A) 120 B) 60 C) 30 D) 15 E) 10

5.  ABCD paralelkenar
ABCD parallelogram
 $[BE] \perp [DE]$
 $|AE| = 6$ br
 $|AB| = 10$ br
 $|BC| = 5$ br
 $\Rightarrow A(ABCD) = ?$

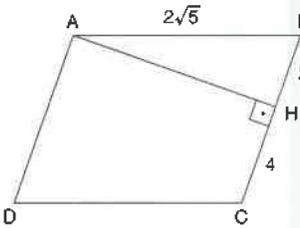
A) 50 B) 40 C) 30 D) 25 E) 20

2.  ABCD paralelkenar
ABCD parallelogram
 $[AH] \perp [BC]$
 $|AH| = 4$ br
 $|AD| = 5$ br
 $\Rightarrow A(ABCD) = ?$

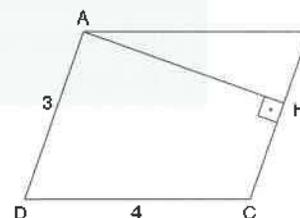
A) 5 B) 10 C) 20 D) 40 E) 80

6.  ABCD paralelkenar
ABCD parallelogram
 $|AD| = 4$ br
 $|DC| = 8$ br
 $m(\widehat{ADC}) = 60^\circ$
 $\Rightarrow A(ABCD) = ?$

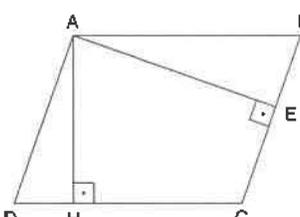
A) $8\sqrt{3}$ B) $16\sqrt{3}$ C) $24\sqrt{3}$ D) $26\sqrt{3}$ E) $32\sqrt{3}$

3.  ABCD paralelkenar
ABCD parallelogram
 $[AH] \perp [BC]$
 $|AB| = 2\sqrt{5}$ br
 $|BH| = 2$ br
 $|HC| = 4$ br
 $\Rightarrow A(ABCD) = ?$

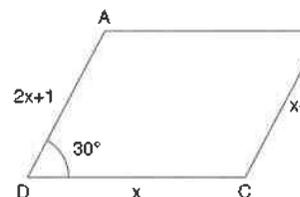
A) 6 B) $6\sqrt{5}$ C) 12 D) 24 E) $12\sqrt{5}$

7.  ABCD paralelkenar
ABCD parallelogram
 $[AH] \perp [BC]$
 $|AD| = 3$ br
 $|DC| = 4$ br
 $|AB| = 2|BH|$
 $\Rightarrow A(ABCD) = ?$

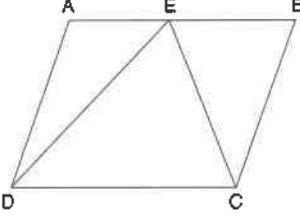
A) $12\sqrt{3}$ B) $6\sqrt{3}$ C) 6 D) $3\sqrt{3}$ E) 3

4.  ABCD paralelkenar
ABCD parallelogram
 $[AE] \perp [BC]$
 $[AH] \perp [DC]$
 $|AE| = 6$ br
 $|AH| = 4$ br
 $|DC| = 8$ br
 $\Rightarrow |BC| = x = ?$

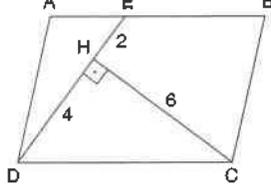
A) 24 B) 12 C) $\frac{16}{3}$ D) 3 E) $\frac{8}{3}$

8.  ABCD paralelkenar
ABCD parallelogram
 $|AD| = (2x + 1)$ br
 $|BC| = (x + 7)$ br
 $|DC| = x$
 $m(\widehat{ADC}) = 30^\circ$
 $\Rightarrow A(ABCD) = ?$

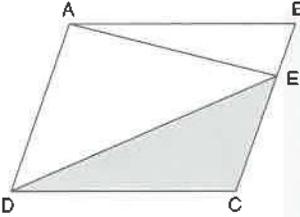
A) 18 B) 26 C) $26\sqrt{3}$ D) 39 E) $39\sqrt{3}$

9.  ABCD paralelkenar
 ABCD paralellogram
 $A(EDC) = 40 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

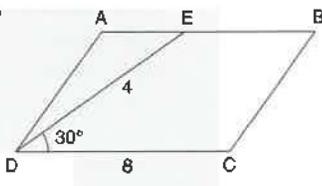
A) 20 B) 40 C) 60 D) 70 E) 80

13.  ABCD paralelkenar
 ABCD paralellogram
 $[CH] \perp [DE]$
 $|DH| = 4 \text{ br}$
 $|HE| = 2 \text{ br}$
 $|CH| = 6 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

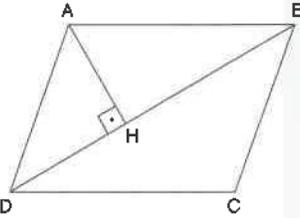
A) 12 B) 18 C) 24 D) 32 E) 36

10.  ABCD paralelkenar
 ABCD paralellogram
 $A(ABE) = 20 \text{ br}^2$
 $A(AED) = 30 \text{ br}^2$
 $\Rightarrow A(EDC) = ?$

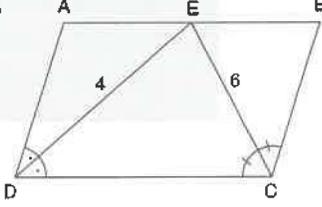
A) 5 B) 10 C) 20 D) 30 E) 50

14.  ABCD paralelkenar
 ABCD paralellogram
 $m(\widehat{EDC}) = 30^\circ$
 $|DE| = 4 \text{ br}$
 $|DC| = 8 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

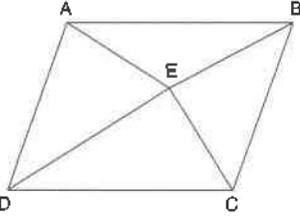
A) 16 B) $8\sqrt{3}$ C) $4\sqrt{3}$ D) 8 E) 4

11.  ABCD paralelkenar
 ABCD paralellogram
 $[AH] \perp [DB]$
 $|AH| = 4 \text{ br}$
 $|DB| = 8 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

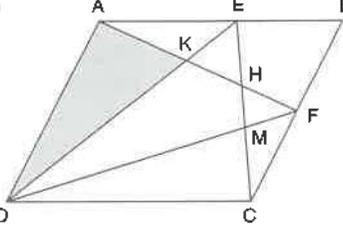
A) 64 B) 48 C) 32 D) 24 E) 18

15.  ABCD paralelkenar
 ABCD paralellogram
 $|DE| = 4 \text{ br}$
 $|EC| = 6 \text{ br}$
 $[DE]$ ve $[EC]$ açıortay
 $[DE]$ and $[EC]$ bisector
 $\Rightarrow A(ABCD) = ?$

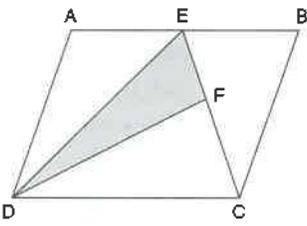
A) 6 B) 10 C) 12 D) 18 E) 24

12.  ABCD paralelkenar
 ABCD paralellogram
 $A(ABE) = 4 \text{ br}^2$
 $A(EDC) = 12 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

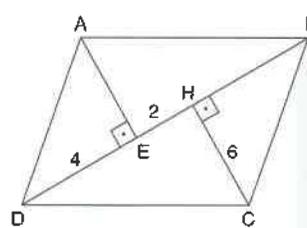
A) 16 B) 24 C) 32 D) 48 E) 60

16.  ABCD paralelkenar
 ABCD paralellogram
 $A(EKH) = 4 \text{ br}^2$
 $A(HFM) = 3 \text{ br}^2$
 $A(DMC) = 8 \text{ br}^2$
 $\Rightarrow A(AKD) = ?$

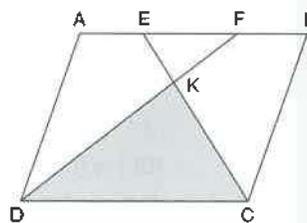
A) 9 B) 8 C) 7 D) 6 E) 5

1.  ABCD paralelkenar
ABCD parallelogram
 $|FC| = 2|EF|$
 $A(DEF) = 6br^2$
 $\Rightarrow A(ABCD) = ?$

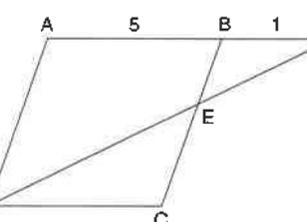
A) 12 B) 18 C) 24 D) 36 E) 48

2.  ABCD paralelkenar
ABCD parallelogram
 $[AE] \perp [DB]$
 $[CH] \perp [DB]$
 $|EH| = 2br$
 $|DE| = 4br$
 $|CH| = 6br$
 $\Rightarrow A(ABCD) = ?$

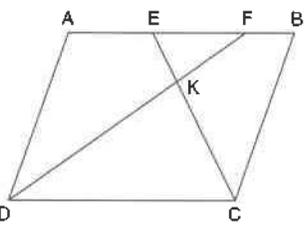
A) 78 B) 60 C) 54 D) 48 E) 39

3.  ABCD paralelkenar
ABCD parallelogram
 $|AE| = |EF| = |FB|$
 $A(EFK) = 4br^2$
 $\Rightarrow A(DKC) = ?$

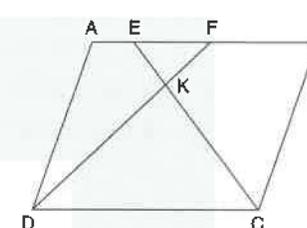
A) 48 B) 36 C) 24 D) 12 E) 8

4.  ABCD paralelkenar
ABCD parallelogram
 $|AB| = 5br$
 $|BF| = 1br$
 $A(BEF) = 2br^2$
 $\Rightarrow A(ABCD) = ?$

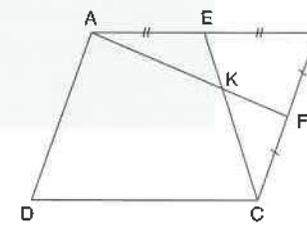
A) 50 B) 60 C) 80 D) 100 E) 120

5.  ABCD paralelkenar
ABCD parallelogram
 $|AE| = 2|EF| = 2|FB|$
 $A(EFK) = 4br^2$
 $\Rightarrow A(ABCD) = ?$

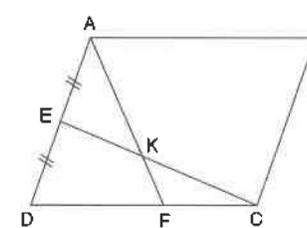
A) 48 B) 60 C) 80 D) 120 E) 160

6.  ABCD paralelkenar
ABCD parallelogram
 $|EF| = 2|AE|$
 $|FB| = 3|AE|$
 $A(DKC) = 72br^2$
 $\Rightarrow A(ABCD) = ?$

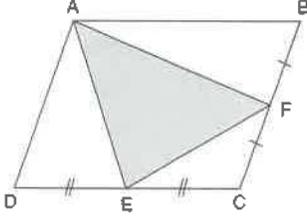
A) 16 B) 100 C) 144 D) 192 E) 200

7.  ABCD paralelkenar
ABCD parallelogram
 $|AE| = |EB|$
 $|FB| = |FC|$
 $A(AEK) = 5br^2$
 $\Rightarrow A(ABCD) = ?$

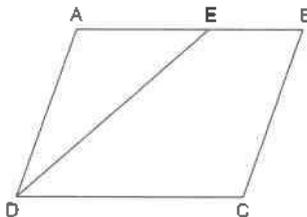
A) 60 B) 50 C) 45 D) 30 E) 25

8.  ABCD paralelkenar
ABCD parallelogram
 $|AE| = |ED|$
 $|DF| = 2|FC|$
 $A(FCK) = 6br^2$
 $\Rightarrow A(ABCD) = ?$

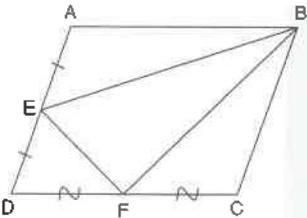
A) 96 B) 108 C) 144 D) 180 E) 190

9.  ABCD paralelkenar
ABCD paralelogram
 $|DE| = |EC|$
 $|BF| = |FC|$
 $A(AEF) = 9br^2$
 $\Rightarrow A(ABCD) = ?$

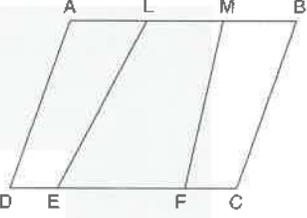
A) 12 B) 18 C) 24 D) 36 E) 48

13.  ABCD paralelkenar
ABCD paralelogram
 $2|AE| = 3|EB|$
 $A(ABCD) = 50br^2$
 $\Rightarrow A(AED) = ?$

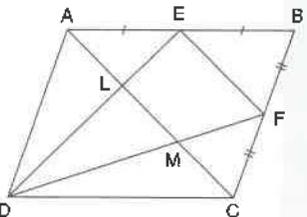
A) 10 B) 15 C) 20 D) 30 E) 45

10.  ABCD paralelkenar
ABCD paralelogram
 $|AE| = |ED|$
 $|DF| = |FC|$
 $A(DEF) = 15br^2$
 $\Rightarrow A(ABCD) = ?$

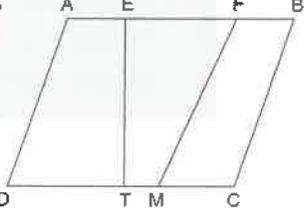
A) 180 B) 150 C) 120 D) 110 E) 100

14.  ABCD paralelkenar
ABCD paralelogram
 $|AL| = |LM| = |MB|$
 $|EF| = 2|DE| = 2|FC|$
 $A(EFML) = 20br^2$
 $\Rightarrow A(ABCD) = ?$

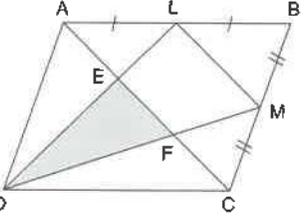
A) 30 B) 40 C) 48 D) 60 E) 96

11.  ABCD paralelkenar
ABCD paralelogram
 $|AE| = |EB|$
 $|BF| = |FC|$
 $A(EFML) = 10br^2$
 $\Rightarrow A(ABCD) = ?$

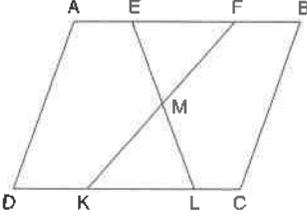
A) 24 B) 48 C) 50 D) 60 E) 100

15.  ABCD paralelkenar
ABCD paralelogram
 $|EF| = 2|AE| = 2|FB|$
 $2|DT| = 6|TM| = 2|MC|$
 $A(ABCD) = 56br^2$
 $\Rightarrow A(EFMT) = ?$

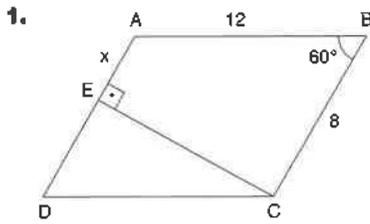
A) 12 B) 16 C) 18 D) 20 E) 24

12.  ABCD paralelkenar
ABCD paralelogram
 $|AL| = |LB|$
 $|BM| = |MC|$
 $A(FMC) = 4br^2$
 $\Rightarrow A(EFD) = ?$

A) 8 B) 12 C) 16 D) 24 E) 48

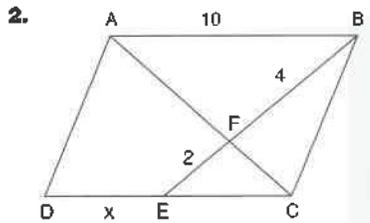
16.  ABCD paralelkenar
ABCD paralelogram
 $2|EF| = |AB|$
 $3|KL| = |DC|$
 $A(EFM) = 9br^2$
 $\Rightarrow A(ABCD) = ?$

A) 30 B) 48 C) 50 D) 54 E) 60



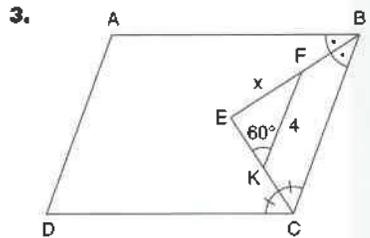
1. ABCD paralelkenar
 ABCD paralelogram
 $[CE] \perp [AD]$
 $m(\widehat{ABC}) = 60^\circ$
 $|AB| = 12$ br
 $|BC| = 8$ br
 $\Rightarrow |EA| = x = ?$

- A) 2 B) 3 C) 4 D) 5 E) 6



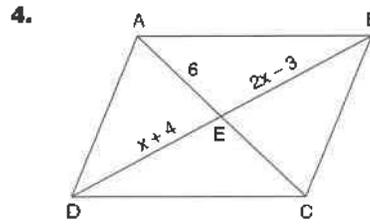
2. ABCD paralelkenar
 ABCD paralelogram
 $|AB| = 10$ br
 $|BF| = 4$ br
 $|FE| = 2$ br
 $\Rightarrow |DE| = x = ?$

- A) 1 B) 2 C) 3 D) 4 E) 5



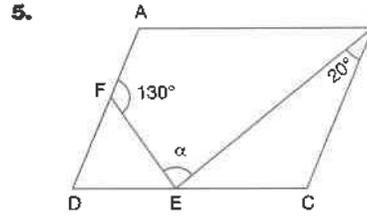
3. ABCD paralelkenar
 ABCD paralelogram
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $m(\widehat{ECB}) = m(\widehat{ECD})$
 $m(\widehat{FKE}) = 60^\circ$
 $|KF| = 4$ br
 $\Rightarrow |EF| = x = ?$

- A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) 8



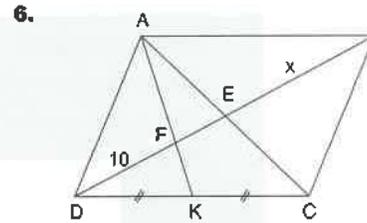
4. ABCD paralelkenar
 ABCD paralelogram
 $|AE| = 6$ br
 $|EB| = 2x - 3$
 $|DE| = x + 4$
 $\Rightarrow |AC| + |BD| = ?$

- A) 10 B) 13 C) 17 D) 26 E) 34



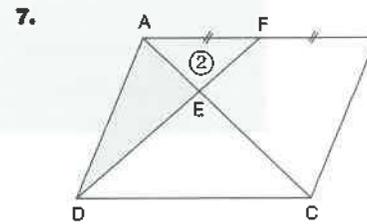
5. ABCD paralelkenar
 ABCD paralelogram
 $m(\widehat{AFE}) = 130^\circ$
 $m(\widehat{EBC}) = 20^\circ$
 $\Rightarrow m(\widehat{FEB}) = \alpha = ?$

- A) 70 B) 65 C) 60 D) 50 E) 45



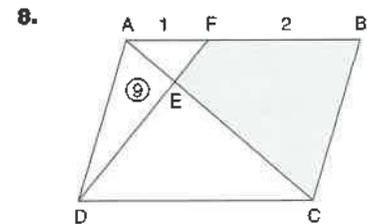
6. ABCD paralelkenar
 ABCD paralelogram
 $|DK| = |KC|$
 $|DF| = 10$ br
 $\Rightarrow |EB| = x = ?$

- A) 20 B) 18 C) 15 D) 12 E) 10



7. ABCD paralelkenar
 ABCD paralelogram
 $|AF| = |FB|$
 $A(\widehat{AEF}) = 2$ br²
 $\Rightarrow A(\widehat{AED}) = ?$

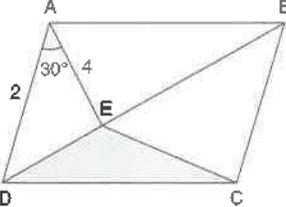
- A) 2 B) 4 C) 6 D) 8 E) 12



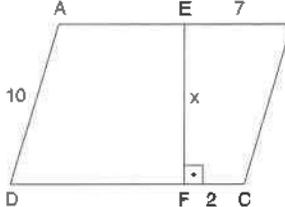
8. ABCD paralelkenar
 ABCD paralelogram
 $|AF| = 1$ br
 $|FB| = 2$ br
 $A(\widehat{AED}) = 9$ br²
 $\Rightarrow A(\widehat{FBCE}) = ?$

- A) 12 B) 24 C) 33 D) 36 E) 48

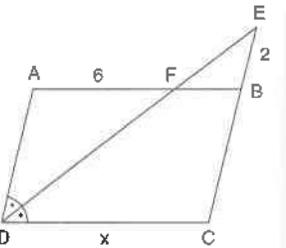
PUZAYAYINLARI

9.  ABCD paralelkenar
 ABCD paralellogram
 $|AD| = 2$ br
 $|AE| = 4$ br
 $m(\widehat{DAE}) = 30^\circ$
 $\Rightarrow A(\widehat{EDC}) = ?$

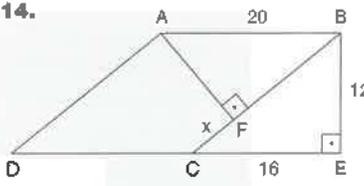
A) 1 B) 2 C) $2\sqrt{3}$ D) 4 E) $4\sqrt{3}$

13.  ABCD paralelkenar
 ABCD paralellogram
 $[EF] \perp [DC]$
 $|EB| = 7$ br
 $|FC| = 2$ br
 $|AD| = 10$ br
 $\Rightarrow |EF| = x = ?$

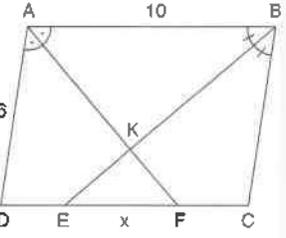
A) 5 B) $5\sqrt{2}$ C) $5\sqrt{3}$ D) 10 E) 15

10.  ABCD paralelkenar
 ABCD paralellogram
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $|AF| = 6$ br
 $|EB| = 2$ br
 $\Rightarrow |DC| = x = ?$

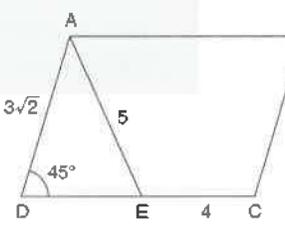
A) 8 B) 9 C) 10 D) 11 E) 12

14.  ABCD paralelkenar
 ABCD paralellogram
 $[BE] \perp [DE]$
 $[AF] \perp [BC]$
 $|AB| = 20$ br
 $|CE| = 16$ br
 $|BE| = 12$ br
 $\Rightarrow |CF| = x = ?$

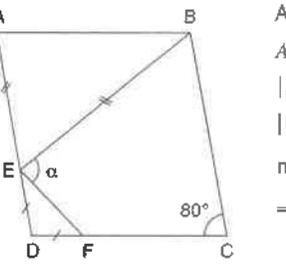
A) 2 B) 4 C) 6 D) 8 E) 10

11.  ABCD paralelkenar
 ABCD paralellogram
 $[AF], [BE]$ ağırtay
 $[AF], [BE]$ bisector
 $|AB| = 10$ br
 $|AD| = 6$ br
 $\Rightarrow |EF| = x = ?$

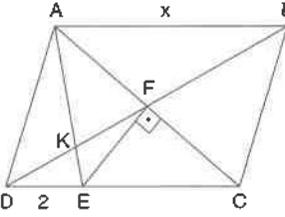
A) 1 B) 2 C) 4 D) 5 E) 6

15.  ABCD paralelkenar
 ABCD paralellogram
 $|AE| = 5$ br
 $|EC| = 4$ br
 $|AD| = 3\sqrt{2}$ br
 $m(\widehat{ADC}) = 45^\circ$
 $\Rightarrow A(\widehat{ABCD}) = ?$

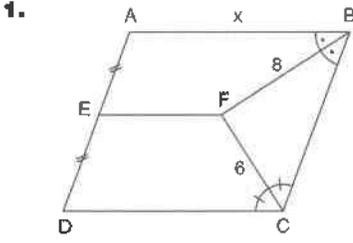
A) 32 B) 33 C) 45 D) 48 E) 52

12.  ABCD paralelkenar
 ABCD paralellogram
 $|AE| = |EB|$
 $|ED| = |DF|$
 $m(\widehat{DCB}) = 80^\circ$
 $\Rightarrow m(\widehat{BEF}) = \alpha = ?$

A) 120 B) 110 C) 100 D) 90 E) 80

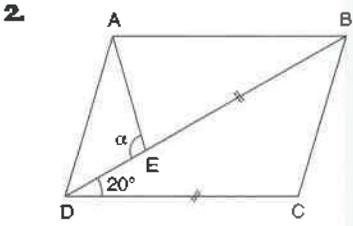
16.  $[EF] \perp [AC]$
 $|DE| = 2$ br
 $|AE| = 8$ br
 $\Rightarrow |AB| = x = ?$

A) 12 B) 10 C) 8 D) 6 E) 4



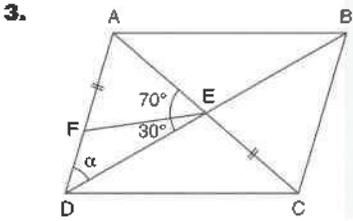
ABCD paralelkenar
 ABCD paralelogram
 {BF}, {FC} açıortay
 {BF}, {FC} bisector
 $|EF| = 2$ br
 $|FC| = 6$ br
 $|FB| = 8$ br
 $\Rightarrow |AB| = x = ?$

- A) 4 B) 5 C) 7 D) 8 E) 10



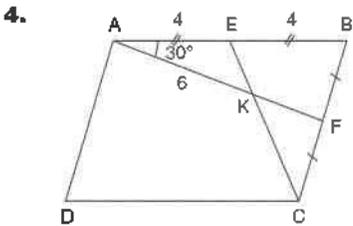
ABCD paralelkenar
 ABCD paralelogram
 $|EB| = |DC|$
 $m(\widehat{BDC}) = 20^\circ$
 $\Rightarrow m(\widehat{AED}) = \alpha = ?$

- A) 80 B) 90 C) 100 D) 120 E) 140



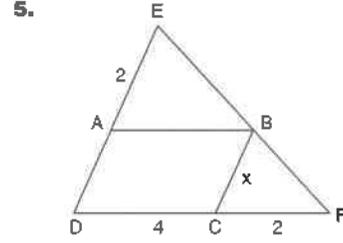
ABCD paralelkenar
 ABCD paralelogram
 $|AF| = |EC|$
 $m(\widehat{AEF}) = 70^\circ$
 $m(\widehat{FED}) = 30^\circ$
 $\Rightarrow m(\widehat{ADB}) = \alpha = ?$

- A) 10 B) 15 C) 20 D) 25 E) 40



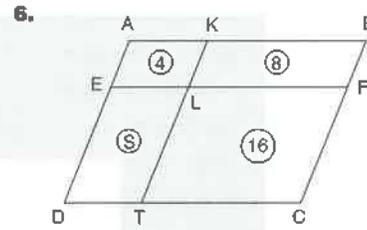
ABCD paralelkenar
 ABCD paralelogram
 $|AK| = 6$ br
 $|AE| = |EB| = 4$ br
 $|BF| = |FC|$
 $m(\widehat{BAF}) = 30^\circ$
 $\Rightarrow A(ABCD) = ?$

- A) 144 B) 108 C) 72 D) 48 E) 36



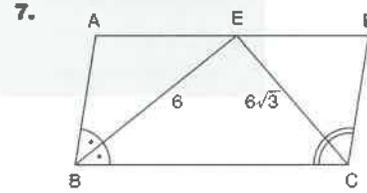
ABCD paralelkenar
 ABCD paralelogram
 $|DC| = 4$ br
 $|AE| = |CF| = 2$ br
 $\Rightarrow |BC| = x = ?$

- A) 1 B) 2 C) 3 D) 4 E) 5



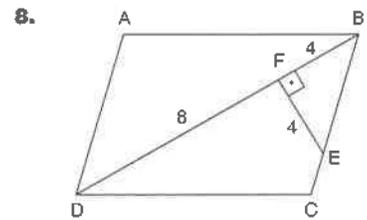
ABCD paralelkenar
 ABCD paralelogram
 $A(AKLE) = 4$ br²
 $A(KBFL) = 8$ br²
 $A(LFCT) = 16$ br²
 $[AB] \parallel [EF]$
 $[AD] \parallel [KT]$
 $\Rightarrow A(ELTD) = S = ?$

- A) 2 B) 4 C) 8 D) 12 E) 16



ABCD paralelkenar
 ABCD paralelogram
 {BE}, {CE} açıortay
 {BE}, {CE} açıortay
 $|ED| = 6$ br
 $|EC| = 6\sqrt{3}$ br
 $\Rightarrow \angle(ABCD) = ?$

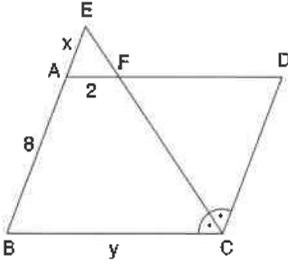
- A) 28 B) 30 C) 32 D) 36 E) 48



ABCD paralelkenar
 ABCD paralelogram
 $[EF] \perp [BD]$
 $|FD| = 8$ br
 $|FE| = |FB| = 4$ br
 $|BE| = 2|EC|$
 $\Rightarrow A(ABCD) = ?$

- A) 72 B) 48 C) 42 D) 36 E) 24

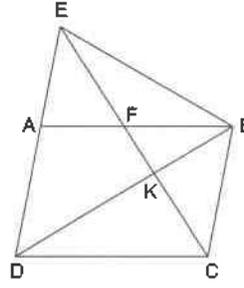
9.



ABCD paralelkenar
 ABCD paralelkenar
 $m(\widehat{ECB}) = m(\widehat{ECD})$
 $|AF| = 2 \text{ br}$
 $|AB| = 8 \text{ br}$
 $|AE| = x$
 $|BC| = y$
 $\Rightarrow x + y = ?$

- A) 10 B) 12 C) 14 D) 16 E) 18

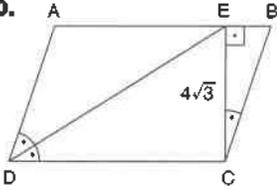
13.



ABCD paralelkenar
 ABCD paralelkenar
 $A(EBC) = 8 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

- A) 8 B) 12 C) 16 D) 20 E) 24

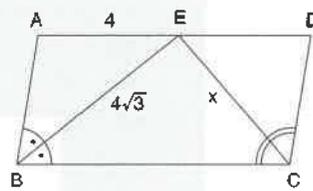
10.



ABCD paralelkenar
 ABCD paralelkenar
 $[CE] \perp [AB]$
 $m(\widehat{ADE}) = m(\widehat{EDC}) = m(\widehat{ECB})$
 $|EC| = 4\sqrt{3} \text{ br}$
 $\Rightarrow |AE| = x = ?$

- A) 4 B) $4\sqrt{3}$ C) 6 D) 8 E) $8\sqrt{3}$

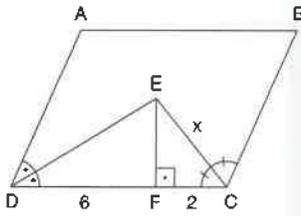
14.



ABCD paralelkenar
 ABCD paralelkenar
 $[BE], [CE]$ açıortay
 $[BE], [CE]$ bisector
 $|AE| = 4 \text{ br}$
 $|BE| = 4\sqrt{3} \text{ br}$
 $\Rightarrow |EC| = x = ?$

- A) 2 B) 4 C) $4\sqrt{3}$ D) 8 E) $8\sqrt{3}$

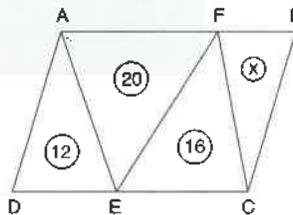
11.



ABCD paralelkenar
 ABCD paralelkenar
 $[DE], [EC]$ açıortay
 $[DE], [EC]$ bisector
 $|DF| = 6 \text{ br}$
 $|FC| = 2 \text{ br}$
 $\Rightarrow |EC| = x = ?$

- A) 2 B) 4 C) $4\sqrt{3}$ D) 8 E) $8\sqrt{3}$

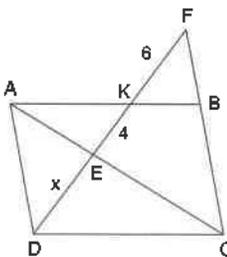
15.



ABCD paralelkenar
 ABCD paralelkenar
 $A(AEF) = 20 \text{ br}^2$
 $A(EFC) = 16 \text{ br}^2$
 $A(DAE) = 12 \text{ br}^2$
 $\Rightarrow A(FBC) = ?$

- A) 2 B) 4 C) 6 D) 8 E) 10

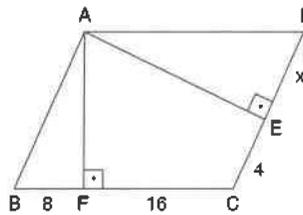
12.



ABCD paralelkenar
 ABCD paralelkenar
 $|KF| = 6 \text{ br}$
 $|EK| = 4 \text{ br}$
 $\Rightarrow |DE| = x = ?$

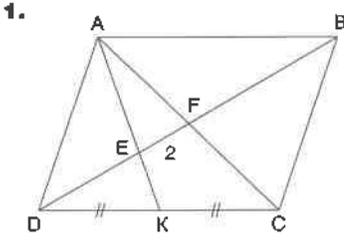
- A) 4 B) $2\sqrt{3}$ C) $4\sqrt{2}$ D) $2\sqrt{10}$ E) 10

16.



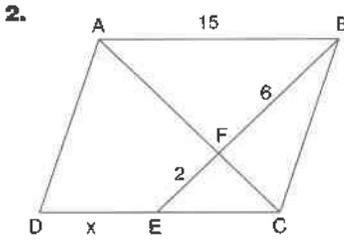
ABCD paralelkenar
 ABCD paralelkenar
 $[AF] \perp [BC]$
 $[AE] \perp [DC]$
 $|EC| = 4 \text{ br}$
 $|BF| = 8 \text{ br}$
 $|FC| = 16 \text{ br}$
 $\Rightarrow |DE| = x = ?$

- A) 6 B) 8 C) 10 D) 12 E) 16



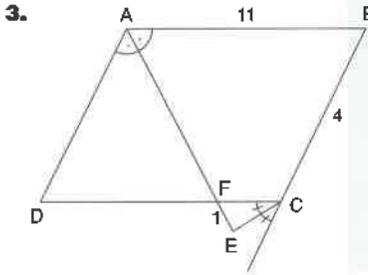
ABCD paralelkenar
ABCD parallelogram
 $|EF| = 2 \text{ br}$
 $|DK| = |KC|$
 $\Rightarrow |BD| = ?$

- A) 6 B) 8 C) 10 D) 12 E) 16



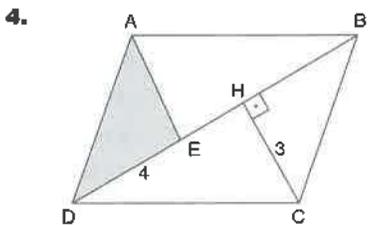
ABCD paralelkenar
ABCD parallelogram
 $|AB| = 15 \text{ br}$
 $|BF| = 6 \text{ br}$
 $|FE| = 2 \text{ br}$
 $\Rightarrow |DE| = x = ?$

- A) 11 B) 10 C) 8 D) 6 E) 5



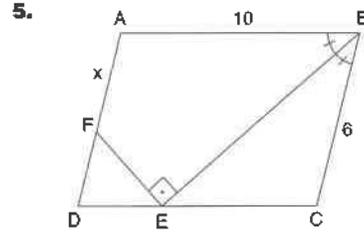
ABCD paralelkenar
ABCD parallelogram
 $[AE]$ ve $[CE]$ açıortay
[AE] and [CE] bisector
 $|AB| = 11 \text{ br}$
 $|BC| = 4 \text{ br}$
 $|FE| = 1 \text{ br}$
 $\Rightarrow |EC| = ?$

- A) 3 B) $\sqrt{15}$ C) 4 D) $2\sqrt{5}$ E) $4\sqrt{3}$



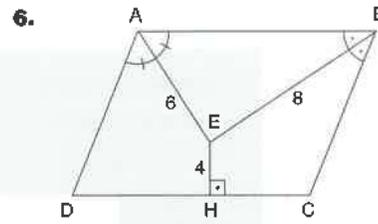
ABCD paralelkenar
ABCD parallelogram
 $[CH] \perp [BD]$
 $|CH| = 3 \text{ br}$
 $|DE| = 4 \text{ br}$
 $\Rightarrow A(\text{ADE}) = ?$

- A) 6 B) $6\sqrt{3}$ C) 12 D) $12\sqrt{3}$ E) 24



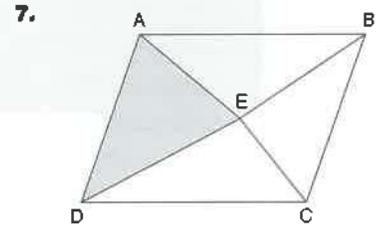
ABCD paralelkenar
ABCD parallelogram
 $[BE]$ açıortay
[BE] bisector
 $[BE] \perp [FE]$
 $|AB| = 10 \text{ br}$
 $|BC| = 6 \text{ br}$
 $\Rightarrow |AF| = x = ?$

- A) 2 B) 3 C) 4 D) 5 E) 6



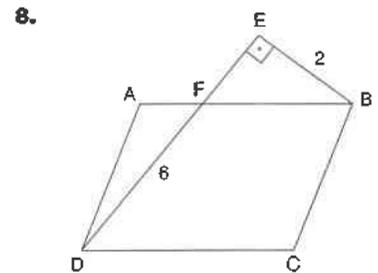
ABCD paralelkenar
ABCD parallelogram
 $[AE]$ ve $[BE]$ açıortay
[AE] and [BE] bisector
 $[EH] \perp [DC]$
 $|AE| = 6 \text{ br}$
 $|BE| = 8 \text{ br}$
 $|EH| = 4 \text{ br}$
 $\Rightarrow A(\text{ABCD}) = ?$

- A) 24 B) 44 C) 48 D) 88 E) 96



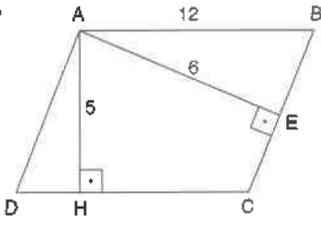
ABCD paralelkenar
ABCD parallelogram
 $A(\text{ABE}) = 2 \text{ br}^2$
 $A(\text{EBC}) = 3 \text{ br}^2$
 $A(\text{ECD}) = 6 \text{ br}^2$
 $\Rightarrow A(\text{ADE}) = ?$

- A) 11 B) 6 C) 5 D) 4 E) 3

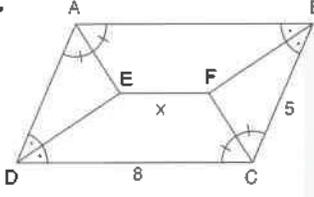


ABCD paralelkenar
ABCD parallelogram
 $|AF| = 2 |FB|$
 $|EB| = 2 \text{ br}$
 $|DF| = 6 \text{ br}$
 $[EB] \perp [ED]$
 $\Rightarrow A(\text{ABCD}) = ?$

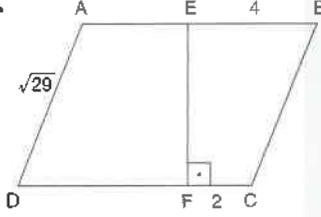
- A) 144 B) 72 C) 36 D) 12 E) 6

9.  ABCD paralelkenar
ABCD parallelogram
 $[AE] \perp [BC]$
 $[AH] \perp [DC]$
 $|AB| = 12 \text{ br}$
 $|AE| = 6 \text{ br}$
 $|AH| = 5 \text{ br}$
 $\Rightarrow |AD| = x = ?$

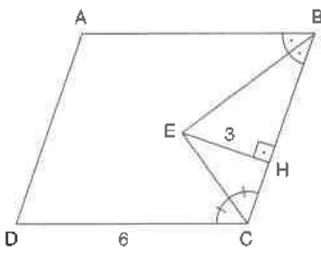
A) $\frac{72}{5}$ B) 13 C) 10 D) 8 E) $5\sqrt{2}$

10.  ABCD paralelkenar
ABCD parallelogram
 $[AE], [BF], [DE]$ ve $[FC]$ açıortaylar
[AE], [BF], [DE] and [FC] bisectors
 $|DC| = 8 \text{ br}$
 $|BC| = 5 \text{ br}$
 $\Rightarrow |EF| = x = ?$

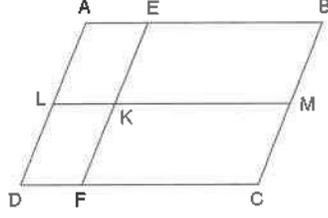
A) 5 B) 4 C) 3 D) 2 E) 1

11.  ABCD paralelkenar
ABCD parallelogram
 $[EF] \perp [DC]$
 $|AD| = \sqrt{29} \text{ br}$
 $|EB| = 4 \text{ br}$
 $|FC| = 2 \text{ br}$
 $\Rightarrow |EF| = x = ?$

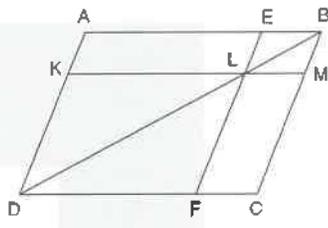
A) $\sqrt{13}$ B) 5 C) $\sqrt{30}$ D) $\sqrt{33}$ E) 6

12.  ABCD paralelkenar
ABCD parallelogram
 $[BE]$ ve $[CE]$ açıortay
[BE] and [CE] bisector
 $[EH] \perp [BC]$
 $|EH| = 3 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

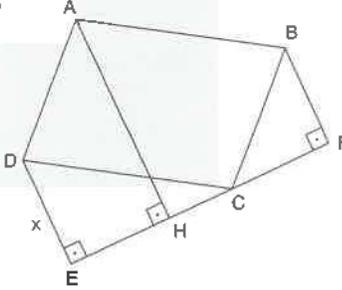
A) 45 B) 36 C) 27 D) 18 E) 9

13.  ABCD paralelkenar
ABCD parallelogram
 $[AB] \parallel [LM]$
 $[AD] \parallel [EF]$
 $A(AEKL) = 6 \text{ br}^2$
 $A(EBMK) = 15 \text{ br}^2$
 $A(LKFD) = 8 \text{ br}^2$
 $\Rightarrow A(KMCF) = ?$

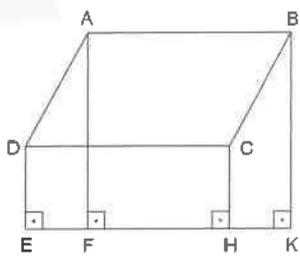
A) 18 B) 20 C) 24 D) 25 E) 30

14.  ABCD paralelkenar
ABCD parallelogram
 $[EF] \parallel [BC]$
 $[KM] \parallel [AB]$
 $A(BML) = 4 \text{ br}^2$
 $A(LFD) = 9 \text{ br}^2$
 $\Rightarrow A(AELK) = ?$

A) 24 B) 18 C) 15 D) 12 E) 6

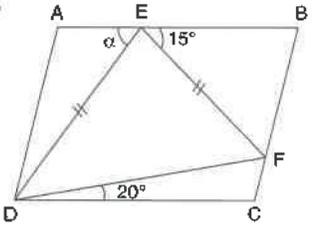
15.  ABCD paralelkenar
ABCD parallelogram
 $[BF] \perp [EF]$
 $[AH] \perp [EF]$
 $[DE] \perp [EF]$
 $|BF| = 2 \text{ br}$
 $|AH| = 5 \text{ br}$
 $\Rightarrow |DE| = x = ?$

A) 3 B) 4 C) 5 D) 6 E) 7

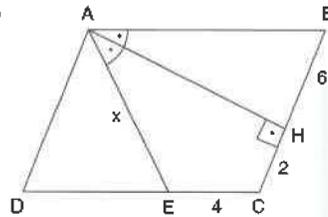
16.  ABCD paralelkenar
ABCD parallelogram
 $[DE] \perp [EK]$
 $[AF] \perp [EK]$
 $[CH] \perp [EK]$
 $[BK] \perp [EK]$
 $|CH| = 2 \text{ br}$
 $|AF| = 9 \text{ br}$
 $|DE| = 3 \text{ br}$
 $\Rightarrow |BK| = x = ?$

A) 16 B) 10 C) 8 D) 4 E) 2

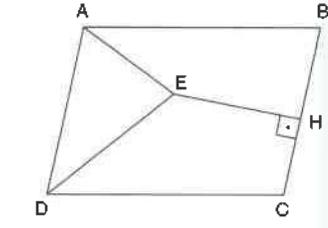
PUZAYYINLARI

1.  ABCD paralelkenar
 ABCD paralelkenar
 $|DE| = |EF|$
 $m(\angle BEF) = 15^\circ$
 $m(\angle FDC) = 20^\circ$
 $\Rightarrow m(\angle AED) = \alpha = ?$

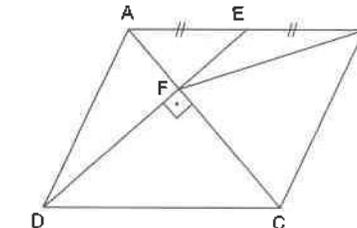
A) 45 B) 55 C) 60 D) 70 E) 75

2.  ABCD paralelkenar
 ABCD paralelkenar
 $[AH] \perp [BC]$
 $[AH]$ açıortay
 $[AH]$ bisector
 $|BH| = 6$ br
 $|HC| = 2$ br
 $|EC| = 4$ br
 $\Rightarrow |AE| = x = ?$

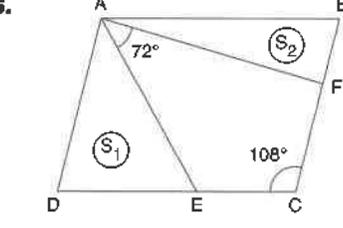
A) 2 B) 4 C) 6 D) 8 E) 10

3.  ABCD paralelkenar
 ABCD paralelkenar
 ADE eşkenar üçgen
 ADE equilateral triangle
 $[EH] \perp [BC]$
 $|BC| = 8$ br
 $|EH| = 2\sqrt{3}$ br
 $\Rightarrow A(ABCD) = ?$

A) $24\sqrt{2}$ B) $24\sqrt{3}$ C) 48 D) $48\sqrt{2}$ E) $48\sqrt{3}$

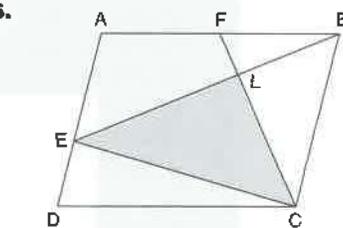
4.  ABCD paralelkenar
 ABCD paralelkenar
 $[AC] \perp [DE]$
 $|AE| = |EB|$
 $|DF| = 24$ br
 $|BF| = 26$ br
 $\Rightarrow |AC| = ?$

A) 26 B) 28 C) 30 D) 32 E) 36

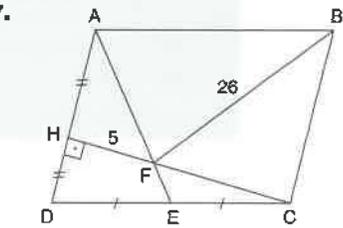
5.  ABCD paralelkenar
 ABCD paralelkenar
 $m(\angle DAE) = 72^\circ$
 $m(\angle BCD) = 108^\circ$
 $|AF| = 8$ br
 $|AE| = 4$ br
 $|BF| = |DE|$

$A(\triangle ADE) = S_1$ ve $A(\triangle ABF) = S_2$
 $\Rightarrow \frac{S_1}{S_2} = ?$

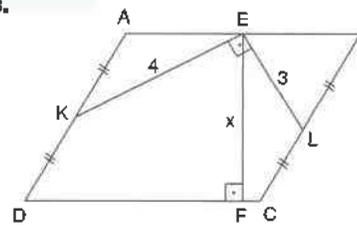
A) $\frac{1}{2}$ B) 1 C) $\frac{4}{3}$ D) $\frac{3}{2}$ E) 2

6.  ABCD paralelkenar
 ABCD paralelkenar
 $2|AE| = 3|ED|$
 $A(\triangle ECD) = 24$ br²
 $A(\triangle BLC) = 20$ br²
 $\Rightarrow A(\triangle ELC) = ?$

A) 4 B) 10 C) 16 D) 40 E) 60

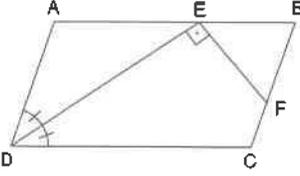
7.  ABCD paralelkenar
 ABCD paralelkenar
 $[CH] \perp [AD]$
 $|AH| = |HD|$
 $|DE| = |EC|$
 $|BF| = 26$ br
 $|FH| = 5$ br
 $\Rightarrow A(ABCD) = ?$

A) 60 B) 120 C) 180 D) 240 E) 360

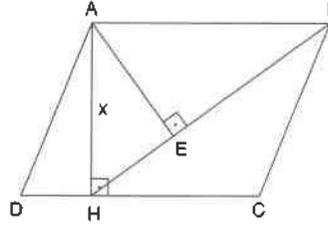
8.  ABCD paralelkenar
 ABCD paralelkenar
 $[EL] \perp [EK]$
 $[EF] \perp [DC]$
 $|KE| = 4$ br
 $|EL| = 3$ br
 $|AK| = |KD|$
 $|BL| = |LC|$
 $\Rightarrow |EF| = x = ?$

A) 3,6 B) 4 C) 4,8 D) 6 E) 10

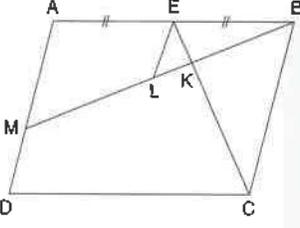
PUZATYAYINLARI

9.  ABCD paralelkenar
 ABCD paralelkenar
 $[EF] \perp [ED]$
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $2|BF| = 3|FC|$
 $|EF| = 12$ br
 $|DE| = 15$ br
 $\Rightarrow A(ABCD) = ?$

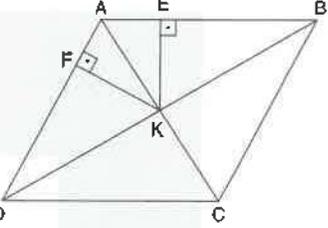
A) 60 B) 90 C) 120 D) 180 E) 240

13.  ABCD paralelkenar
 ABCD paralelkenar
 $[AE] \perp [BH]$
 $[AH] \perp [DC]$
 $|AE| = 6$ br
 $|EB| = 4$ br
 $\Rightarrow |AH| = x = ?$

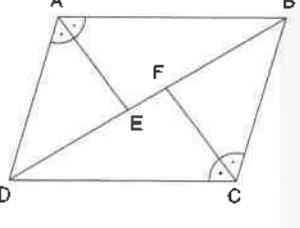
A) $6\sqrt{3}$ B) $3\sqrt{13}$ C) 12 D) $12\sqrt{3}$ E) 15

10.  ABCD paralelkenar
 ABCD paralelkenar
 $[EL] \parallel [AD]$
 $|AE| = |EB|$
 $|EL| = 3$ br
 $|MD| = 3$ br
 $\Rightarrow \frac{|IKL|}{|BML|} = ?$

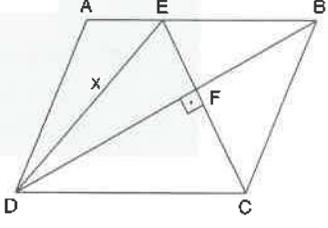
A) $\frac{1}{8}$ B) $\frac{1}{5}$ C) $\frac{2}{5}$ D) $\frac{3}{5}$ E) $\frac{2}{3}$

14.  ABCD paralelkenar
 ABCD paralelkenar
 $[KE] \perp [AB]$
 $[FK] \perp [AD]$
 $m(\widehat{BCD}) = 135^\circ$
 $|FK| = 2$ br
 $|EK| = 4$ br
 $\Rightarrow A(ABCD) = ?$

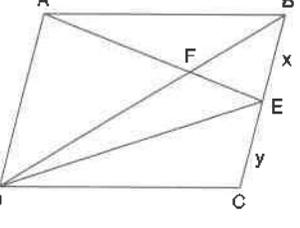
A) 8 B) 16 C) $16\sqrt{2}$ D) 32 E) $32\sqrt{2}$

11.  ABCD paralelkenar
 ABCD paralelkenar
 $[AE]$ ve $[FC]$ açıortay
 $[AE]$ and $[FC]$ bisector
 $|EF| = 1$ br
 $|DC| = 10$ br
 $|BC| = 8$ br
 $\Rightarrow |BD| = ?$

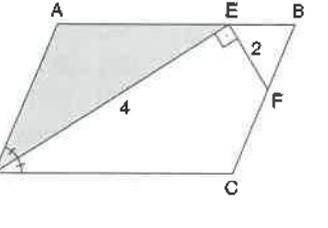
A) 18 B) 16 C) 12 D) 9 E) 8

15.  ABCD paralelkenar
 ABCD paralelkenar
 $[BD] \perp [EC]$
 $|EB| = 2|AE|$
 $|AD| = 15$ br
 $|DF| = 18$ br
 $\Rightarrow |DE| = x = ?$

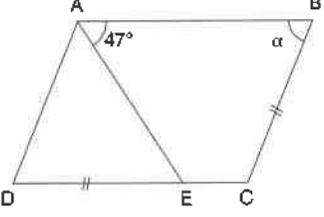
A) 36 B) $18\sqrt{5}$ C) 25 D) $9\sqrt{5}$ E) $6\sqrt{10}$

12.  ABCD paralelkenar
 ABCD paralelkenar
 $A(\triangle AFD) = 16$ br²
 $A(\triangle DEC) = 12$ br²
 $|BE| = x$
 $|EC| = y$
 $\Rightarrow \frac{x}{y} = ?$

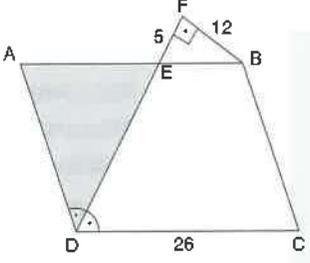
A) $\frac{2}{3}$ B) $\frac{3}{5}$ C) 1 D) $\frac{5}{3}$ E) 2

16.  ABCD paralelkenar
 ABCD paralelkenar
 $[DE]$ açıortay
 $[DE]$ bisector
 $|EF| = 2$ br
 $|DE| = 4$ br
 $|BF| = 2|FC|$
 $\Rightarrow A(\triangle ADE) = ?$

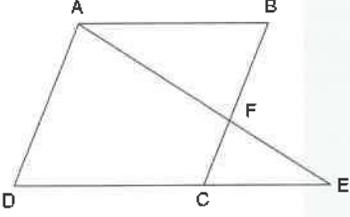
A) 3 B) 5 C) 6 D) 10 E) 12

1.  ABCD paralelkenar
ABCD parallelogram
 $m(\widehat{BAE}) = 47^\circ$
 $|BC| = |DE|$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

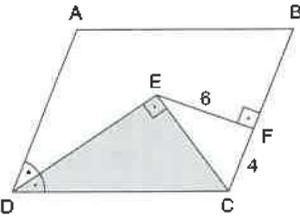
A) 43 B) 47 C) 84 D) 86 E) 104

2.  ABCD paralelkenar
ABCD parallelogram
 $[FB] \perp [DF]$
 $[DF]$ açıortay
 $[DF]$ bisector
 $|FE| = 5$ br
 $|FB| = 12$ br
 $|DC| = 26$ br
 $\Rightarrow A(AED) = ?$

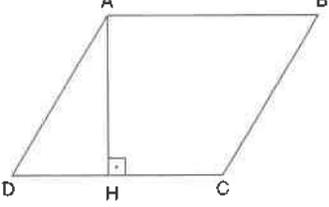
A) 120 B) 90 C) 60 D) 45 E) 30

3.  ABCD paralelkenar
ABCD parallelogram
 $A(\triangle AFB) = 16 \text{ br}^2$
 $A(\triangle FEC) = 4 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

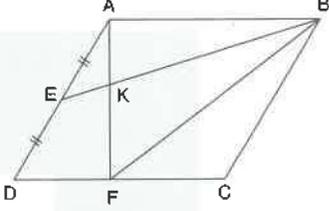
A) 24 B) 36 C) 48 D) 72 E) 96

4.  ABCD paralelkenar
ABCD parallelogram
 $[EF] \perp [BC]$
 $[DE] \perp [CE]$
 $[DE]$ açıortay
 $[DE]$ bisector
 $|FC| = 4$ br
 $|EF| = 6$ br
 $\Rightarrow A(EDC) = ?$

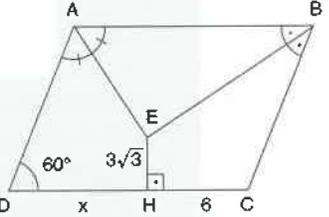
A) 39 B) 24 C) 18 D) 13 E) 12

5.  ABCD paralelkenar
ABCD parallelogram
 $[AH] \perp [DC]$
 $m(\widehat{ABC}) = 2m(\widehat{DAH})$
 $|DH| = 3$ br
 $|HC| = 5$ br
 $\Rightarrow \angle(ABCD) = ?$

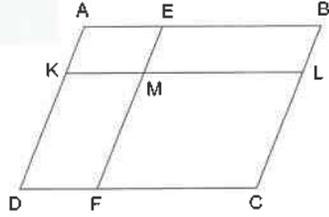
A) 15 B) 24 C) 28 D) 32 E) 48

6.  ABCD paralelkenar
ABCD parallelogram
 $|AE| = |ED|$
 $A(\triangle AEK) = 4$ br
 $A(\triangle BKF) = 12 \text{ br}^2$
 $\Rightarrow A(\triangle ABK) = ?$

A) 4 B) 6 C) 8 D) 10 E) 12

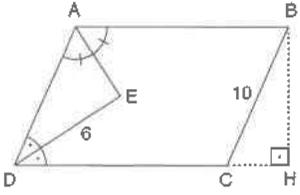
7.  ABCD paralelkenar
ABCD parallelogram
 $[AE]$ ve $[BE]$ açıortay
 $[AE]$ and $[BE]$ bisector
 $[EH] \perp [DC]$
 $m(\widehat{ADC}) = 60^\circ$
 $|EH| = 3\sqrt{3}$ br
 $|HC| = 6$ br
 $\Rightarrow |DH| = x = ?$

A) 15 B) 12 C) 9 D) 6 E) 3

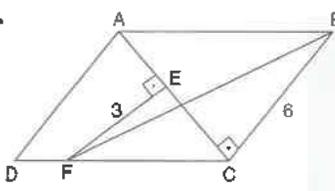
8.  ABCD paralelkenar
ABCD parallelogram
 $[KL] \parallel [DC]$
 $[EF] \parallel [AD]$
 $|CL| = 3|BL|$
 $A(\triangle AEMK) = 7 \text{ br}^2$
 $A(\triangle MLCF) = 42 \text{ br}^2$
 $A(\triangle EBLM) = S_1$
 $A(\triangle KMFD) = S_2$
 $\Rightarrow S_1 + S_2 = ?$

A) 49 B) 42 C) 40 D) 35 E) 32

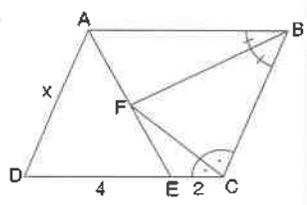
PUZUYAYINLARI

9.  ABCD paralelkenar
ABCD parallelogram
 [AE] ve [DE] açıortay
[AE] and [DE] bisector
 $|BC| = 10$ br
 $|DE| = 6$ br
 $[BH] \perp [DC]$
 $\Rightarrow |BH| = ?$

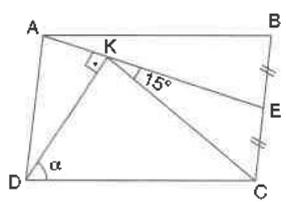
A) 2,4 B) 4,8 C) 6 D) 8 E) 9,6

10.  ABCD paralelkenar
ABCD parallelogram
 $[EF] \perp [AC]$
 $[AC] \perp [BC]$
 $[BF]$ açıortay
[BF] bisector
 $|EF| = 3$ br
 $|BC| = 6$ br
 $\Rightarrow |AE| = ?$

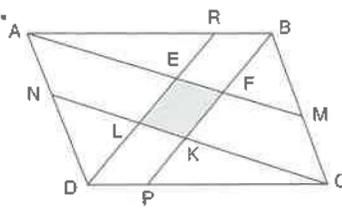
A) $\frac{3\sqrt{3}}{2}$ B) 3 C) $3\sqrt{3}$ D) 6 E) 9

11.  ABCD paralelkenar
ABCD parallelogram
 $[BF]$ ve $[CF]$ açıortay
[BF] ve [CF] bisector
 $|EC| = 2$ br
 $|DE| = 4$ br
 $\Rightarrow |AD| = x = ?$

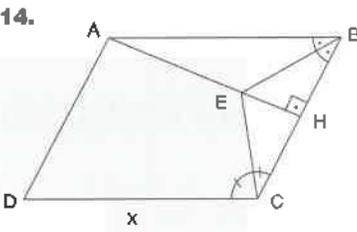
A) 12 B) 8 C) 6 D) 5 E) 4

12.  ABCD paralelkenar
ABCD parallelogram
 $|BE| = |EC|$
 $[DK] \perp [AE]$
 $m(\widehat{CKE}) = 15^\circ$
 $\Rightarrow m(\widehat{KDC}) = \alpha = ?$

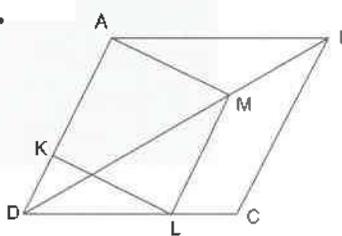
A) 75 B) 60 C) 45 D) 30 E) 15

13.  ABCD paralelkenar
ABCD parallelogram
 $|ND| = 2|NA|$
 $|PC| = 2|PD|$
 $= \frac{A(ABCD)}{A(EFKL)} = ?$

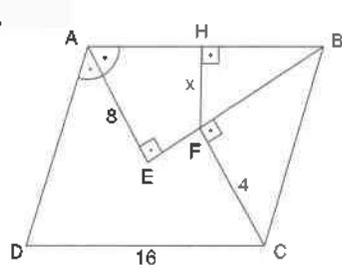
A) 4 B) 6 C) 8 D) 12 E) 13

14.  ABCD paralelkenar
ABCD parallelogram
 $[AH] \perp [BC]$
 $[BE]$ ve $[CE]$ açıortay
[BE] and [CE] bisector
 $|BH| = 6$ br
 $|HC| = \frac{3}{2}$ br
 $\Rightarrow |DC| = x = ?$

A) 15 B) 12 C) 10 D) 8 E) 6

15.  ABCD paralelkenar
ABCD parallelogram
 KLMA kare
KLMA square
 $|BC| = 9$ br
 $|KD| = 4$ br
 $\Rightarrow A(ABCD) = ?$

A) 54 B) 64 C) 72 D) 81 E) 90

16.  ABCD paralelkenar
ABCD parallelogram
 $[FH] \perp [AB]$
 $[CF] \perp [EB]$
 $[AE] \perp [EB]$
 $|AE| = 8$ br
 $|CF| = 4$ br
 $|DC| = 16$ br
 $\Rightarrow |HF| = x = ?$

A) $2\sqrt{3}$ B) 4 C) $4\sqrt{3}$ D) 6 E) $6\sqrt{3}$



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	B	D	D	A	C	D	B	C	E	D	B	B	E	A

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	E	C	A	A	B	B	D	D	C	C	D	D	B	D

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	C	B	D	B	A	A	C	B	D	C	C	D	C	A

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	D	C	B	B	B	D	E	B	C	C	E	A	E	A

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	B	E	E	D	A	C	C	C	B	A	B	C	C	E

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	B	E	A	C	B	C	B	A	B	A	C	B	B	B

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	E	C	A	C	D	A	B	D	B	D	C	B	D	D

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	E	A	A	D	C	C	C	C	B	B	B	D	A	C

TEST 9

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	E	C	A	D	E	C	E	A	D	C	B	E	E	A

TEST 10

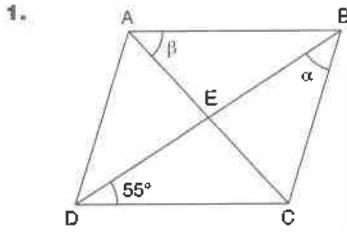
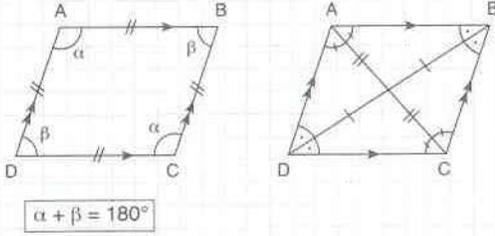
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	A	C	A	B	D	E	C	B	A	E	C	D	A



EŞKENAR DÖRTGEN
RHOMBUS

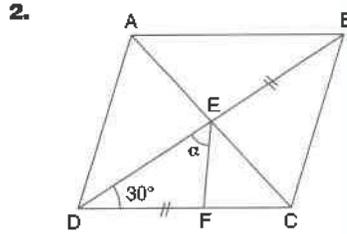
EŞKENAR DÖRTGEN

ÖZELLİK | Property 1



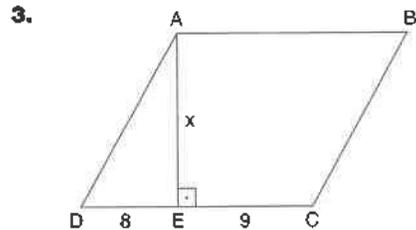
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow \alpha = ?$
 $\Rightarrow \beta = ?$

55, 35



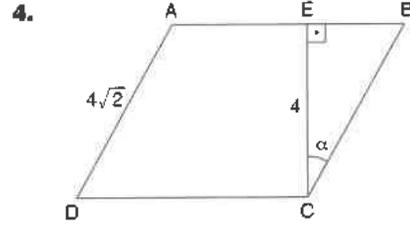
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow \alpha = ?$

75



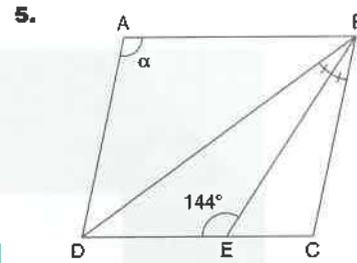
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow x = ?$

15



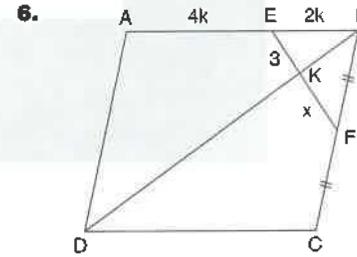
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow \alpha = ?$

45



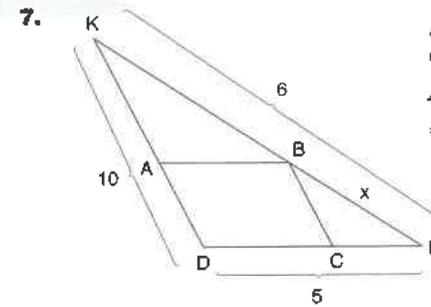
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow \alpha = ?$

132



ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow x = ?$

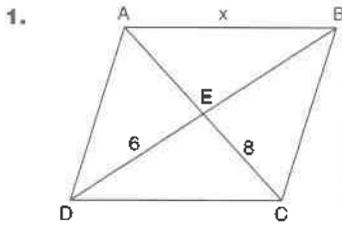
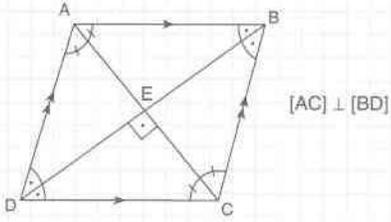
4,5



ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow x = ?$

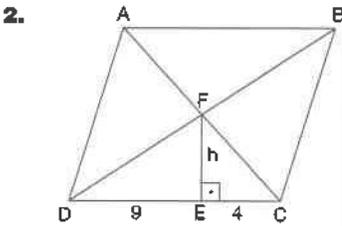
2

ÖZELLİK | Property 2



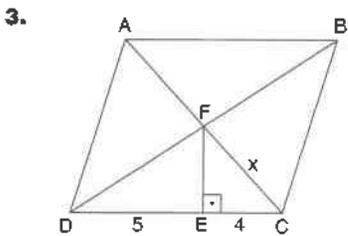
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow x = ?$

10



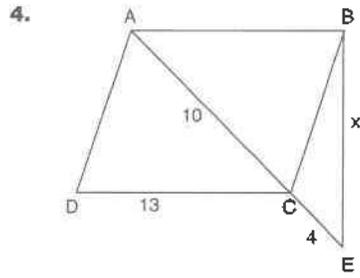
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow h = ?$

6



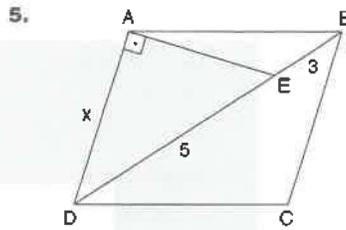
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow x = ?$

6



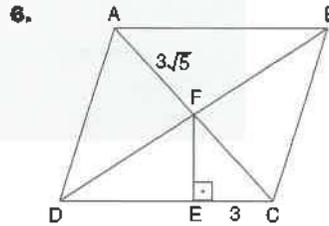
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow x = ?$

15



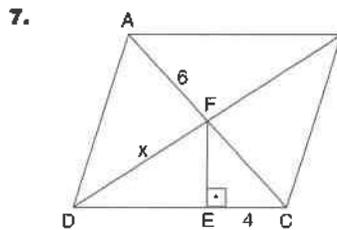
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow x = ?$

$2\sqrt{5}$



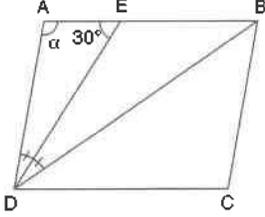
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow A(ABCD) = ?$

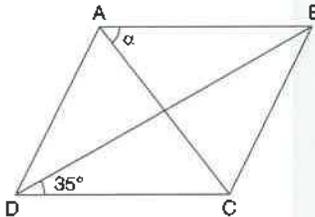
180

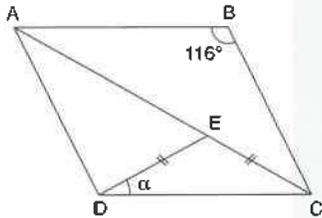


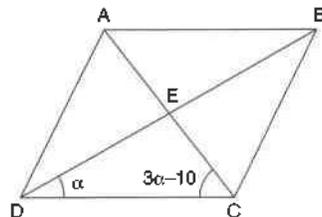
ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow x = ?$

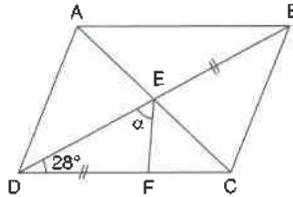
$3\sqrt{5}$

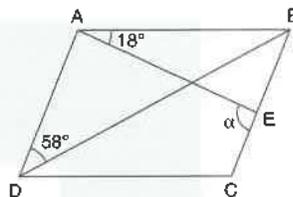
1.  ABCD eşkenar dörtgen
ABCD rhombus
 $m(\widehat{AED}) = 30^\circ$
 $m(\widehat{ADE}) = m(\widehat{EDB})$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$
- A) 110 B) 120 C) 130 D) 140 E) 145

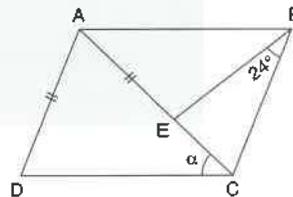
2.  ABCD eşkenar dörtgen
ABCD rhombus
 $m(\widehat{BDC}) = 35^\circ$
 $\Rightarrow m(\widehat{CAB}) = \alpha = ?$
- A) 35 B) 50 C) 55 D) 65 E) 70

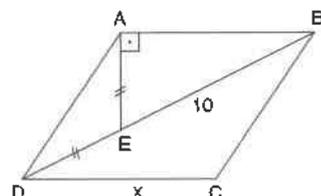
3.  ABCD eşkenar dörtgen
ABCD rhombus
 $|DE| = |EC|$
 $m(\widehat{ABC}) = 116^\circ$
 $\Rightarrow m(\widehat{EDC}) = \alpha = ?$
- A) 16 B) 24 C) 32 D) 40 E) 48

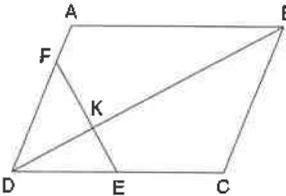
4.  ABCD eşkenar dörtgen
ABCD rhombus
 $m(\widehat{ACD}) = 3\alpha - 10^\circ$
 $\Rightarrow m(\widehat{BDC}) = \alpha = ?$
- A) 15 B) 25 C) 30 D) 32 E) 35

5.  ABCD eşkenar dörtgen
ABCD rhombus
 $|BE| = |DF|$
 $m(\widehat{BDC}) = 28^\circ$
 $\Rightarrow m(\widehat{DEF}) = \alpha = ?$
- A) 24 B) 76 C) 86 D) 96 E) 124

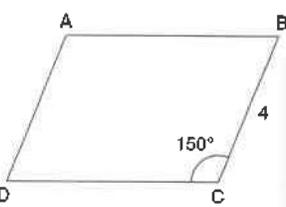
6.  ABCD eşkenar dörtgen
ABCD rhombus
 $m(\widehat{BAE}) = 18^\circ$
 $m(\widehat{ADB}) = 58^\circ$
 $\Rightarrow m(\widehat{AEC}) = \alpha = ?$
- A) 66 B) 76 C) 88 D) 116 E) 134

7.  ABCD eşkenar dörtgen
ABCD rhombus
 $m(\widehat{EBC}) = 24^\circ$
 $|AE| = |AD|$
 $\Rightarrow m(\widehat{ACD}) = \alpha = ?$
- A) 20 B) 30 C) 44 D) 48 E) 68

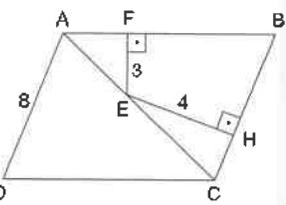
8.  ABCD eşkenar dörtgen
ABCD rhombus
 $[AE] \perp [AB]$
 $|AE| = |DE|$
 $|EB| = 10$ br
 $\Rightarrow |DC| = x = ?$
- A) 5 B) $5\sqrt{3}$ C) 10 D) $10\sqrt{3}$ E) 20

9.  ABCD eşkenar dörtgen
ABCD rhombus
 $3|AF| = |DF|$
 $2|AF| = |EC|$
 $|FK| = 6$ br
 $\Rightarrow |KE| = ?$

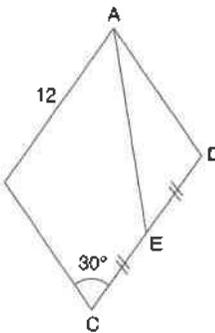
A) 2 B) 3 C) 4 D) 6 E) 8

10.  ABCD eşkenar dörtgen
ABCD rhombus
 $m(\widehat{BCD}) = 150^\circ$
 $|BC| = 4$ br
 $\Rightarrow A(ABCD) = ?$

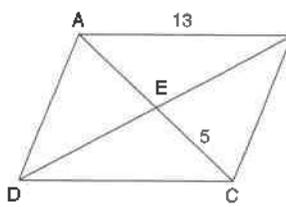
A) 4 B) $4\sqrt{3}$ C) 8 D) $8\sqrt{3}$ E) 16

11.  ABCD eşkenar dörtgen
ABCD rhombus
 $|AD| = 8$ br
 $|EF| = 3$ br
 $|EH| = 4$ br
 $[AB] \perp [EF]$
 $[BC] \perp [EH]$
 $\Rightarrow A(ABCD) = ?$

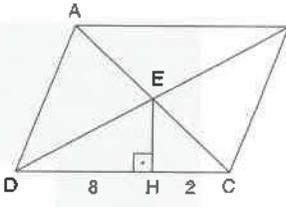
A) 28 B) 35 C) 42 D) 49 E) 56

12.  ABCD eşkenar dörtgen
ABCD rhombus
 $|AB| = 12$ br
 $|DE| = |EC|$
 $m(\widehat{BCD}) = 30^\circ$
 $\Rightarrow A(AED) = ?$

A) 114 B) 72 C) 54 D) 36 E) 18

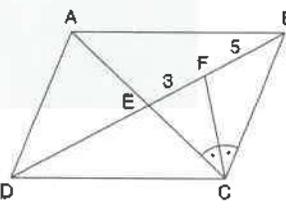
13.  ABCD eşkenar dörtgen
ABCD rhombus
 $|AB| = 13$ br
 $|CE| = 5$ br
 $\Rightarrow A(ABCD) = ?$

A) 120 B) 112 C) 100 D) 90 E) 60

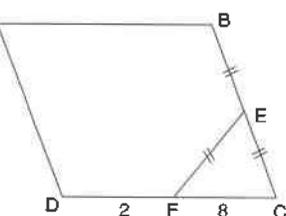
14.  ABCD eşkenar dörtgen
ABCD rhombus
 $[EH] \perp [DC]$
 $|DH| = 8$ br
 $|HC| = 2$ br
 $\Rightarrow A(ABCD) = ?$

A) 160 B) 140 C) 100 D) 80 E) 70

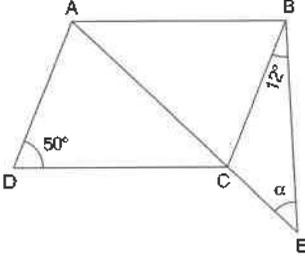
PUZAYYINLARI

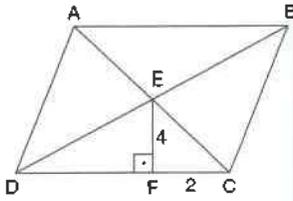
15.  ABCD eşkenar dörtgen
ABCD rhombus
 $m(\widehat{ACF}) = m(\widehat{FCB})$
 $|EF| = 3$ br
 $|FB| = 5$ br
 $\Rightarrow A(ABCD) = ?$

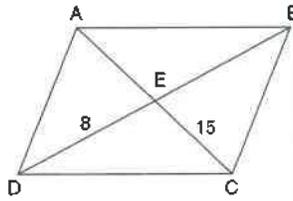
A) 24 B) $24\sqrt{2}$ C) 48 D) $48\sqrt{2}$ E) 96

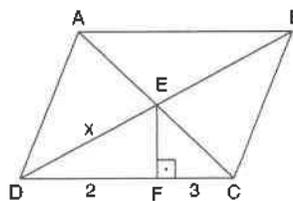
16.  ABCD eşkenar dörtgen
ABCD rhombus
 $|EB| = |EC| = |EF|$
 $|FC| = 8$ br
 $|DF| = 2$ br
 $\Rightarrow A(ABCD) = ?$

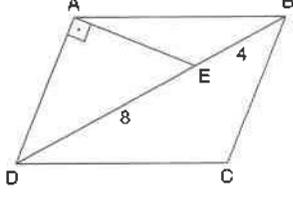
A) 20 B) 30 C) 45 D) 60 E) 80

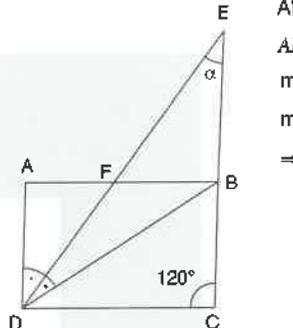
1.  ABCD eşkenar dörtgen
ABCD rhombus
 $m(\widehat{CBE}) = 12^\circ$
 $m(\widehat{ADC}) = 50^\circ$
 $\Rightarrow m(\widehat{AEB}) = \alpha = ?$
- A) 38 B) 53 C) 62 D) 88 E) 148

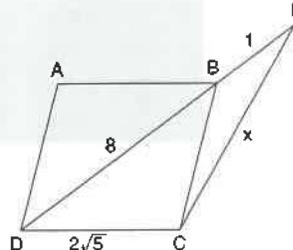
2.  ABCD eşkenar dörtgen
ABCD rhombus
 $[EF] \perp [DC]$
 $|FC| = 2 \text{ br}$
 $|EF| = 4 \text{ br}$
 $\Rightarrow \angle(ABCD) = ?$
- A) 8 B) 10 C) 32 D) 40 E) 48

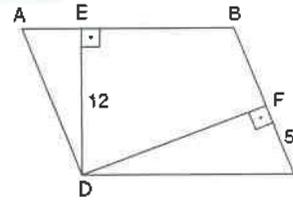
3.  ABCD eşkenar dörtgen
ABCD rhombus
 $|DE| = 8 \text{ br}$
 $|EC| = 15 \text{ br}$
 $\Rightarrow \angle(ABCD) = ?$
- A) 34 B) 68 C) 72 D) 78 E) 96

4.  ABCD eşkenar dörtgen
ABCD rhombus
 $[EF] \perp [DC]$
 $|DF| = 2 \text{ br}$
 $|FC| = 3 \text{ br}$
 $\Rightarrow |DE| = x = ?$
- A) 2 B) $\sqrt{6}$ C) $\sqrt{10}$ D) $\sqrt{13}$ E) 4

5.  ABCD eşkenar dörtgen
ABCD rhombus
 $[EA] \perp [AD]$
 $|DE| = 8 \text{ br}$
 $|EB| = 4 \text{ br}$
 $\Rightarrow |AE| = x = ?$
- A) $2\sqrt{3}$ B) 4 C) 6 D) $4\sqrt{6}$ E) 10

6.  ABCD eşkenar dörtgen
ABCD rhombus
 $m(\widehat{ECD}) = 120^\circ$
 $m(\widehat{ADE}) = m(\widehat{EDB})$
 $= m(\widehat{DEC}) = \alpha = ?$
- A) 15 B) 20 C) 25 D) 30 E) 40

7.  ABCD eşkenar dörtgen
ABCD rhombus
 $|DB| = 8 \text{ br}$
 $|BE| = 1 \text{ br}$
 $|DC| = 2\sqrt{5} \text{ br}$
 $\Rightarrow |CE| = x = ?$
- A) $2\sqrt{5}$ B) $\sqrt{23}$ C) 5 D) $\sqrt{29}$ E) 6

8.  ABCD eşkenar dörtgen
ABCD rhombus
 $[DE] \perp [AB]$
 $[DF] \perp [BC]$
 $|DE| = 12 \text{ br}$
 $|FC| = 5 \text{ br}$
 $\Rightarrow |EB| = x = ?$
- A) 15 B) 13 C) 10 D) 8 E) 5

9.

ABCD eşkenar dörtgen
ABCD rhombus
 $|AB| = 10$ br
 $|EC| = 6$ br
 $[AF] \perp [DC]$
 $\Rightarrow |AF| = ?$

A) 2,4 B) 4,8 C) 7,2 D) 9,6 E) 10,8

10.

ABCD eşkenar dörtgen
ABCD rhombus
 $[AF] \perp [DC]$
 $|EC| = 12$ br
 $|FC| = 16$ br
 $\Rightarrow |DF| = x = ?$

A) 6 B) 5 C) 4 D) 3 E) 2

11.

ABCD eşkenar dörtgen
ABCD rhombus
 $|EA| = 4$ br
 $|CF| = 6$ br
 $\Rightarrow |DC| = x = ?$

A) 2 B) 3 C) $2\sqrt{3}$ D) 4 E) $2\sqrt{6}$

12.

ABCD eşkenar dörtgen
ABCD rhombus
 $m(\widehat{ABC}) = 60^\circ$
 $[EF] \perp [BC]$
 $[AH] \perp [DC]$
 $|HK| = 4$ br
 $|KF| = 6$ br
 $\Rightarrow |AK| = ?$

A) $\frac{1}{\sqrt{3}}$ B) 1 C) $\sqrt{3}$ D) $2\sqrt{3}$ E) 4

13.

ABCD eşkenar dörtgen
ABCD rhombus
 $[EF] \perp [DB]$
 $|BF| = 4$ br
 $|DC| = 10$ br
 $\Rightarrow |AE| = x = ?$

A) 2 B) 4 C) 6 D) 7 E) 8

14.

ABCD eşkenar dörtgen
ABCD rhombus
 $|AC| = 6$ br
 $|AE| = 6$ br
 $A(ABCD) = 24$ br²
 $\Rightarrow |BE| = x = ?$

A) 5 B) $\sqrt{97}$ C) $\sqrt{107}$ D) $4\sqrt{10}$ E) 20

15.

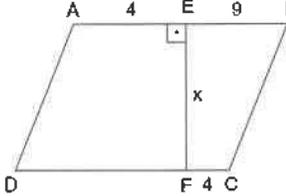
ABCD eşkenar dörtgen
ABCD rhombus
 $|AE| = 6\sqrt{2}$ br
 $|DE| = 14$ br
 $|EB| = 2$ br
 $\Rightarrow |AD| = x = ?$

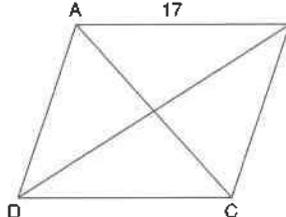
A) 15 B) 12 C) 10 D) 8 E) 6

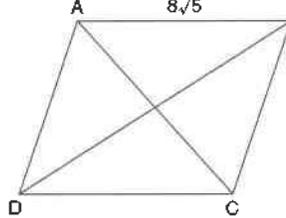
16.

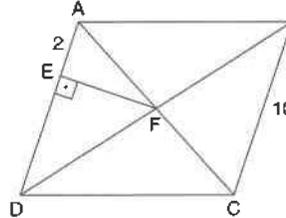
ABCD eşkenar dörtgen
ABCD rhombus
 $|AD| = 10$ br
 $|DB| = 12$ br
 $|BE| = 2$ br
 $\Rightarrow |AE| = x = ?$

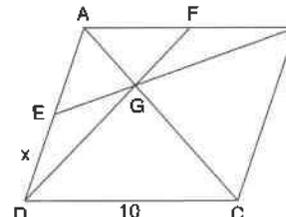
A) 10 B) $8\sqrt{2}$ C) 8 D) $6\sqrt{2}$ E) 6

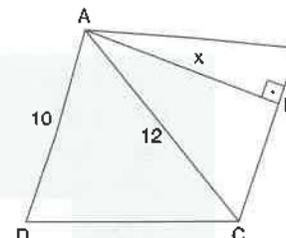
1.  ABCD eşkenar dörtgen
ABCD rhombus
 $[FE] \perp [AB]$
 $|AE| = 4 \text{ br}$
 $|EB| = 9 \text{ br}$
 $|FC| = 4 \text{ br}$
 $\Rightarrow |EF| = x = ?$
- A) 7 B) 9 C) 12 D) 13 E) 15

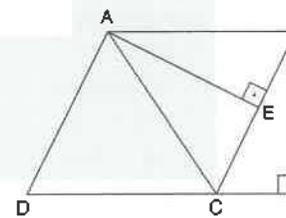
2.  ABCD eşkenar dörtgen
ABCD rhombus
 $|AB| = 17 \text{ br}$
 $A(ABCD) = 240 \text{ br}^2$
 $\Rightarrow |AC| + |BD| = ?$
- A) 23 B) 34 C) 42 D) 46 E) 52

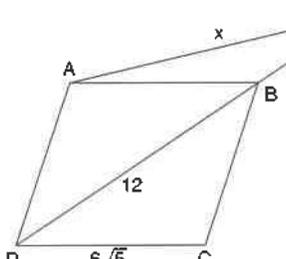
3.  ABCD eşkenar dörtgen
ABCD rhombus
 $|BD| = 2|AC|$
 $|AB| = 8\sqrt{5}$
 $\Rightarrow A(ABCD) = ?$
- A) 32 B) 64 C) 128 D) 256 E) 512

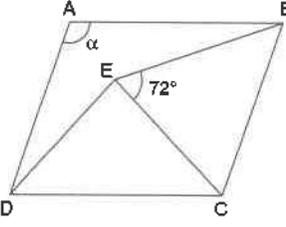
4.  ABCD eşkenar dörtgen
ABCD rhombus
 $[EF] \perp [AD]$
 $|EA| = 2 \text{ br}$
 $|BC| = 10 \text{ br}$
 $\Rightarrow A(ABCD) = ?$
- A) 20 B) 40 C) 60 D) 80 E) 100

5.  ABCD eşkenar dörtgen
ABCD rhombus
 $2|AF| = 3|FB|$
 $|DC| = 10 \text{ br}$
 $\Rightarrow |ED| = x = ?$
- A) 2 B) 3 C) 4 D) 6 E) 8

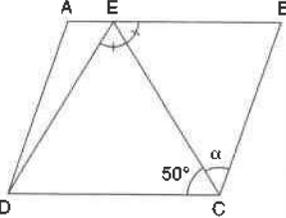
6.  ABCD eşkenar dörtgen
ABCD rhombus
 $|AD| = 10 \text{ br}$
 $|AC| = 12 \text{ br}$
 $[AE] \perp [BC]$
 $\Rightarrow |AE| = x = ?$
- A) 1,2 B) 2,4 C) 4,8 D) 9,6 E) 10,4

7.  ABCD eşkenar dörtgen
ABCD rhombus
 $[AE] \perp [BC]$
 $[BH] \perp [DH]$
 $|BE| = 9 \text{ br}$
 $|AD| = 15 \text{ br}$
 $\Rightarrow |BH| = h = ?$
- A) 25 B) 20 C) 15 D) 12 E) 9

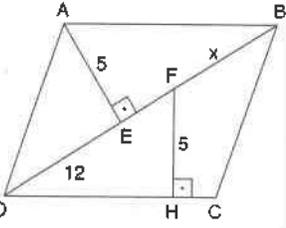
8.  ABCD eşkenar dörtgen
ABCD rhombus
 $|DB| = 12 \text{ br}$
 $|DC| = 6\sqrt{5} \text{ br}$
 $|BE| = 6 \text{ br}$
 $\Rightarrow |AE| = x = ?$
- A) 6 B) $6\sqrt{2}$ C) 9 D) 12 E) $12\sqrt{2}$

9.  ABCD eşkenar dörtgen
 ABCD rhombus
 EDC eşkenar üçgen
 ADE equilateral triangle
 $m(\widehat{BEC}) = 72^\circ$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$

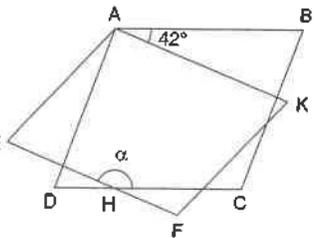
A) 54 B) 72 C) 96 D) 108 E) 144

10.  ABCD eşkenar dörtgen
 ABCD rhombus
 $m(\widehat{ECD}) = 50^\circ$
 $m(\widehat{DEC}) = m(\widehat{CEB})$
 $\Rightarrow m(\widehat{ECB}) = \alpha = ?$

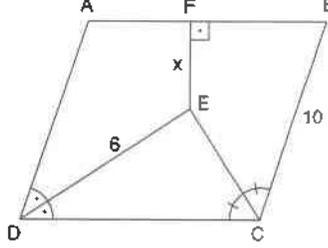
A) 20 B) 30 C) 40 D) 50 E) 70

11.  ABCD eşkenar dörtgen
 ABCD rhombus
 $[AE] \perp [DB]$
 $[FH] \perp [DC]$
 $|AE| = 5 \text{ br}$
 $|DE| = 12 \text{ br}$
 $|FH| = 5 \text{ br}$
 $\Rightarrow |FB| = x = ?$

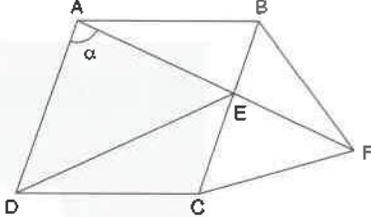
A) 8 B) 9 C) 10 D) 11 E) 12

12.  ABCD ve EAKF eşkenar dörtgen
 ABCD and EAKF rhombus
 $m(\widehat{BAK}) = 42^\circ$
 $m(\widehat{EFK}) = 120^\circ$
 $\Rightarrow m(\widehat{EHC}) = \alpha = ?$

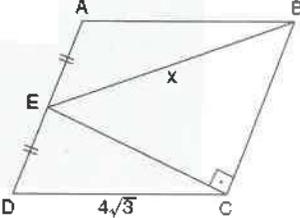
A) 112 B) 124 C) 128 D) 132 E) 138

13.  ABCD eşkenar dörtgen
 ABCD rhombus
 $[EF] \perp [AB]$
 $|BC| = 10 \text{ br}$
 $|DE| = 6 \text{ br}$
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $\Rightarrow |EF| = x = ?$

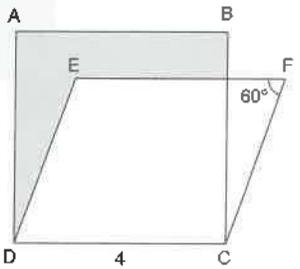
A) 3,6 B) 4,8 C) 5,2 D) 6,8 E) 7,2

14.  ABCD eşkenar dörtgen
 ABCD rhombus
 BCF eşkenar üçgen
 BCF equilateral triangle
 $m(\widehat{DCF}) = 140^\circ$
 $\Rightarrow m(\widehat{DAF}) = \alpha = ?$

A) 70 B) 60 C) 55 D) 50 E) 45

15.  ABCD eşkenar dörtgen
 ABCD rhombus
 $|AE| = |ED|$
 $[EC] \perp [BC]$
 $|DC| = 4\sqrt{3}$
 $\Rightarrow |EB| = x = ?$

A) $2\sqrt{21}$ B) 9 C) $6\sqrt{2}$ D) $4\sqrt{3}$ E) 6

16.  ABCD kare
 ABCD square
 EFCD eşkenar dörtgen
 EFCD rhombus
 $m(\widehat{EFC}) = 60^\circ$
 $|DC| = 4 \text{ br}$
 $\Rightarrow \text{Taralı Alan} = ?$
 Shaded Area = ?

A) $18 - 6\sqrt{3}$ B) $16 - 6\sqrt{3}$ C) $18 - \frac{27\sqrt{3}}{4}$
 D) $9 - 3\sqrt{3}$ E) 9



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	B	B	E	C	B	C	C	E	E	A	D	E	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	B	C	B	A	D	D	D	E	E	E	C	B	C	B

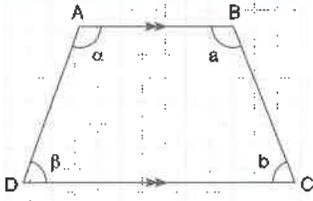
TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	D	D	C	D	D	E	C	B	D	E	B	A	A	B



YAMUK
TRAPEZOID

ÖZELLİK | Property 1

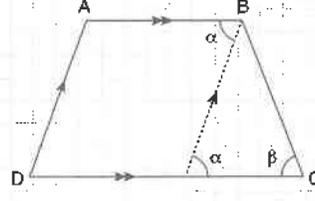


ABCD yamuk
 ABCD trapezoid
 $[AB] \parallel [DC]$
 $\alpha + \beta = 180^\circ$
 $a + b = 180^\circ$

Yamukta verilen açılar; 30° , 45° , 60° , 120° , 135° ve 150° 'lik açılar ise tabana dik indirilerek pisagor ile çözüm yapılır.

If the angles given for the trapezium are the angles such as (30° , 45° , 60° , 120° , 135° , 150°), then they are solved by drawing a perpendicular bisector.

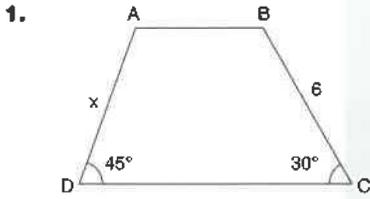
ÖZELLİK | Property 2



ABCD yamuk
 ABCD trapezoid

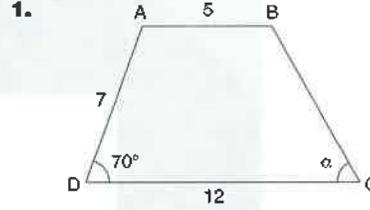
Yamukta verilen açılar; 30° , 45° , 60° , 120° , 135° ve 150° 'lik açılardan farklı ise şekildeki gibi kenara paralel çizilerek çözüm yapılır.

If the angles given for the trapezium are different from the angles such as (30° , 45° , 60° , 120° , 135° , 150°), then they are solved by drawing a parallel line as indicated in the figure.



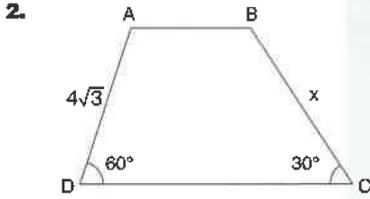
ABCD yamuk
 ABCD trapezoid
 $\Rightarrow x = ?$

$3\sqrt{2}$



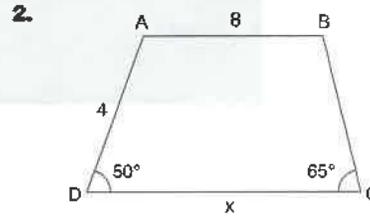
ABCD yamuk
 ABCD trapezoid
 $\Rightarrow \alpha = ?$

55



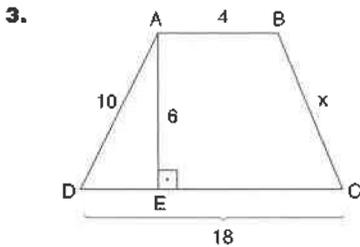
ABCD yamuk
 ABCD trapezoid
 $\Rightarrow x = ?$

12



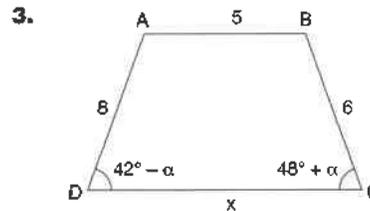
ABCD yamuk
 ABCD trapezoid
 $\Rightarrow x = ?$

12



ABCD yamuk
 ABCD trapezoid
 $\Rightarrow x = ?$

$6\sqrt{2}$

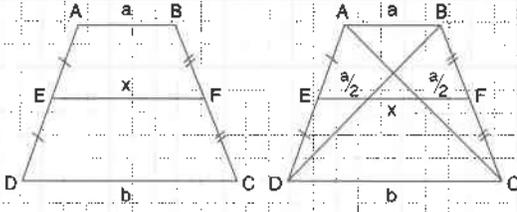


ABCD yamuk
 ABCD trapezoid
 $\Rightarrow x = ?$

15

ÖZELLİK | Property 3

ABCD yamuk
AECD trapezoid

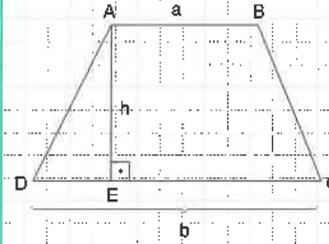


$$x = \frac{a+b}{2}$$

$$x = \frac{b-a}{2}$$

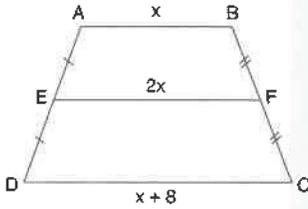
ÖZELLİK | Property 4

ABCD yamuk
ABCD trapezoid



$$A(ABCD) = \frac{a+b}{2} \cdot h$$

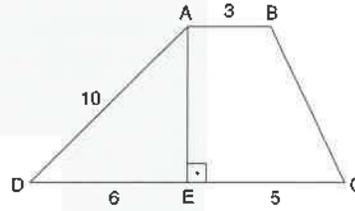
1.



ABCD yamuk
ABCD trapezoid
 $\Rightarrow x = ?$

4

1.

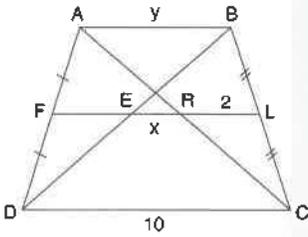


ABCD yamuk
ABCD trapezoid
 $\Rightarrow A(ABCD) = ?$

56

PUZAYAYINLARI

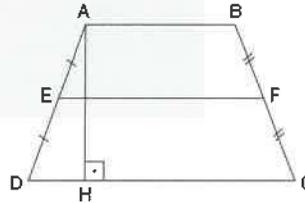
2.



ABCD yamuk
ABCD trapezoid
 $\Rightarrow x = ?$
 $\Rightarrow y = ?$

3, 4

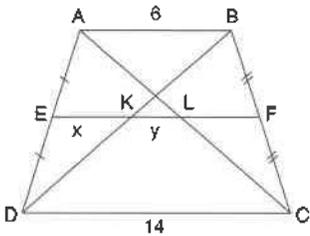
2.



ABCD yamuk
ABCD trapezoid
 $|EF| = 4$ br
 $|AH| = 8$ br
 $\Rightarrow A(ABCD) = ?$

32

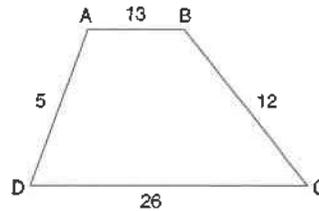
3.



ABCD yamuk
ABCD trapezoid
 $\Rightarrow x = ?$
 $\Rightarrow y = ?$

3, 4

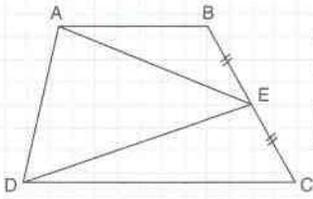
3.



ABCD yamuk
ABCD trapezoid
 $\Rightarrow A(ABCD) = ?$

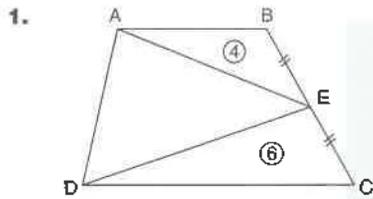
90

ÖZELLİK | Property 5



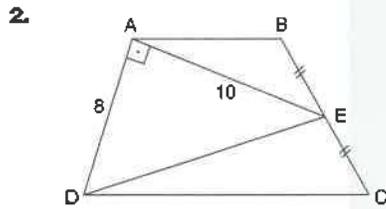
ABCD yamuk
ABCD trapezoid

$$2A(AED) = A(ABCD)$$



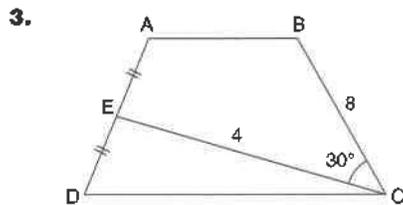
ABCD yamuk
ABCD trapezoid
 $\Rightarrow A(ABCD) = ?$

20



ABCD yamuk
ABCD trapezoid
 $\Rightarrow A(ABCD) = ?$

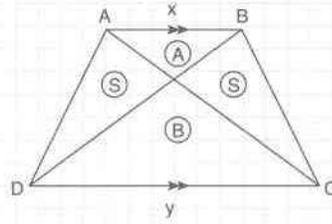
80



ABCD yamuk
ABCD trapezoid
 $\Rightarrow A(ABCD) = ?$

16

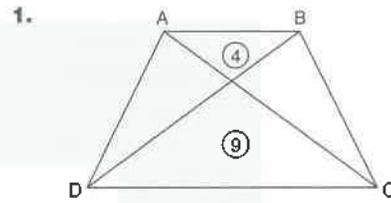
ÖZELLİK | Property 6



ABCD yamuk
ABCD trapezoid

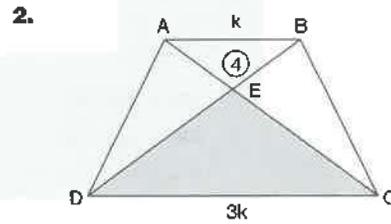
$$\left(\frac{x}{y}\right)^2 = \frac{A}{B}$$

$$S \cdot S = A \cdot B$$



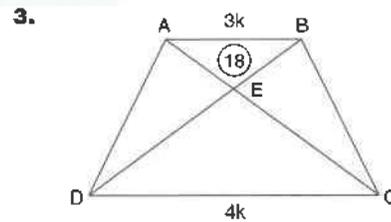
ABCD yamuk
ABCD trapezoid
 $\Rightarrow A(ABCD) = ?$

25



ABCD yamuk
ABCD trapezoid
 $\Rightarrow A(EDC) = ?$

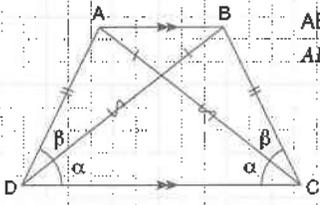
36



ABCD yamuk
ABCD trapezoid
 $\Rightarrow A(ABCD) = ?$

98

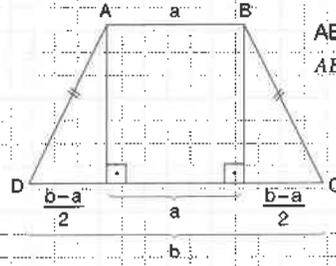
ÖZELLİK | Property 7



ABCD ikizkenar yamuk
 ABCD isosceles trapezoid

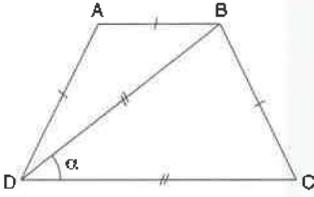
$$\begin{aligned} m(\hat{A}) &= m(\hat{B}) \\ m(\hat{D}) &= m(\hat{C}) \\ m(\hat{A}) + m(\hat{D}) &= 180^\circ \\ m(\hat{B}) + m(\hat{C}) &= 180^\circ \\ |BD| &= |AC| \end{aligned}$$

ÖZELLİK | Property 8



ABCD ikizkenar yamuk
 ABCD isosceles trapezoid

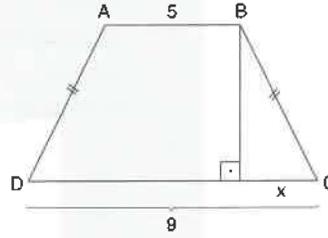
1.



ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $\Rightarrow \alpha = ?$

36

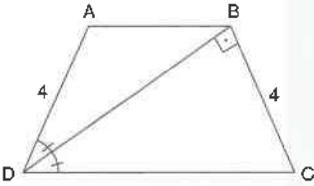
1.



ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $\Rightarrow x = ?$

2

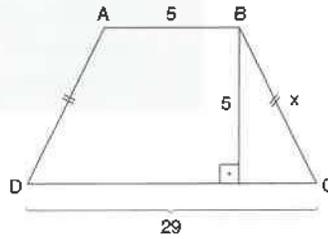
2.



ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $\Rightarrow A(\triangle DBC) = ?$

$8\sqrt{3}$

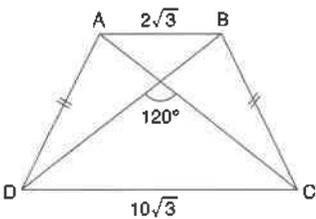
2.



ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $\Rightarrow x = ?$

13

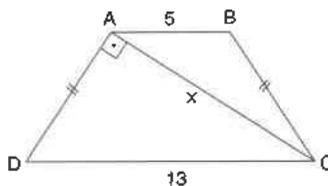
3.



ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $\Rightarrow A(ABCD) = ?$

$36\sqrt{3}$

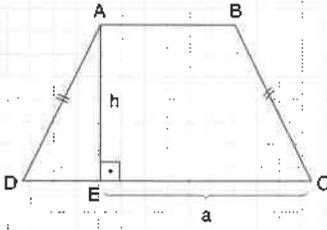
3.



ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $\Rightarrow x = ?$

$3\sqrt{13}$

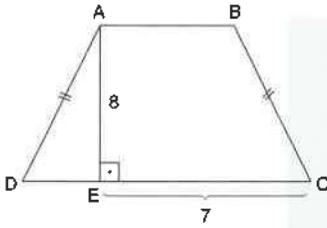
ÖZELLİK | Property 9



ABCD ikizkenar yamuk
ABCD isosceles trapezoid

$$A(ABCD) = a \cdot h$$

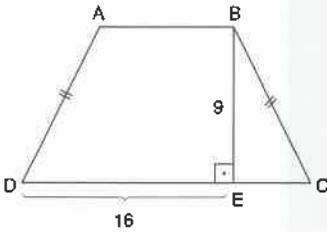
1.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $\Rightarrow A(ABCD) = ?$

56

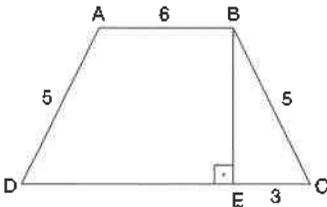
2.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $\Rightarrow A(ABCD) = ?$

144

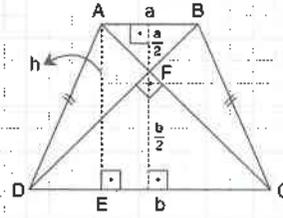
3.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $\Rightarrow A(ABCD) = ?$

36

ÖZELLİK | Property 10

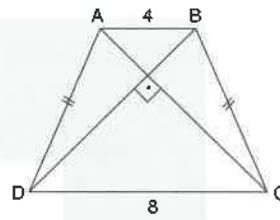


ABCD ikizkenar yamuk
ABCD isosceles trapezoid

$$h = \frac{a+b}{2}$$

$$A(ABCD) = \left(\frac{a+b}{2}\right)^2 = h^2$$

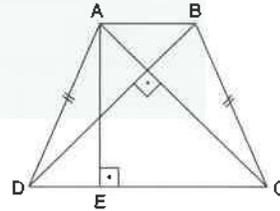
1.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $\Rightarrow A(ABCD) = ?$

36

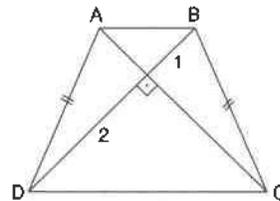
2.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $|AE| = 4$
 $\Rightarrow A(ABCD) = ?$

16

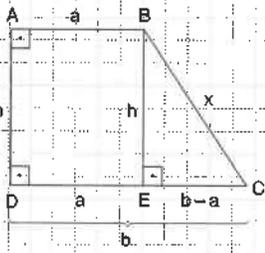
3.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $\Rightarrow A(ABCD) = ?$

$\frac{9}{2}$

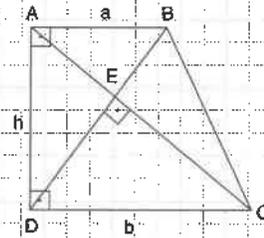
ÖZELLİK | Property 11



ABCD dik yamuk
 ABCD right trapezoid

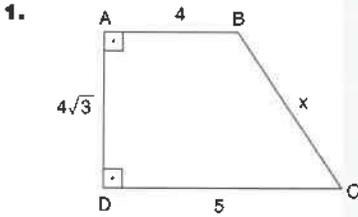
$$h^2 + (b - a)^2 = x^2$$

ÖZELLİK | Property 12



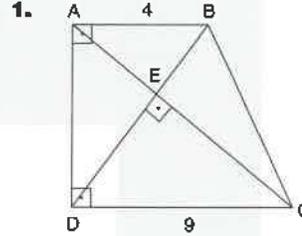
ABCD dik yamuk
 ABCD right trapezoid

$$h^2 = a \cdot b$$



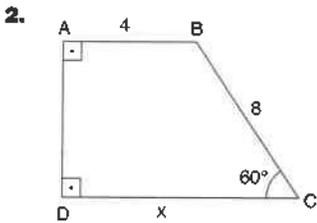
ABCD dik yamuk
 ABCD right trapezoid
 $\Rightarrow x = ?$

7



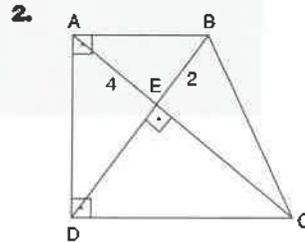
ABCD dik yamuk
 ABCD right trapezoid
 $\Rightarrow A(ABCD) = ?$

39



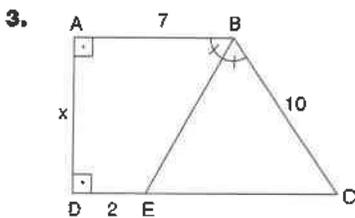
ABCD dik yamuk
 ABCD right trapezoid
 $\Rightarrow x = ?$

8



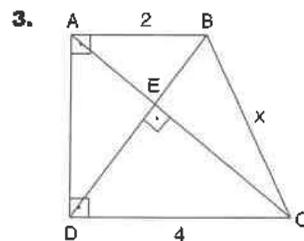
ABCD dik yamuk
 ABCD right trapezoid
 $\Rightarrow A(ABCD) = ?$

100



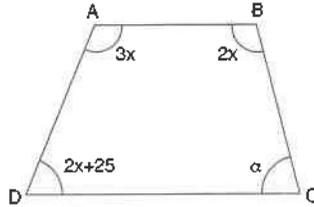
ABCD dik yamuk
 ABCD right trapezoid
 $\Rightarrow x = ?$

$5\sqrt{3}$

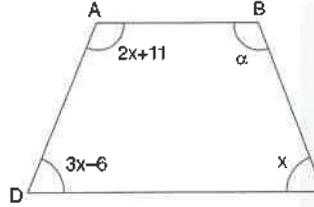


ABCD dik yamuk
 ABCD right trapezoid
 $\Rightarrow x = ?$

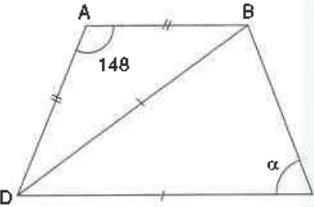
$2\sqrt{3}$

1.  ABCD yamuk
 ABCD trapezoid
 $m(\widehat{ABC}) = 2x$
 $m(\widehat{BAD}) = 3x$
 $m(\widehat{ADC}) = 2x + 25$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

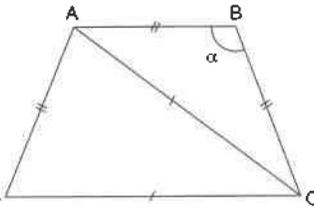
A) 31 B) 62 C) 98 D) 118 E) 149

2.  ABCD yamuk
 ABCD trapezoid
 $m(\widehat{BAD}) = 2x + 11$
 $m(\widehat{ADC}) = 3x - 6$
 $m(\widehat{DCB}) = x$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

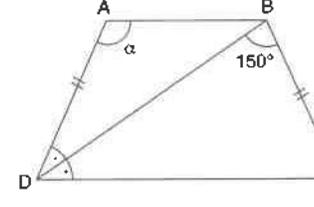
A) 35 B) 70 C) 81 D) 99 E) 145

3.  ABCD yamuk
 ABCD trapezoid
 $|DB| = |DC|$
 $|AB| = |AD|$
 $m(\widehat{DAB}) = 148^\circ$
 $\Rightarrow m(\widehat{DCB}) = \alpha = ?$

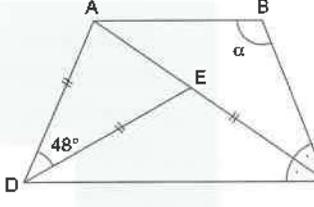
A) 16 B) 81 C) 82 D) 91 E) 148

4.  ABCD yamuk
 ABCD trapezoid
 $|AB| = |BC| = |AD|$
 $|AC| = |CD|$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

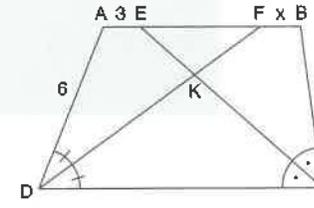
A) 36 B) 54 C) 72 D) 108 E) 144

5.  ABCD yamuk
 ABCD trapezoid
 $|AD| = |BC|$
 $m(\widehat{ADB}) = m(\widehat{BDC})$
 $m(\widehat{DBC}) = 150^\circ$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$

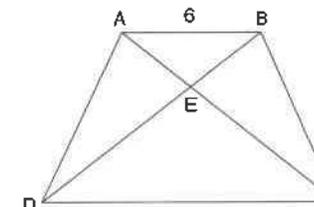
A) 160 B) 150 C) 140 D) 130 E) 120

6.  ABCD yamuk
 ABCD trapezoid
 $m(\widehat{DCA}) = m(\widehat{ACB})$
 $|AD| = |DE| = |EC|$
 $m(\widehat{ADE}) = 48^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

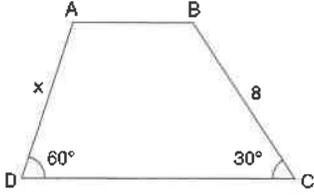
A) 66 B) 81 C) 92 D) 114 E) 122

7.  ABCD yamuk
 ABCD trapezoid
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $m(\widehat{ADF}) = m(\widehat{FDC})$
 $|AD| = 6 \text{ br}$
 $|BC| = 4 \text{ br}$
 $|AE| = 3 \text{ br}$
 $\Rightarrow |FB| = x = ?$

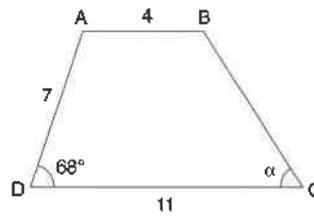
A) 1 B) 2 C) 3 D) 4 E) 5

8.  ABCD yamuk
 ABCD trapezoid
 $4|EB| = 3|DE|$
 $|AB| = 6 \text{ br}$
 $\Rightarrow |DC| = x = ?$

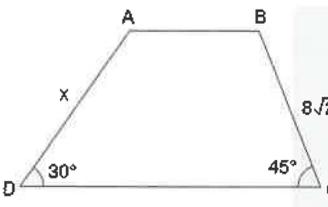
A) 4 B) 6 C) 8 D) 9 E) 12

9.  ABCD yamuk
 ABCD trapezoid
 $m(\widehat{ADC}) = 60^\circ$
 $m(\widehat{BCD}) = 30^\circ$
 $|BC| = 8$ br
 $\Rightarrow |AD| = x = ?$

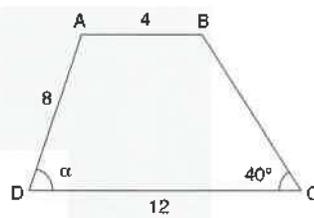
A) $\frac{4\sqrt{3}}{3}$ B) $2\sqrt{3}$ C) 4 D) $\frac{8\sqrt{3}}{3}$ E) $8\sqrt{3}$

13.  ABCD yamuk
 ABCD trapezoid
 $|AB| = 4$ br
 $|AD| = 7$ br
 $|DC| = 11$ br
 $m(\widehat{ADC}) = 68^\circ$
 $\Rightarrow m(\widehat{DCB}) = \alpha = ?$

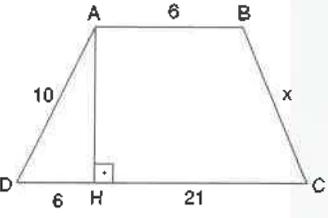
A) 34 B) 56 C) 68 D) 72 E) 108

10.  ABCD yamuk
 ABCD trapezoid
 $m(\widehat{ADC}) = 30^\circ$
 $m(\widehat{BCD}) = 45^\circ$
 $|BC| = 8\sqrt{2}$ br
 $\Rightarrow |AD| = x = ?$

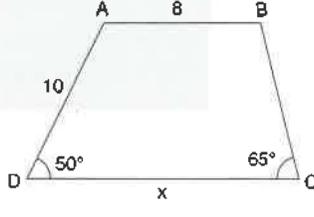
A) 4 B) $4\sqrt{3}$ C) $8\sqrt{3}$ D) $8\sqrt{6}$ E) 16

14.  ABCD yamuk
 ABCD trapezoid
 $|AB| = 4$ br
 $|AD| = 8$ br
 $|DC| = 12$ br
 $m(\widehat{BCD}) = 40^\circ$
 $\Rightarrow m(\widehat{ADC}) = \alpha = ?$

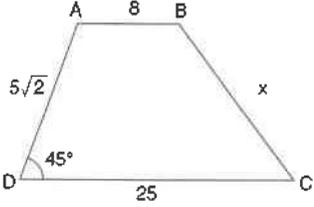
A) 40 B) 60 C) 80 D) 100 E) 120

11.  ABCD yamuk
 ABCD trapezoid
 $[AH] \perp [DC]$
 $|HC| = 21$ br
 $|AB| = 6$ br
 $|AD| = 10$ br
 $|DH| = 6$ br
 $\Rightarrow |BC| = x = ?$

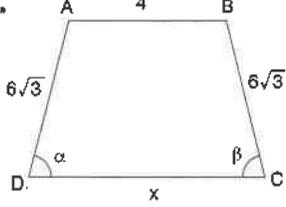
A) 17 B) 15 C) 13 D) 10 E) 8

15.  ABCD yamuk
 ABCD trapezoid
 $m(\widehat{ADC}) = 50^\circ$
 $m(\widehat{BCD}) = 65^\circ$
 $|AB| = 8$ br
 $|AD| = 10$ br
 $\Rightarrow |DC| = x = ?$

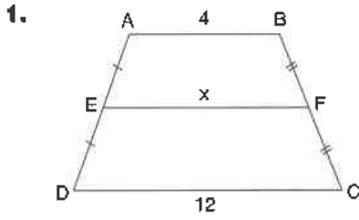
A) 8 B) 10 C) 12 D) 14 E) 18

12.  ABCD yamuk
 ABCD trapezoid
 $m(\widehat{ADC}) = 45^\circ$
 $|AD| = 5\sqrt{2}$ br
 $|AB| = 8$ br
 $|DC| = 25$ br
 $\Rightarrow |BC| = x = ?$

A) 17 B) 15 C) 13 D) 10 E) 5

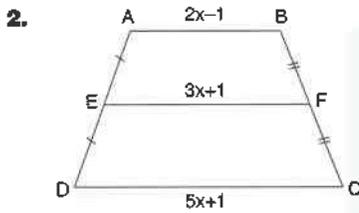
16.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $\alpha + \beta = 120^\circ$
 $|AD| = |BC| = 6\sqrt{3}$
 $|AB| = 4$ br
 $\Rightarrow |DC| = x = ?$

A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) $10\sqrt{3}$
 D) $4 + 6\sqrt{3}$ E) 24



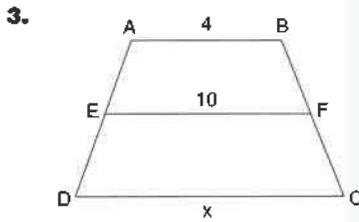
ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $|BF| = |FC|$
 $|AB| = 4$ br
 $|DC| = 12$ br
 $\Rightarrow |EF| = x = ?$

- A) 6 B) 7 C) 8 D) 9 E) 10



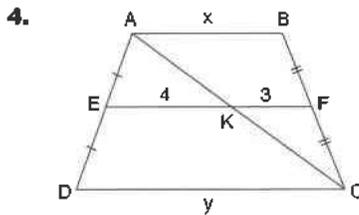
ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $|BF| = |FC|$
 $|AB| = 2x - 1$
 $|EF| = 3x + 1$
 $|DC| = 5x + 1$
 $\Rightarrow |EF| = ?$

- A) 2 B) 3 C) 6 D) 7 E) 10



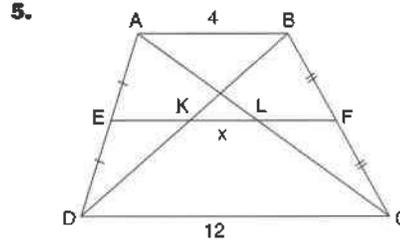
ABCD yamuk
 ABCD trapezoid
 $|AB| \parallel |EF|$
 $|EA| = 2|ED|$
 $|AB| = 4$ br
 $|EF| = 10$ br
 $\Rightarrow |DC| = x = ?$

- A) 19 B) 17 C) 15 D) 14 E) 13



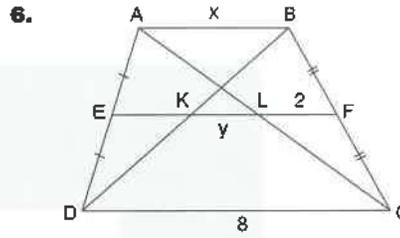
ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $|BF| = |FC|$
 $|EK| = 4$ br
 $|KF| = 3$ br
 $|AB| = x$
 $|DC| = y$
 $\Rightarrow y - x = ?$

- A) 1 B) 2 C) 3 D) 4 E) 5



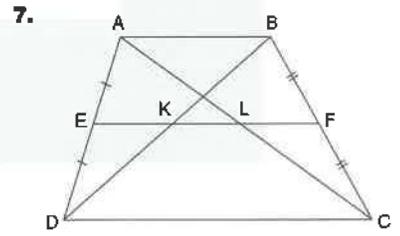
ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $|BF| = |FC|$
 $|AB| = 4$ br
 $|DC| = 12$ br
 $\Rightarrow |KL| = x = ?$

- A) 2 B) 3 C) 4 D) 6 E) 8



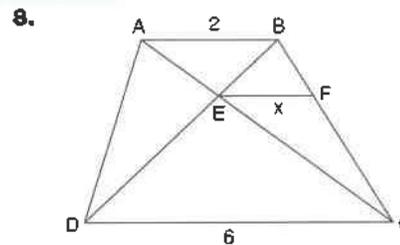
ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $|BF| = |FC|$
 $|AB| = x$
 $|KL| = y$
 $|LF| = 2$ br
 $|DC| = 8$ br
 $\Rightarrow x + y = ?$

- A) 4 B) 6 C) 8 D) 10 E) 12



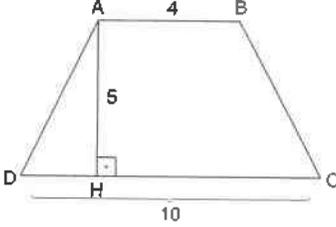
ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $|BF| = |FC|$
 $|EK| = 2x - 1$
 $|KL| = 3x$
 $|LF| = x + 4$
 $\Rightarrow |AB| + |DC| = ?$

- A) 66 B) 38 C) 32 D) 28 E) 14

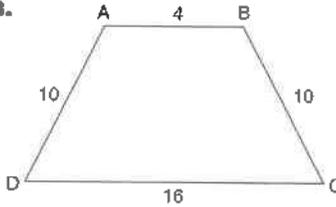


ABCD yamuk
 ABCD trapezoid
 $|EF| \parallel |AB|$
 $|AB| = 2$ br
 $|DC| = 6$ br
 $\Rightarrow |EF| = x = ?$

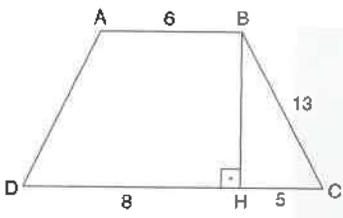
- A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

9.  ABCD yamuk
 ABCD trapezoid
 $[AH] \perp [DC]$
 $|AB| = 4$ br
 $|AH| = 5$ br
 $|DC| = 10$ br
 $\Rightarrow A(ABCD) = ?$

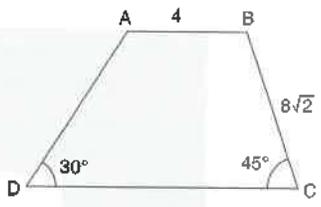
A) 60 B) 45 C) 35 D) 20 E) 15

13.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $|AB| = 4$ br
 $|AD| = |BC| = 10$ br
 $|DC| = 16$ br
 $\Rightarrow A(ABCD) = ?$

A) 144 B) 124 C) 118 D) 100 E) 80

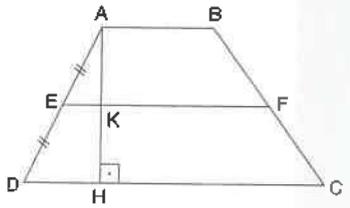
10.  ABCD yamuk
 ABCD trapezoid
 $[BH] \perp [DC]$
 $|AB| = 6$ br
 $|DH| = 8$ br
 $|HC| = 5$ br
 $|BC| = 13$ br
 $\Rightarrow A(ABCD) = ?$

A) 144 B) 114 C) 96 D) 84 E) 72

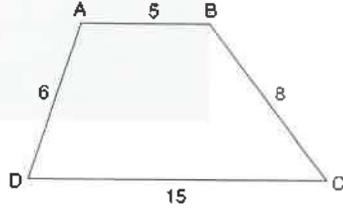
14.  ABCD yamuk
 ABCD trapezoid
 $m(\widehat{ADC}) = 30^\circ$
 $m(\widehat{BCD}) = 45^\circ$
 $|AB| = 4$ br
 $|BC| = 8\sqrt{2}$ br
 $\Rightarrow A(ABCD) = ?$

A) $32\sqrt{3}$ B) 64 C) 96
 D) $64 + 32\sqrt{3}$ E) $128 + 64\sqrt{3}$

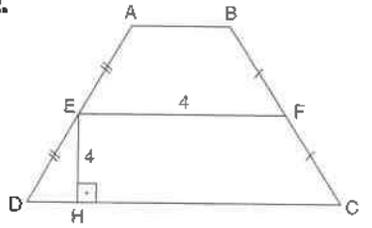
PUZAYAYINLARI

11.  ABCD yamuk
 ABCD trapezoid
 $[AH] \perp [DC]$
 $|AE| = |ED|$
 $[EF] \parallel [DC]$
 $|AK| = 8$ br
 $|EF| = 6$ br
 $\Rightarrow A(ABCD) = ?$

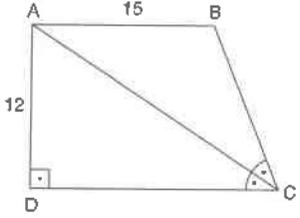
A) 24 B) 36 C) 48 D) 72 E) 96

15.  ABCD yamuk
 ABCD trapezoid
 $|AB| = 5$ br
 $|AD| = 6$ br
 $|BC| = 8$ br
 $|DC| = 15$ br
 $\Rightarrow A(ABCD) = ?$

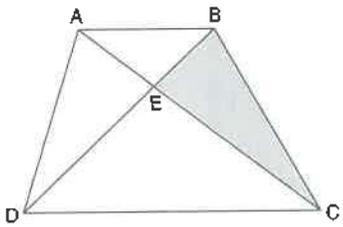
A) 96 B) 72 C) 48 D) 36 E) 24

12.  ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $|BF| = |FC|$
 $[EH] \perp [DC]$
 $|EF| = |EH| = 4$ br
 $\Rightarrow A(ABCD) = ?$

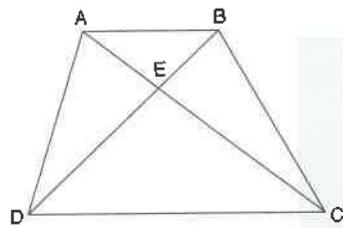
A) 8 B) 16 C) 32 D) 64 E) 128

16.  ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [DC]$
 $[AC]$ açıortay
 $[AC]$ bisector
 $|AD| = 12$ br
 $|AB| = 15$ br
 $\Rightarrow A(ABCD) = ?$

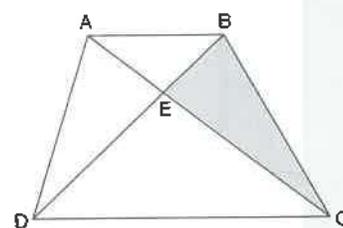
A) 90 B) 144 C) 180 D) 234 E) 288

1.  ABCD yamuk
 ABCD trapezoid
 $A(AED) = 4 br^2$
 $\Rightarrow A(EBC) = ?$

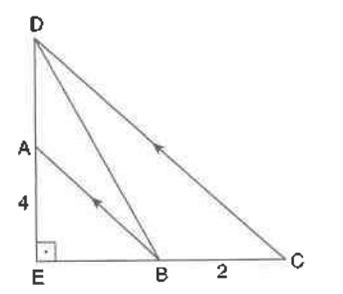
A) 2 B) 4 C) 6 D) 8 E) 16

2.  ABCD yamuk
 ABCD trapezoid
 $A(AEB) = 2 br^2$
 $A(EDC) = 8 br^2$
 $\Rightarrow A(ABCD) = ?$

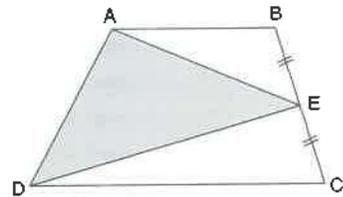
A) 4 B) 12 C) 14 D) 18 E) 32

3.  ABCD yamuk
 ABCD trapezoid
 $A(EBC) = 12 br^2$
 $|DC| = 3|AB|$
 $\Rightarrow A(ABCD) = ?$

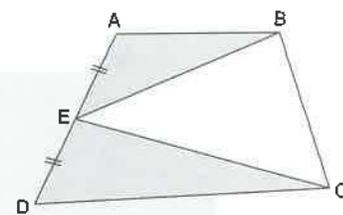
A) 40 B) 52 C) 64 D) 78 E) 96

4.  ABCD yamuk
 ABCD trapezoid
 $[DE] \perp [EC]$
 $|AE| = 4 br$
 $|BC| = 2 br$
 $\Rightarrow A(ABD) = ?$

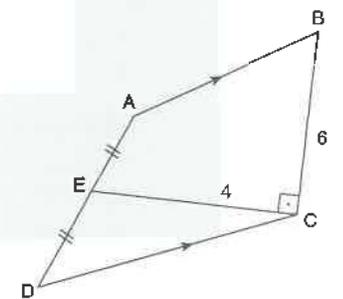
A) 4 B) 6 C) 8 D) 12 E) 16

5.  ABCD yamuk
 ABCD trapezoid
 $|BE| = |EC|$
 $A(ADE) = 20 br^2$
 $\Rightarrow A(ABCD) = ?$

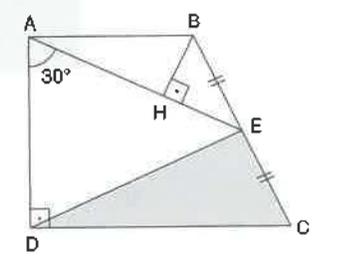
A) 20 B) 30 C) 40 D) 60 E) 80

6.  ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $A(AEB) = 4 br^2$
 $A(EDC) = 6 br^2$
 $\Rightarrow A(ABCD) = ?$

A) 10 B) 15 C) 20 D) 30 E) 40

7.  ABCD yamuk
 ABCD trapezoid
 $[EC] \perp [BC]$
 $|AE| = |ED|$
 $|EC| = 4 br$
 $|BC| = 6 br$
 $\Rightarrow A(ABCD) = ?$

A) 12 B) 24 C) 32 D) 48 E) 56

8.  ABCD dik yamuk
 ABCD right trapezoid
 $|BE| = |EC|$
 $[AD] \perp [DC]$
 $[BH] \perp [AE]$
 $m(\widehat{DAE}) = 30^\circ$
 $|AD| = 8 br$
 $|BH| = 3 br$
 $|AE| = 4 br$
 $\Rightarrow A(EDC) = ?$

A) 2 B) 6 C) 8 D) 10 E) 12

9.

ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $|AD| = |BC|$
 $[BH] \perp [DC]$
 $|AB| = 4$ br
 $|DC| = 10$ br
 $\Rightarrow |HC| = x = ?$

A) 8 B) 6 C) 5 D) 4 E) 3

13.

ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $|AD| = |BC|$
 $[AH] \perp [DC]$
 $|AH| = 4$ br
 $|HC| = 5$ br
 $\Rightarrow A(ABCD) = ?$

A) 40 B) 30 C) 20 D) 15 E) 10

10.

ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $|AD| = |BC|$
 $[BH] \perp [DC]$
 $|AB| = 6$ br
 $|BH| = 12$ br
 $|DC| = 16$ br
 $\Rightarrow |BC| = x = ?$

A) 20 B) 15 C) $12\sqrt{2}$ D) 13 E) 12

14.

ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $|AD| = |BC|$
 $[BH] \perp [DC]$
 $|BH| = 6$ br
 $|DH| = 5$ br
 $\Rightarrow A(ABCD) = ?$

A) 60 B) 45 C) 40 D) 30 E) 15

11.

ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $|AD| = |BC| = 10$ br
 $|AB| = 3$ br
 $|DC| = 15$ br
 $\Rightarrow A(ABCD) = ?$

A) 48 B) 64 C) 72 D) 78 E) 96

15.

ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $|AD| = |BC|$
 $[AC] \perp [AD]$
 $|AB| = 6$ br
 $|DC| = 12$ br
 $\Rightarrow |AC| = x = ?$

A) 3 B) $3\sqrt{3}$ C) 6 D) $6\sqrt{3}$ E) 9

12.

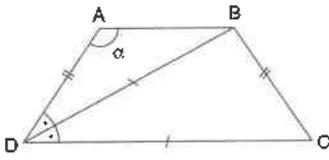
ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $|AD| = |BC| = 6\sqrt{2}$ br
 $|AB| = 3$ br
 $|DC| = 15$ br
 $\Rightarrow A(ABCD) = ?$

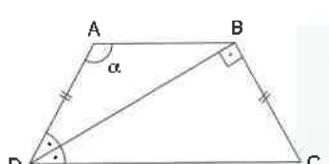
A) 48 B) 54 C) 64
 D) $54\sqrt{2}$ E) $108\sqrt{2}$

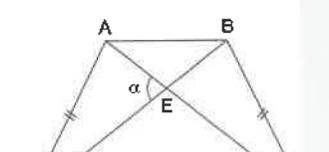
16.

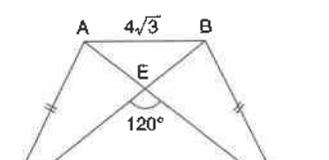
ABCD ikizkenar yamuk
ABCD isosceles trapezoid
 $|AD| = |BC|$
 $[BD] \perp [BC]$
 $|AB| = 6$ br
 $|DC| = 10$ br
 $\Rightarrow A(ABCD) = ?$

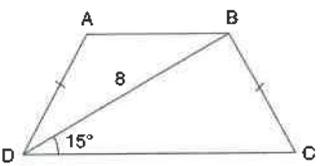
A) 8 B) 16 C) 32 D) 64 E) 76

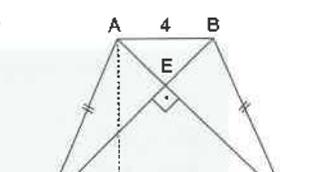
1.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 [DB] açıortay
 [DB] bisector
 $|AD| = |BC|$
 $|BD| = |DC|$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$
- A) 36 B) 54 C) 72 D) 108 E) 144

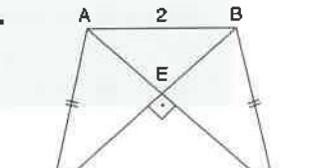
2.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 [DB] açıortay
 [DB] bisector
 $|AD| = |BC|$
 $[BD] \perp [BC]$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$
- A) 150 B) 135 C) 120 D) 105 E) 90

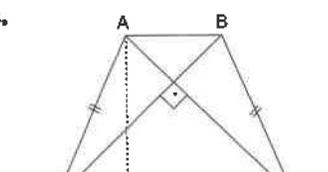
3.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $|AD| = |BC|$
 $m(\widehat{BDC}) = 12^\circ$
 $\Rightarrow m(\widehat{AED}) = \alpha = ?$
- A) 12 B) 18 C) 24 D) 36 E) 48

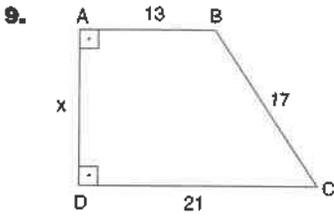
4.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $|AD| = |BC|$
 $m(\widehat{DEC}) = 120^\circ$
 $|AB| = 4\sqrt{3}$ br
 $|DC| = 6\sqrt{3}$ br
 $\Rightarrow |AC| = ?$
- A) 10 B) 12 C) 15 D) 18 E) 20

5.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $m(\widehat{BDC}) = 15^\circ$
 $|BD| = 8$ br
 $\Rightarrow A(ABCD) = ?$
- A) 16 B) $16\sqrt{3}$ C) 32 D) $32\sqrt{3}$ E) 64

6.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $|AD| = |BC|$
 $[AC] \perp [BD]$
 $[AH] \perp [DC]$
 $|AB| = 4$ br
 $|DC| = 8$ br
 $\Rightarrow |AH| = ?$
- A) 4 B) 6 C) 8 D) 12 E) 16

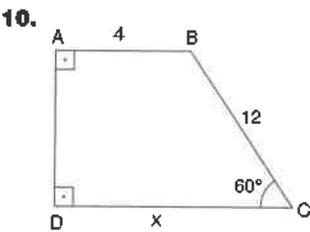
7.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $|AD| = |BC|$
 $[AC] \perp [BD]$
 $|AB| = 2$ br
 $|DC| = 6$ br
 $\Rightarrow A(ABCD) = ?$
- A) 4 B) 6 C) 8 D) 12 E) 16

8.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $|AD| = |BC|$
 $[AC] \perp [BD]$
 $[AH] \perp [DC]$
 $|AH| = 5$ br
 $\Rightarrow A(ABCD) = ?$
- A) 5 B) $5\sqrt{3}$ C) 10 D) $10\sqrt{3}$ E) 25



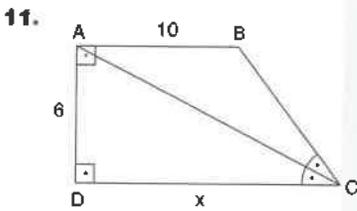
ABCD dik yamuk
ABCD right trapezoid
 $[AD] \perp [DC]$
 $|AB| = 13$ br
 $|BC| = 17$ br
 $|DC| = 21$ br
 $\Rightarrow |AD| = x = ?$

- A) 8 B) $6\sqrt{2}$ C) $6\sqrt{3}$ D) 12 E) 15



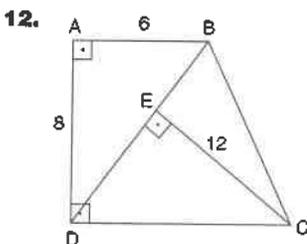
ABCD dik yamuk
ABCD right trapezoid
 $m(\widehat{BCD}) = 60^\circ$
 $[AD] \perp [DC]$
 $|AB| = 4$ br
 $|BC| = 12$ br
 $\Rightarrow |DC| = x = ?$

- A) 4 B) 6 C) $6\sqrt{3}$
 D) 10 E) $4 + 6\sqrt{3}$



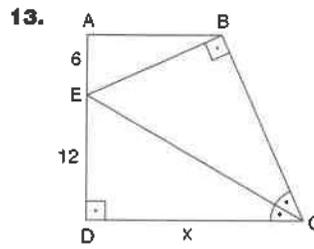
ABCD dik yamuk
ABCD right trapezoid
 $[AD] \perp [DC]$
 $|AB| = 10$ br
 $|AD| = 6$ br
 $m(\widehat{DCA}) = m(\widehat{ACB})$
 $\Rightarrow |DC| = x = ?$

- A) 18 B) 16 C) 14 D) 12 E) 10



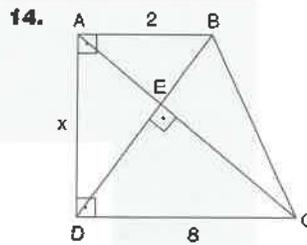
ABCD dik yamuk
ABCD right trapezoid
 $[AD] \perp [DC]$
 $[CE] \perp [BD]$
 $|AB| = 6$ br
 $|AD| = 8$ br
 $|CE| = 12$ br
 $\Rightarrow A(ABCD) = ?$

- A) 80 B) 84 C) 104 D) 120 E) 168



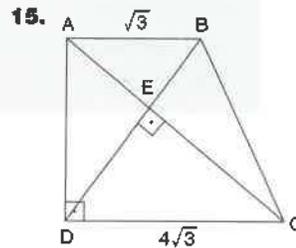
ABCD dik yamuk
ABCD right trapezoid
 $[AD] \perp [DC]$
 $[EB] \perp [BC]$
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $|AE| = 6$ br
 $|ED| = 12$ br
 $\Rightarrow |DC| = x = ?$

- A) 4 B) 6 C) $6\sqrt{3}$ D) 12 E) $12\sqrt{3}$



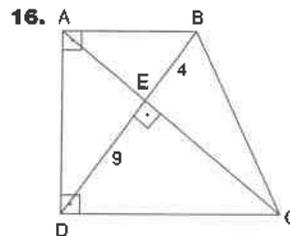
ABCD dik yamuk
ABCD right trapezoid
 $[AD] \perp [DC]$
 $[BD] \perp [AC]$
 $|AB| = 2$ br
 $|DC| = 8$ br
 $\Rightarrow |AD| = x = ?$

- A) 4 B) 5 C) 6 D) 8 E) 16



ABCD dik yamuk
ABCD right trapezoid
 $[AD] \perp [DC]$
 $[BD] \perp [AC]$
 $|AB| = \sqrt{3}$ br
 $|DC| = 4\sqrt{3}$ br
 $\Rightarrow A(ABCD) = ?$

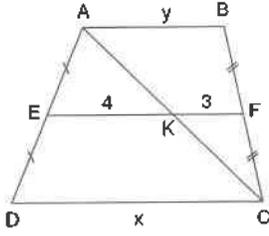
- A) $2\sqrt{3}$ B) $5\sqrt{3}$ C) $\frac{15}{2}$ D) $\frac{15\sqrt{3}}{2}$ E) 15



ABCD dik yamuk
ABCD right trapezoid
 $[AD] \perp [DC]$
 $[BD] \perp [AC]$
 $|BE| = 4$ br
 $|DE| = 9$ br
 $\Rightarrow A(ABCD) = ?$

- A) 27 B) $\frac{169}{3}$ C) $\frac{153}{3}$ D) $\frac{16}{3}$ E) 51

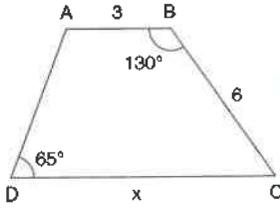
1.



ABCD yamuk
 ABCD trapezoid
 $|BF| = |FC|$
 $|AE| = |ED|$
 $|EK| = 4$ br
 $|KF| = 3$ br
 $|AB| = y$
 $|DC| = x$
 $\Rightarrow x - y = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

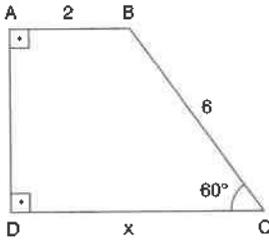
2.



ABCD yamuk
 ABCD trapezoid
 $m(\widehat{ABC}) = 130^\circ$
 $m(\widehat{ADC}) = 65^\circ$
 $|AB| = 3$ br
 $|BC| = 6$ br
 $\Rightarrow |DC| = x = ?$

A) 5 B) 6 C) 7 D) 9 E) 12

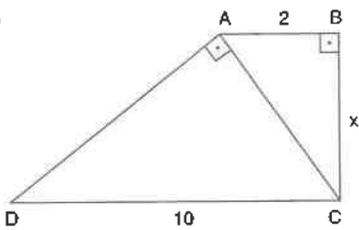
3.



ABCD dik yamuk
 ABCD right trapezoid
 $m(\widehat{BCD}) = 60^\circ$
 $[AD] \perp [DC]$
 $|AB| = 2$ br
 $|BC| = 6$ br
 $\Rightarrow |DC| = x = ?$

A) 3 B) 4 C) 5 D) 6 E) 8

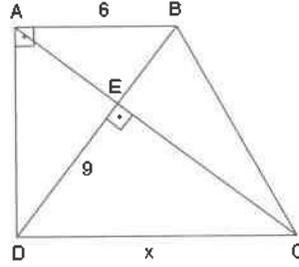
4.



ABCD dik yamuk
 ABCD right trapezoid
 $|DC| = 10$ br
 $|AB| = 2$ br
 $[DA] \perp [AC]$
 $[AB] \perp [BC]$
 $\Rightarrow |BC| = x = ?$

A) 2 B) 4 C) $4\sqrt{3}$ D) $4\sqrt{5}$ E) 8

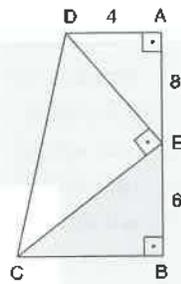
5.



ABCD dik yamuk
 ABCD right trapezoid
 $[DA] \perp [AB]$
 $[CE] \perp [BD]$
 $|AB| = 6$ br
 $|ED| = 9$ br
 $\Rightarrow x = ?$

A) 10 B) 12 C) 15 D) 18 E) 20

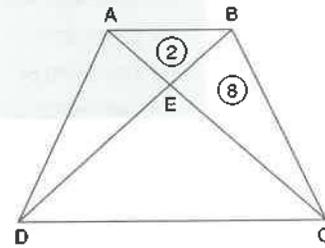
6.



ABCD dik yamuk
 ABCD right trapezoid
 $[DA] \perp [AB]$
 $[DE] \perp [EC]$
 $|AD| = 4$ br
 $|EB| = 6$ br
 $|AE| = 8$ br
 $\Rightarrow A(EBC) = ?$

A) 9 B) 12 C) 24 D) 32 E) 36

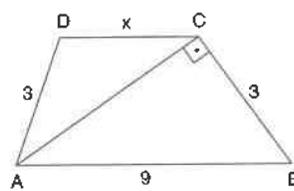
7.



ABCD yamuk
 ABCD trapezoid
 $A(AEB) = 2$ br²
 $A(EBC) = 8$ br²
 $\Rightarrow A(ABCD) = ?$

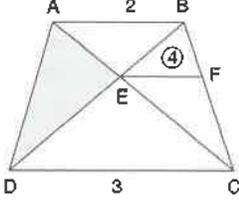
A) 40 B) 42 C) 48 D) 50 E) 60

8.

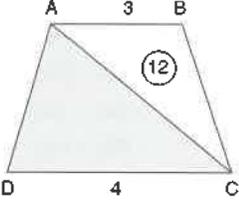


ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $[AC] \perp [BC]$
 $|AD| = |BC| = 3$ br
 $|AB| = 9$ br
 $\Rightarrow |CD| = x = ?$

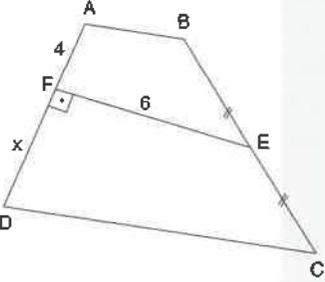
A) 5 B) 6 C) 7 D) 8 E) 9

9.  ABCD yamuk
 ABCD trapezoid
 $[EF] \parallel [AB]$
 $|AB| = 2 \text{ br}$
 $|DC| = 3 \text{ br}$
 $A(BEF) = 4 \text{ br}^2$
 $\Rightarrow A(AED) = ?$

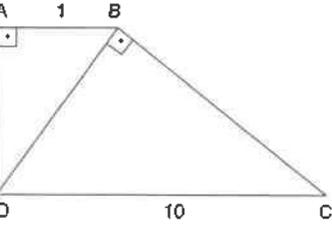
A) 6 B) 8 C) 10 D) 12 E) 16

10.  ABCD yamuk
 ABCD trapezoid
 $|AB| = 3 \text{ br}$
 $|DC| = 4 \text{ br}$
 $A(ABC) = 12 \text{ br}^2$
 $\Rightarrow A(ADC) = ?$

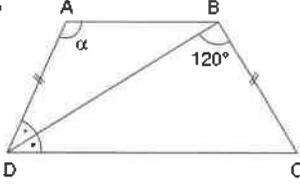
A) 20 B) 16 C) 14 D) 12 E) 8

11.  ABCD yamuk
 ABCD trapezoid
 $|BE| = |EC|$
 $[EF] \perp [FD]$
 $A(ABCD) = 54 \text{ br}^2$
 $\Rightarrow |FD| = x = ?$

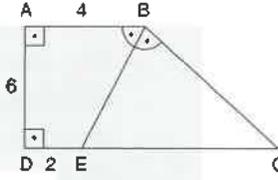
A) 3 B) 4 C) 5 D) 6 E) 7

12.  ABCD dik yamuk
 ABCD right trapezoid
 $[DA] \perp [AB]$
 $[DB] \perp [BC]$
 $|AB| = 1 \text{ br}$
 $|DC| = 10 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

A) $\frac{11}{2}$ B) $\frac{33}{2}$ C) 20 D) 33 E) 66

13.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $|AD| = |BC|$
 $[BD]$ açıortay
 $[BD]$ açıortay
 $m(\widehat{DBC}) = 120^\circ$
 $\Rightarrow m(\widehat{DAB}) = \alpha = ?$

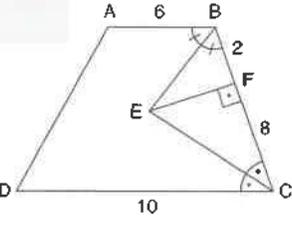
A) 140 B) 130 C) 120 D) 110 E) 100

14.  ABCD dik yamuk
 ABCD right trapezoid
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $|AB| = 4 \text{ br}$
 $|ED| = 2 \text{ br}$
 $|AD| = 6 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

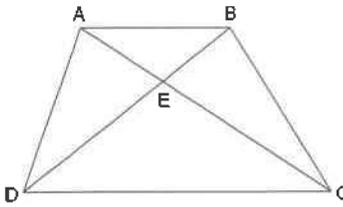
A) 28 B) 30 C) 32 D) 40 E) 48

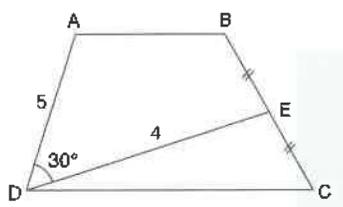
15.  ABCD dik yamuk
 ABCD right trapezoid
 $[DE], [AE]$ açıortay
 $[DE], [AE]$ bisector
 $|AB| = 4 \text{ br}$
 $|DC| = 12 \text{ br}$
 $\Rightarrow |AD| = x = ?$

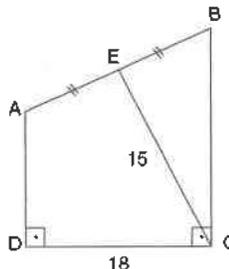
A) 4 B) 6 C) 8 D) 12 E) 16

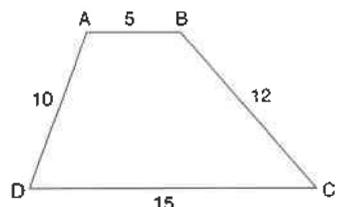
16.  ABCD yamuk
 ABCD trapezoid
 $[BE], [EC]$ açıortay
 $[BE], [EC]$ bisector
 $[EF] \perp [BC]$
 $|DC| = 10 \text{ br}$
 $|AB| = 6 \text{ br}$
 $|BF| = 2 \text{ br}$
 $|FC| = 8 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

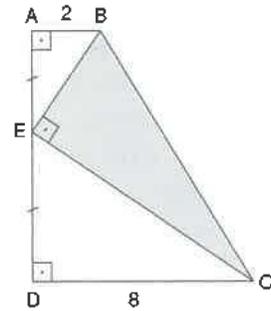
A) 40 B) 42 C) 48 D) 56 E) 64

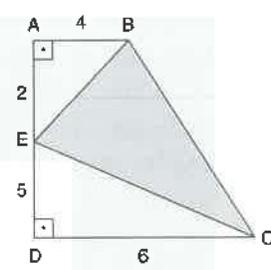
1.  ABCD yamuk
ABCD trapezoid
 $A(\triangle AEB) = 4 \text{ br}^2$
 $A(\triangle ADE) = 10 \text{ br}^2$
 $\Rightarrow A(\text{ABCD}) = ?$
- A) 25 B) 28 C) 32 D) 45 E) 49

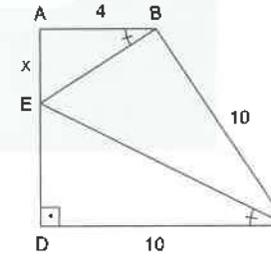
2.  ABCD yamuk
ABCD trapezoid
 $|BE| = |EC|$
 $m(\widehat{ADE}) = 30^\circ$
 $|AD| = 5 \text{ br}$
 $|DE| = 4 \text{ br}$
 $\Rightarrow A(\text{ABCD}) = ?$
- A) 5 B) $5\sqrt{3}$ C) 10 D) $10\sqrt{3}$ E) 20

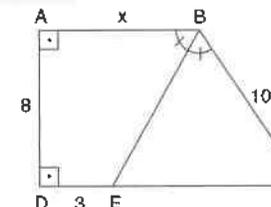
3.  ABCD dik yamuk
ABCD right trapezoid
 $[DC] \perp [BC]$
 $|AE| = |EB|$
 $|CE| = 15 \text{ br}$
 $|DC| = 18 \text{ br}$
 $\Rightarrow A(\text{ABCD}) = ?$
- A) 96 B) 108 C) 135 D) 152 E) 216

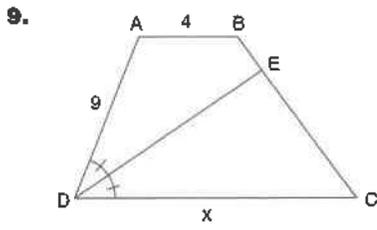
4.  ABCD yamuk
ABCD trapezoid
 $|AB| = 5 \text{ br}$
 $|BC| = 12 \text{ br}$
 $|AD| = 10 \text{ br}$
 $|DC| = 15 \text{ br}$
 $\Rightarrow A(\text{ABCD}) = ?$
- A) 80 B) 84 C) 88 D) 92 E) 96

5.  ABCD dik yamuk
ABCD right trapezoid
 $[AD] \perp [DC]$
 $[BE] \perp [EC]$
 $|AB| = 2 \text{ br}$
 $|DC| = 8 \text{ br}$
 $|AE| = |ED|$
 $\Rightarrow A(\triangle EBC) = ?$
- A) 10 B) 20 C) 30 D) 40 E) 50

6.  ABCD dik yamuk
ABCD right trapezoid
 $[AD] \perp [DC]$
 $|AE| = 2 \text{ br}$
 $|AB| = 4 \text{ br}$
 $|ED| = 5 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow A(\triangle EBC) = ?$
- A) 35 B) 25 C) 19 D) 16 E) 6

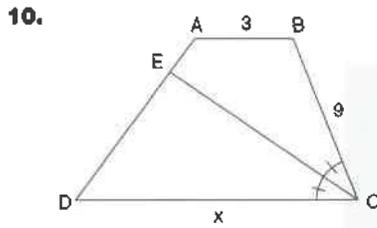
7.  ABCD dik yamuk
ABCD right trapezoid
 $[AD] \perp [DC]$
 $m(\widehat{ABE}) = m(\widehat{ECD})$
 $|AB| = 4 \text{ br}$
 $|DC| = |BC| = 10 \text{ br}$
 $\Rightarrow |AE| = x = ?$
- A) 2 B) $\frac{16}{7}$ C) $\frac{7}{2}$ D) 4 E) $\frac{21}{4}$

8.  ABCD dik yamuk
ABCD right trapezoid
 $[AD] \perp [DC]$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $|AD| = 8 \text{ br}$
 $|DE| = 3 \text{ br}$
 $|BC| = 10 \text{ br}$
 $\Rightarrow |AB| = x = ?$
- A) 7 B) 6 C) 5 D) 4 E) 3



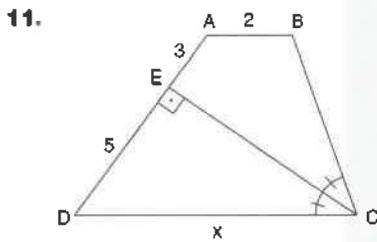
ABCD yamuk
 ABCD trapezoid
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $|EC| = 2|EB|$
 $|AB| = 4 \text{ br}$
 $|AD| = 9 \text{ br}$
 $\Rightarrow |DC| = x = ?$

- A) 12 B) 10 C) 8 D) 7 E) 6



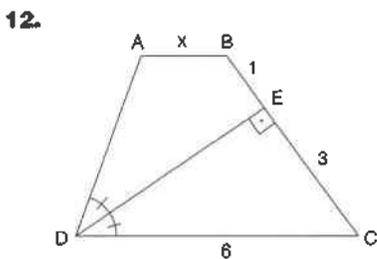
ABCD yamuk
 ABCD trapezoid
 $m(\widehat{BCE}) = m(\widehat{ECD})$
 $2|ED| = 3|AE|$
 $|AB| = 3 \text{ br}$
 $|BC| = 9 \text{ br}$
 $\Rightarrow |DC| = x = ?$

- A) $\frac{7}{2}$ B) 6 C) $\frac{15}{2}$ D) 9 E) $\frac{27}{2}$



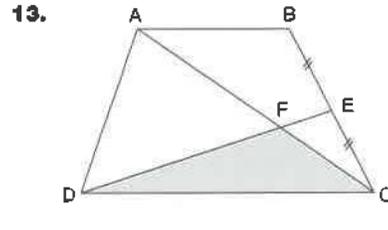
ABCD yamuk
 ABCD trapezoid
 $m(\widehat{ECD}) = m(\widehat{ECB})$
 $[EC] \perp [AD]$
 $|AB| = 2 \text{ br}$
 $|AE| = 3 \text{ br}$
 $|ED| = 5 \text{ br}$
 $\Rightarrow |DC| = x = ?$

- A) 10 B) 9 C) 8 D) 7 E) 6



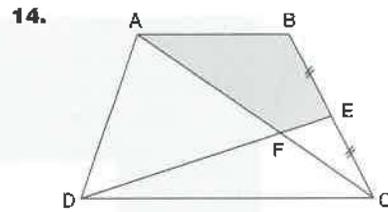
ACBD yamuk
 ABCD trapezoid
 $[DE] \perp [BC]$
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $|BE| = 1 \text{ br}$
 $|EC| = 3 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow |AB| = x = ?$

- A) $\frac{5}{6}$ B) 2 C) $\frac{11}{3}$ D) 4 E) $\frac{26}{3}$



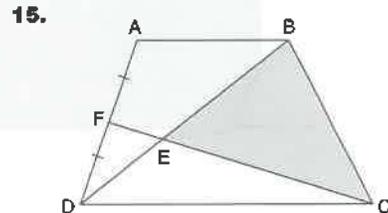
ABCD yamuk
 ABCD trapezoid
 $|BE| = |EC|$
 $5|AB| = 4|DC|$
 $A(EFC) = 6 \text{ br}^2$
 $\Rightarrow A(DFC) = ?$

- A) $\frac{15}{2}$ B) 9 C) 12 D) 15 E) 18



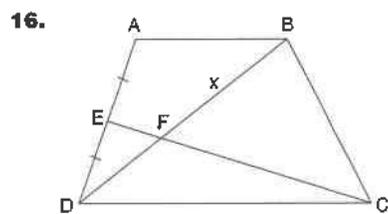
ABCD yamuk
 ABCD trapezoid
 $|BE| = |EC|$
 $|DC| = 2|AB|$
 $A(EFC) = 10 \text{ br}^2$
 $\Rightarrow A(ABEF) = ?$

- A) 75 B) 65 C) 50 D) 40 E) 30



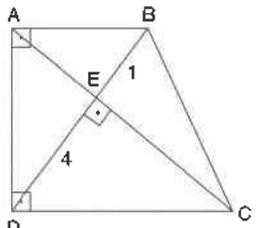
ABCD yamuk
 ABCD trapezoid
 $|AF| = |FD|$
 $|EC| = 3|FE|$
 $A(FED) = 4 \text{ br}^2$
 $\Rightarrow A(BEC) = ?$

- A) 24 B) 22 C) 20 D) 12 E) 8

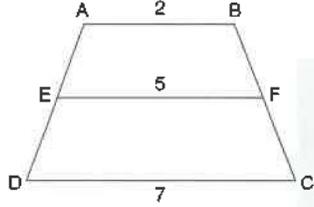


ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $3|AB| = 2|DC|$
 $|DF| = 9 \text{ br}$
 $\Rightarrow |FB| = x = ?$

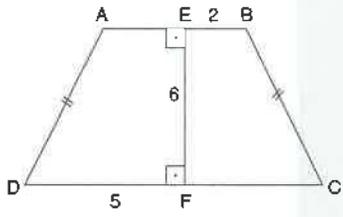
- A) 18 B) 15 C) 12 D) $\frac{17}{3}$ E) $\frac{13}{2}$

1.  ABCD yamuk
 ABCD trapezoid
 $[AD] \perp [DC]$
 $[AC] \perp [DB]$
 $|BE| = 1 \text{ br}$
 $|DE| = 4 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

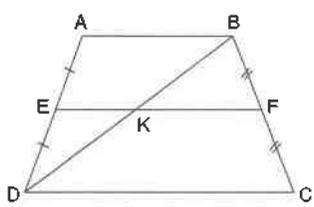
A) 10 B) 16 C) 20 D) 25 E) 30

2.  ABCD yamuk
 ABCD trapezoid
 $[AB] \parallel [EF]$
 $|AB| = 2 \text{ br}$
 $|EF| = 5 \text{ br}$
 $|DC| = 7 \text{ br}$
 $\Rightarrow \frac{A(ABFE)}{A(EFCD)} = ?$

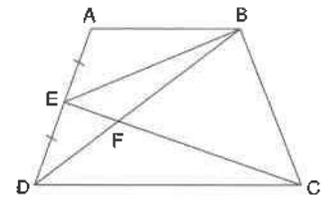
A) $\frac{7}{8}$ B) $\frac{7}{12}$ C) $\frac{3}{2}$ D) $\frac{5}{3}$ E) $\frac{7}{2}$

3.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $[EF] \perp [DC]$
 $|AD| = |BC|$
 $|EB| = 2 \text{ br}$
 $|DF| = 5 \text{ br}$
 $|EF| = 6 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

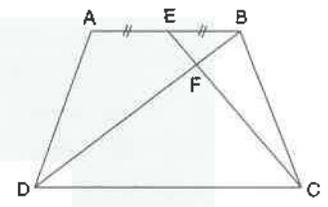
A) 30 B) 36 C) 42 D) 48 E) 54

4.  ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $|BF| = |FC|$
 $A(ABKE) = 9 \text{ br}^2$
 $A(KFCD) = 15 \text{ br}^2$
 $A(BFK) = S_1$
 $A(EKD) = S_2$
 $\Rightarrow S_1 + S_2 = ?$

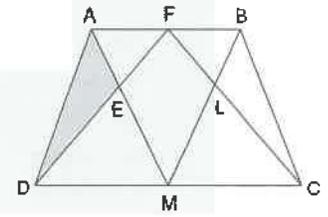
A) 3 B) 5 C) 8 D) 14 E) 16

5.  ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $A(DEF) = 4 \text{ br}^2$
 $A(BFC) = 24 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

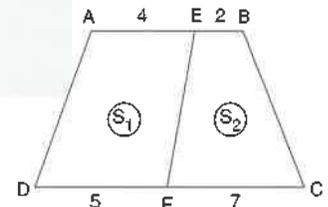
A) 96 B) 78 C) 60 D) 58 E) 52

6.  ABCD yamuk
 ABCD trapezoid
 $|AE| = |EB|$
 $2|DC| = 3|AB|$
 $A(BFC) = 18 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

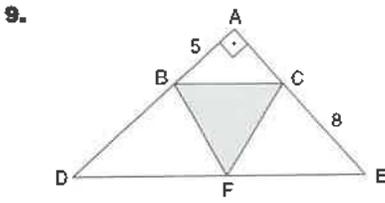
A) 144 B) 120 C) 114 D) 98 E) 84

7.  ABCD yamuk
 ABCD trapezoid
 $A(EFLM) = 20 \text{ br}^2$
 $A(BLC) = 8 \text{ br}^2$
 $\Rightarrow A(ADE) = ?$

A) 28 B) 24 C) 16 D) 12 E) 8

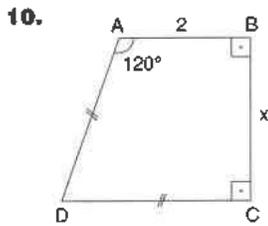
8.  ABCD yamuk
 ABCD trapezoid
 $|AE| = 4 \text{ br}$
 $|EB| = 2 \text{ br}$
 $|DF| = 5 \text{ br}$
 $|FC| = 7 \text{ br}$
 $A(AEFD) = S_1$
 $A(EBCF) = S_2$
 $\Rightarrow \frac{S_1}{S_2} = ?$

A) 2 B) 1 C) $\frac{4}{5}$ D) $\frac{2}{5}$ E) $\frac{1}{7}$



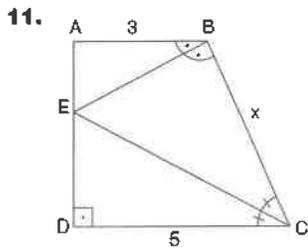
BCED yamuk
 BCED trapezoid
 $[DA] \perp [EA]$
 $|AB| = 5$ br
 $|CE| = 8$ br
 $\Rightarrow A(BCF) = ?$

- A) 80 B) 60 C) 40 D) 20 E) 10



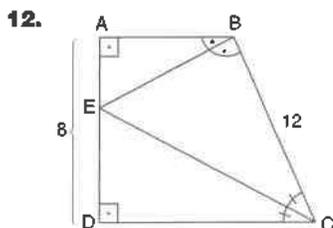
ABCD dik yamuk
 ABCD right trapezoid
 $|AD| = |DC|$
 $m(\widehat{DAB}) = 120^\circ$
 $|AB| = 2$ br
 $\Rightarrow |BC| = x = ?$

- A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) 8



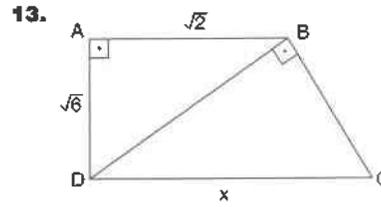
ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [DC]$
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $|AB| = 3$ br
 $|DC| = 5$ br
 $\Rightarrow |BC| = x = ?$

- A) 10 B) 8 C) 6 D) 5 E) 3



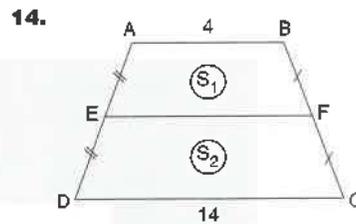
ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [DC]$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $m(\widehat{BCE}) = m(\widehat{ECD})$
 $|AD| = 8$ br
 $|BC| = 12$ br
 $\Rightarrow A(ABCD) = ?$

- A) 96 B) 84 C) 72 D) 56 E) 48



ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [AB]$
 $[DB] \perp [BC]$
 $|AB| = \sqrt{2}$ br
 $|AD| = \sqrt{6}$ br
 $\Rightarrow |DC| = x = ?$

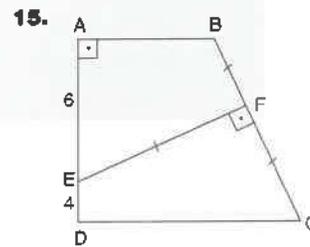
- A) $2\sqrt{3}$ B) $4\sqrt{2}$ C) $\sqrt{2} + 3$
 D) $2\sqrt{2} + 4$ E) $4\sqrt{2} + 3$



ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $|BF| = |FC|$
 $|AB| = 4$ br
 $|DC| = 14$ br

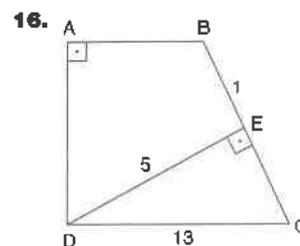
$A(ABFE) = S_1$ $A(EFCD) = S_2$ $\Rightarrow \frac{S_2}{S_1} = ?$

- A) $\frac{2}{7}$ B) $\frac{13}{23}$ C) 1 D) $\frac{23}{13}$ E) 2



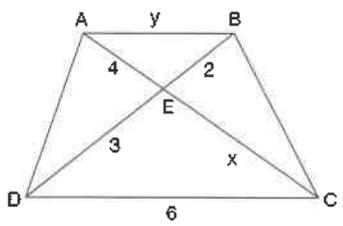
ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [AB]$
 $[EF] \perp [BC]$
 $|BF| = |FC| = |EF|$
 $|AE| = 6$ br
 $|ED| = 4$ br
 $\Rightarrow A(ABCD) = ?$

- A) 100 B) 80 C) 75 D) 50 E) 25

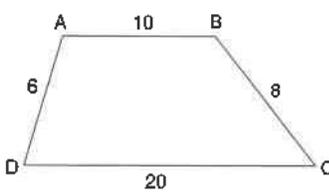


ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [AB]$
 $[DE] \perp [BC]$
 $|BE| = 1$ br
 $|DC| = 13$ br
 $|DE| = 5$ br
 $\Rightarrow A(ABCD) = ?$

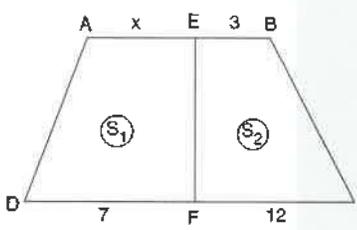
- A) 144 B) 72 C) 35 D) 28 E) 26

1.  ABCD yamuk
 ABCD trapezoid
 $|AE| = 4 \text{ br}$
 $|BE| = 2 \text{ br}$
 $|DE| = 3 \text{ br}$
 $|DC| = 6 \text{ br}$
 $|CE| = x$
 $|AB| = y$
 $\Rightarrow x + y = ?$

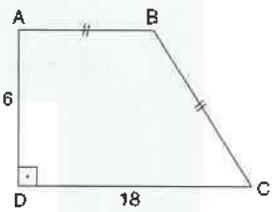
A) 6 B) 8 C) 9 D) 10 E) 12

5.  ABCD yamuk
 ABCD trapezoid
 $|AB| = 10 \text{ br}$
 $|BC| = 8 \text{ br}$
 $|DC| = 20 \text{ br}$
 $|AD| = 6 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

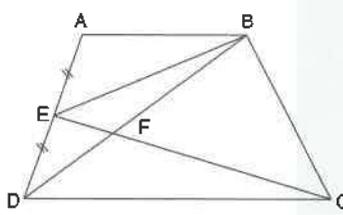
A) 24 B) 48 C) 64 D) 72 E) 108

2.  ABCD yamuk
 ABCD trapezoid
 $S_1 = S_2$
 $|EB| = 3 \text{ br}$
 $|DF| = 7 \text{ br}$
 $|FC| = 12 \text{ br}$
 $\Rightarrow |AE| = x = ?$

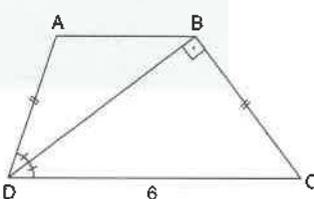
A) 10 B) 8 C) 7 D) 6 E) 5

6.  ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [DC]$
 $|AB| = |BC|$
 $|AD| = 6 \text{ br}$
 $|DC| = 18 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

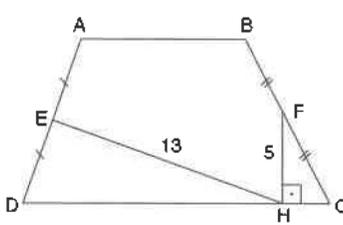
A) 144 B) 128 C) 112 D) 100 E) 84

3.  ABCD yamuk
 ABCD trapezoid
 $|AE| = |ED|$
 $A(EFD) = 2 \text{ br}^2$
 $A(BFC) = 12 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

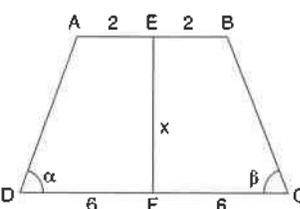
A) 48 B) 44 C) 42 D) 36 E) 30

7.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $[DB] \perp [BC]$
 $|AD| = |BC|$
 $|DC| = 6 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

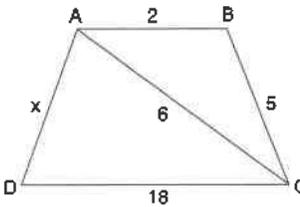
A) 6 B) $\frac{9\sqrt{3}}{2}$ C) $6\sqrt{3}$ D) $9\sqrt{3}$ E) $\frac{27\sqrt{3}}{4}$

4.  ABCD yamuk
 ABCD trapezoid
 $[FH] \perp [DC]$
 $|AE| = |ED|$
 $|BF| = |FC|$
 $|FH| = 5 \text{ br}$
 $|EH| = 13 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

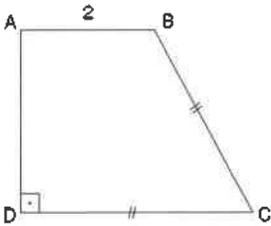
A) 130 B) 120 C) 100 D) 65 E) 60

8.  ABCD yamuk
 ABCD trapezoid
 $\alpha + \beta = 90^\circ$
 $|AE| = |EB| = 2 \text{ br}$
 $|DF| = |FC| = 6 \text{ br}$
 $\Rightarrow |EF| = x = ?$

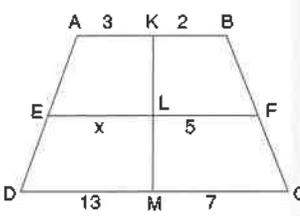
A) 1 B) 2 C) 3 D) 4 E) 5

9.  ABCD yamuk
 ABCD trapezoid
 $|AB| = 2$ br
 $|BC| = 5$ br
 $|AC| = 6$ br
 $|DC| = 18$ br
 $\Rightarrow |AD| = x = ?$

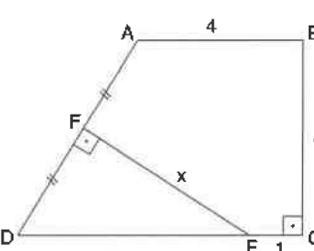
A) 5 B) 10 C) 15 D) 20 E) 24

10.  ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [DC]$
 $|DC| = |BC|$
 $|AB| = 2$ br
 $\hat{C}(ABCD) = 28$ br
 $\Rightarrow A(ABCD) = ?$

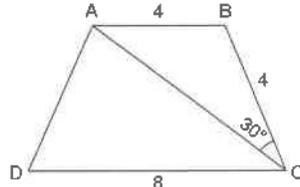
A) 30 B) 36 C) 40 D) 48 E) 60

11.  ABCD yamuk
 ABCD trapezoid
 $[EF] \parallel [DC]$
 $|AK| = 3$ br
 $|KB| = 2$ br
 $|DM| = 13$ br
 $|MC| = 7$ br
 $|LF| = 5$ br
 $\Rightarrow |EL| = x = ?$

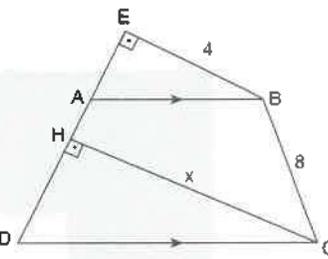
A) 11 B) 10 C) 9 D) 7 E) 6

12.  ABCD dik yamuk
 ABCD right trapezoid
 $[BC] \perp [DC]$
 $[EF] \perp [AD]$
 $|AF| = |FD|$
 $|AB| = |BC| = 4$ br
 $|EC| = 1$ br
 $\Rightarrow |FE| = x = ?$

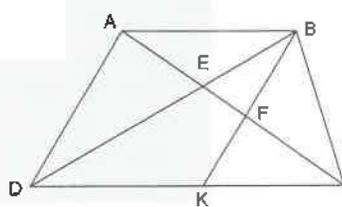
A) $\sqrt{5}$ B) $2\sqrt{5}$ C) 5 D) $5\sqrt{2}$ E) 10

13.  ABCD yamuk
 ABCD trapezoid
 $m(\widehat{ACB}) = 30^\circ$
 $|AB| = |BC| = 4$ br
 $|DC| = 8$ br
 $\Rightarrow A(ABCD) = ?$

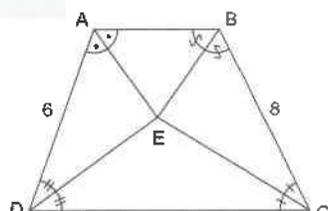
A) 12 B) $8\sqrt{3}$ C) $12\sqrt{3}$ D) 24 E) $24\sqrt{3}$

14.  ABCD yamuk
 ABCD trapezoid
 $[EB] \perp [DE]$
 $[CH] \perp [DE]$
 $|EB| = 4$ br
 $|AD| = |BC| = 8$ br
 $A(ABCD) = 40$ br²
 $\Rightarrow |CH| = x = ?$

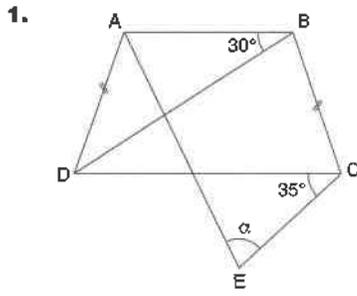
A) 1 B) 2 C) 3 D) 4 E) 6

15.  ABCD yamuk
 ABCD trapezoid
 ABKD paralelkenar
 ABKD paralelkenar
 $|DE| = 3|EB|$
 $A(EBF) = S_1$
 $A(DEFK) = S_2$
 $= \frac{S_2}{S_1} = ?$

A) 11 B) $\frac{17}{3}$ C) 4 D) $\frac{7}{2}$ E) 3

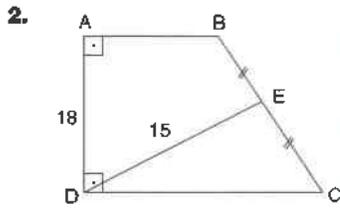
16.  ABCD yamuk
 ABCD trapezoid
 $[AE], [BE], [CE], [DE]$ açıortay
 $[AE], [BE], [CE], [DE]$ bisector
 $|AD| = 6$ br
 $|BC| = 8$ br
 $\Rightarrow \hat{C}(ABCD) = ?$

A) 20 B) 26 C) 28 D) 30 E) 32



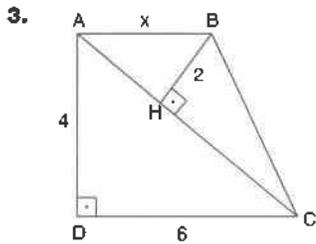
ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $|AD| = |BC|$
 $|AE| = |BD|$
 $m(\widehat{ABD}) = 30^\circ$
 $m(\widehat{DCE}) = 35^\circ$
 $\Rightarrow m(\widehat{AEC}) = \alpha = ?$

- A) 15 B) 30 C) 35 D) 65 E) 70



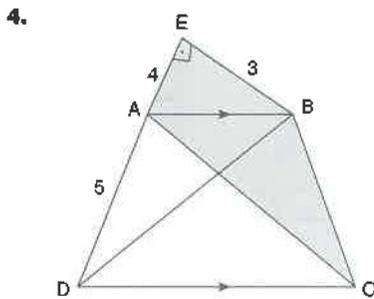
ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [DC]$
 $|BE| = |EC|$
 $|AD| = 18$ br
 $|DE| = 15$ br
 $\Rightarrow A(ABCD) = ?$

- A) 120 B) 135 C) 196 D) 216 E) 270



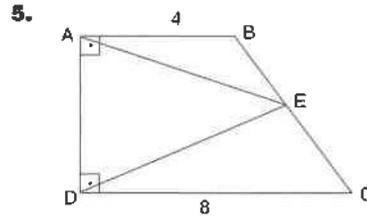
ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [DC]$
 $[BH] \perp [AC]$
 $|BH| = 2$ br
 $|AD| = 4$ br
 $|DC| = 6$ br
 $\Rightarrow |AB| = x = ?$

- A) $\sqrt{13}$ B) $\frac{10}{3}$ C) 4 D) $\frac{20}{3}$ E) $2\sqrt{13}$



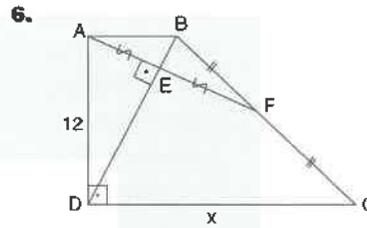
ABCD yamuk
 ABCD trapezoid
 $[BE] \perp [ED]$
 $|BE| = 3$ br
 $|AE| = 4$ br
 $|AD| = 5$ br
 $\Rightarrow A(AEBC) = ?$

- A) $\frac{27}{2}$ B) 16 C) 18 D) 24 E) 27



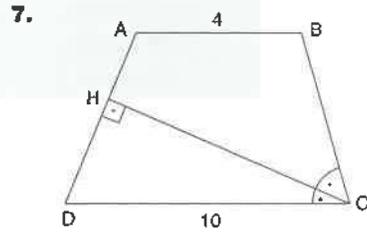
ABCD dik yamuk
 ABCD right trapezoid
 AED eşkenar üçgen
 AED equilateral triangle
 $[AD] \perp [DC]$
 $|AB| = 4$ br
 $|DC| = 8$ br
 $\Rightarrow A(ABCD) = ?$

- A) 12 B) $12\sqrt{3}$ C) 24 D) $24\sqrt{3}$ E) 36



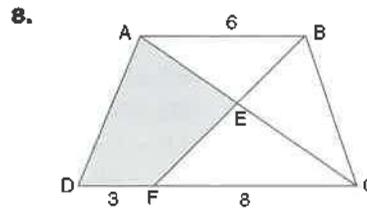
ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [DC]$
 $[AF] \perp [BD]$
 $|BF| = |FC|$
 $|AE| = |EF|$
 $|AD| = 12$ br
 $\Rightarrow |DC| = x = ?$

- A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) 10 D) $8\sqrt{3}$ E) 12



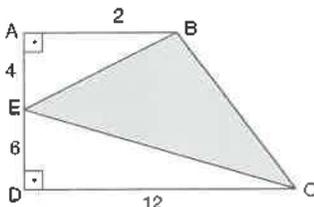
ABCD yamuk
 ABCD trapezoid
 $|AD| = |BC|$
 $m(\widehat{DCH}) = m(\widehat{HCB})$
 $|AB| = 4$ br
 $|DC| = 10$ br
 $\Rightarrow A(ABCD) = ?$

- A) $24\sqrt{3}$ B) $21\sqrt{3}$ C) $18\sqrt{3}$ D) 18 E) $9\sqrt{3}$

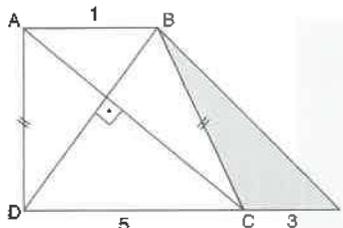


ABCD yamuk
 ABCD trapezoid
 $|AB| = 6$ br
 $|DF| = 3$ br
 $|FC| = 8$ br
 $A(BEC) = 12$ br²
 $\Rightarrow A(AEFD) = ?$

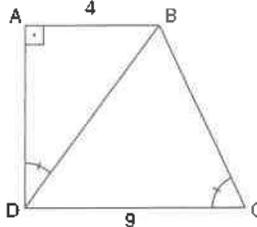
- A) $\frac{21}{2}$ B) 12 C) $\frac{45}{2}$ D) 36 E) 54

9.  ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [DC]$
 $|AB| = 2$ br
 $|AE| = 4$ br
 $|ED| = 6$ br
 $|DC| = 12$ br
 $\Rightarrow A(EBC) = ?$

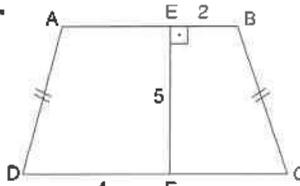
- A) 50 B) 40 C) 36 D) 30 E) 25

10.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $|AD| = |BC|$
 $[BD] \perp [AC]$
 $|AB| = 1$ br
 $|CE| = 3$ br
 $|DC| = 5$ br
 $\Rightarrow A(BCE) = ?$

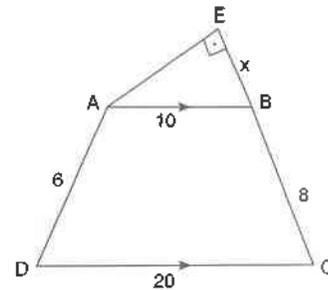
- A) 18 B) 15 C) 12 D) 9 E) $\frac{9}{2}$

11.  ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [AB]$
 $m(\widehat{ADB}) = m(\widehat{BCD})$
 $|AB| = 4$ br
 $|DC| = 9$ br
 $\Rightarrow A(ABCD) = ?$

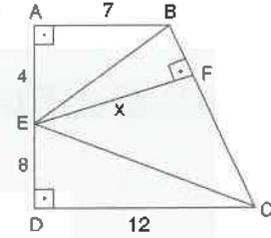
- A) $36\sqrt{3}$ B) 36 C) 24 D) $13\sqrt{5}$ E) 13

12.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $|AD| = |BC|$
 $|EB| = 2$ br
 $|EF| = 5$ br
 $|DF| = 4$ br
 $\Rightarrow A(ABCD) = ?$

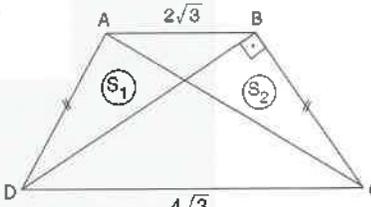
- A) 24 B) 25 C) 30 D) 36 E) 40

13.  ABCD yamuk
 ABCD trapezoid
 $[CE] \perp [AE]$
 $|AB| = 10$ br
 $|BC| = 8$ br
 $|AD| = 6$ br
 $|DC| = 20$ br
 $\Rightarrow |EB| = x = ?$

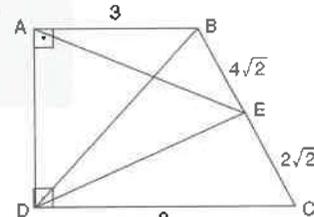
- A) 3,6 B) 4,8 C) 6 D) 8 E) 9,6

14.  ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [DC]$
 $[EF] \perp [BC]$
 $|AB| = 7$ br
 $|AE| = 4$ br
 $|ED| = 8$ br
 $|DC| = 12$ br
 $\Rightarrow |EF| = x = ?$

- A) 10 B) 8 C) 6 D) 5 E) 4

15.  ABCD ikizkenar yamuk
 ABCD isosceles trapezoid
 $[BD] \perp [BC]$
 $|AD| = |BC|$
 $|AB| = 2\sqrt{3}$ br
 $|DC| = 4\sqrt{3}$ br
 $\Rightarrow S_1 + S_2 = ?$

- A) $4\sqrt{3}$ B) 6 C) $6\sqrt{3}$ D) 8 E) $8\sqrt{3}$

16.  ABCD dik yamuk
 ABCD right trapezoid
 $[AD] \perp [DC]$
 $|AB| = 3$ br
 $|BE| = 4\sqrt{2}$ br
 $|EC| = 2\sqrt{2}$ br
 $|DC| = 9$ br
 $|AE| = x$
 $|DE| = y$
 $\Rightarrow \frac{x^2}{y^2} = ?$

- A) 2 B) $\frac{7}{4}$ C) $\frac{65}{53}$ D) $\frac{5}{16}$ E) $\frac{2}{51}$



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	C	D	A	D	A	C	D	E	A	C	B	D	E	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	E	B	C	B	A	C	C	B	E	C	E	D	C	D

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	C	A	C	C	B	A	E	D	C	B	C	D	D	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	A	A	B	E	E	E	D	A	B	E	A	E	B

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	C	B	D	E	D	C	C	B	C	B	A	E	E	E

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	C	E	E	B	D	B	A	B	D	A	B	D	D	C	B

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	C	C	C	B	D	B	D	B	B	E	B	D	D	C

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	E	B	D	E	E	D	C	B	C	B	C	E	A	C

TEST 9

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	D	A	A	D	D	B	C	D	E	D	C	D	B	A	C

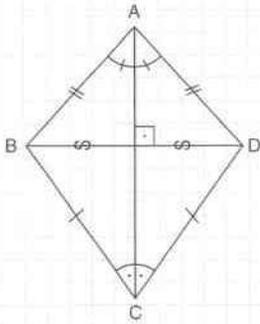


DELTOID

DELTOID

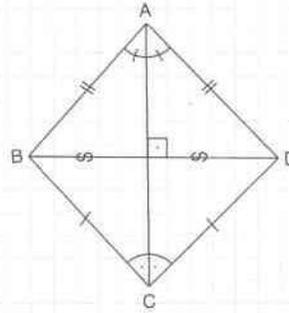
DELTOİD

ÖZELLİK | Property 1

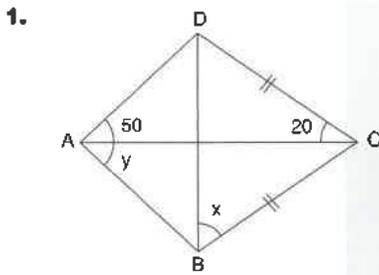


ABCD deltoid
 ABCD deltoid
 $m(\widehat{ABC}) = m(\widehat{ADC})$

ÖZELLİK | Property 2

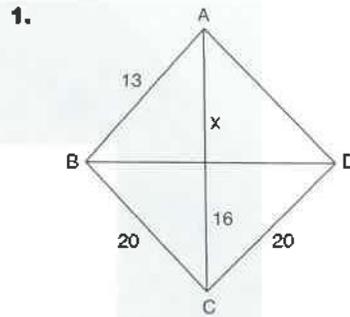


ABCD deltoid
 ABCD deltoid
 $[AC] \perp [BD]$



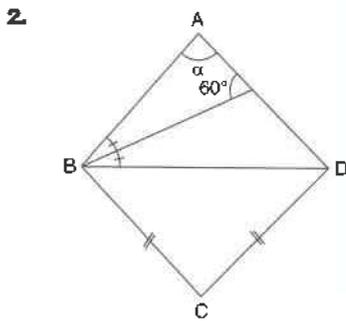
ABCD deltoid
 ABCD deltoid
 $\Rightarrow x - y = ?$

20



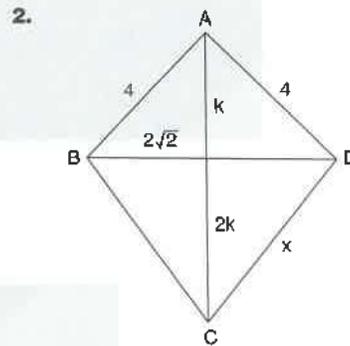
ABCD deltoid
 ABCD deltoid
 $\Rightarrow x = ?$

5



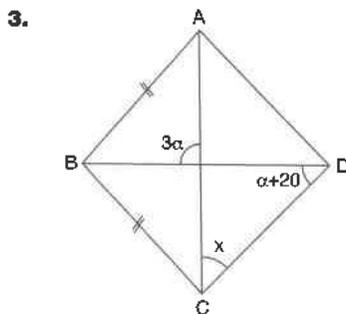
ABCD deltoid
 ABCD deltoid
 $\Rightarrow \alpha = ?$

100



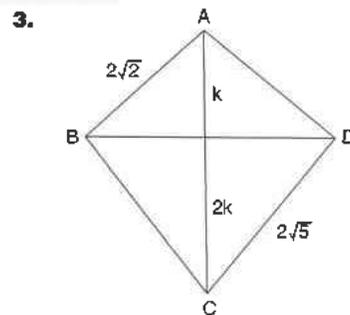
ABCD deltoid
 ABCD deltoid
 $\Rightarrow x = ?$

2*sqrt(10)



ABCD deltoid
 ABCD deltoid
 $\Rightarrow x = ?$

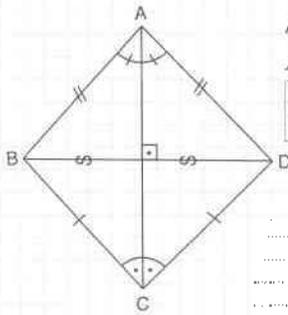
40



ABCD deltoid
 ABCD deltoid
 $\Rightarrow |BD| = ?$

4

ÖZELLİK | Property 3

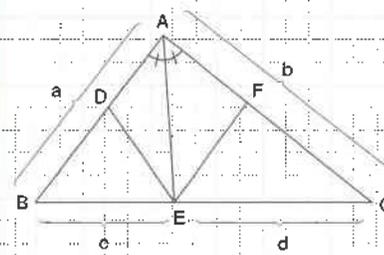


ABCD deltoid

ABCD deltoid

$$A(ABCD) = \frac{1}{2} |AC| \cdot |BD|$$

ÖZELLİK | Property 4

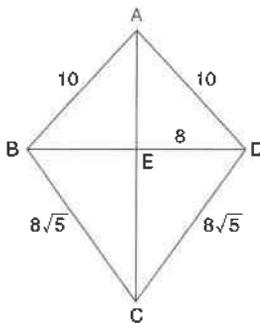


ADEF deltoid

ADEF deltoid

$$\frac{a}{c} = \frac{b}{d}$$

1.



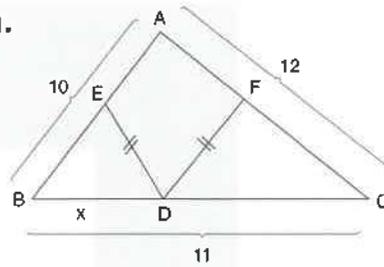
ABCD deltoid

ABCD deltoid

$$\Rightarrow A(ABCD) = ?$$

176

1.



AEDF deltoid

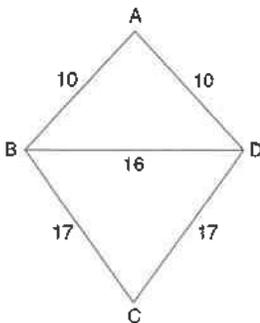
ABCD deltoid

$$\Rightarrow x = ?$$

5

PUZAYAYINLARI

2.



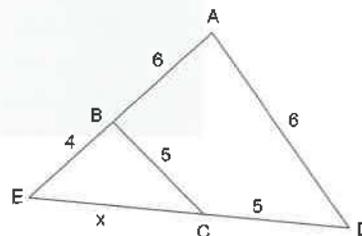
ABCD deltoid

ABCD deltoid

$$\Rightarrow A(ABCD) = ?$$

168

2.



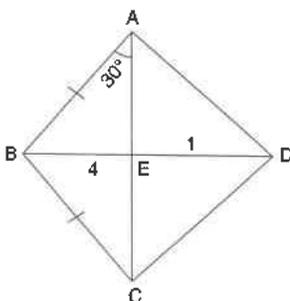
ABCD deltoid

ABCD deltoid

$$\Rightarrow x = ?$$

$\frac{25}{3}$

3.



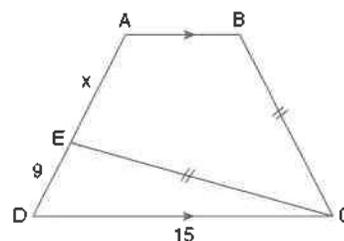
ABCD deltoid

ABCD deltoid

$$\Rightarrow A(ABCD) = ?$$

$20\sqrt{3}$

3.



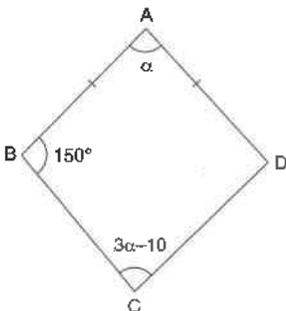
ABCE deltoid

ABCE deltoid

$[AB] \parallel [DC]$

$$\Rightarrow x = ?$$

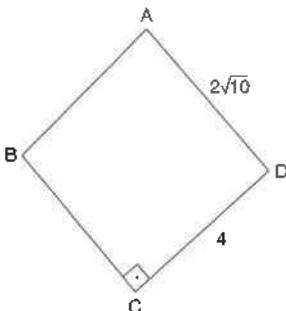
6

1. 

A) 15 B) 17,5 C) 20

ABCD deltoid
 ABCD deltoid
 $|AB| = |AD|$
 $m(\widehat{ABC}) = 150^\circ$
 $m(\widehat{BCD}) = 3\alpha - 10^\circ$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$

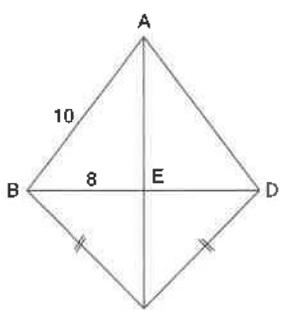
D) 22,5 E) 25

2. 

A) 32 B) 24 C) 8

ABCD deltoid
 ABCD deltoid
 $[BC] \perp [DC]$
 $|AD| = 2\sqrt{10}$ br
 $|DC| = 4$ br
 $\Rightarrow A(ABCD) = ?$

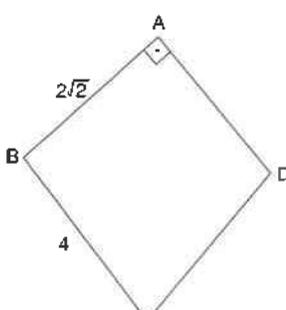
D) 6 E) 4

3. 

A) 72 B) 54 C) 48

ABCD deltoid
 ABCD deltoid
 $|BE| = 8$ br
 $|AB| = 10$ br
 $|AE| = 2|EC|$
 $|BC| = |CD|$
 $\Rightarrow A(ABCD) = ?$

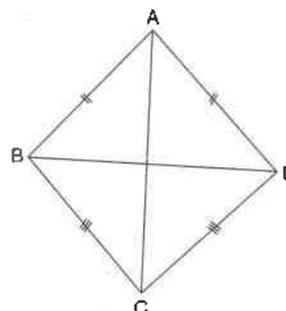
D) 36 E) 18

4. 

A) $4\sqrt{3}$ B) $2\sqrt{3} + 4$ C) $4\sqrt{3} + 4$

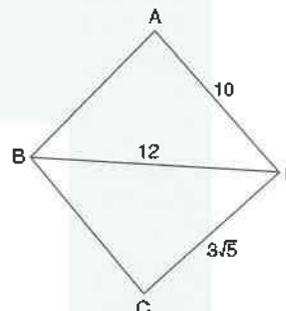
D) $8\sqrt{3}$ E) $8\sqrt{3} + 4$

ABCD deltoid
 ABCD deltoid
 $[AB] \perp [AD]$
 $|AB| = |AD|$
 $|AB| = 2\sqrt{2}$ br
 $|BC| = 4$ br
 $\Rightarrow A(ABCD) = ?$

5. 

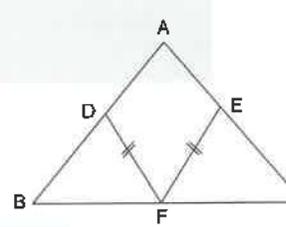
A) 15 B) $15\sqrt{3}$ C) 30 D) $30\sqrt{3}$ E) 60

ABCD deltoid
 ABCD deltoid
 $|BA| = |AD|$
 $|BC| = |CD|$
 $|AC| = 10$ br
 $|BD| = 6$ br
 $\Rightarrow A(ABCD) = ?$

6. 

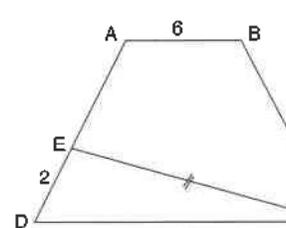
A) 21 B) 33 C) 42 D) 44 E) 66

ABCD deltoid
 ABCD deltoid
 $|AD| = 10$ br
 $|CD| = 3\sqrt{5}$ br
 $|BD| = 12$ br
 $\Rightarrow A(ABCD) = ?$

7. 

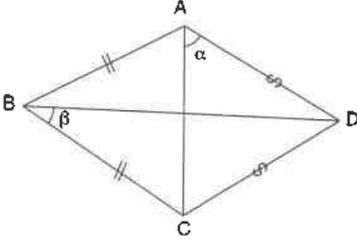
A) 3 B) 4 C) 6 D) 8 E) 9

ADFE deltoid
 ADFE deltoid
 $|BF| = 4$ br
 $|FC| = 3$ br
 $|AB| = 8$ br
 $|DF| = |FE|$
 $\Rightarrow |AC| = ?$

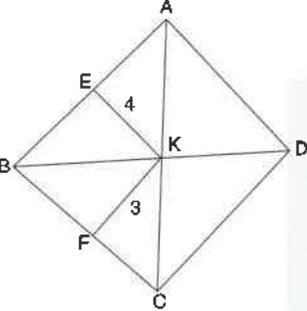
8. 

A) 6 B) 8 C) 10 D) 12 E) 16

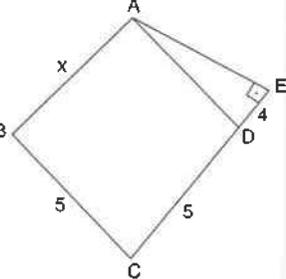
ABCE deltoid
 ABCE deltoid
 $[AB] \parallel [DC]$
 $|EC| = |BC|$
 $|AB| = 6$ br
 $|DE| = 2$ br
 $\Rightarrow |DC| = x = ?$

9.  ABCD deltoid
 ABCD deltoid
 $m(\widehat{BAC}) = 48^\circ$
 $m(\widehat{BDC}) = 24^\circ$
 $m(\widehat{CAD}) = \alpha$
 $m(\widehat{DBC}) = \beta$
 $\Rightarrow \alpha + \beta = ?$

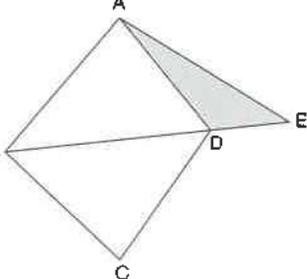
A) 18 B) 72 C) 96 D) 98 E) 108

10.  ABCD deltoid
 ABCD deltoid
 $|AE| = |EB|$
 $|BF| = |FC|$
 $|KE| = 4$ br
 $|KF| = 3$ br
 $\Rightarrow \angle(ABCD) = ?$

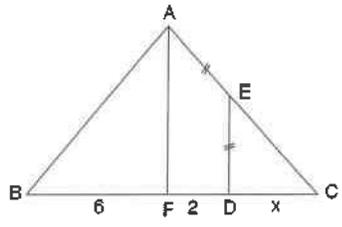
A) 14 B) 21 C) 28 D) 35 E) 42

11.  $[AE] \perp [CE]$
 ABCD deltoid
 ABCD deltoid
 $|DE| = 4$ br
 $|CD| = 5$ br
 $|BC| = 5$ br
 $2m(\widehat{DAE}) = m(\widehat{BAD})$
 $\Rightarrow |AB| = x = ?$

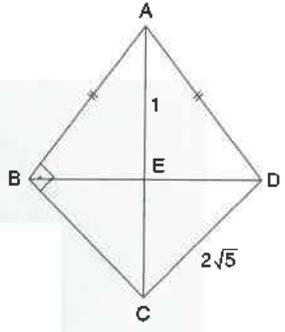
A) 15 B) 13 C) 12 D) $4\sqrt{10}$ E) $2\sqrt{37}$

12.  ABCD deltoid
 ABCD deltoid
 $|AB| = |AD| = 16$ br
 $m(\widehat{BAD}) = 120^\circ$
 $m(\widehat{DAE}) = 15^\circ$
 $\Rightarrow A(ADE) = ?$

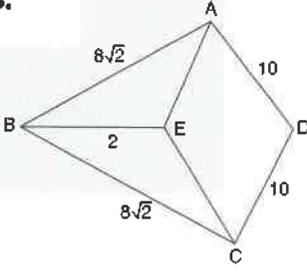
A) 64 B) $48\sqrt{3}$ C) $48\sqrt{2}$ D) 48 E) $16\sqrt{3}$

13.  ABDE deltoid
 ABDE deltoid
 $|AE| = |ED|$
 $[AF] \parallel [DE]$
 $|BF| = 6$ br
 $|FD| = 2$ br
 $\Rightarrow |DC| = x = ?$

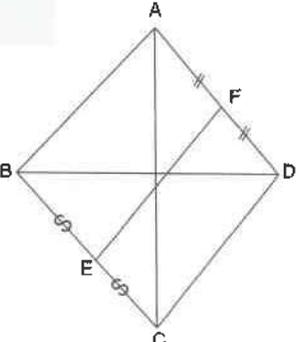
A) 2 B) $\frac{8}{3}$ C) 3 D) $\frac{15}{4}$ E) 5

14.  ABCD deltoid
 ABCD deltoid
 $[AB] \perp [BC]$
 $|AB| = |AD|$
 $|AE| = 1$ br
 $|CD| = 2\sqrt{5}$ br
 $\Rightarrow |EC| = x = ?$

A) 5 B) 4 C) $2\sqrt{3}$ D) 2 E) $\sqrt{3}$

15.  ABCD deltoid
 ABCD deltoid
 AECD eşkenar dörtgen
 AECD rhombus
 $|AB| = |BC| = 8\sqrt{2}$ br
 $|AD| = |DC| = 10$ br
 $|BE| = 2$ br
 $\Rightarrow A(AECD) = ?$

A) 32 B) 48 C) 54 D) 72 E) 96

16.  ABCD deltoid
 ABCD deltoid
 $|AF| = |FD|$
 $|BE| = |EC|$
 $|AC| = 8$ br
 $|BD| = 16$ br
 $\Rightarrow |EF| = ?$

A) 16 B) $8\sqrt{5}$ C) 8 D) $4\sqrt{5}$ E) 4



YANIT ANAHTARI | ANSWER KEY

TEST 1

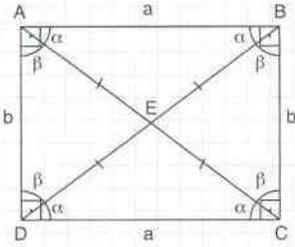
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	A	C	C	E	C	B	E	C	D	A	B	B	E	D



DIKDÖRTGEN
RECTANGLE

DİKDÖRTGEN

ÖZELLİK | Property 1

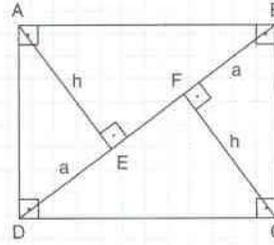


ABCD dikdörtgen
ABCD rectangle

$$\Ç(ABCD) = 2(a + b)$$

$$A(ABCD) = a \cdot b$$

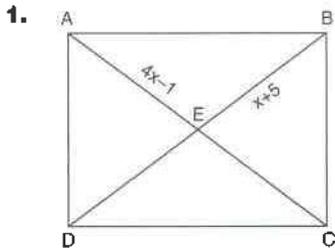
ÖZELLİK | Property 2



ABCD dikdörtgen
ABCD rectangle

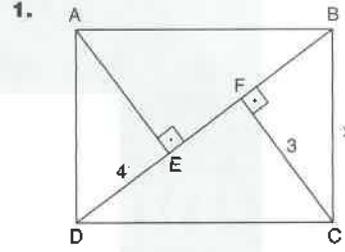
$$|BF| = |DE|$$

$$|FC| = |AE|$$



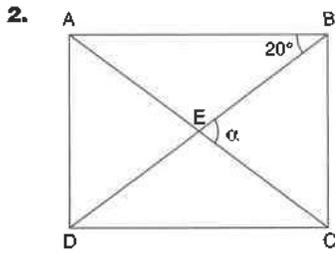
ABCD dikdörtgen
ABCD rectangle
 $\Rightarrow x = ?$

2



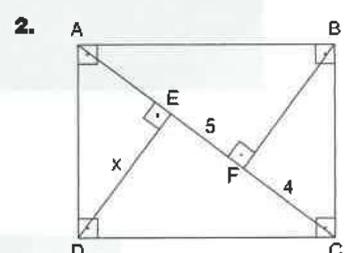
ABCD dikdörtgen
ABCD rectangle
 $\Rightarrow x = ?$

5



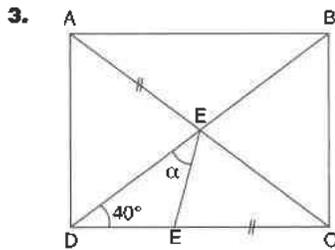
ABCD dikdörtgen
ABCD rectangle
 $\Rightarrow \alpha = ?$

40



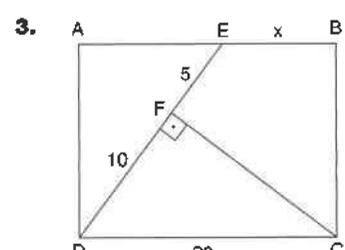
ABCD dikdörtgen
ABCD rectangle
 $\Rightarrow x = ?$

6



ABCD dikdörtgen
ABCD rectangle
 $\Rightarrow \alpha = ?$

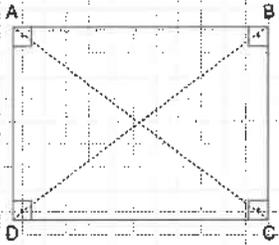
30



ABCD dikdörtgen
ABCD rectangle
 $\Rightarrow x = ?$

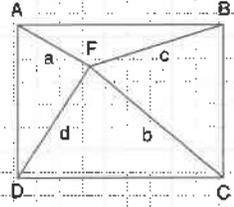
12,5

ÖZELLİK | Property 3

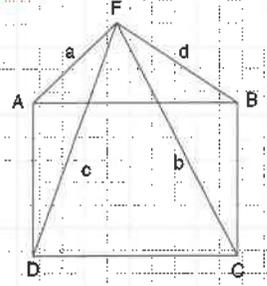


ABCD dikdörtgen
 ABCD rectangle
 $|AC| = |BD|$
 Köşegenler eşit
 Diagonals are equal

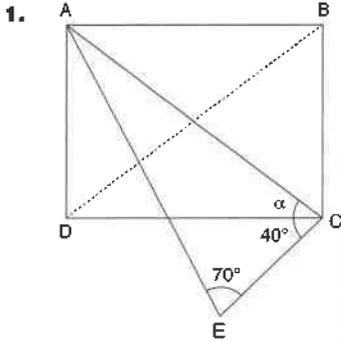
ÖZELLİK | Property 4



ABCD dikdörtgen
 ABCD rectangle



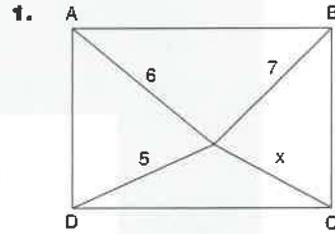
$$a^2 + b^2 = c^2 + d^2$$



$$|AE| = |BD|$$

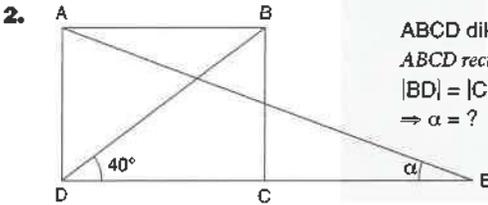
$$\Rightarrow \alpha = ?$$

30



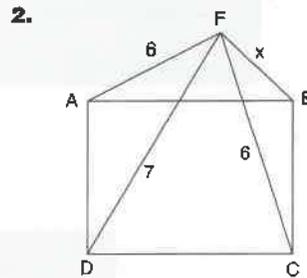
ABCD dikdörtgen
 ABCD rectangle
 $\Rightarrow x = ?$

$\sqrt{38}$



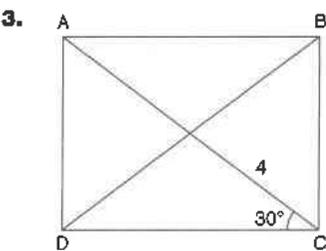
ABCD dikdörtgen
 ABCD rectangle
 $|BD| = |CE|$
 $\Rightarrow \alpha = ?$

20



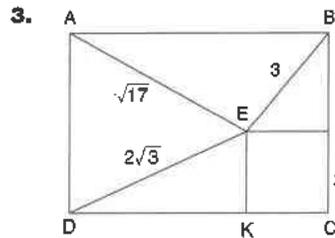
ABCD dikdörtgen
 ABCD rectangle
 $\Rightarrow x = ?$

$\sqrt{23}$



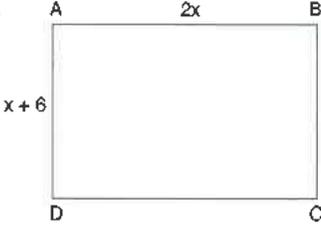
ABCD dikdörtgen
 ABCD rectangle
 $\Rightarrow A(ABCD) = ?$

$16\sqrt{3}$

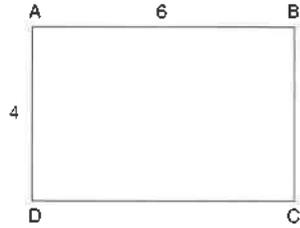


ABCD dikdörtgen
 ABCD rectangle
 EFCK kare
 EFCK square
 $\Rightarrow x = ?$

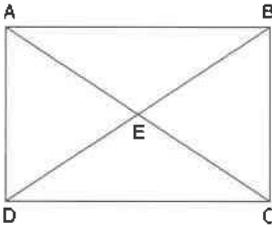
$\sqrt{2}$

1.  ABCD dikdörtgen
ABCD rectangle
 $|BC| = (2x - 4)$ br
 $|AD| = (x + 6)$ br
 $|AB| = (2x)$ br
 $\Rightarrow \text{Ç}(ABCD) = ?$

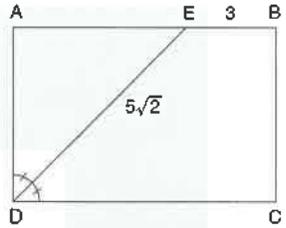
A) 10 B) 16 C) 20 D) 36 E) 72

5.  ABCD dikdörtgen
ABCD rectangle
 $|AB| = 6$ br
 $|AD| = 4$ br
 $\Rightarrow A(ABCD) = ?$

A) 6 B) 10 C) 12 D) 20 E) 24

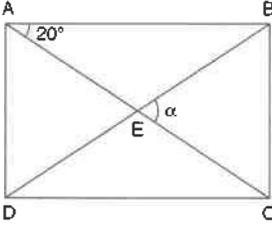
2.  ABCD dikdörtgen
ABCD rectangle
 $|AE| = 10$ br
 $|BE| = (2x + 4)$ br
 $\Rightarrow x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

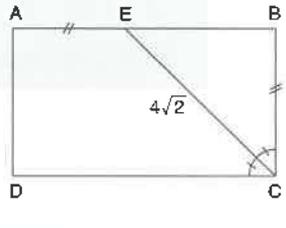
6.  ABCD dikdörtgen
ABCD rectangle
 $|EB| = 3$ br
 $|DE| = 5\sqrt{2}$ br
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $\Rightarrow A(ABCD) = ?$

A) 15 B) 20 C) 24 D) 35 E) 40

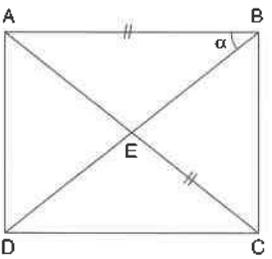
PUZZA YAYINLARI

3.  ABCD dikdörtgen
ABCD rectangle
 $m(\widehat{BAC}) = 20^\circ$
 $\Rightarrow m(\widehat{BEC}) = \alpha = ?$

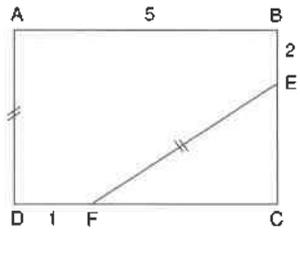
A) 20 B) 30 C) 40 D) 50 E) 60

7.  ABCD dikdörtgen
ABCD rectangle
 $|AE| = |BC|$
 $|EC| = 4\sqrt{2}$ br
 $m(\widehat{DCE}) = m(\widehat{ECB})$
 $\Rightarrow A(ABCD) = ?$

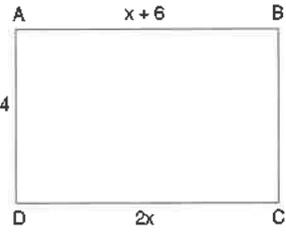
A) 16 B) 28 C) 32 D) 36 E) 40

4.  ABCD dikdörtgen
ABCD rectangle
 $|AB| = |EC|$
 $\Rightarrow m(\widehat{ABD}) = \alpha = ?$

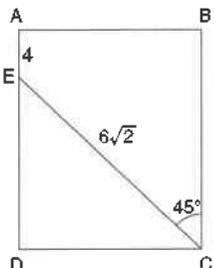
A) 15 B) 30 C) 45 D) 60 E) 75

8.  ABCD dikdörtgen
ABCD rectangle
 $|AD| = |EF| = 2$
 $|AB| = 5$ br
 $|BE| = 2$ br
 $|DF| = 1$ br
 $\Rightarrow A(ABCD) = ?$

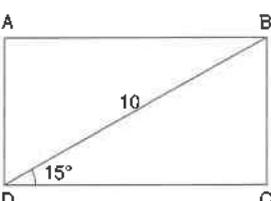
A) 20 B) 25 C) 30 D) 35 E) 40

9.  ABCD dikdörtgen
ABCD rectangle
 $|AB| = (x + 6)$ br
 $|AD| = 4$ br
 $|DC| = (2x)$ br
 $\Rightarrow A(ABCD) = ?$

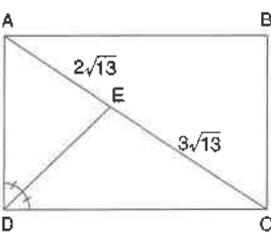
A) 36 B) 40 C) 48 D) 50 E) 56

10.  ABCD dikdörtgen
ABCD rectangle
 $|AE| = 4$ br
 $|EC| = 6\sqrt{2}$ br
 $m(\widehat{ECB}) = 45^\circ$
 $\Rightarrow A(ABCD) = ?$

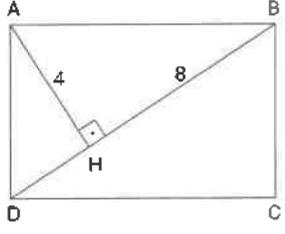
A) 60 B) 56 C) 48 D) 44 E) 40

11.  ABCD dikdörtgen
ABCD rectangle
 $|BD| = 10$ br
 $m(\widehat{BDC}) = 15^\circ$
 $\Rightarrow A(ABCD) = ?$

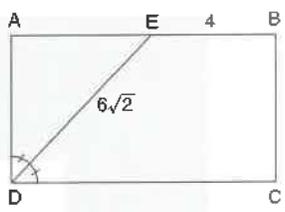
A) $\frac{25}{2}$ B) 20 C) 25 D) 30 E) 35

12.  ABCD dikdörtgen
ABCD rectangle
 $[DE]$ açıortay
 $[DE]$ bisector
 $|AE| = 2\sqrt{13}$ br
 $|EC| = 3\sqrt{13}$ br
 $\Rightarrow A(ABCD) = ?$

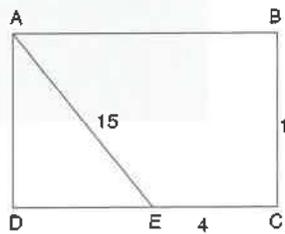
A) 100 B) 120 C) 130 D) 140 E) 150

13.  ABCD dikdörtgen
ABCD rectangle
 $[AH] \perp [BD]$
 $|AH| = 4$ br
 $|BH| = 8$ br
 $\Rightarrow \varphi(ABCD) = ?$

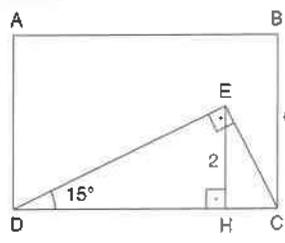
A) $4\sqrt{5}$ B) $8\sqrt{5}$ C) $10\sqrt{5}$ D) $12\sqrt{5}$ E) $18\sqrt{5}$

14.  ABCD dikdörtgen
ABCD rectangle
 $m(\widehat{ADE}) = m(\widehat{EDC})$
 $|EB| = 4$ br
 $|DE| = 6\sqrt{2}$ br
 $\Rightarrow \varphi(ABCD) = ?$

A) 24 B) 30 C) 32 D) 36 E) 40

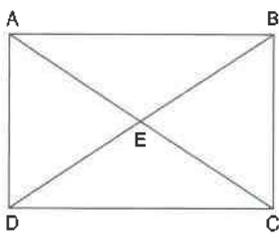
15.  ABCD dikdörtgen
ABCD rectangle
 $|AE| = 15$ br
 $|EC| = 4$ br
 $|BC| = 12$ br
 $\Rightarrow \varphi(ABCD) = ?$

A) 30 B) 40 C) 50 D) 60 E) 70

16.  ABCD dikdörtgen
ABCD rectangle
 $[EH] \perp [DC]$
 $[DE] \perp [EC]$
 $|BC| = 6$ br
 $|EH| = 2$ br
 $m(\widehat{EDC}) = 15^\circ$
 $\Rightarrow \varphi(ABCD) = ?$

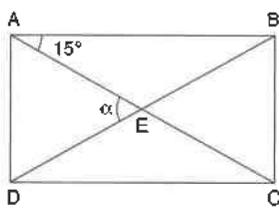
A) 16 B) 20 C) 26 D) 28 E) 30

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1.  A) 3 B) 6 C) 10

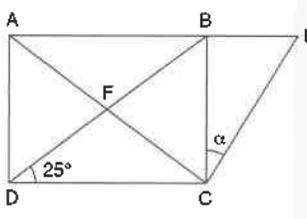
ABCD dikdörtgen
ABCD rectangle
 $|AE| = (3x - 4)$ br
 $|DE| = (x + 2)$ br
 $\Rightarrow |AC| = ?$

- D) 12 E) 15

2.  A) 20 B) 30 C) 40

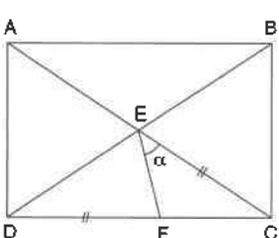
ABCD dikdörtgen
ABCD rectangle
 $m(\widehat{BAC}) = 15^\circ$
 $\Rightarrow m(\widehat{AED}) = \alpha = ?$

- D) 50 E) 60

3.  A) 25 B) 35 C) 45

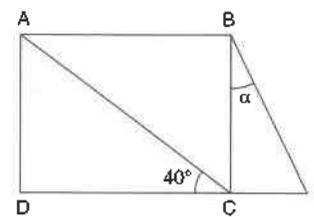
ABCD dikdörtgen
ABCD rectangle
 $|BD| = |EC|$
 $m(\widehat{BDC}) = 25^\circ$
 $\Rightarrow m(\widehat{BCE}) = \alpha = ?$

- D) 55 E) 65

4.  A) 60 B) 70 C) 75

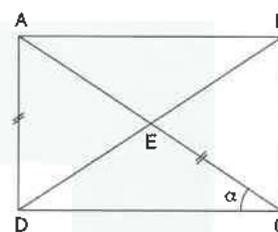
ABCD dikdörtgen
ABCD rectangle
 $|EC| = |DF|$
 $m(\widehat{DCA}) = 20^\circ$
 $\Rightarrow m(\widehat{FEC}) = \alpha = ?$

- D) 80 E) 85

5.  A) 10 B) 20 C) 30

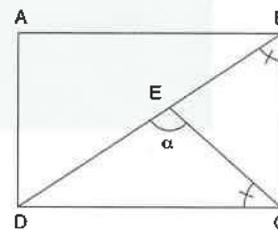
ABCD dikdörtgen
ABCD rectangle
 $|BE| = |AC|$
 $m(\widehat{ACD}) = 40^\circ$
 $\Rightarrow m(\widehat{CBE}) = \alpha = ?$

- D) 40 E) 50

6.  A) 15 B) 20 C) 30

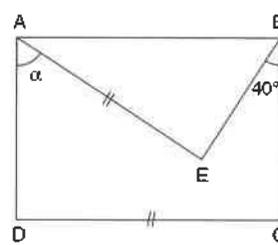
ABCD dikdörtgen
ABCD rectangle
 $|AD| = |EC|$
 $\Rightarrow m(\widehat{ACD}) = \alpha = ?$

- D) 45 E) 75

7.  A) 30 B) 45 C) 60

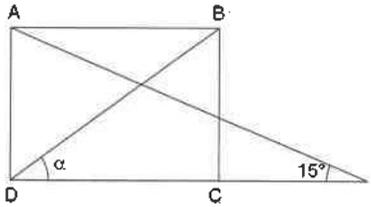
ABCD dikdörtgen
ABCD rectangle
 $m(\widehat{DBC}) = m(\widehat{ECD})$
 $\Rightarrow m(\widehat{DEC}) = \alpha = ?$

- D) 75 E) 90

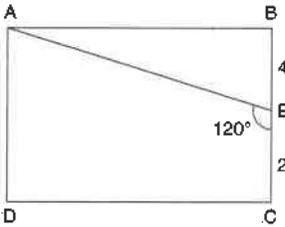
8.  A) 10 B) 20 C) 30

ABCD dikdörtgen
ABCD rectangle
 $m(\widehat{EBC}) = 40^\circ$
 $|AE| = |DC|$
 $\Rightarrow m(\widehat{DAE}) = \alpha = ?$

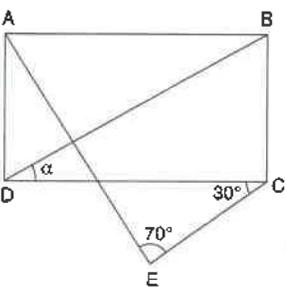
- D) 40 E) 50

9.  ABCD dikdörtgen
 ABCD rectangle
 $|BD| = |CE|$
 $m(\widehat{AED}) = 15^\circ$
 $\Rightarrow m(\widehat{BDE}) = \alpha = ?$

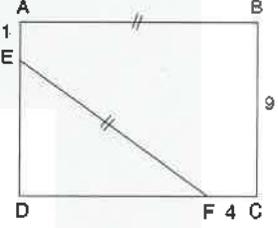
A) 20 B) 30 C) 40 D) 50 E) 60

13.  ABCD dikdörtgen
 ABCD rectangle
 $|BE| = 4$ br
 $|EC| = 2$ br
 $m(\widehat{AEC}) = 120^\circ$
 $\Rightarrow \angle(ABCD) = ?$

A) $8\sqrt{3} + 12$ B) $8\sqrt{3} + 6$ C) $4\sqrt{3} + 12$
 D) $4\sqrt{3} + 6$ E) $24\sqrt{3}$

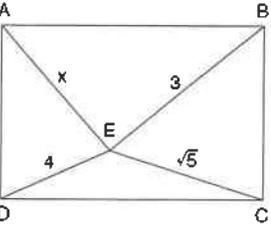
10.  ABCD dikdörtgen
 ABCD rectangle
 $|BD| = |AE|$
 $m(\widehat{DCE}) = 30^\circ$
 $m(\widehat{AEC}) = 70^\circ$
 $\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 50 B) 40 C) 35 D) 30 E) 25

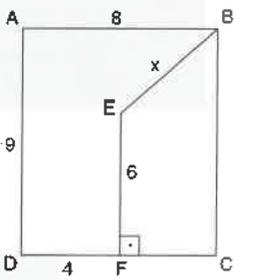
14.  ABCD dikdörtgen
 ABCD rectangle
 $|AE| = 1$ br
 $|FC| = 4$ br
 $|BC| = 9$ br
 $|AB| = |EF|$
 $\Rightarrow \angle(ABCD) = ?$

A) 10 B) 20 C) 28 D) 30 E) 38

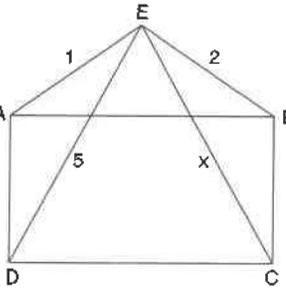
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11.  ABCD dikdörtgen
 ABCD rectangle
 $|EC| = \sqrt{5}$ br
 $|BE| = 3$ br
 $|DE| = 4$ br
 $\Rightarrow |AE| = x = ?$

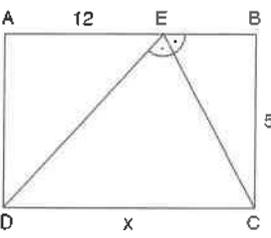
A) $\sqrt{6}$ B) $2\sqrt{5}$ C) $\sqrt{5}$ D) $2\sqrt{6}$ E) $2\sqrt{3}$

15.  ABCD dikdörtgen
 ABCD rectangle
 $[EF] \perp [DC]$
 $|AB| = 8$ br
 $|AD| = 9$ br
 $|DF| = 4$ br
 $|EF| = 6$ br
 $\Rightarrow |EB| = x = ?$

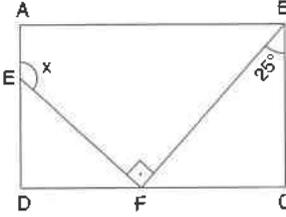
A) 1 B) 2 C) 3 D) 4 E) 5

12.  ABCD dikdörtgen
 ABCD rectangle
 $|AE| = 1$ br
 $|BE| = 2$ br
 $|DE| = 5$ br
 $\Rightarrow |CE| = x = ?$

A) $\sqrt{5}$ B) $\sqrt{7}$ C) $2\sqrt{5}$ D) $2\sqrt{7}$ E) 7

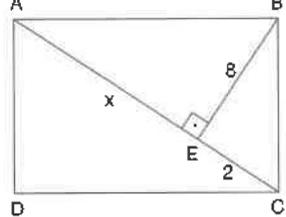
16.  ABCD dikdörtgen
 ABCD rectangle
 $m(\widehat{DEC}) = m(\widehat{CEB})$
 $|AE| = 12$ br
 $|BC| = 5$ br
 $\Rightarrow |DC| = x = ?$

A) 6 B) 7 C) 10 D) 13 E) 15

1. 

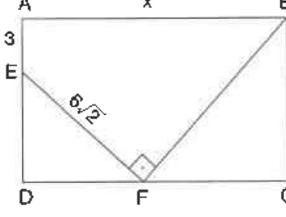
A) 120 B) 115 C) 110 D) 100 E) 95

ABCD dikdörtgen
ABCD rectangle
 $[EF] \perp [BF]$
 $m(\widehat{FBC}) = 25^\circ$
 $\Rightarrow m(\widehat{AEF}) = x = ?$

5. 

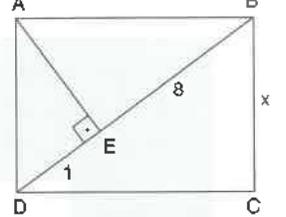
A) 1 B) 2 C) 16 D) 32 E) 36

ABCD dikdörtgen
ABCD rectangle
 $|BE| = 8$ br
 $|EC| = 2$ br
 $[BE] \perp [AC]$
 $\Rightarrow |AE| = x = ?$

2. 

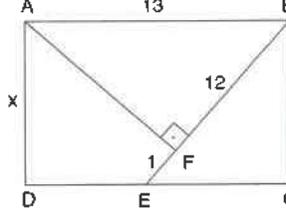
A) 6 B) 10 C) 15 D) 16 E) 18

ABCD dikdörtgen
ABCD rectangle
 $|AE| = 3$ br
 $|BC| = 9$ br
 $|EF| = 6\sqrt{2}$ br
 $[EF] \perp [BF]$
 $\Rightarrow |AB| = x = ?$

6. 

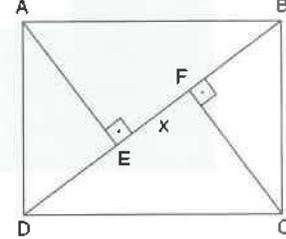
A) $\sqrt{2}$ B) $2\sqrt{2}$ C) 3 D) 4 E) $4\sqrt{2}$

ABCD dikdörtgen
ABCD rectangle
 $[AE] \perp [BD]$
 $|BE| = 8$ br
 $|DE| = 1$ br
 $\Rightarrow |BC| = x = ?$

3. 

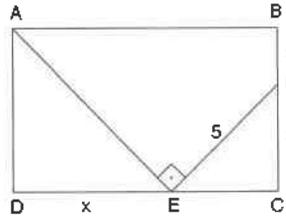
A) 5 B) 6 C) 7 D) 8 E) 9

ABCD dikdörtgen
ABCD rectangle
 $|AB| = 13$ br
 $|BF| = 12$ br
 $|EF| = 1$ br
 $[AF] \perp [BE]$
 $\Rightarrow |AD| = x = ?$

7. 

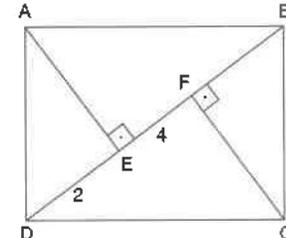
A) 3 B) 6 C) 8 D) 9 E) 11

ABCD dikdörtgen
ABCD rectangle
 $[CF] \perp [BD]$
 $[AE] \perp [BD]$
 $|CF| = 6$ br
 $|DF| = 12$ br
 $\Rightarrow |EF| = x = ?$

4. 

A) 2 B) 3 C) 4 D) 5 E) 6

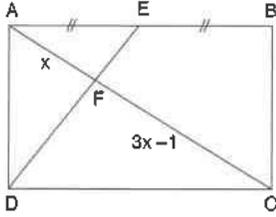
ABCD dikdörtgen
ABCD rectangle
 $[AE] \perp [EF]$
 $|EF| = |BF| = 5$ br
 $|FC| = 3$ br
 $\Rightarrow |DE| = x = ?$

8. 

A) $4\sqrt{3}$ B) $8\sqrt{3}$ C) $16\sqrt{3}$ D) $20\sqrt{3}$ E) $24\sqrt{3}$

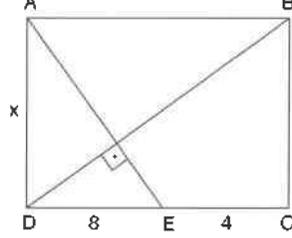
ABCD dikdörtgen
ABCD rectangle
 $[CF] \perp [BD]$
 $[AE] \perp [BD]$
 $|DE| = 2$ br
 $|EF| = 4$ br
 $\Rightarrow A(ABCD) = ?$

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9. 

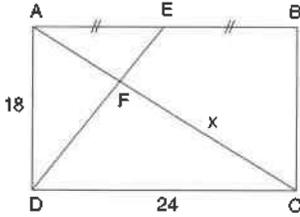
A) 1 B) 2 C) 3 D) 4 E) 5

ABCD dikdörtgen
ABCD rectangle
 $|AE| = |EB|$
 $|FC| = (3x - 1)$ br
 $\Rightarrow |AF| = x = ?$

13. 

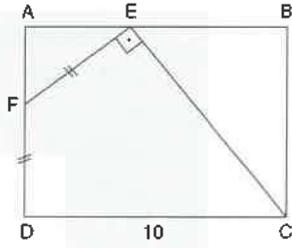
A) 2 B) $\sqrt{6}$ C) $2\sqrt{6}$ D) 6 E) $4\sqrt{6}$

ABCD dikdörtgen
ABCD rectangle
 $|AE| \perp |BD|$
 $|DE| = 8$ br
 $|EC| = 4$ br
 $\Rightarrow |AD| = x = ?$

10. 

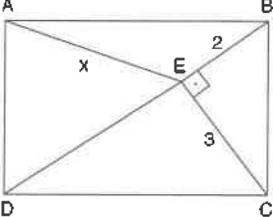
A) 19 B) 20 C) 21 D) 22 E) 23

ABCD dikdörtgen
ABCD rectangle
 $|AE| = |EB|$
 $|AD| = 18$ br
 $|DC| = 24$ br
 $\Rightarrow |FC| = x = ?$

14. 

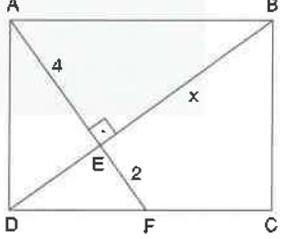
A) 10 B) 8 C) 4 D) $\frac{8}{3}$ E) 2

ABCD dikdörtgen
ABCD rectangle
 $|CE| \perp |EF|$
 $|EF| = |FD|$
 $|DC| = 10$ br
 $|BC| = 6$ br
 $\Rightarrow A(\triangle AEF) = ?$

11. 

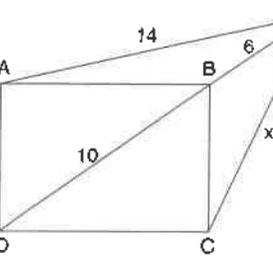
A) $\frac{\sqrt{13}}{2}$ B) $\sqrt{13}$ C) $\frac{\sqrt{61}}{4}$ D) $\frac{\sqrt{61}}{2}$ E) $\sqrt{61}$

ABCD dikdörtgen
ABCD rectangle
 $[BD]$ köşegen
 $[BD]$ diagonal line
 $|CE| \perp |BD|$
 $|CE| = 3$ br
 $|BE| = 2$ br
 $\Rightarrow |AE| = x = ?$

15. 

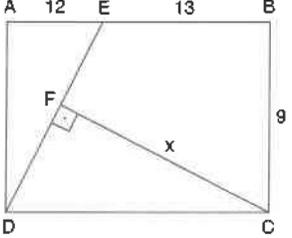
A) $2\sqrt{2}$ B) $4\sqrt{2}$ C) $8\sqrt{2}$ D) 9 E) $9\sqrt{2}$

ABCD dikdörtgen
ABCD rectangle
 $|AF| \perp |BD|$
 $|AE| = 4$ br
 $|EF| = 2$ br
 $\Rightarrow |BE| = x = ?$

12. 

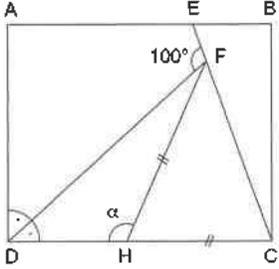
A) 100 B) $4\sqrt{6}$ C) 9 D) $6\sqrt{2}$ E) 8

ABCD dikdörtgen
ABCD rectangle
 $|AE| = 14$ br
 $|BD| = 10$ br
 $|BE| = 6$ br
 $\Rightarrow |CE| = x = ?$

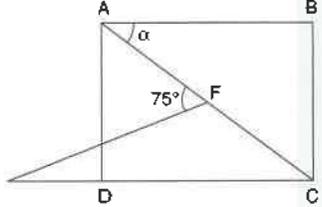
16. 

A) 10 B) 12 C) 13 D) 15 E) 16

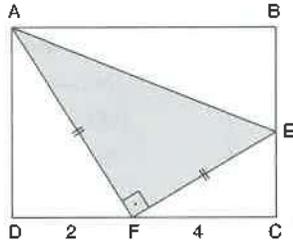
ABCD dikdörtgen
ABCD rectangle
 $|CF| \perp |DE|$
 $|BE| = 13$ br
 $|EA| = 12$ br
 $|BC| = 9$ br
 $\Rightarrow |CF| = x = ?$

1.  ABCD dikdörtgen
ABCD rectangle
 $|HF| = |HC|$
 $m(\widehat{ADF}) = m(\widehat{FDC})$
 $m(\widehat{EFD}) = 100^\circ$
 $\Rightarrow m(\widehat{DHF}) = \alpha = ?$

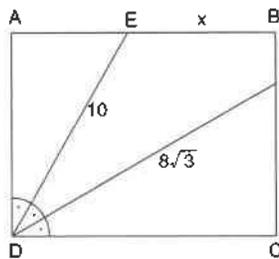
A) 100 B) 110 C) 115 D) 120 E) 125

2.  ABCD dikdörtgen
ABCD rectangle
 $|AF| = |FC| = |ED|$
 $m(\widehat{AFE}) = 75^\circ$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

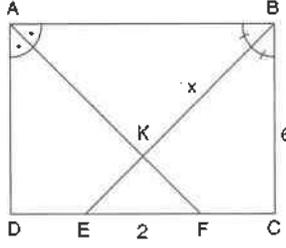
A) 20 B) 25 C) 30 D) 45 E) 50

3.  ABCD dikdörtgen
ABCD rectangle
 $[AF] \perp [FE]$
 $|AF| = |FE|$
 $|DF| = 2$ br
 $|FC| = 4$ br
 $\Rightarrow A(\widehat{AFE}) = ?$

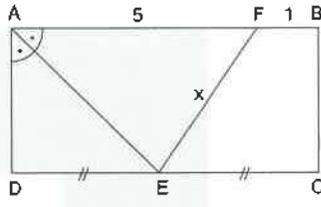
A) 10 B) 8 C) 6 D) 5 E) 4

4.  ABCD dikdörtgen
ABCD rectangle
 $m(\widehat{ADE}) = m(\widehat{EDF}) = m(\widehat{FDC})$
 $|DF| = 8\sqrt{3}$ br
 $|DE| = 10$ br
 $\Rightarrow |EB| = x = ?$

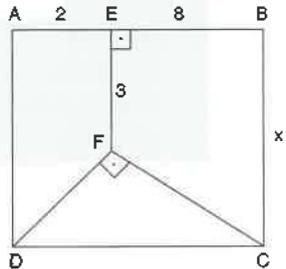
A) $4\sqrt{3}$ B) 7 C) 12 D) 14 E) 16

5.  ABCD dikdörtgen
ABCD rectangle
 $m(\widehat{DAF}) = m(\widehat{FAB})$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $|EF| = 2$ br
 $|BC| = 6$ br
 $\Rightarrow |BK| = x = ?$

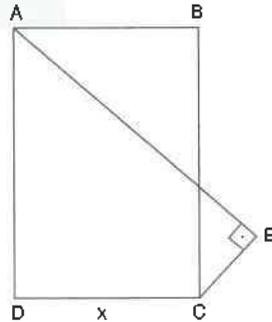
A) $\sqrt{2}$ B) $3\sqrt{2}$ C) $5\sqrt{2}$ D) 10 E) 12

6.  ABCD dikdörtgen
ABCD rectangle
 $m(\widehat{DAE}) = m(\widehat{EAB})$
 $|DE| = |EC|$
 $|AF| = 5$ br
 $|FB| = 1$ br
 $\Rightarrow |EF| = x = ?$

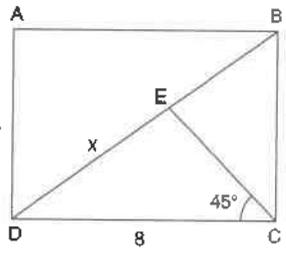
A) 3 B) $3\sqrt{2}$ C) $\sqrt{13}$ D) $\sqrt{15}$ E) $\sqrt{21}$

7.  ABCD dikdörtgen
ABCD rectangle
 $[EF] \perp [AB]$
 $[DF] \perp [FC]$
 $|AE| = 2$ br
 $|EB| = 8$ br
 $|EF| = 3$ br
 $\Rightarrow |BC| = x = ?$

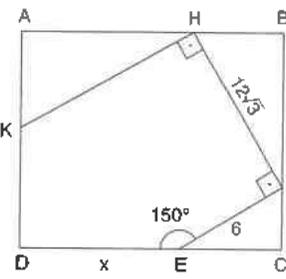
A) 6 B) 7 C) 8 D) 9 E) 10

8.  ABCD dikdörtgen
ABCD rectangle
 $[AE] \perp [CE]$
 $|AE| = 7$ br
 $|CE| = 5$ br
 $|AD| = 8$ br
 $\Rightarrow |DC| = x = ?$

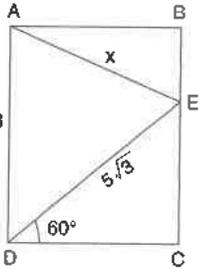
A) $\sqrt{2}$ B) $\sqrt{3}$ C) $\sqrt{5}$ D) $\sqrt{7}$ E) $\sqrt{10}$

9.  ABCD dikdörtgen
 ABCD rectangle
 $m(\widehat{DCE}) = 45^\circ$
 $|DC| = 8$ br
 $|AD| = 4$ br
 $\Rightarrow |DE| = x = ?$

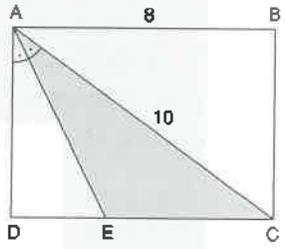
A) 24 B) 16 C) $8\sqrt{5}$ D) $4\sqrt{5}$ E) $\frac{8\sqrt{5}}{3}$

13.  ABCD dikdörtgen
 ABCD rectangle
 $[KH] \perp [HF]$
 $[EF] \perp [HF]$
 $m(\widehat{DEF}) = 150^\circ$
 $|EF| = 6$ br
 $|HF| = 12\sqrt{3}$ br
 $|AK| = 2|KD|$
 $\Rightarrow |DE| = x = ?$

A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) $10\sqrt{3}$ D) $11\sqrt{3}$ E) $17\sqrt{3}$

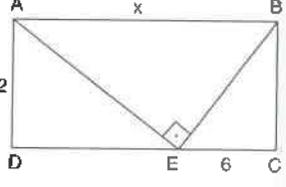
10.  ABCD dikdörtgen
 ABCD rectangle
 $m(\widehat{EDC}) = 60^\circ$
 $|AD| = 8$ br
 $|DE| = 5\sqrt{3}$ br
 $\Rightarrow |AE| = x = ?$

A) 6 B) 5 C) $\sqrt{21}$ D) $\sqrt{19}$ E) $\sqrt{15}$

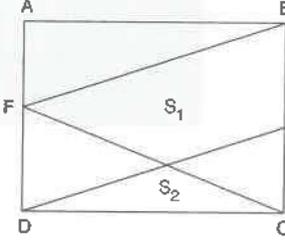
14.  ABCD dikdörtgen
 ABCD rectangle
 $m(\widehat{DAE}) = m(\widehat{EAC})$
 $|AC| = 10$ br
 $|AB| = 8$ br
 $\Rightarrow A(AEC) = ?$

A) 12 B) 15 C) 20 D) 25 E) 30

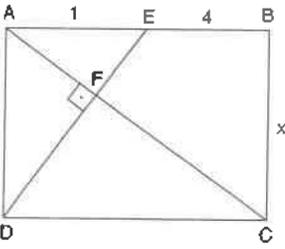
PUZAYAYINLARI

11.  ABCD dikdörtgen
 ABCD rectangle
 $[AE] \perp [BE]$
 $|AD| = 12$ br
 $|EC| = 6$ br
 $\Rightarrow |AB| = x = ?$

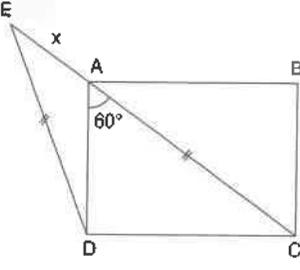
A) 12 B) $12\sqrt{5}$ C) 30 D) $30\sqrt{5}$ E) 32

15.  ABCD dikdörtgen
 ABCD rectangle
 FBED paralelkenar
 FBED paralelogram
 $S_1 + S_2 = 18$ br²
 $|BE| = 3|EC|$
 $\Rightarrow A(ABCD) = ?$

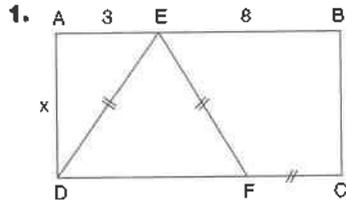
A) 16 B) 24 C) 32 D) 36 E) 40

12.  ABCD dikdörtgen
 ABCD rectangle
 $[DF] \perp [AC]$
 $|AE| = 1$ br
 $|EB| = 4$ br
 $\Rightarrow |BC| = x = ?$

A) $\sqrt{5}$ B) 3 C) $\frac{7}{2}$ D) 4 E) $\frac{9}{2}$

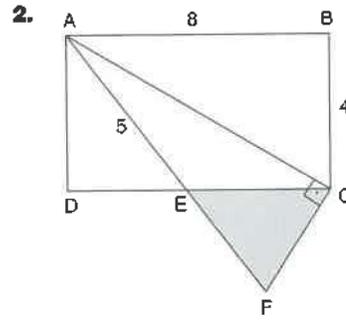
16.  ABCD dikdörtgen
 ABCD rectangle
 $m(\widehat{DAC}) = 60^\circ$
 $|ED| = |AC|$
 $|BC| = 4$ br
 $\Rightarrow |EA| = x = ?$

A) $\frac{\sqrt{13}}{2}$ B) $\sqrt{13}$ C) $2 - 2\sqrt{13}$
 D) $2\sqrt{13}$ E) $-2 + 2\sqrt{13}$



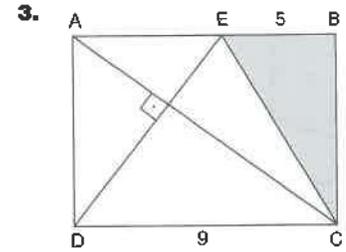
ABCD dikdörtgen
ABCD rectangle
 $|DE| = |EF| = |FC|$
 $|AE| = 3 \text{ br}$
 $|EB| = 8 \text{ br}$
 $\Rightarrow |AD| = x = ?$

- A) 3 B) 4 C) 5 D) 6 E) 7



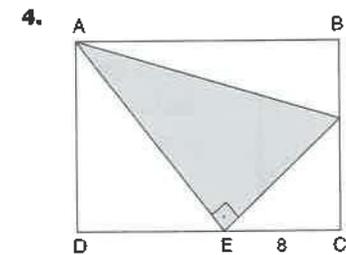
ABCD dikdörtgen
ABCD rectangle
 $[AC] \perp [CF]$
 $|AE| = 5 \text{ br}$
 $|BC| = 4 \text{ br}$
 $|AB| = 8 \text{ br}$
 $\Rightarrow A(EFC) = ?$

- A) 5 B) $4\sqrt{5}$ C) 10 D) $10\sqrt{5}$ E) 20



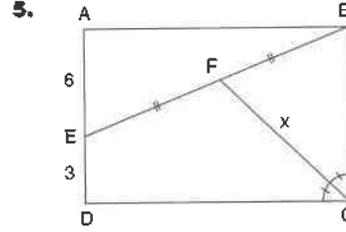
ABCD dikdörtgen
ABCD rectangle
 $[AC] \perp [DE]$
 $|EB| = 5 \text{ br}$
 $|DC| = 9 \text{ br}$
 $\Rightarrow A(EBC) = ?$

- A) 10 B) 15 C) 20 D) 25 E) 30



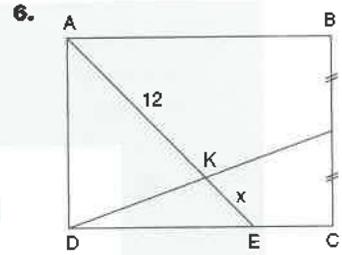
ABCD dikdörtgen
ABCD rectangle
 $[AE] \perp [EF]$
 $|BF| = 2 \text{ br}$
 $|FC| = 4 \text{ br}$
 $|EC| = 8 \text{ br}$
 $\Rightarrow A(AEF) = ?$

- A) 15 B) 20 C) 25 D) 30 E) 60



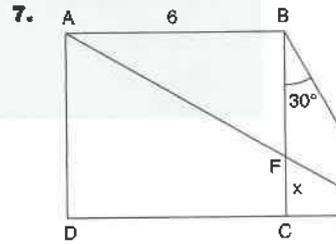
ABCD dikdörtgen
ABCD rectangle
 $|EF| = |FB|$
 $m(\widehat{DCF}) = m(\widehat{FCB})$
 $|AE| = 6 \text{ br}$
 $|ED| = 3 \text{ br}$
 $\Rightarrow |FC| = x = ?$

- A) 3 B) 6 C) $6\sqrt{2}$ D) $6\sqrt{3}$ E) 12



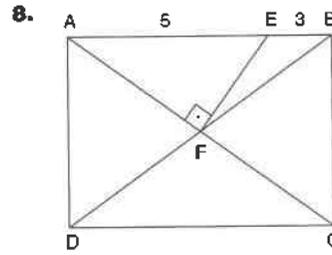
ABCD dikdörtgen
ABCD rectangle
 $|BF| = |FC|$
 $|DE| = 2|EC|$
 $|AK| = 12 \text{ br}$
 $\Rightarrow |KE| = x = ?$

- A) 12 B) 10 C) 8 D) 6 E) 4



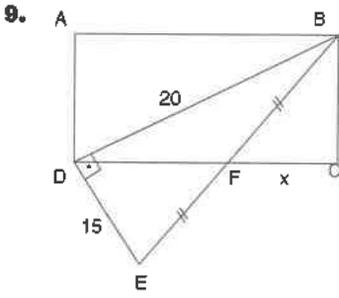
ABCD dikdörtgen
ABCD rectangle
 $|AB| = |BE| = 6 \text{ br}$
 $m(\widehat{CBE}) = 30^\circ$
 $\Rightarrow |FC| = x = ?$

- A) $\frac{\sqrt{2}}{2}$ B) $\frac{\sqrt{3}}{2}$ C) $\sqrt{2}$ D) $\sqrt{3}$ E) $2\sqrt{3}$



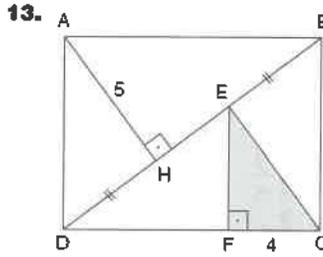
ABCD dikdörtgen
ABCD rectangle
 $|AE| = 5 \text{ br}$
 $|EB| = 3 \text{ br}$
 $[AF] \perp [FE]$
 $\Rightarrow A(ABCD) = ?$

- A) 16 B) 28 C) 32 D) 48 E) 64



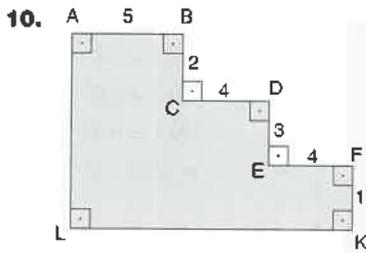
ABCD dikdörtgen
 ABCD rectangle
 $[BD] \perp [DE]$
 $|EF| = |FB|$
 $|DB| = 20$ br
 $|DE| = 15$ br
 $\Rightarrow |FC| = x = ?$

- A) 2 B) 3,5 C) 5 D) 7,5 E) 10



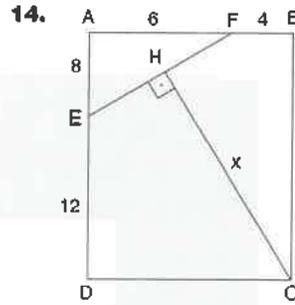
ABCD dikdörtgen
 ABCD rectangle
 $|DH| = |EB|$
 $[AH] \perp [DB]$
 $[EF] \perp [DC]$
 $|FC| = 4$ br
 $|AH| = 5$ br
 $\Rightarrow A(EFC) = ?$

- A) 2 B) 4 C) 6 D) 8 E) 12



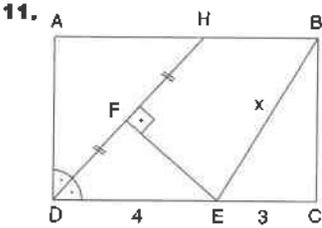
$|AB| = 5$ br
 $|CD| = |EF| = 4$ br
 $|DE| = 3$ br
 $|BC| = 2$ br
 $|FK| = 1$ br
 \Rightarrow Taralı alan = ?
 Shaded area = ?

- A) 48 B) 50 C) 51 D) 52 E) 54



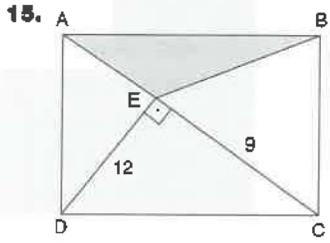
ABCD dikdörtgen
 ABCD rectangle
 $[CH] \perp [EF]$
 $|AF| = 6$ br
 $|FB| = 4$ br
 $|AE| = 8$ br
 $|ED| = 12$ br
 $\Rightarrow |CH| = x = ?$

- A) 20 B) 18 C) 16 D) 15,2 E) 11,2



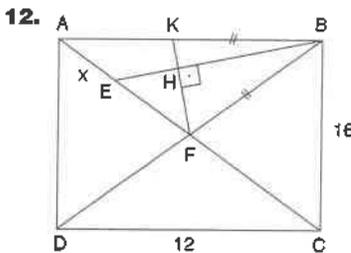
ABCD dikdörtgen
 ABCD rectangle
 $[EF] \perp [DH]$
 $|DF| = |FH|$
 $|DE| = 4$ br
 $|EC| = 3$ br
 $\Rightarrow |BE| = x = ?$

- A) 1 B) 2 C) 3 D) 4 E) 5



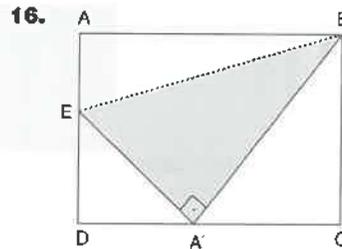
ABCD dikdörtgen
 ABCD rectangle
 $[DE] \perp [AC]$
 $|EC| = 9$ br
 $|DE| = 12$ br
 $\Rightarrow A(AEB) = ?$

- A) 54 B) 72 C) 84 D) 96 E) 184



ABCD dikdörtgen
 ABCD rectangle
 $[BH] \perp [KF]$
 $|KB| = |FB|$
 $|BC| = 16$ br
 $|DC| = 12$ br
 $\Rightarrow |AE| = x = ?$

- A) 1 B) $\frac{7}{5}$ C) $\frac{18}{7}$ D) $\frac{25}{11}$ E) $\frac{60}{11}$



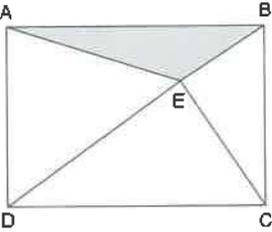
ABCD dikdörtgen
 ABCD rectangle
 $[EA'] \perp [EB]$
 $|AB| = 17$ br
 $|BC| = 8$ br

A noktası \vec{EB} doğrusu üzerinde katlanarak $[DC]$ kenarı üzerinde A' noktasına getiriliyor.

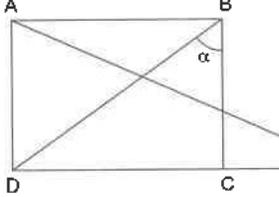
Point A is folded over \vec{EB} line and corresponds to point A' over $[DC]$ edge.

$\Rightarrow A(EA'B) = ?$

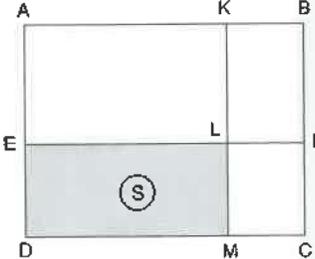
- A) $\frac{17}{4}$ B) $\frac{289}{4}$ C) $\frac{289}{8}$ D) 15 E) 18

1. 
- A) 6 B) 8 C) 10 D) 12 E) 14

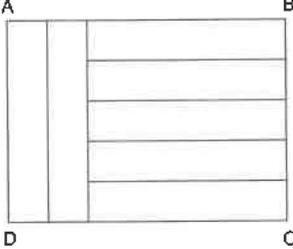
ABCD dikdörtgen
ABCD rectangle
 $A(\triangle AED) = 12 \text{ br}^2$
 $A(\triangle DEC) = 10 \text{ br}^2$
 $A(\triangle BEC) = 6 \text{ br}^2$
 $\Rightarrow A(\triangle ABE) = ?$

2. 
- A) 16 B) 26 C) 36 D) 64 E) 70

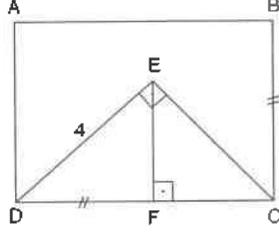
ABCD dikdörtgen
ABCD rectangle
 $|BD| = |CE|$
 $m(\widehat{AED}) = 32^\circ$
 $E = m(\widehat{DBC}) = \alpha = ?$

3. 
- A) 4 B) 8 C) 12 D) 16 E) 20

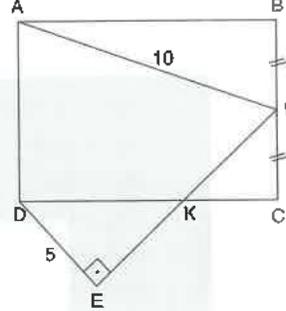
ABCD dikdörtgen
ABCD rectangle
 $A(\triangle AKLE) = 10 \text{ br}^2$
 $A(\triangle KBFL) = 5 \text{ br}^2$
 $A(\triangle LFCM) = 4 \text{ br}^2$
 $\Rightarrow A(\triangle ELMD) = S = ?$

4. 
- A) 20 B) 22 C) 24 D) 40 E) 48

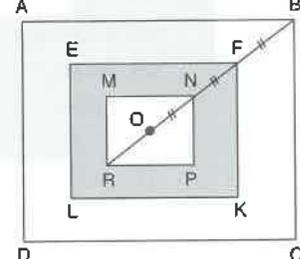
Eş 7 dikdörtgen şekildeki gibi belirleniyor. Bu dikdörtgenlerden bir tanesinin alanı 20 br^2 'dir.
The rhombohedrons are specified as in figure. If one of the surface area of these rhombohedrons is 20 unit^2
 $\Rightarrow \text{Ç}(ABCD) = ?$

5. 
- A) 4 B) 8 C) 12 D) 16 E) 20

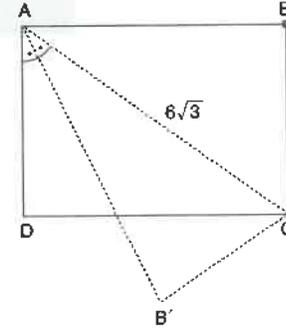
ABCD dikdörtgen
ABCD rectangle
 $[DE] \perp [EC]$
 $[EF] \perp [DC]$
 $|BC| = |DF|$
 $|DE| = 4 \text{ br}$
 $\Rightarrow A(ABCD) = ?$

6. 
- A) 5 B) $5\sqrt{2}$ C) $5\sqrt{3}$ D) 20 E) 25

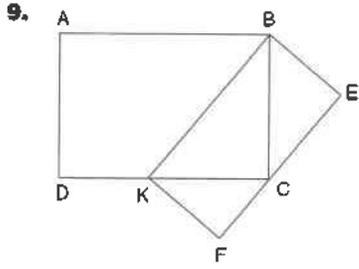
ABCD dikdörtgen
ABCD rectangle
 $[DE] \perp [EF]$
 $|BF| = |FC|$
 $|DE| = 5 \text{ br}$
 $|AF| = 10 \text{ br}$
 $\Rightarrow |EF| = ?$

7. 
- A) 31 B) 48 C) 55 D) 69 E) 93

ABCD, EFKL, MNPR dikdörtgen
ABCD, EFKL, MNPR rectangle
 $A(ABCD) = 165 \text{ br}^2$
 $|ON| = |NF| = |FB|$
 \Rightarrow Taralı Alan = ?
 Shaded Area = ?

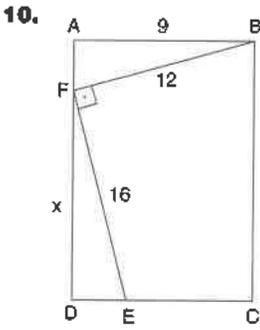
8. 
- A) $9\sqrt{3}$ B) $12\sqrt{3}$ C) 16 D) $18\sqrt{3}$ E) $27\sqrt{3}$

ABCD dikdörtgen
ABCD rectangle
 B köşesi [AC] doğrusu üzerine katlanıyor.
Point B is folding [AC] line segment.
 $m(\widehat{DAB'}) = m(\widehat{B'AC})$
 $|AC| = 6\sqrt{3} \text{ br}$
 $\Rightarrow A(ABCD) = ?$



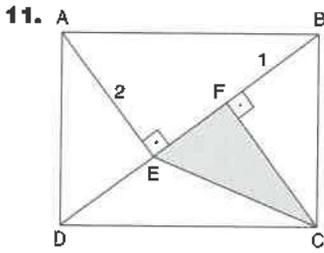
ABCD ve BEFK
dikdörtgen
ABCD and BEFK
rectangle
 $|DK| = 2|KC|$
 $A(\text{BEFK}) = 16 \text{ br}^2$
 $\Rightarrow A(\text{ABCD}) = ?$

- A) 8 B) 16 C) 24 D) 32 E) 48



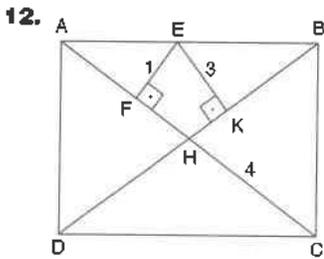
ABCD dikdörtgen
ABCD rectangle
 $[BF] \perp [FE]$
 $|AB| = 9 \text{ br}$
 $|BF| = 12 \text{ br}$
 $|FE| = 16 \text{ br}$
 $\Rightarrow |FD| = x = ?$

- A) $\frac{9}{2}$ B) 9 C) 12 D) 15 E) 16



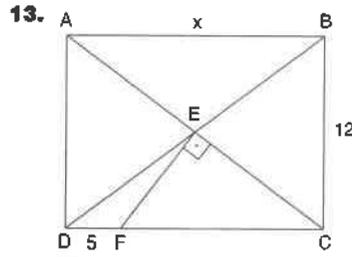
ABCD dikdörtgen
ABCD rectangle
 $[AE] \perp [BD]$
 $[FC] \perp [BD]$
 $|AE| = 2 \text{ br}$
 $|BF| = 1 \text{ br}$
 $\Rightarrow A(\text{ECF}) = ?$

- A) 2 B) 3 C) 6 D) 12 E) 15



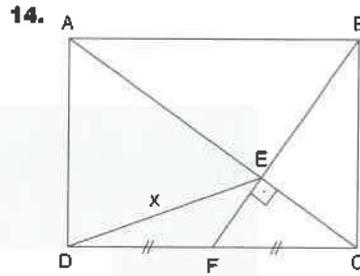
ABCD dikdörtgen
ABCD rectangle
 $[EF] \perp [AC]$
 $[EK] \perp [BD]$
 $|CH| = 4 \text{ br}$
 $|EK| = 3 \text{ br}$
 $|EF| = 1 \text{ br}$
 $\Rightarrow A(\text{ABCD}) = ?$

- A) 8 B) 16 C) 24 D) 32 E) 40



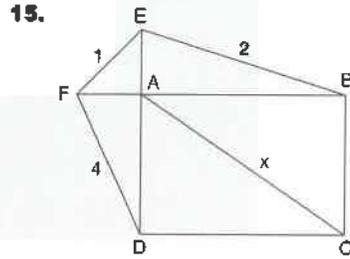
ABCD dikdörtgen
ABCD rectangle
 $[EF] \perp [AC]$
 $|BC| = 12 \text{ br}$
 $|DF| = 5 \text{ br}$
 $\Rightarrow |AB| = x = ?$

- A) 2 B) 6 C) 9 D) 12 E) 18



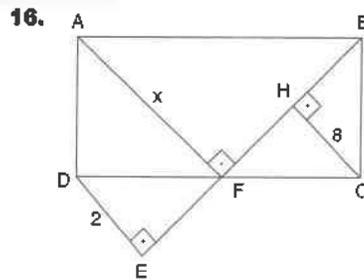
ABCD dikdörtgen
ABCD rectangle
 $[FE] \perp [AC]$
 $|FC| = 2\sqrt{3} \text{ br}$
 $|DF| = |FC|$
 $\Rightarrow |DE| = x = ?$

- A) $\sqrt{39}$ B) $\sqrt{37}$ C) $\sqrt{35}$ D) $\sqrt{30}$ E) $\sqrt{24}$



ABCD dikdörtgen
ABCD rectangle
F, A, B noktaları
doğrusal
E, A, D noktaları
doğrusal
 $|FE| = 1 \text{ br}$
 $|EB| = 2 \text{ br}$
 $|FD| = 4 \text{ br}$
 $\Rightarrow |AC| = x = ?$

- A) 2 B) $\sqrt{5}$ C) $\sqrt{7}$ D) $\sqrt{13}$ E) $\sqrt{19}$



ABCD dikdörtgen
ABCD rectangle
 $[AF] \perp [BE]$
 $[CH] \perp [BE]$
 $[DE] \perp [BE]$
 $|DE| = 2 \text{ br}$
 $|CH| = 8 \text{ br}$
 $\Rightarrow |AF| = x = ?$

- A) 4 B) 6 C) 8 D) 10 E) 12



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	C	D	E	E	C	B	C	A	C	E	D	C	C	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	E	A	E	C	E	A	B	B	B	D	A	E	E	D

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	A	E	D	C	D	C	A	B	D	B	E	D	B	D

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	E	A	B	C	C	B	E	E	D	C	A	E	B	C	E

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	B	D	C	E	D	C	B	B	E	E	C	D	D	C

TEST 6

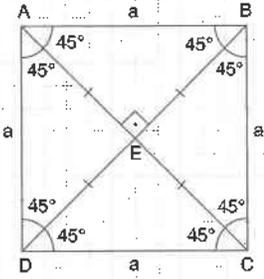
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	B	E	D	C	C	E	E	C	B	D	E	E	E	D



KARE
SQUARE

KARE

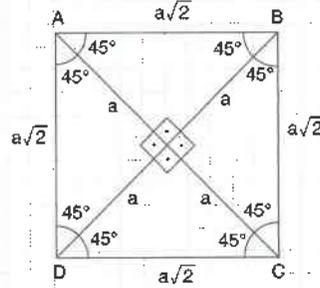
ÖZELLİK | Property 1



ABCD kare
ABCD square

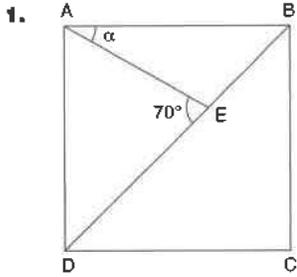
$$\begin{aligned} \text{Ç(ABCD)} &= 4a \\ \text{A(ABCD)} &= a^2 \end{aligned}$$

ÖZELLİK | Property 2



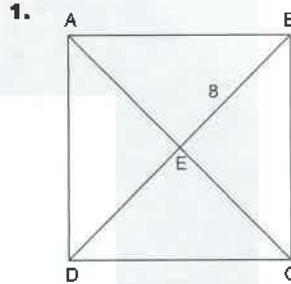
ABCD kare
ABCD square

Köşegenler dik keşişir.
Diagonals are intersect perpendicular.



ABCD kare
ABCD square
 $\Rightarrow \alpha = ?$

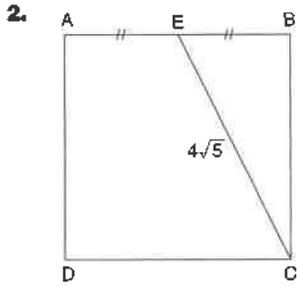
25



ABCD kare
ABCD square
 $\Rightarrow \text{Ç(ABCD)} = ?$
 $\Rightarrow \text{A(ABCD)} = ?$

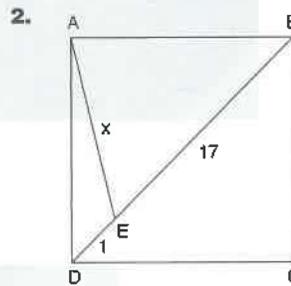
$32\sqrt{2}, 128$

PUZAYANILARI



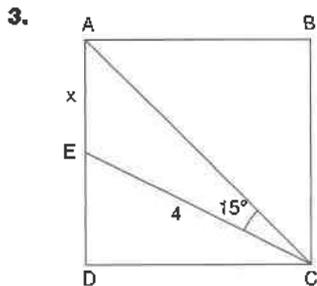
ABCD kare
ABCD square
 $\Rightarrow \text{A(ABCD)} = ?$

64



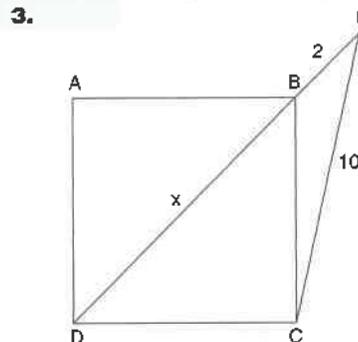
ABCD kare
ABCD square
 $\Rightarrow x = ?$

$\sqrt{145}$



ABCD kare
ABCD square
 $\Rightarrow x = ?$

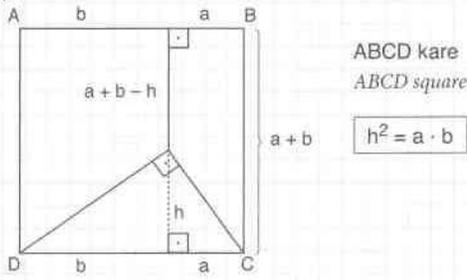
$2\sqrt{3} - 2$



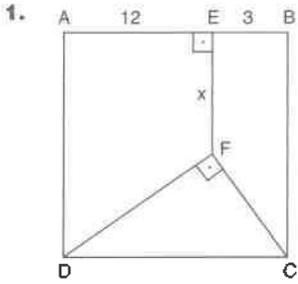
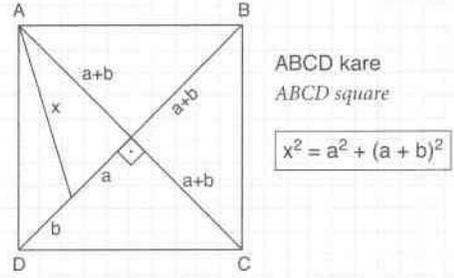
ABCD kare
ABCD square
 $\Rightarrow x = ?$

12

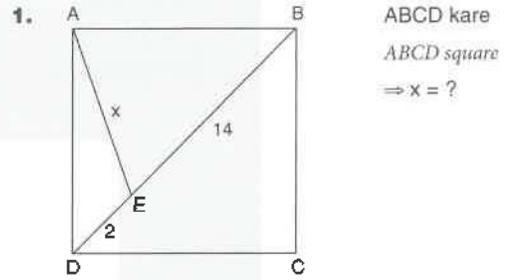
ÖZELLİK | Property 3



ÖZELLİK | Property 4

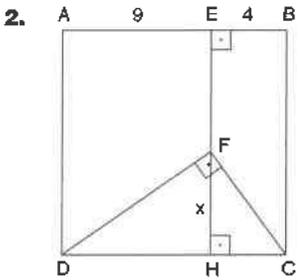


9

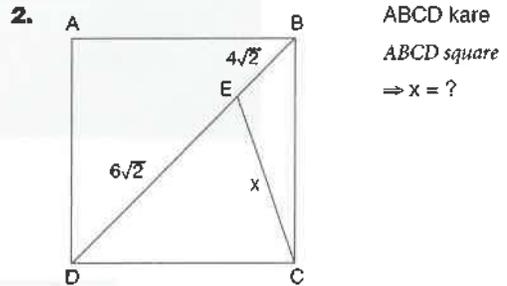


10

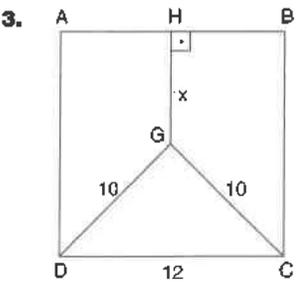
PUZAYINLARI



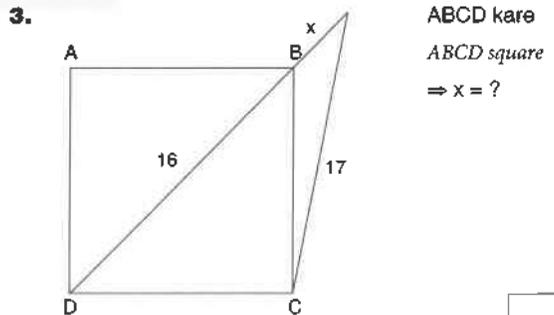
6



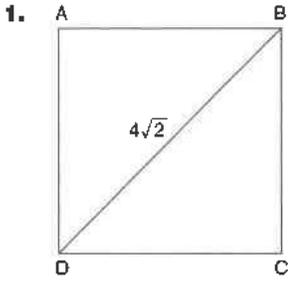
$2\sqrt{13}$



4

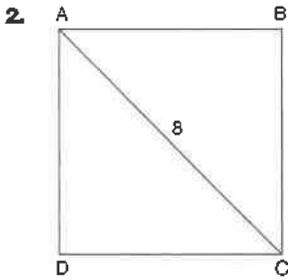


7



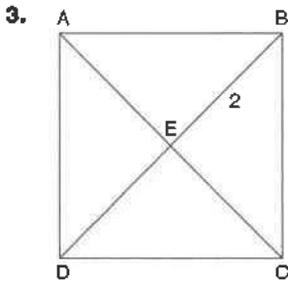
ABCD kare
 ABCD square
 $|BD| = 4\sqrt{2}$ br
 $\Rightarrow A(ABCD) = ?$

- A) 4 B) 16 C) 25 D) 32 E) 64



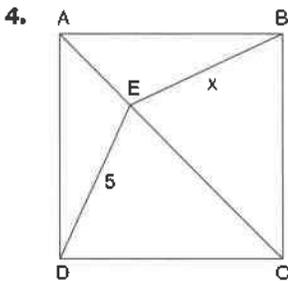
ABCD kare
 ABCD square
 $|AC| = 8$ br
 $\Rightarrow \text{Ç}(ABCD) = ?$

- A) $8\sqrt{2}$ B) 16 C) $16\sqrt{2}$ D) 32 E) $32\sqrt{2}$



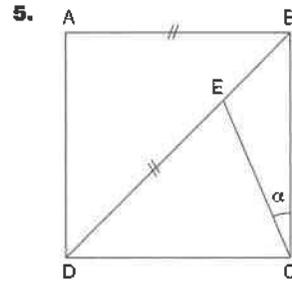
ABCD kare
 ABCD square
 $|EB| = 2$ br
 $\Rightarrow \text{Ç}(ABCD) = ?$

- A) $4\sqrt{2}$ B) 8 C) $8\sqrt{2}$ D) 16 E) $16\sqrt{2}$



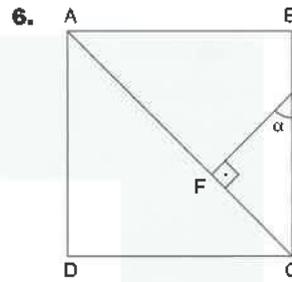
ABCD kare
 ABCD square
 $|ED| = 5$ br
 $\Rightarrow |EB| = x = ?$

- A) $\frac{5}{2}$ B) 5 C) $5\sqrt{2}$ D) $5\sqrt{3}$ E) 10



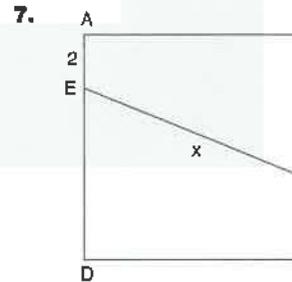
ABCD kare
 ABCD square
 $|AB| = |ED|$
 $\Rightarrow m(\widehat{ECB}) = \alpha = ?$

- A) 42,5 B) 30 C) 32,5 D) 22,5 E) 12,5



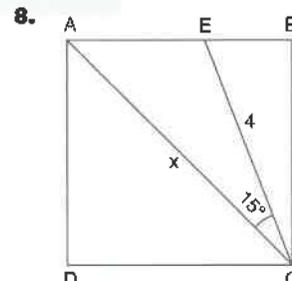
ABCD kare
 ABCD square
 $[EF] \perp [AC]$
 $\Rightarrow m(\widehat{FEC}) = \alpha = ?$

- A) 15 B) 30 C) 45 D) 60 E) 75



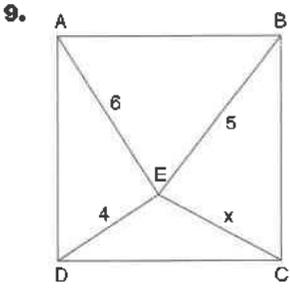
ABCD kare
 ABCD square
 $|AE| = 2$ br
 $|BF| = 7$ br
 $|FC| = 3$ br
 $\Rightarrow |EF| = x = ?$

- A) 5 B) 6 C) 10 D) $5\sqrt{5}$ E) $10\sqrt{5}$



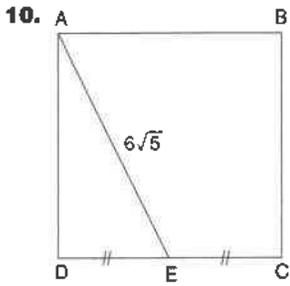
ABCD kare
 ABCD square
 $|EC| = 4$ br
 $m(\widehat{ACE}) = 15^\circ$
 $\Rightarrow |AC| = x = ?$

- A) $2\sqrt{3}$ B) $4\sqrt{3}$ C) 8 D) $2\sqrt{6}$ E) $4\sqrt{6}$



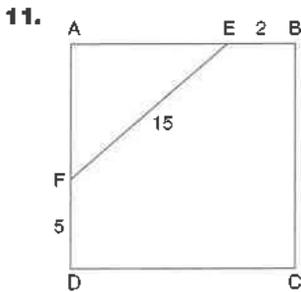
ABCD kare
 ABCD square
 $|AE| = 6$ br
 $|BE| = 5$ br
 $|DE| = 4$ br
 $\Rightarrow |EC| = x = ?$

- A) $\sqrt{3}$ B) $\sqrt{5}$ C) 3 D) 5 E) $\frac{24}{5}$



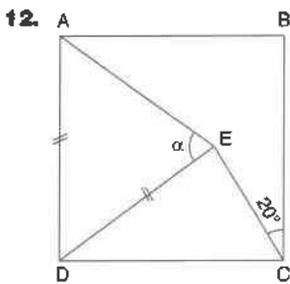
ABCD kare
 ABCD square
 $|DE| = |EC|$
 $|AE| = 6\sqrt{5}$ br
 $\Rightarrow A(ABCD) = ?$

- A) 36 B) 64 C) 100 D) 121 E) 144



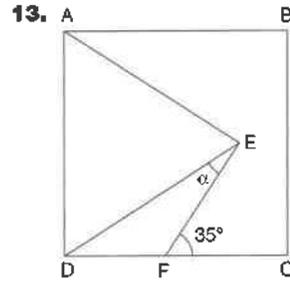
ABCD kare
 ABCD square
 $|EB| = 2$ br
 $|FE| = 15$ br
 $|FD| = 5$ br
 $\Rightarrow \text{Ç}(ABCD) = ?$

- A) 40 B) 44 C) 48 D) 56 E) 60



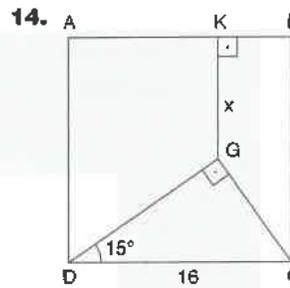
ABCD kare
 ABCD square
 $|AD| = |DE|$
 $m(\widehat{ECB}) = 20^\circ$
 $\Rightarrow m(\widehat{AED}) = \alpha = ?$

- A) 40 B) 50 C) 65 D) 70 E) 135



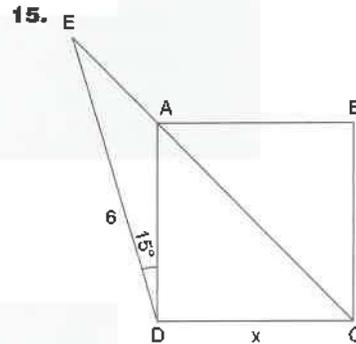
ABCD kare
 ABCD square
 AED eşkenar üçgen
 AED equilateral triangle
 $m(\widehat{EFC}) = 35^\circ$
 $\Rightarrow m(\widehat{DEF}) = \alpha = ?$

- A) 5 B) 10 C) 12 D) 15 E) 20



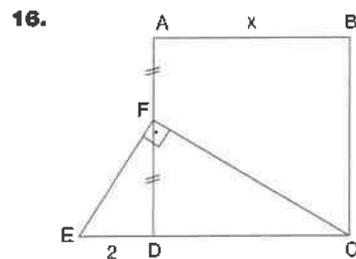
ABCD kare
 ABCD square
 $[DG] \perp [GC]$
 $[GK] \perp [AB]$
 $m(\widehat{GDC}) = 15^\circ$
 $\Rightarrow |KG| = x = ?$

- A) 14 B) 12 C) 8 D) 6 E) 4



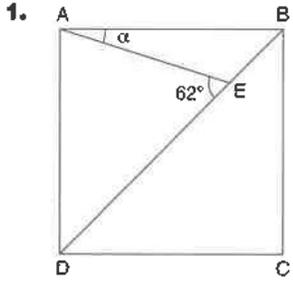
ABCD kare
 ABCD square
 $|ED| = 6$ br
 $m(\widehat{ADE}) = 15^\circ$
 $\Rightarrow |DC| = x = ?$

- A) 3 B) $3\sqrt{2}$ C) $3\sqrt{3}$ D) $3\sqrt{6}$ E) 6



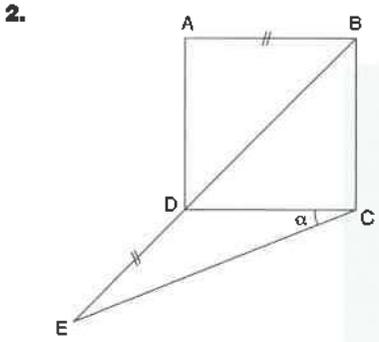
ABCD kare
 ABCD square
 $|AF| = |FD|$
 $[EF] \perp [FC]$
 $|ED| = 2$ br
 $\Rightarrow |AB| = x = ?$

- A) 2 B) 4 C) 6 D) 8 E) 16



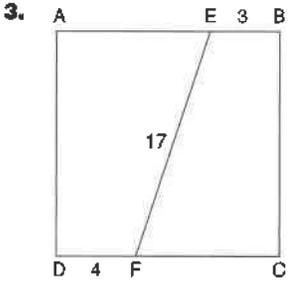
ABCD kare
 ABCD square
 $m(\widehat{AED}) = 62^\circ$
 $\Rightarrow m(\widehat{EAB}) = \alpha = ?$

- A) 12 B) 15 C) 17 D) 22 E) 27



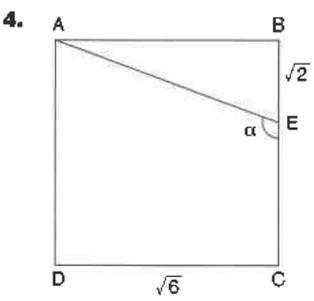
ABCD kare
 ABCD square
 $|AB| = |DE|$
 $\Rightarrow m(\widehat{DCE}) = \alpha = ?$

- A) 12,5 B) 15 C) 20 D) 22,5 E) 25



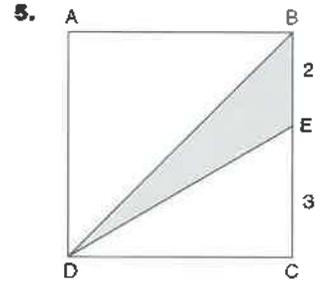
ABCD kare
 ABCD square
 $|EB| = 3$ br
 $|DF| = 4$ br
 $|EF| = 17$ br
 $\Rightarrow A(ABCD) = ?$

- A) 100 B) 121 C) 144 D) 169 E) 225



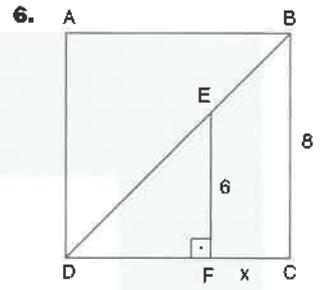
ABCD kare
 ABCD square
 $|EB| = \sqrt{2}$ br
 $|DC| = \sqrt{6}$ br
 $\Rightarrow m(\widehat{AEC}) = \alpha = ?$

- A) 150 B) 135 C) 120 D) 90 E) 75



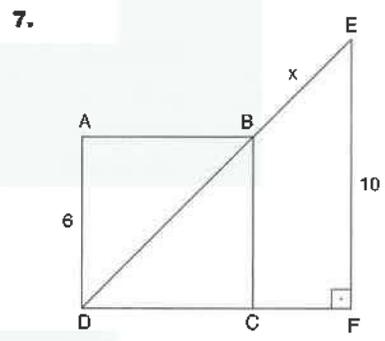
ABCD kare
 ABCD square
 $|BE| = 2$ br
 $|EC| = 3$ br
 $\Rightarrow A(BDE) = ?$

- A) 5 B) 6 C) 10 D) 12 E) 15



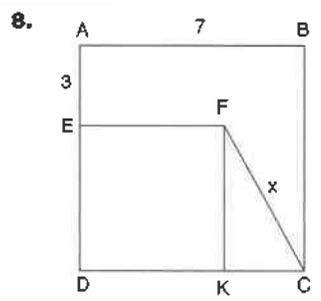
ABCD kare
 ABCD square
 $[EF] \perp [DC]$
 $|EF| = 6$ br
 $|BC| = 8$ br
 $\Rightarrow |FC| = x = ?$

- A) 1 B) 2 C) 3 D) 4 E) 5



ABCD kare
 ABCD square
 $[EF] \perp [DF]$
 $|EF| = 10$ br
 $|AD| = 6$ br
 $\Rightarrow |BE| = x = ?$

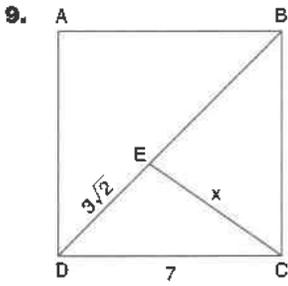
- A) 2 B) $2\sqrt{2}$ C) 4 D) $4\sqrt{2}$ E) 6



ABCD, EFKD kare
 ABCD, EFKD square
 $|AB| = 7$ br
 $|AE| = 3$ br
 $\Rightarrow |FC| = x = ?$

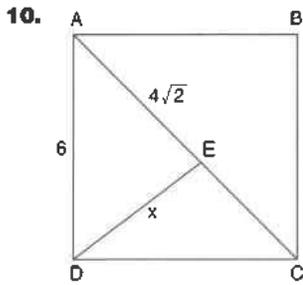
- A) $10\sqrt{2}$ B) 10 C) $4\sqrt{2}$ D) 5 E) 4

PUZAYINLARI



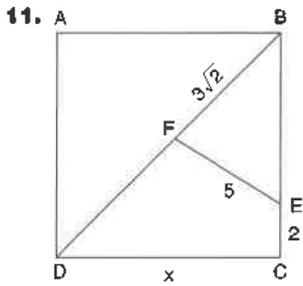
ABCD kare
 ABCD square
 $|DC| = 7$ br
 $|DE| = 3\sqrt{2}$ br
 $\Rightarrow |EC| = x = ?$

- A) 7 B) 6 C) 5 D) 4 E) 3



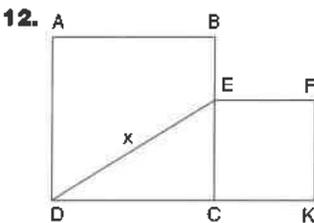
ABCD kare
 ABCD square
 $|AE| = 4\sqrt{2}$ br
 $|AD| = 6$ br
 $\Rightarrow |ED| = x = ?$

- A) $2\sqrt{2}$ B) 5 C) 6 D) $2\sqrt{5}$ E) $2\sqrt{7}$



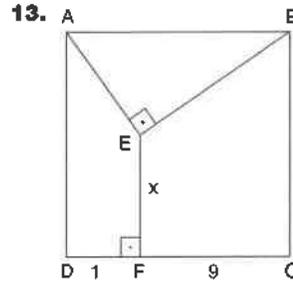
ABCD kare
 ABCD square
 $|BF| = 3\sqrt{2}$ br
 $|FE| = 5$ br
 $|EC| = 2$ br
 $\Rightarrow |DC| = x = ?$

- A) 9 B) 8 C) 7 D) 6 E) 5



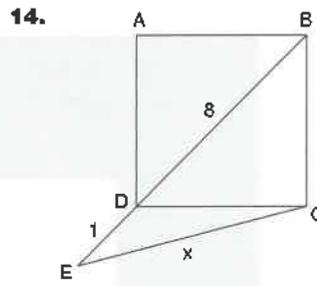
ABCD, EFCK kare
 ABCD, EFCK square
 $A(ABCD) + A(EFCK) = 72$ br²
 $\Rightarrow |DE| = x = ?$

- A) 4 B) 6 C) $4\sqrt{2}$ D) $6\sqrt{2}$ E) 12



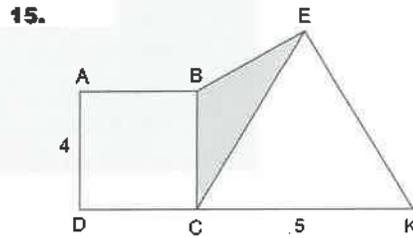
ABCD kare
 ABCD square
 $[AE] \perp [EB]$
 $[EF] \perp [DC]$
 $|DF| = 1$ br
 $|FC| = 9$ br
 $\Rightarrow |EF| = x = ?$

- A) 3 B) 4 C) 5 D) 6 E) 7



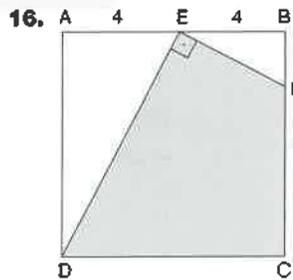
ABCD kare
 ABCD square
 $|BD| = 8$ br
 $|DE| = 1$ br
 $\Rightarrow |EC| = x = ?$

- A) 3 B) 5 C) $4\sqrt{2}$ D) $\sqrt{41}$ E) 7



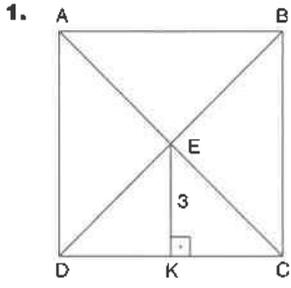
ABCD kare
 ABCD square
 ECK eşkenar üçgen
 ECK equilateral triangle
 $|AD| = 4$ br
 $|CK| = 5$ br
 $\Rightarrow A(BEC) = ?$

- A) $\frac{5}{2}$ B) 5 C) $5\sqrt{3}$ D) 10 E) $10\sqrt{3}$



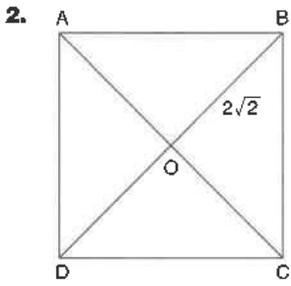
ABCD kare
 ABCD square
 $|AE| = |EB| = 4$ br
 $\Rightarrow A(EKCD) = ?$

- A) 16 B) 24 C) 32 D) 44 E) 48



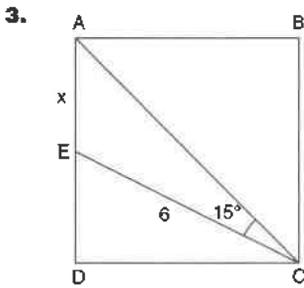
ABCD kare
 ABCD square
 $[EK] \perp [DC]$
 $|EK| = 3$ br
 $\Rightarrow A(ABCD) = ?$

- A) 9 B) 16 C) 25 D) 36 E) 64



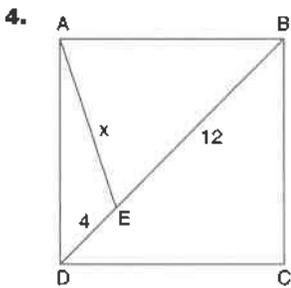
ABCD kare
 ABCD square
 $|OB| = 2\sqrt{2}$ br
 $\Rightarrow \text{Ç}(ABCD) = ?$

- A) 8 B) $8\sqrt{2}$ C) 16 D) $16\sqrt{2}$ E) 32



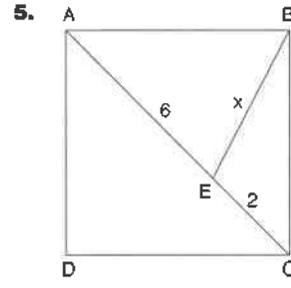
ABCD kare
 ABCD square
 $|EC| = 6$ br
 $m(\widehat{ECA}) = 15^\circ$
 $\Rightarrow |AE| = x = ?$

- A) $3\sqrt{3}$ B) $6\sqrt{3}$ C) $3\sqrt{3} - 3$
 D) $3\sqrt{3} + 3$ E) $6\sqrt{3} + 3$



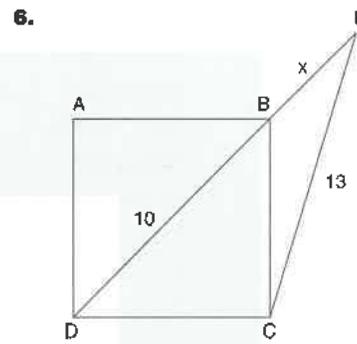
ABCD kare
 ABCD square
 $|DE| = 4$ br
 $|EB| = 12$ br
 $\Rightarrow |AE| = x = ?$

- A) 4 B) $2\sqrt{5}$ C) 5 D) $4\sqrt{5}$ E) 8



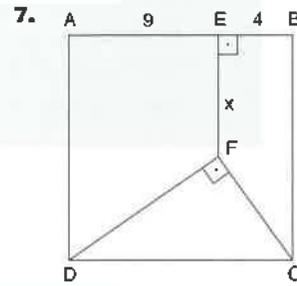
ABCD kare
 ABCD square
 $|AE| = 6$ br
 $|EC| = 2$ br
 $\Rightarrow |BE| = x = ?$

- A) 2 B) $2\sqrt{5}$ C) $4\sqrt{2}$ D) $4\sqrt{3}$ E) $4\sqrt{5}$



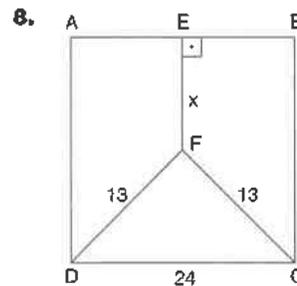
ABCD kare
 ABCD square
 $|BD| = 10$ br
 $|EC| = 13$ br
 $\Rightarrow |BE| = x = ?$

- A) 5 B) 7 C) 9 D) 12 E) 13



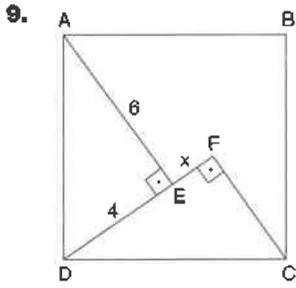
ABCD kare
 ABCD square
 $|EB| = 4$ br
 $|AE| = 9$ br
 $[EF] \perp [AB]$
 $[DF] \perp [FC]$
 $\Rightarrow |EF| = x = ?$

- A) 5 B) 6 C) 7 D) 8 E) 9



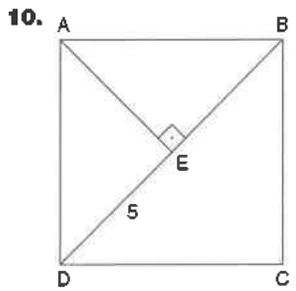
ABCD kare
 ABCD square
 $[FE] \perp [AB]$
 $|DF| = |FC| = 13$ br
 $|DC| = 24$ br
 $\Rightarrow |EF| = x = ?$

- A) 19 B) 17 C) 16 D) 15 E) 12



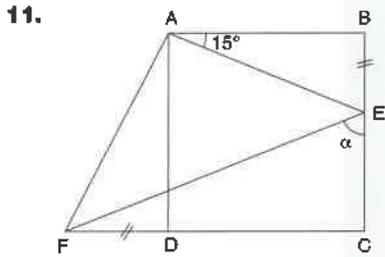
ABCD kare
 ABCD square
 $[AE] \perp [DF]$
 $[DF] \perp [FC]$
 $|AE| = 6$ br
 $|DE| = 4$ br
 $\Rightarrow |EF| = x = ?$

- A) 1 B) 2 C) 3 D) 4 E) 5



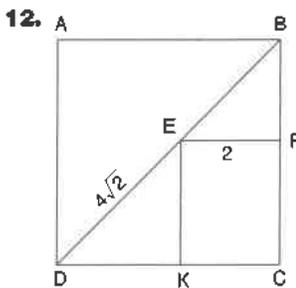
ABCD kare
 ABCD square
 $[AE] \perp [BD]$
 $|DE| = 5$ br
 $\Rightarrow A(ABCD) = ?$

- A) 100 B) 75 C) 50 D) 25 E) 20



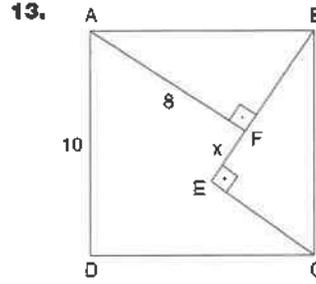
ABCD kare
 ABCD square
 $|BE| = |FD|$
 $m(\widehat{BAE}) = 15^\circ$
 $\Rightarrow m(\widehat{FEC}) = \alpha = ?$

- A) 15 B) 30 C) 45 D) 60 E) 75



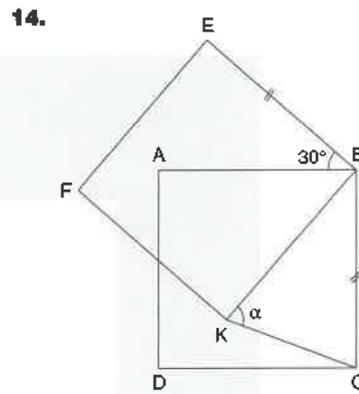
ABCD kare
 ABCD square
 EFCK dikdörtgen
 EFCK rectangle
 $|EF| = 2$ br
 $|DE| = 4\sqrt{2}$ br
 $\Rightarrow A(ABCD) = ?$

- A) 25 B) 36 C) 49 D) 64 E) 81



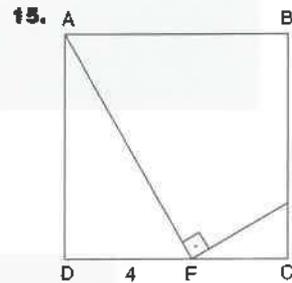
ABCD kare
 ABCD square
 $[AF] \perp [EB]$
 $[CE] \perp [EB]$
 $|AF| = 8$ br
 $|AD| = 10$ br
 $\Rightarrow |EF| = x = ?$

- A) 1 B) 2 C) 3 D) 4 E) 5



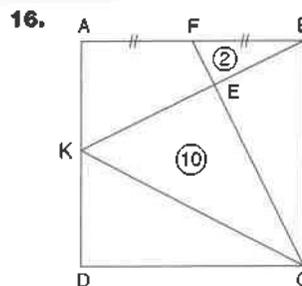
ABCD, EBKF kare
 ABCD, EBKF square
 $|EB| = |BC|$
 $m(\widehat{EBA}) = 30^\circ$
 $\Rightarrow m(\widehat{BKC}) = \alpha = ?$

- A) 75 B) 60 C) 50 D) 45 E) 30



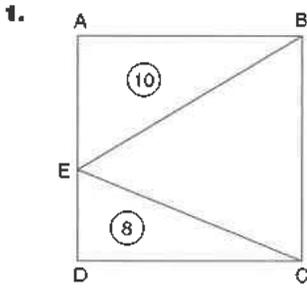
ABCD kare
 ABCD square
 $[AF] \perp [FE]$
 $|EC| = 2$ br
 $|DF| = 4$ br
 $\Rightarrow A(ABCD) = ?$

- A) 16 B) 25 C) 36 D) 49 E) 64



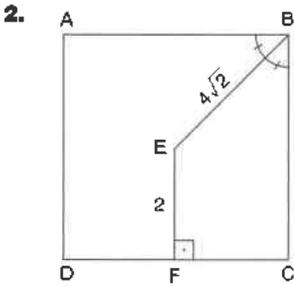
ABCD kare
 ABCD square
 $|BF| = |FA|$
 $A(EFB) = 2$ br²
 $A(EKC) = 10$ br²
 $\Rightarrow A(ABCD) = ?$

- A) 64 B) 54 C) 48 D) 36 E) 32



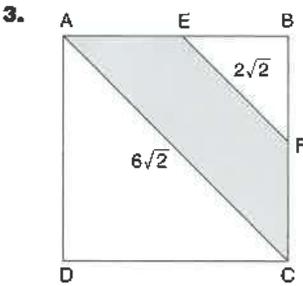
ABCD kare
 ABCD square
 $A(\triangle ABE) = 10 \text{ br}^2$
 $A(\triangle EDC) = 8 \text{ br}^2$
 $\Rightarrow \text{Ç}(\text{ABCD}) = ?$

- A) 16 B) 20 C) 24 D) 28 E) 32



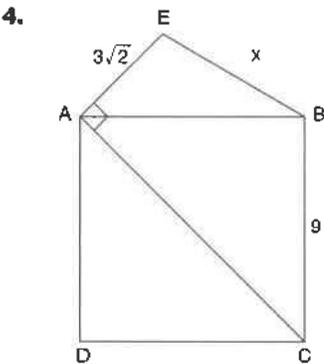
ABCD kare
 ABCD square
 $[EF] \perp [DC]$
 $m(\widehat{ABE}) = m(\widehat{EBC})$
 $|EB| = 4\sqrt{2} \text{ br}$
 $|EF| = 2 \text{ br}$
 $\Rightarrow A(\text{ABCD}) = ?$

- A) 16 B) 25 C) 36 D) 49 E) 64



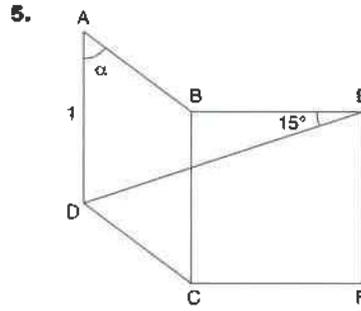
ABCD kare
 ABCD square
 $[EF] \parallel [AC]$
 $|EF| = 2\sqrt{2} \text{ br}$
 $|AC| = 6\sqrt{2} \text{ br}$
 $\Rightarrow A(\triangle AEF) = ?$

- A) 24 B) 16 C) 14 D) 12 E) 8



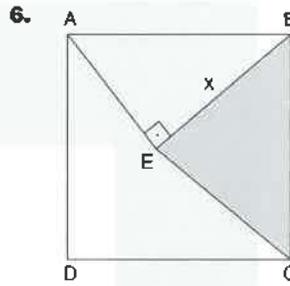
ABCD kare
 ABCD square
 $[EA] \perp [AC]$
 $|EA| = 3\sqrt{2} \text{ br}$
 $|BC| = 9 \text{ br}$
 $\Rightarrow |EB| = x = ?$

- A) 3 B) $3\sqrt{2}$ C) $3\sqrt{5}$ D) $5\sqrt{2}$ E) $6\sqrt{5}$



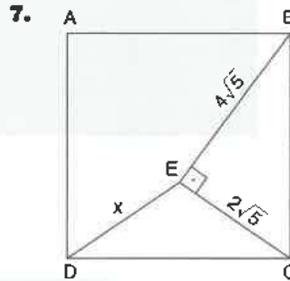
BEFC kare
 BEFC square
 ABCD eşkenar
 dörtgen
 ABCD rhombus
 $|AD| = 1 \text{ br}$
 $|DE| = \sqrt{2} \text{ br}$
 $m(\widehat{BED}) = 15^\circ$
 $\Rightarrow m(\widehat{DAB}) = \alpha = ?$

- A) 15 B) 30 C) 45 D) 60 E) 75



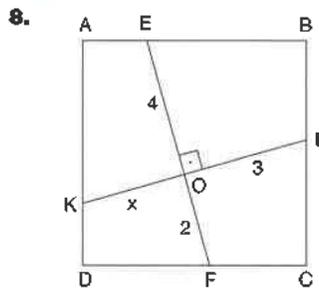
ABCD kare
 ABCD square
 $A(\triangle BEC) = 50 \text{ br}^2$
 $[AE] \perp [EB]$
 $\Rightarrow |EB| = x = ?$

- A) 10 B) 8 C) 6 D) 4 E) 3



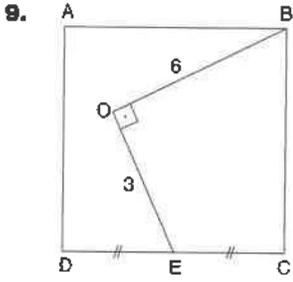
ABCD kare
 ABCD square
 $[BE] \perp [EC]$
 $|BE| = 4\sqrt{5} \text{ br}$
 $|EC| = 2\sqrt{5} \text{ br}$
 $\Rightarrow |ED| = x = ?$

- A) $2\sqrt{10}$ B) 6 C) $\sqrt{35}$ D) $2\sqrt{5}$ E) 4



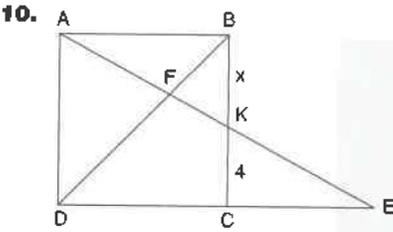
ABCD kare
 ABCD square
 $[EF] \perp [KL]$
 $|EO| = 4 \text{ br}$
 $|OF| = 2 \text{ br}$
 $|OL| = 3 \text{ br}$
 $\Rightarrow |KO| = x = ?$

- A) 1 B) 2 C) 3 D) 4 E) 5



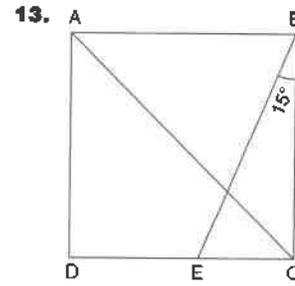
ABCD kare
 ABCD square
 $[BO] \perp [OE]$
 $|BO| = 6 \text{ br}$
 $|OE| = 3 \text{ br}$
 $|DE| = |EC|$
 $\Rightarrow A(ABCD) = ?$

- A) 100 B) 81 C) 64 D) 49 E) 36



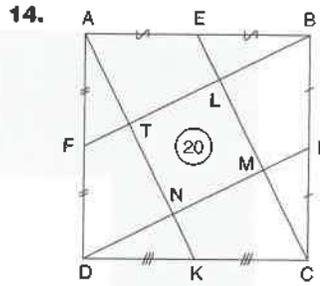
ABCD kare
 ABCD square
 $|BD| = |CE|$
 $|KC| = 4 \text{ br}$
 $\Rightarrow |BK| = x = ?$

- A) $\sqrt{2}$ B) 2 C) $2\sqrt{2}$ D) 4 E) $4\sqrt{2}$



ABCD kare
 ABCD square
 $m(\widehat{EBC}) = 15^\circ$
 $|BE| = 8 \text{ br}$
 $\Rightarrow |AC| = ?$

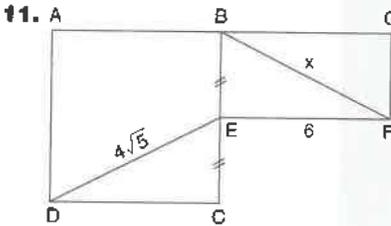
- A) 4 B) $4\sqrt{2}$ C) $4\sqrt{3}$
 D) 8 E) $4 + 4\sqrt{3}$



ABCD kare
 ABCD is square
 E, F, K, L buldukları kenarların orta noktaları
 E, F, K, L are the midpoints of sides
 $A(LMNT) = 20 \text{ br}^2$
 $\Rightarrow A(ABCD) = ?$

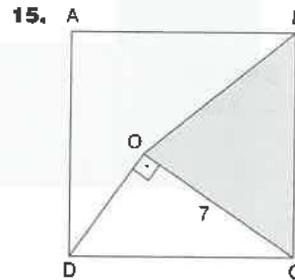
- A) 100 B) 80 C) 75 D) 70 E) 60

PUZAYATINLARI



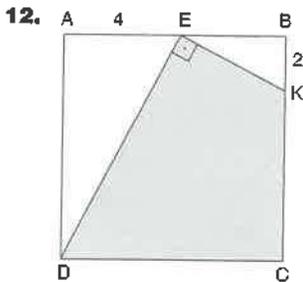
ABCD kare
 ABCD square
 BGFE dikdörtgen
 BGFE rectangle
 $|DE| = 4\sqrt{5} \text{ br}$
 $|EF| = 6 \text{ br}$
 $|BE| = |EC|$
 $\Rightarrow |BF| = x = ?$

- A) $2\sqrt{13}$ B) 7 C) $4\sqrt{3}$ D) 4 E) 5



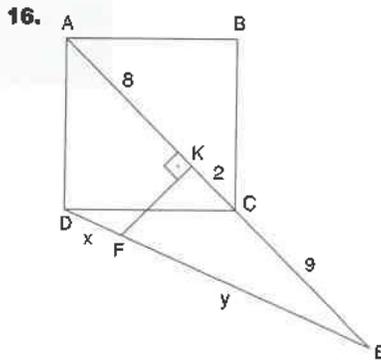
ABCD kare
 ABCD square
 $[DO] \perp [OC]$
 $|OC| = 7 \text{ br}$
 $\Rightarrow A(BOC) = ?$

- A) 7 B) 14 C) $\frac{49}{2}$ D) 49 E) 98



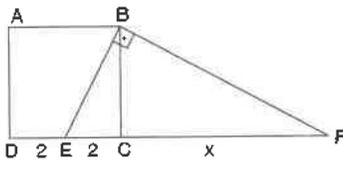
ABCD kare
 ABCD square
 $[DE] \perp [EK]$
 $|BK| = 2 \text{ br}$
 $|AE| = 4 \text{ br}$
 $\Rightarrow A(DEKC) = ?$

- A) 64 B) 48 C) 44 D) 32 E) 24

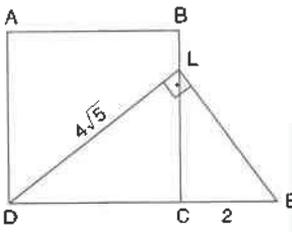


ABCD kare
 ABCD square
 $[FK] \perp [AE]$
 $|AK| = 8 \text{ br}$
 $|KC| = 2 \text{ br}$
 $|CE| = 9 \text{ br}$
 $|DF| = x$
 $|FE| = y$
 $\Rightarrow \frac{x}{y} = ?$

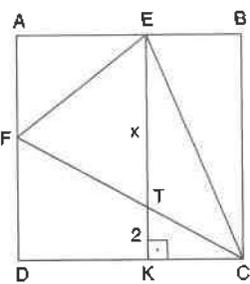
- A) $\frac{8}{11}$ B) $\frac{5}{11}$ C) $\frac{3}{11}$ D) $\frac{2}{9}$ E) $\frac{1}{9}$

1.  ABCD kare
 ABCD square
 $[EB] \perp [BF]$
 $|DE| = |EC| = 2 \text{ br}$
 $\Rightarrow |CF| = x = ?$

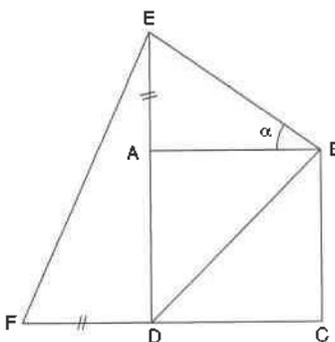
A) 8 B) 6 C) 4 D) 2 E) 1

2.  ABCD kare
 ABCD square
 $[DL] \perp [LE]$
 $|CE| = 2 \text{ br}$
 $|DL| = 4\sqrt{5} \text{ br}$
 $\Rightarrow A(ABCD) = ?$

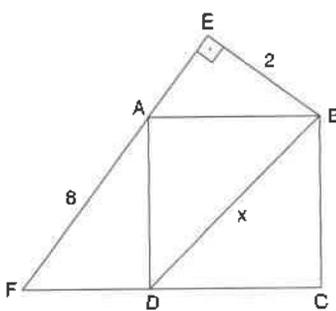
A) 64 B) 49 C) 36 D) 25 E) 16

3.  ABCD kare
 ABCD square
 $A(ABCD) + A(EFC) = 88 \text{ br}^2$
 $|TK| = 2 \text{ br}$
 $[EK] \perp [DC]$
 $\Rightarrow |ET| = x = ?$

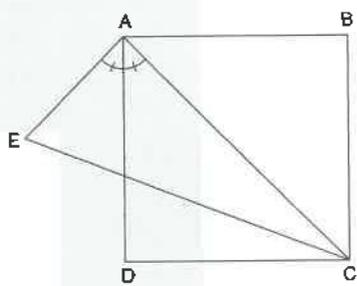
A) 4 B) 5 C) 6 D) 7 E) 8

4.  ABCD kare
 ABCD square
 $A(EDF) = A(EDB)$
 $|EA| = |FD|$
 $\Rightarrow m(\widehat{EBA}) = \alpha = ?$

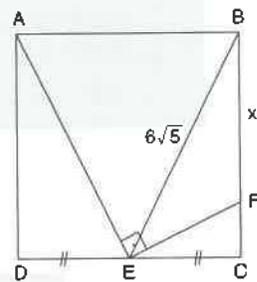
A) 75 B) 60 C) 45 D) 30 E) 15

5.  ABCD kare
 ABCD square
 $[EB] \perp [FE]$
 $|EB| = 2 \text{ br}$
 $|AF| = 8 \text{ br}$
 $\Rightarrow |BD| = x = ?$

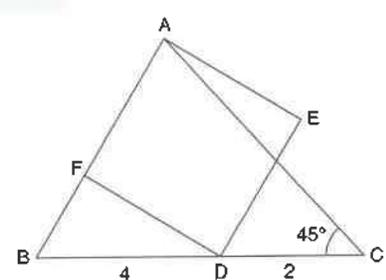
A) 2 B) $2\sqrt{4}$ C) 4 D) $4\sqrt{2}$ E) 8

6.  ABCD kare
 ABCD square
 $m(\widehat{EAD}) = m(\widehat{DAC})$
 $|EA| = 5 \text{ br}$
 $|EC| = 5\sqrt{3} \text{ br}$
 $\Rightarrow \angle(ABCD) = ?$

A) 12 B) 16 C) 20 D) 24 E) 28

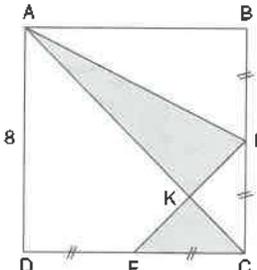
7.  ABCD kare
 ABCD square
 $[AE] \perp [EF]$
 $|DE| = |EC|$
 $|BE| = 6\sqrt{5} \text{ br}$
 $\Rightarrow |BF| = x = ?$

A) 4 B) 5 C) $6\sqrt{2}$ D) $6\sqrt{5}$ E) 9

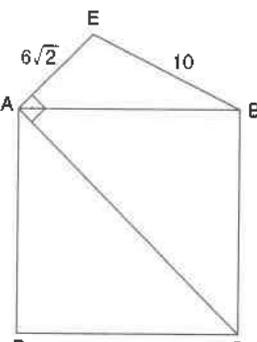
8.  AEDF kare
 ABCD square
 $|BD| = 4 \text{ br}$
 $|DC| = 2 \text{ br}$
 $m(\widehat{ACB}) = 45^\circ$
 $\Rightarrow |AB| = ?$

A) 2 B) $\frac{2\sqrt{6}}{3}$ C) $\sqrt{5}$ D) $\sqrt{6}$ E) $2\sqrt{6}$

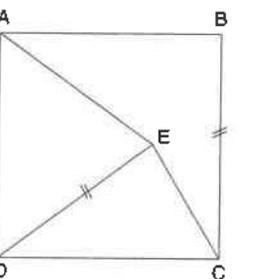
PUZAYINILARI

9.  ABCD kare
ABCD square
 $|AD| = 8 \text{ br}$
 $|BE| = |EC|$
 $|DF| = |FC|$
 \Rightarrow Taralı Alan = ?
Shaded area = ?

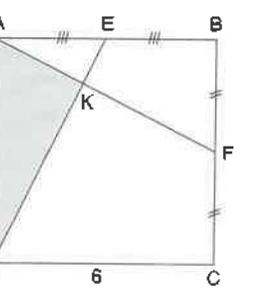
A) 8 B) 12 C) 16 D) 20 E) 24

10.  ABCD kare
ABCD square
 $[EA] \perp [AC]$
 $|AE| = 6\sqrt{2} \text{ br}$
 $|EB| = 10 \text{ br}$
 $\Rightarrow \angle(ABCD) = ?$

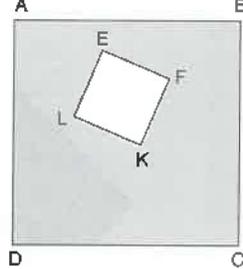
A) 32 B) 40 C) 48 D) 56 E) 60

11.  ABCD kare
ABCD square
 $|DE| = |BC|$
 $\Rightarrow m(\widehat{AEC}) = ?$

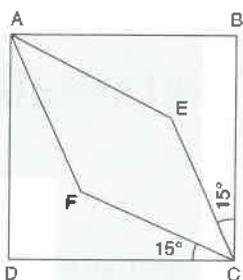
A) 135 B) 125 C) 120 D) 115 E) 110

12.  ABCD kare
ABCD square
 $|AE| = |EB|$
 $|BF| = |FC|$
 $|DC| = 6 \text{ br}$
 $\Rightarrow A(AKD) = ?$

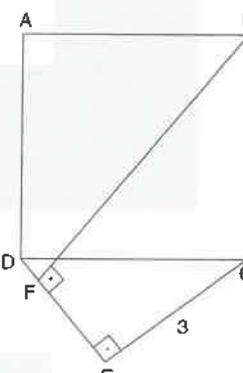
A) $\frac{15}{2}$ B) $\frac{36}{5}$ C) 9 D) 12 E) $\frac{40}{3}$

13.  ABCD ve EFKL kare
ABCD and EFKL square
 Karelerin çevreleri toplamı 24 br
The sum of the circumferences of the squares is 24 units
 Taralı alan 12 br^2
Shaded area = 12 br^2
 $\Rightarrow \angle(ABCD) = ?$

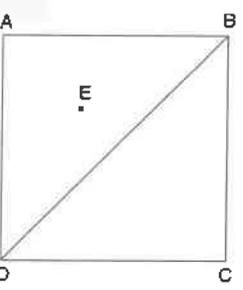
A) 16 B) 20 C) 24 D) 28 E) 32

14.  ABCD kare
ABCD square
 AECF eşkenar dörtgen
AECF rhombus
 $\angle(AECF) = 24 \text{ br}$
 $m(\widehat{ECB}) = m(\widehat{DCF}) = 15^\circ$
 $\Rightarrow \angle(ABCD) = ?$

A) $12\sqrt{3}$ B) $14\sqrt{3}$ C) $16\sqrt{3}$ D) $12\sqrt{6}$ E) $12\sqrt{2}$

15.  ABCD kare
ABCD square
 $|BC| = 5 \text{ br}$
 $|EC| = 3 \text{ br}$
 $[BF] \perp [DE]$
 $[EC] \perp [DE]$
 $\Rightarrow |BF| = ?$

A) 8 B) 7 C) 6 D) 4 E) 2

16.  ABCD kare
ABCD square
 $A(ABCD) = 36 \text{ br}^2$
 E, ABD üçgeninin içinde bir nokta
E is a point inside the ABD triangle
 $\Rightarrow [CE]$ nin alabileceği en küçük tamsayı değeri kaçtır?
 \Rightarrow What is the minimum integer value that $[CE]$ can be?

A) 3 B) 4 C) 5 D) 6 E) 7



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	C	B	D	C	D	D	B	E	D	C	A	B	B	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	E	C	A	B	D	D	C	D	A	D	E	D	B	D

TEST 3

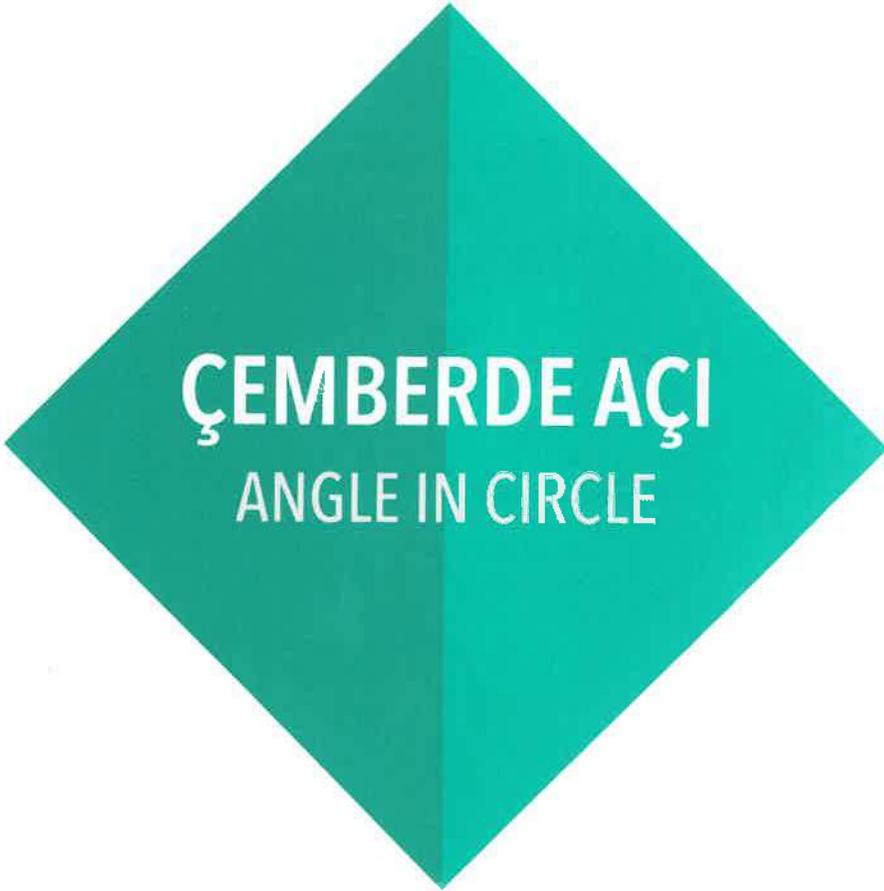
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	D	B	B	C	A	B	C	D	B	B	A	E	E

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	B	C	B	A	A	C	E	C	A	A	E	A	C	C

TEST 5

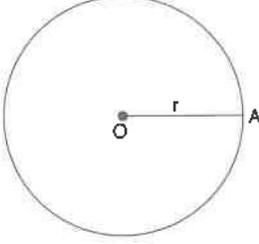
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	A	C	C	D	C	E	E	C	D	A	B	A	D	B	C



ÇEMBERDE AÇI
ANGLE IN CIRCLE

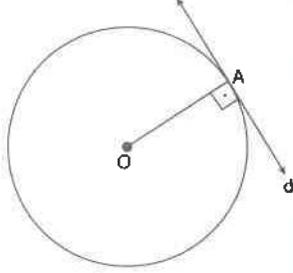
TANIMLAR | Definitions

1.



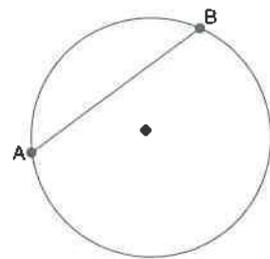
O, çemberin merkezi
O, is the center of the circle
r, çemberin yarıçapıdır.
r is the radius of the circle

2.



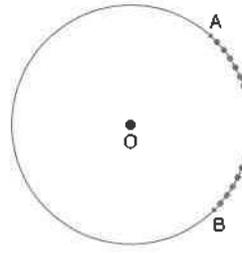
TEĞET (Tangent):
Çemberin yalnız bir noktada kesen doğruya denir.
The tangent line touches a circle at exactly one point and is perpendicular to the radius of the circle at the point of contact.

3.



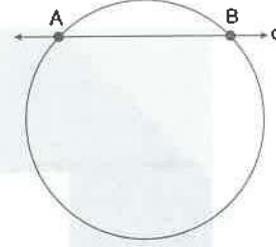
KIRIŞ (Chord):
Çemberin farklı iki noktasını birleştiren doğru parçasına denir.
A line segment that connects two points on a circle.

4.



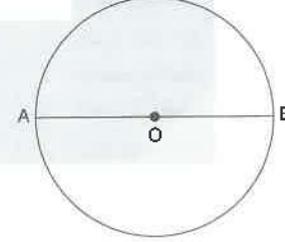
YAY (Arc):
A ve B noktaları arasında kalan kısma denir.
An arc is the part of circle's between the points A and B.

5.



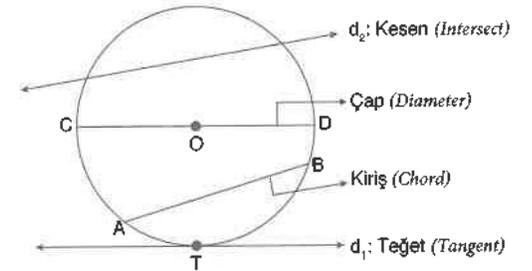
KESEN (Intersect):
Çemberi farklı iki noktadan kesen doğrulara denir.
A line intersects on two distinct points of the circle.

6.

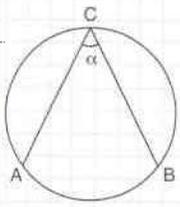


ÇAP (Diameter):
O merkezinden geçen [AB] kirişine çemberin çapı denir.
A chord that passes through the center of a circle.

7.

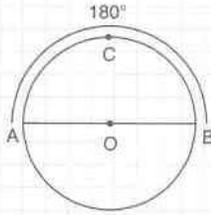


ÖZELLİK | Property 1



$$m(\widehat{ACB}) = \alpha$$

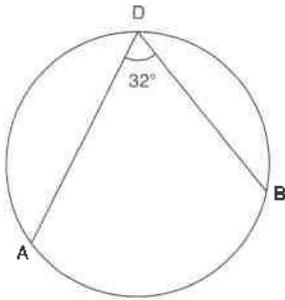
$$m(\widehat{AB}) = 2\alpha$$



O merkez
O center

$$m(\widehat{ACB}) = 180^\circ$$

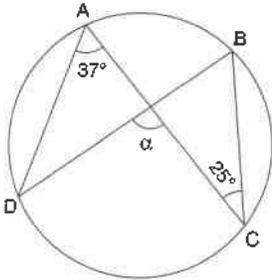
1.



$$\Rightarrow m(\widehat{AB}) = ?$$

64

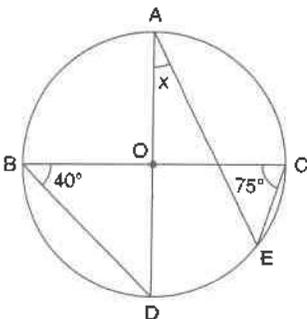
2.



$$\Rightarrow \alpha = ?$$

62

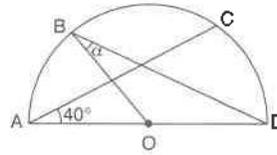
3.



O merkezli çember
A Circle with a center O
 $\Rightarrow x = ?$

25

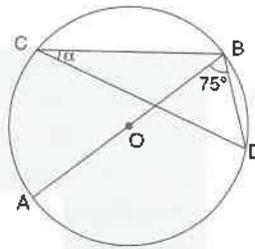
4.



[AD] çap (diameter)
 $m(\widehat{BC}) = 20^\circ$
 $\Rightarrow \alpha = ?$

40

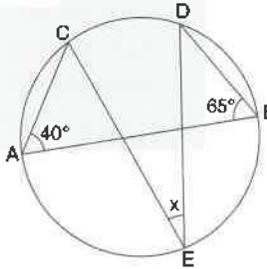
5.



[AB] çap (diameter)
 $\Rightarrow \alpha = ?$

15

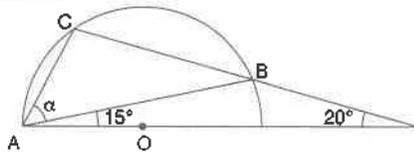
6.



[AB] çap (diameter)
 $\Rightarrow x = ?$

15

7.

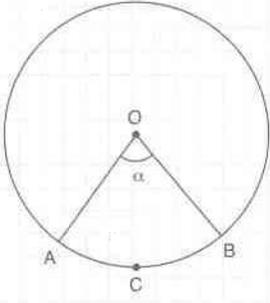


O merkezli yarım çember (A semi circle with a center O)
 $\Rightarrow \alpha = ?$

40

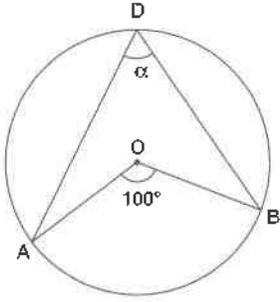
ÇEMBERDE AÇI

ÖZELLİK | Property 2



O merkezli çember
A Circle with a center O
 $m(\widehat{AOB}) = \alpha$
 $m(\widehat{ACB}) = \alpha$

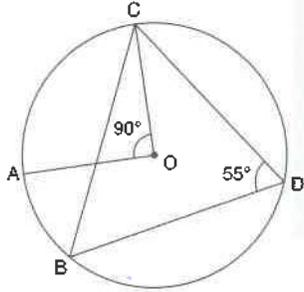
1.



O merkezli çember
A Circle with a center O
 $\Rightarrow \alpha = ?$

50

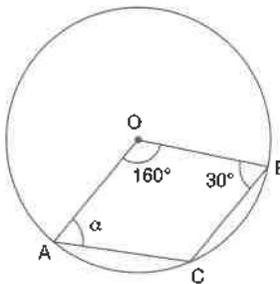
2.



O merkezli çember
A Circle with a center O
 $\Rightarrow m(\widehat{AB}) = ?$

20

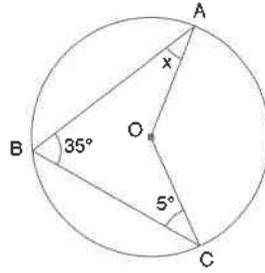
3.



O merkezli çember
A Circle with a center O
 $\Rightarrow \alpha = ?$

70

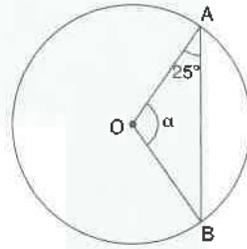
4.



O merkezli çember
A circle with a center O
 $\Rightarrow x = ?$

30

5.

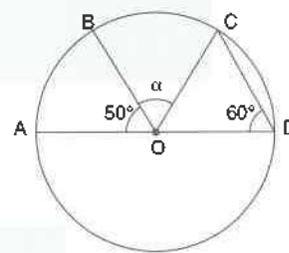


O merkezli çember
A circle with a center O
 $\Rightarrow \alpha = ?$

130

PUZZA YAYINLARI

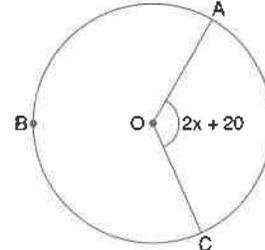
6.



[AD] çap (diameter)
 $\Rightarrow \alpha = ?$

70

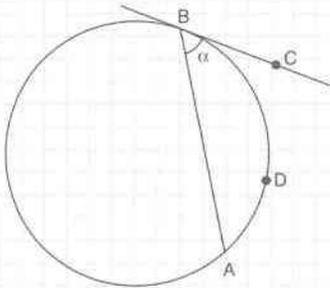
7.



O merkezli çember
A circle with a center O
 $m(\widehat{ABC}) = 240^\circ$
 $\Rightarrow x = ?$

50

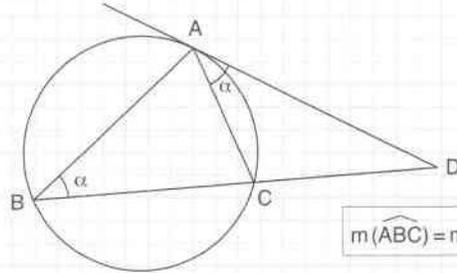
ÖZELLİK | Property 3



$$m(\widehat{ABC}) = \alpha$$

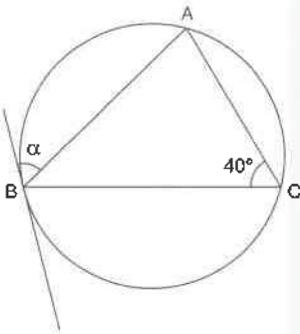
$$m(\widehat{ADB}) = 2\alpha$$

ÖZELLİK | Property 4



$$m(\widehat{ABC}) = m(\widehat{CAD})$$

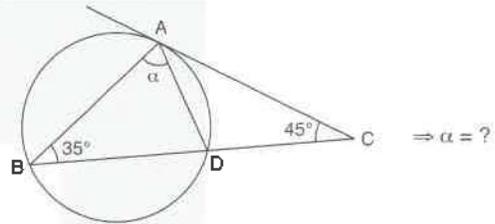
1.



$$\Rightarrow \alpha = ?$$

40

1.

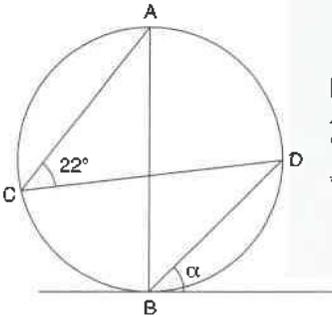


$$\Rightarrow \alpha = ?$$

65

PUZAYAYINLARI

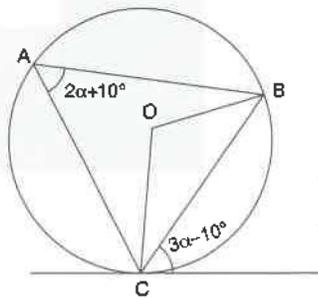
2.



[AB] çaplı çember
A Circle with a diameter of [AB]
 $\Rightarrow \alpha = ?$

68

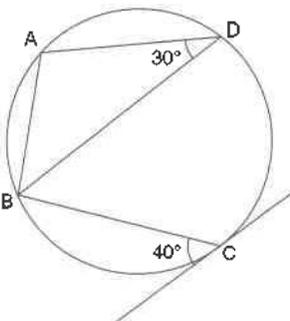
2.



O merkezli çember
A Circle with a center O
 $\Rightarrow m(\widehat{COB}) = ?$

100

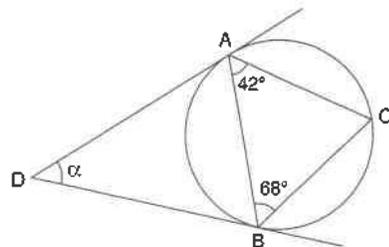
3.



$$\Rightarrow m(\widehat{ABC}) = ?$$

110

3.

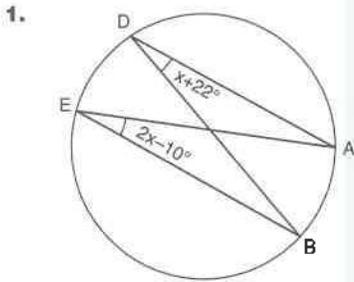
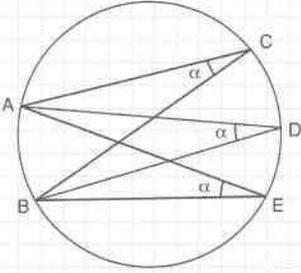


$$\Rightarrow \alpha = ?$$

40

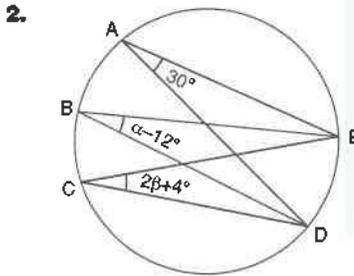
ÇEMBERDE AÇI

ÖZELLİK | Property 5



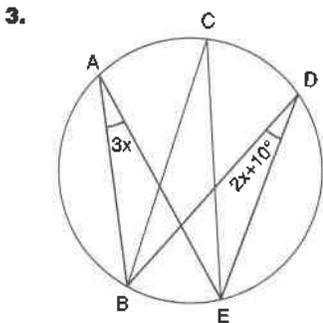
$$\Rightarrow m(\widehat{AB}) = ?$$

108



$$\Rightarrow \alpha - \beta = ?$$

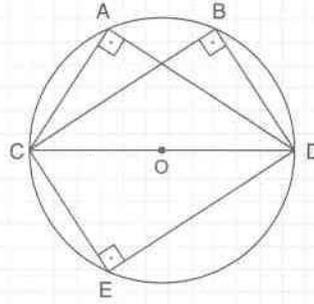
29



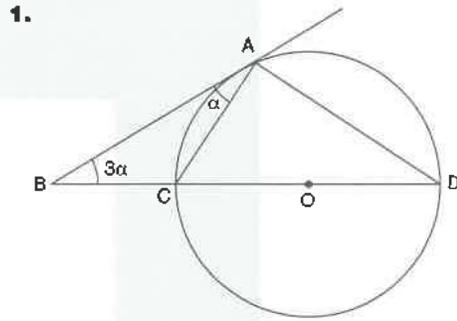
$$\Rightarrow m(\widehat{BCE}) = ?$$

30

ÖZELLİK | Property 6

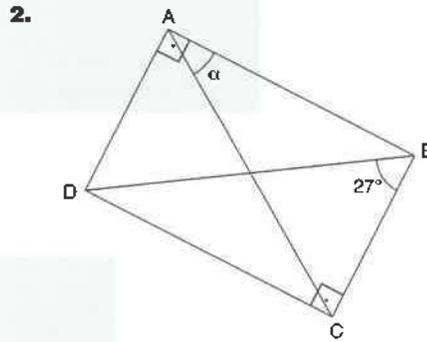


O merkezli çember
A Circle with a center O



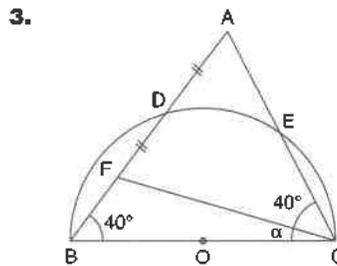
O merkezli çember
A Circle with a center O
 $\Rightarrow \alpha = ?$

18



$$\Rightarrow \alpha = ?$$

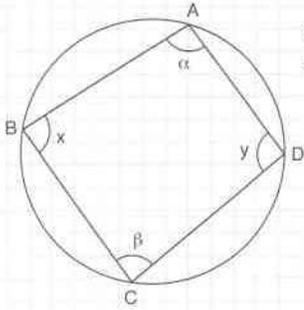
63



O merkezli çember
A Circle with a center O
 $\Rightarrow \alpha = ?$

30

ÖZELLİK | Property 7

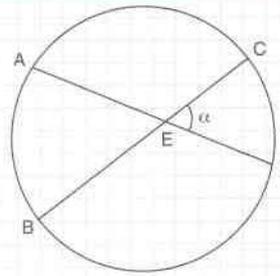


ABCD Kirişler Dörtgeni
ABCD Inscribed quadrilateral

$$\alpha + \beta = 180^\circ$$

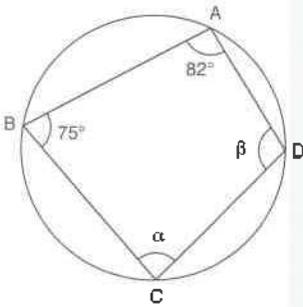
$$x + y = 180^\circ$$

ÖZELLİK | Property 8



$$\alpha = \frac{m(\widehat{AB}) + m(\widehat{CD})}{2}$$

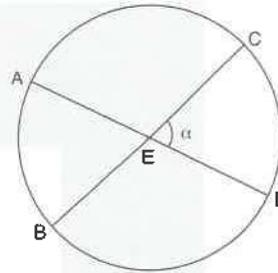
1.



$$\Rightarrow \beta - \alpha = ?$$

7

1.



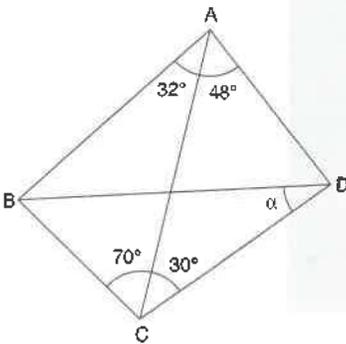
$$m(\widehat{AB}) = 100^\circ$$

$$m(\widehat{CD}) = 70^\circ$$

$$\Rightarrow \alpha = ?$$

85

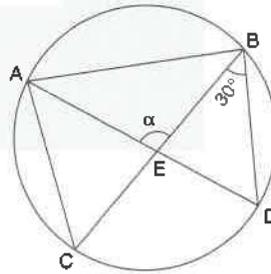
2.



$$\Rightarrow \alpha = ?$$

32

2.



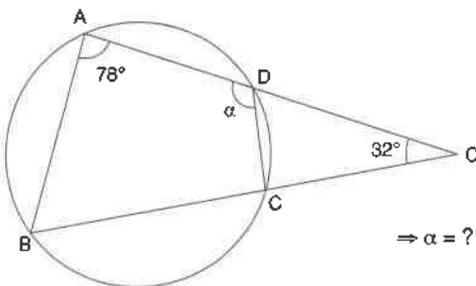
ABC eşkenar üçgen

ABC equilateral triangle

$$\Rightarrow \alpha = ?$$

90

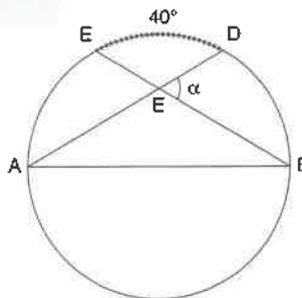
3.



$$\Rightarrow \alpha = ?$$

110

3.



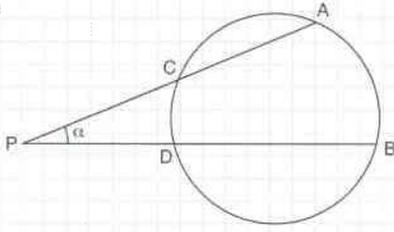
[AB] çaplı çember
A Circle with a diameter [AB]

$$\Rightarrow \alpha = ?$$

70

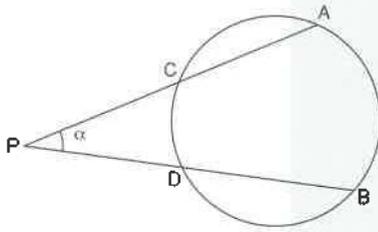
ÇEMBERDE AÇI

ÖZELLİK | Property 9



$$\alpha = \frac{m(\widehat{AB}) - m(\widehat{CD})}{2}$$

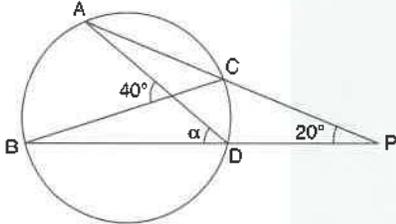
1.



$$\begin{aligned} m(\widehat{AB}) &= 75^\circ \\ m(\widehat{CD}) &= 25^\circ \\ \Rightarrow \alpha &= ? \end{aligned}$$

25

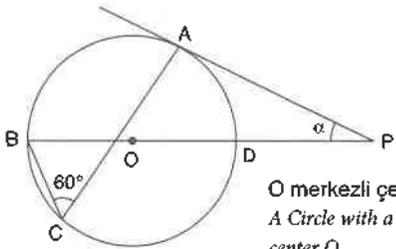
2.



$$\Rightarrow \alpha = ?$$

30

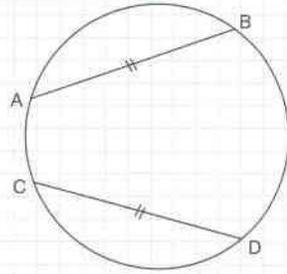
3.



O merkezli çember
A Circle with a
center O
 $\Rightarrow \alpha = ?$

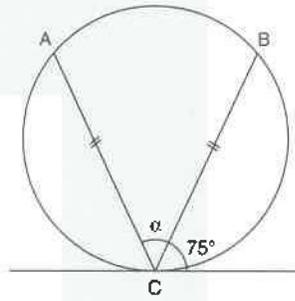
30

ÖZELLİK | Property 10



$$|AB| = |CD| \Rightarrow m(\widehat{AB}) = m(\widehat{CD})$$

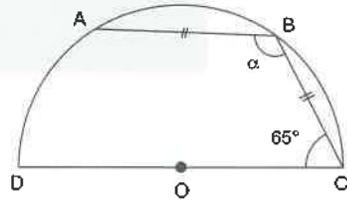
1.



$$\Rightarrow \alpha = ?$$

30

2.

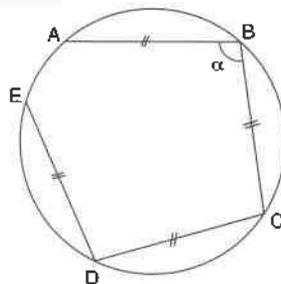


O merkezli çember
A Circle with a
center O

$$\Rightarrow \alpha = ?$$

130

3.

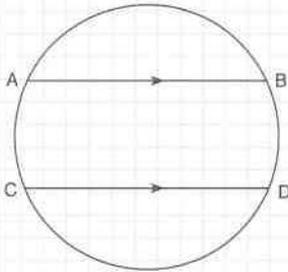


$$\begin{aligned} m(\widehat{AE}) &= 60^\circ \\ \Rightarrow \alpha &= ? \end{aligned}$$

105

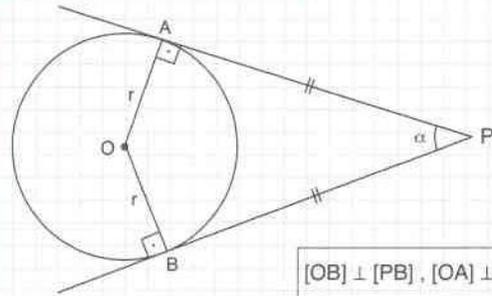
PUZUYAYINLARI

ÖZELLİK | Property 11



$$[AB] \parallel [CD] \Rightarrow m(\widehat{AC}) = m(\widehat{BD})$$

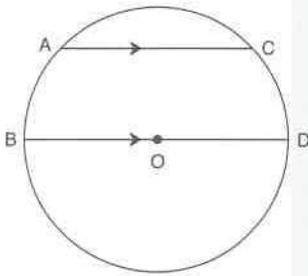
ÖZELLİK | Property 12



$$[OB] \perp [PB], [OA] \perp [PA]$$

$$\alpha + m(\widehat{AB}) = 180^\circ$$

1.



O merkezli çember
A Circle with a center O

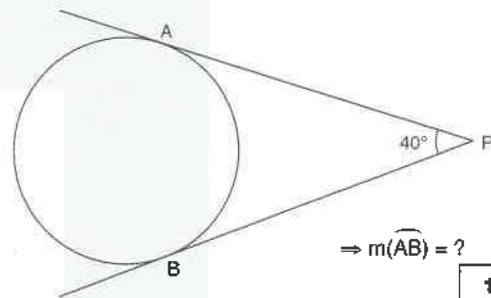
$$[AC] \parallel [BD]$$

$$m(\widehat{AB}) = 50^\circ$$

$$\Rightarrow m(\widehat{AC}) = ?$$

80

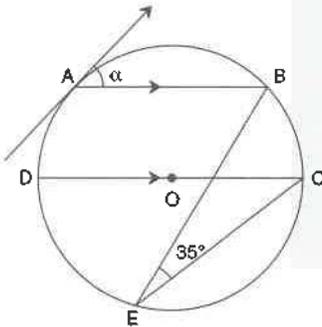
1.



$$\Rightarrow m(\widehat{AB}) = ?$$

140

2.



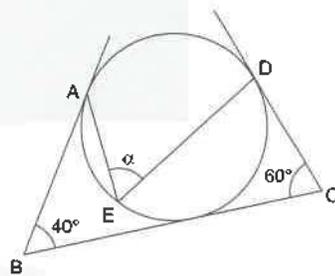
O merkezli çember
A Circle with a center O

$$[AB] \parallel [DC]$$

$$\Rightarrow \alpha = ?$$

20

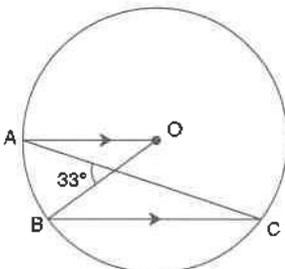
2.



$$\Rightarrow \alpha = ?$$

50

3.



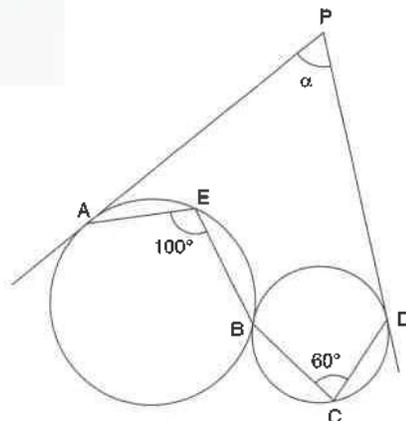
O merkezli çember
A Circle with a center O

$$[AO] \parallel [BC]$$

$$\Rightarrow m(\widehat{BC}) = ?$$

136

3.

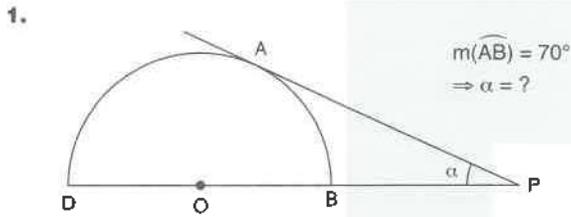
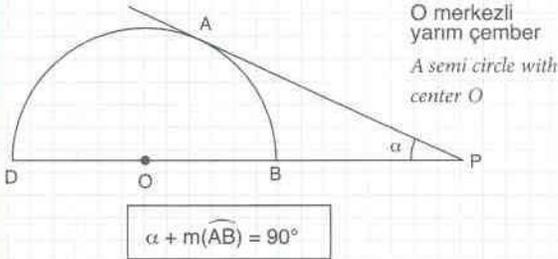


$$\Rightarrow \alpha = ?$$

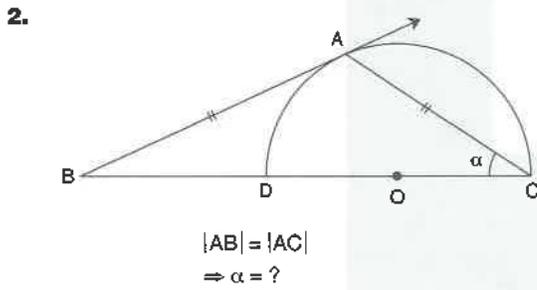
80

ÇEMBERDE AÇI

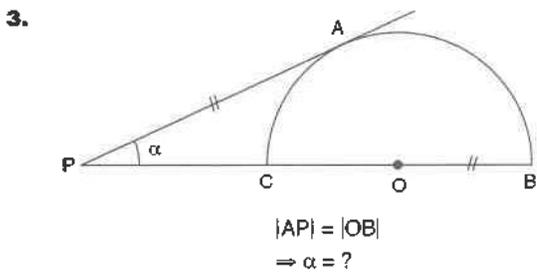
ÖZELLİK | Property 13



20

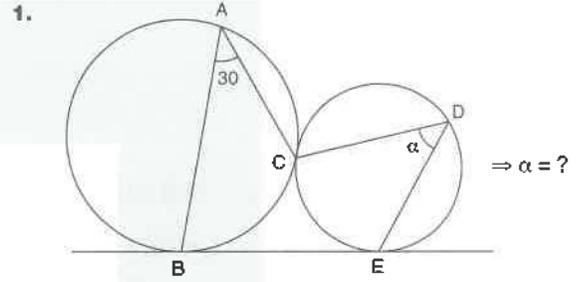
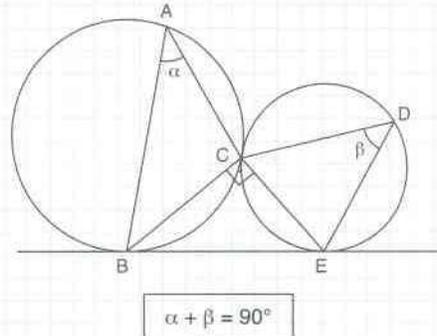


30

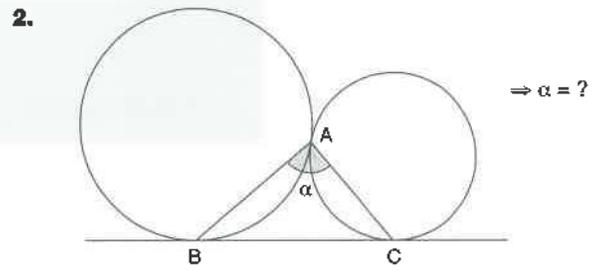


45

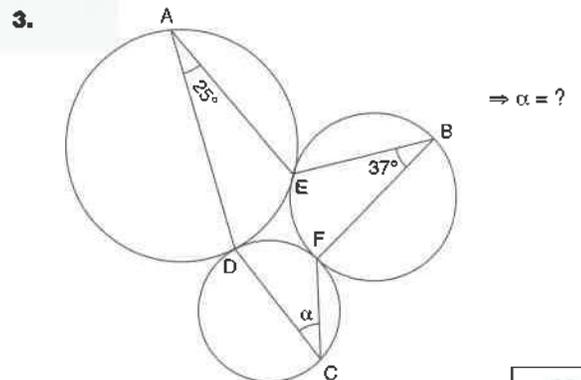
ÖZELLİK | Property 14



60



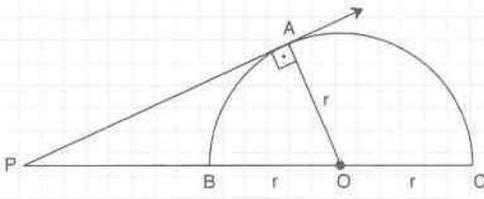
90



28

PUZAYIYLARI

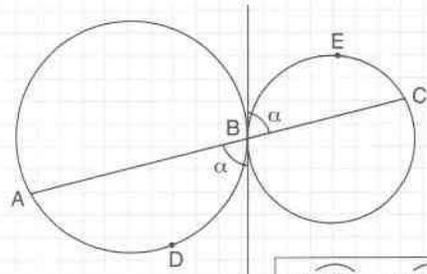
ÖZELLİK | Property 15



O merkezli yarım çember

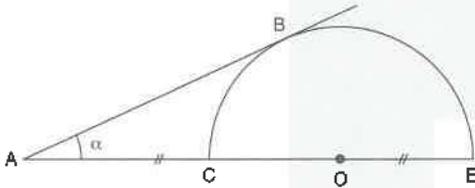
A semi circle with a center O

ÖZELLİK | Property 16



$$m(\widehat{ADB}) = m(\widehat{BEC})$$

1.

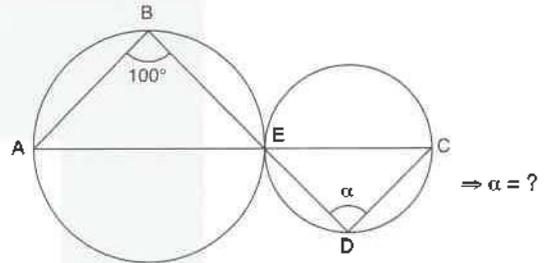


O merkezli yarım çember
A semi circle with a center O

$$\Rightarrow \alpha = ?$$

30

1.

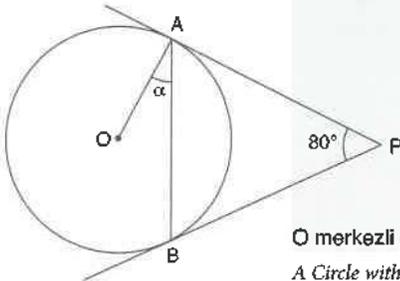


$$\Rightarrow \alpha = ?$$

100

PUZUYAYINLARI

2.

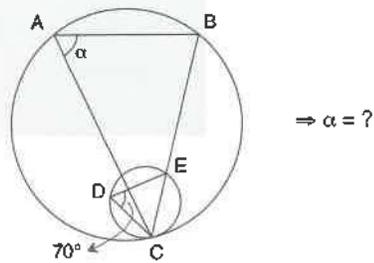


O merkezli çember
A Circle with a center O

$$\Rightarrow \alpha = ?$$

40

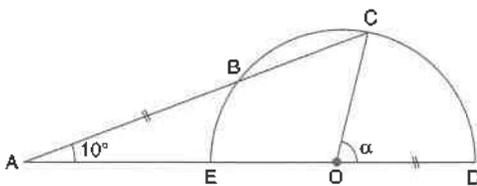
2.



$$\Rightarrow \alpha = ?$$

70

3.

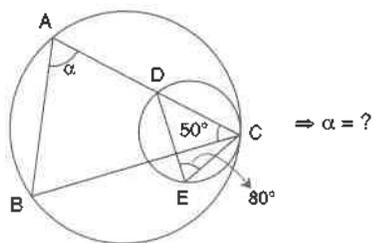


O merkezli yarım çember
A semi circle with a center O

$$\Rightarrow \alpha = ?$$

30

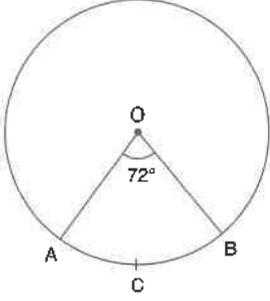
3.



$$\Rightarrow \alpha = ?$$

50

1.

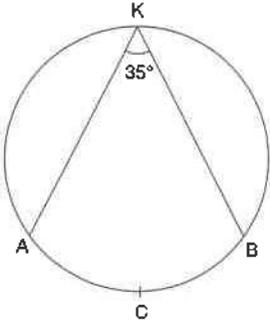


O merkezli çember
A Circle with a center O

$$m(\widehat{AOB}) = 72^\circ \\ \Rightarrow m(\widehat{ACB}) = ?$$

- A) 36 B) 48 C) 72 D) 108 E) 144

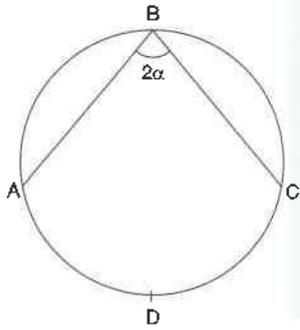
2.



$$m(\widehat{AKB}) = 35^\circ \\ \Rightarrow m(\widehat{ACB}) = ?$$

- A) $\frac{35}{2}$ B) 35 C) 70 D) 140 E) 280

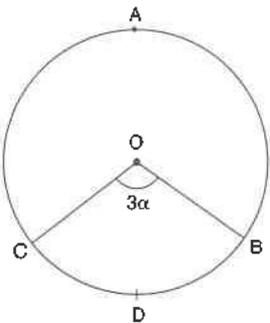
3.



$$m(\widehat{ABC}) = 2\alpha \\ m(\widehat{ADC}) = 5\alpha - 20^\circ \\ \Rightarrow m(\widehat{ADC}) = ?$$

- A) $\frac{40}{3}$ B) 20 C) $\frac{80}{3}$ D) 40 E) 80

4.

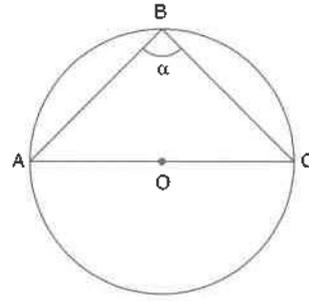


O merkezli çember
A Circle with a center O

$$m(\widehat{BOC}) = 3\alpha \\ m(\widehat{CDB}) = 2\alpha + 40^\circ \\ \Rightarrow m(\widehat{BAC}) = ?$$

- A) 80 B) 120 C) 240 D) 280 E) 320

5.

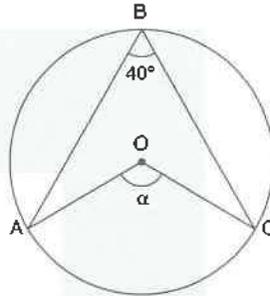


O merkezli çember
A Circle with a center O

$$\Rightarrow m(\widehat{ABC}) = \alpha = ?$$

- A) 30 B) 60 C) 75 D) 90 E) 120

6.

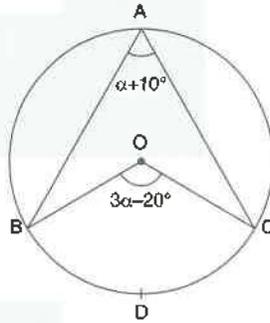


O merkezli çember
A Circle with a center O

$$m(\widehat{ABC}) = 40^\circ \\ \Rightarrow m(\widehat{AOC}) = \alpha = ?$$

- A) 20 B) 40 C) 60 D) 80 E) 160

7.

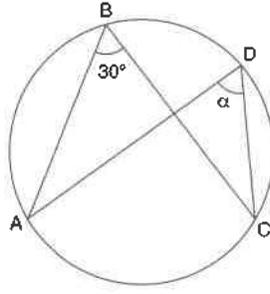


O merkezli çember
A Circle with a center O

$$m(\widehat{BAC}) = \alpha + 10^\circ \\ m(\widehat{BOC}) = 3\alpha - 20^\circ \\ \Rightarrow m(\widehat{BDC}) = ?$$

- A) 120 B) 100 C) 80 D) 50 E) 40

8.



$$m(\widehat{ABC}) = 30^\circ \\ \Rightarrow m(\widehat{ADC}) = \alpha = ?$$

- A) 15 B) 30 C) 45 D) 60 E) 90

9.

$m(\widehat{ACE}) = 2x$
 $m(\widehat{ADE}) = x + 22^\circ$
 $\Rightarrow m(\widehat{ABE}) = ?$

A) 44 B) 32 C) 24 D) 22 E) 11

13.

$|AC| = |BC|$
 $m(\widehat{BAC}) = 80^\circ$
 $\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 60 E) 80

10.

O merkezli çember
 A Circle with a center O

$m(\widehat{ABC}) = 40^\circ$
 $m(\widehat{AOD}) = 70^\circ$
 $\Rightarrow m(\widehat{DC}) = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

PUZAYYINLARI

14.

$m(\widehat{BAD}) = 4\alpha$
 $m(\widehat{BCD}) = 5\alpha$
 $\Rightarrow m(\widehat{AD}) = ?$

A) 20 B) 80 C) 100 D) 160 E) 200

11.

$m(\widehat{BAC}) = 65^\circ$
 $\Rightarrow m(\widehat{ADC}) = ?$

A) 22,5 B) 32,5 C) 65 D) 115 E) 130

15.

O merkezli çember
 A Circle with a center O

$m(\widehat{BOD}) = 100^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 50 B) 80 C) 100 D) 130 E) 150

12.

$m(\widehat{ABC}) = 40^\circ$
 $\Rightarrow m(\widehat{CDB}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 80 E) 140

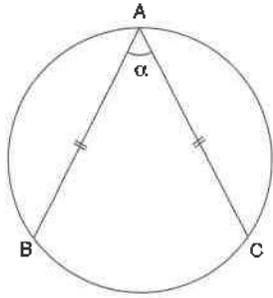
16.

O merkezli çember
 A Circle with a center O

$m(\widehat{ADC}) = 120^\circ$
 $\Rightarrow m(\widehat{AOC}) = \alpha = ?$

A) 50 B) 65 C) 100 D) 120 E) 230

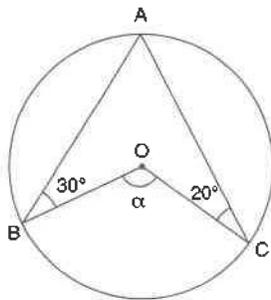
1.



$$\begin{aligned} |AB| &= |AC| \\ m(\widehat{AC}) &= 130^\circ \\ \Rightarrow m(\widehat{BAC}) &= \alpha = ? \end{aligned}$$

- A) 50 B) 100 C) 120 D) 140 E) 150

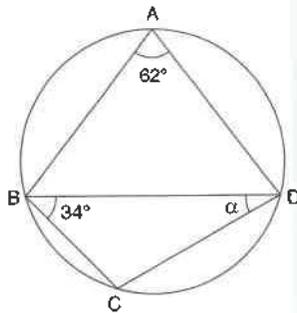
2.



$$\begin{aligned} \text{O merkezli çember} \\ \text{A Circle with a} \\ \text{center O} \\ m(\widehat{ABO}) &= 30^\circ \\ m(\widehat{OCA}) &= 20^\circ \\ \Rightarrow m(\widehat{BOC}) &= \alpha = ? \end{aligned}$$

- A) 20 B) 30 C) 50 D) 100 E) 120

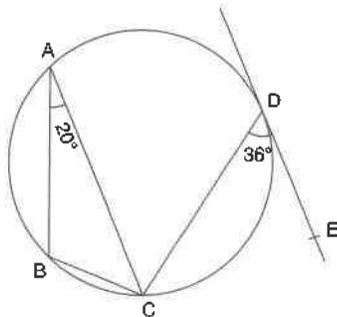
3.



$$\begin{aligned} m(\widehat{BAD}) &= 62^\circ \\ m(\widehat{DBC}) &= 34^\circ \\ \Rightarrow m(\widehat{BDC}) &= \alpha = ? \end{aligned}$$

- A) 12 B) 24 C) 28 D) 34 E) 46

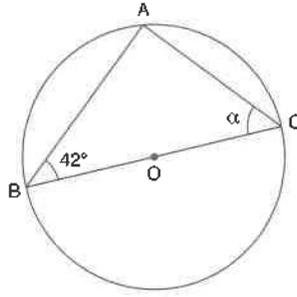
4.



$$\begin{aligned} m(\widehat{BAC}) &= 20^\circ \\ m(\widehat{CDE}) &= 36^\circ \\ \Rightarrow m(\widehat{BCD}) &= ? \end{aligned}$$

- A) 56 B) 78 C) 124 D) 126 E) 132

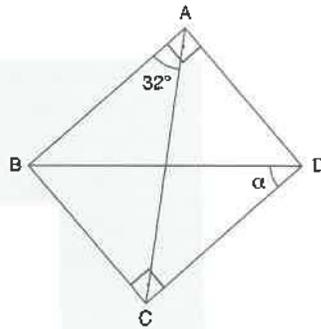
5.



$$\begin{aligned} \text{O merkezli çember} \\ \text{A Circle with a} \\ \text{center O} \\ m(\widehat{ABC}) &= 42^\circ \\ \Rightarrow m(\widehat{ACB}) &= \alpha = ? \end{aligned}$$

- A) 21 B) 42 C) 48 D) 64 E) 84

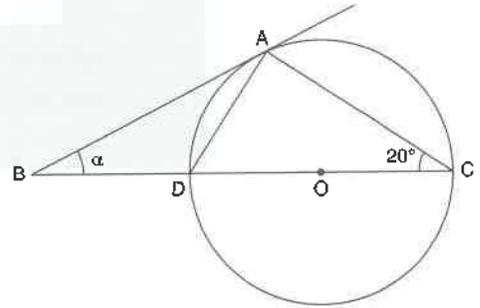
6.



$$\begin{aligned} [AB] \perp [AD] \\ [BC] \perp [CD] \\ m(\widehat{BAC}) &= 32^\circ \\ \Rightarrow m(\widehat{BDC}) &= \alpha = ? \end{aligned}$$

- A) 84 B) 76 C) 64 D) 48 E) 32

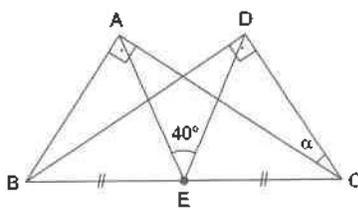
7.



$$\begin{aligned} \text{O merkezli çember} \\ \text{A Circle with a center O} \\ m(\widehat{ACB}) &= 20^\circ \Rightarrow m(\widehat{ABC}) = \alpha = ? \end{aligned}$$

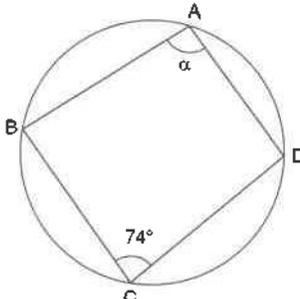
- A) 20 B) 30 C) 40 D) 50 E) 70

8.

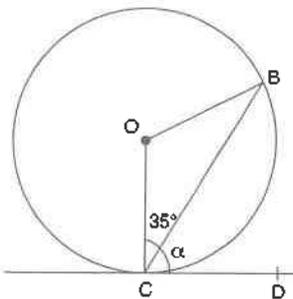


$$\begin{aligned} [BA] \perp [AC] \\ [BD] \perp [DC] \\ |BE| = |EC| \\ m(\widehat{AED}) &= 40^\circ \\ \Rightarrow m(\widehat{ACD}) &= \alpha = ? \end{aligned}$$

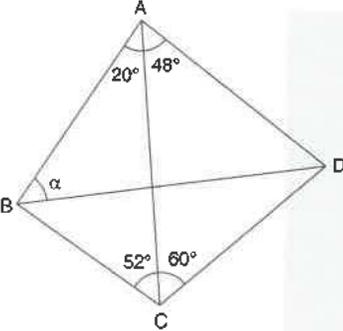
- A) 10 B) 20 C) 40 D) 80 E) 140

9.  $m(\widehat{BCD}) = 74^\circ$
 $\Rightarrow m(\widehat{BAD}) = \alpha = ?$

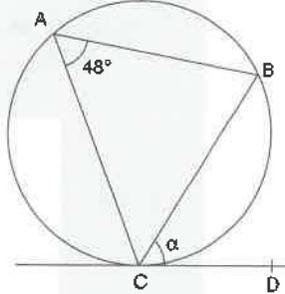
A) 37 B) 74 C) 90 D) 106 E) 143

13.  O merkezli çember
 A Circle with a center O
 $m(\widehat{OCB}) = 35^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

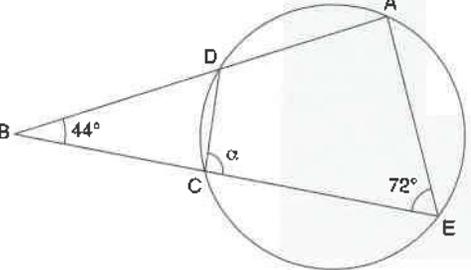
A) 35 B) 55 C) 70 D) 110 E) 140

10.  $m(\widehat{BAC}) = 20^\circ$
 $m(\widehat{DAC}) = 48^\circ$
 $m(\widehat{DCA}) = 60^\circ$
 $m(\widehat{ACB}) = 52^\circ$
 $\Rightarrow m(\widehat{ABD}) = \alpha = ?$

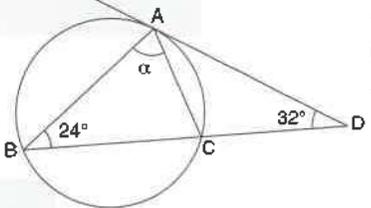
A) 10 B) 15 C) 26 D) 30 E) 60

14.  $m(\widehat{BAC}) = 48^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

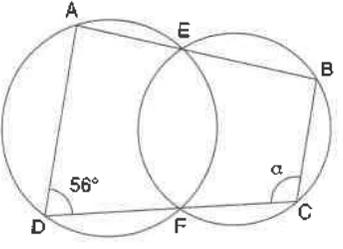
A) 96 B) 78 C) 56 D) 48 E) 24

11.  $m(\widehat{AEB}) = 72^\circ$ $m(\widehat{ABE}) = 44^\circ$ $\Rightarrow m(\widehat{DCE}) = \alpha = ?$

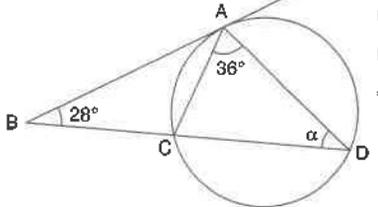
A) 116 B) 98 C) 64 D) 58 E) 48

15.  $m(\widehat{ABD}) = 24^\circ$
 $m(\widehat{ADB}) = 32^\circ$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

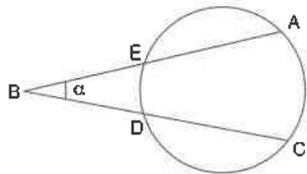
A) 112 B) 100 C) 98 D) 84 E) 72

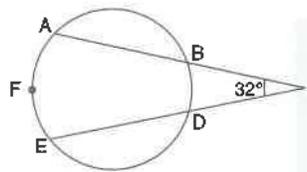
12.  $m(\widehat{ADC}) = 56^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

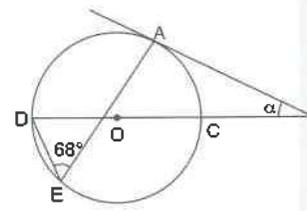
A) 28 B) 34 C) 56 D) 112 E) 124

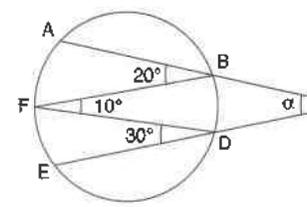
16.  $m(\widehat{ABD}) = 28^\circ$
 $m(\widehat{CAD}) = 36^\circ$
 $\Rightarrow m(\widehat{ADB}) = \alpha = ?$

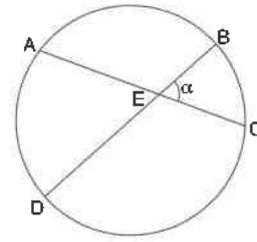
A) 36 B) 48 C) 52 D) 58 E) 64

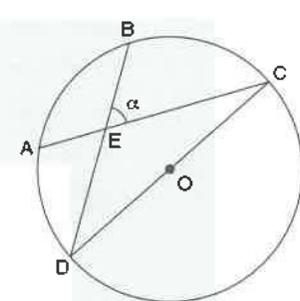
1.  $m(\widehat{AC}) = 80^\circ$
 $m(\widehat{ED}) = 20^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$
- A) 30 B) 50 C) 60 D) 80 E) 100

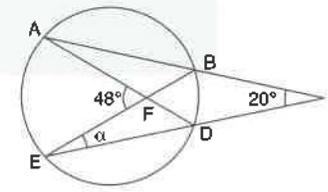
2.  $m(\widehat{BD}) = 40^\circ$
 $m(\widehat{ACE}) = 32^\circ$
 $\Rightarrow m(\widehat{AFE}) = ?$
- A) 4 B) 56 C) 64 D) 104 E) 114

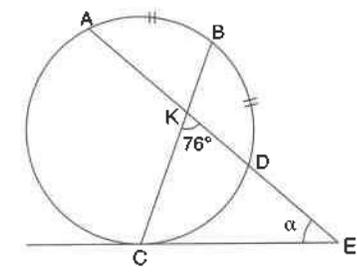
3.  O merkezli çember
A Circle with a center O
 $m(\widehat{DEA}) = 68^\circ$
 $\Rightarrow m(\widehat{ABD}) = \alpha = ?$
- A) 22 B) 44 C) 46 D) 68 E) 76

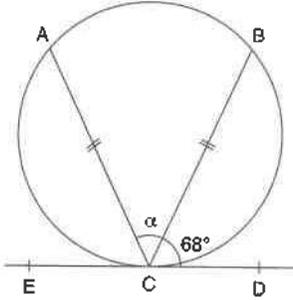
4.  $m(\widehat{ABF}) = 20^\circ$
 $m(\widehat{BFD}) = 10^\circ$
 $m(\widehat{FDE}) = 30^\circ$
 $\Rightarrow m(\widehat{ACE}) = \alpha = ?$
- A) 120 B) 80 C) 60 D) 40 E) 20

5.  $m(\widehat{BC}) = 40^\circ$
 $m(\widehat{AD}) = 56^\circ$
 $\Rightarrow m(\widehat{BEC}) = \alpha = ?$
- A) 20 B) 28 C) 36 D) 48 E) 96

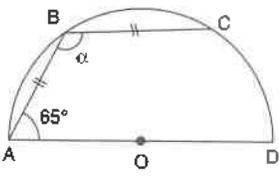
6.  O merkezli çember
A Circle with a center O
 $m(\widehat{AB}) = 50^\circ$
 $\Rightarrow m(\widehat{BEC}) = \alpha = ?$
- A) 115 B) 100 C) 85 D) 75 E) 65

7.  $m(\widehat{AFE}) = 48^\circ$
 $m(\widehat{ACE}) = 20^\circ$
 $\Rightarrow m(\widehat{BED}) = \alpha = ?$
- A) 8 B) 10 C) 14 D) 20 E) 24

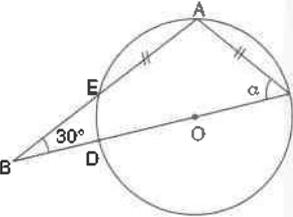
8.  $m(\widehat{AB}) = m(\widehat{BD})$
 $m(\widehat{CKE}) = 76^\circ$
 $\Rightarrow m(\widehat{AEC}) = \alpha = ?$
- A) 28 B) 38 C) 42 D) 56 E) 76

9.  $|AC| = |BC|$
 $m(\widehat{BCD}) = 68^\circ$
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

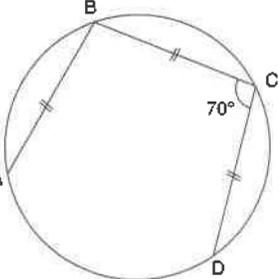
A) 34 B) 44 C) 56 D) 68 E) 88

10.  O merkezli yarımlar çember
A semi circle with a center O
 $|AB| = |BC|$
 $m(\widehat{BAD}) = 65^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

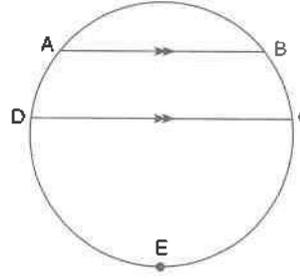
A) 70 B) 85 C) 110 D) 120 E) 130

11.  O merkezli çember
A Circle with a center O
 $|EA| = |AC|$
 $m(\widehat{ABC}) = 30^\circ$
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

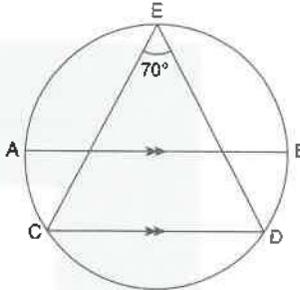
A) 20 B) 40 C) 50 D) 60 E) 70

12.  $|AB| = |BC| = |CD|$
 $m(\widehat{BCD}) = 70^\circ$
 $\Rightarrow m(\widehat{AD}) = ?$

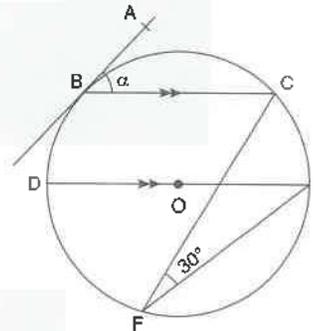
A) 30 B) 45 C) 60 D) 70 E) 90

13.  $[AB] \parallel [DC]$
 $m(\widehat{AB}) = 50^\circ$
 $m(\widehat{DEC}) = 240^\circ$
 $\Rightarrow m(\widehat{AD}) = ?$

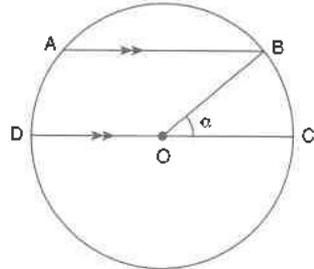
A) 35 B) 55 C) 70 D) 85 E) 90

14.  $[AB]$ çaplı çember
A Circle with a diameter $[AB]$
 $[AB] \parallel [CD]$
 $m(\widehat{CED}) = 70^\circ$
 $\Rightarrow m(\widehat{AC}) = ?$

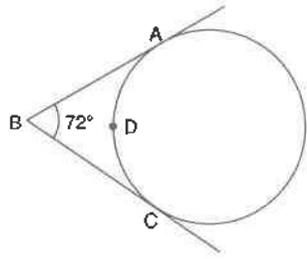
A) 10 B) 20 C) 30 D) 40 E) 50

15.  O merkezli çember
A Circle with a center O
 $[BC] \parallel [DE]$
 $m(\widehat{CFE}) = 30^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

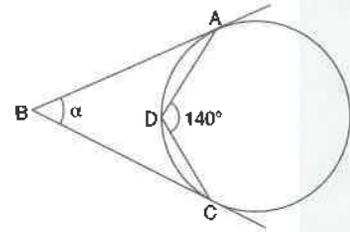
A) 75 B) 70 C) 60 D) 45 E) 30

16.  O merkezli çember
A Circle with a center O
 $[AB] \parallel [DC]$
 $m(\widehat{AB}) = 80^\circ$
 $\Rightarrow m(\widehat{BOC}) = \alpha = ?$

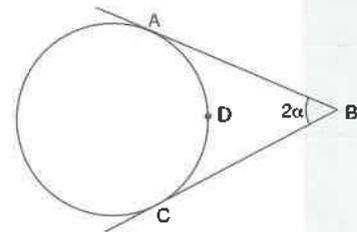
A) 80 B) 60 C) 50 D) 40 E) 25

1.  $m(\widehat{ADC}) = 72^\circ$
 $= m(\widehat{ADC}) = ?$

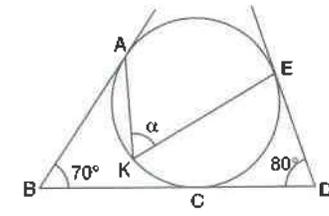
A) 36 B) 72 C) 108 D) 144 E) 156

2.  $m(\widehat{ADC}) = 140^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

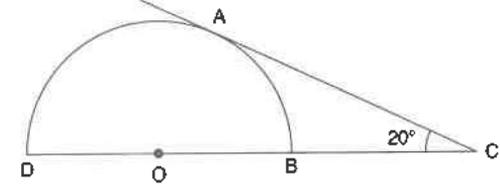
A) 35 B) 40 C) 70 D) 80 E) 100

3.  $m(\widehat{ADC}) = 4\alpha$
 $m(\widehat{ABC}) = 2\alpha$
 $\Rightarrow \alpha = ?$

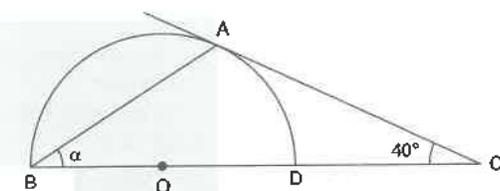
A) 15 B) 30 C) 45 D) 60 E) 75

4.  $m(\widehat{ABD}) = 70^\circ$
 $m(\widehat{EDB}) = 80^\circ$
 $\Rightarrow m(\widehat{AKE}) = \alpha = ?$

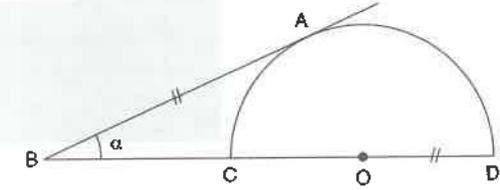
A) 30 B) 45 C) 60 D) 75 E) 90

5.  O merkezli yarım çember A semi circle with a center O
 $m(\widehat{ACD}) = 20^\circ$ $\Rightarrow m(\widehat{AB}) = ?$

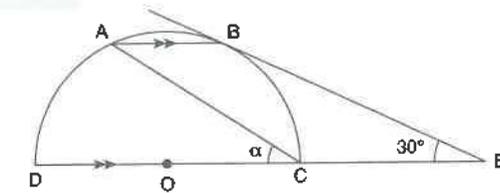
A) 20 B) 40 C) 60 D) 70 E) 160

6.  O merkezli yarım çember A semi circle with a center O
 $m(\widehat{ACB}) = 40^\circ$ $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

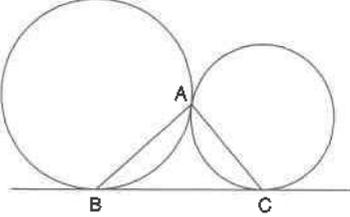
A) 20 B) 25 C) 40 D) 50 E) 70

7.  O merkezli yarım çember A semi circle with a center O
 $|AB| = |OD|$ $\Rightarrow m(\widehat{ABD}) = \alpha = ?$

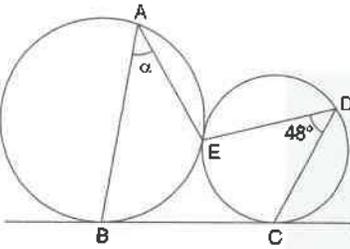
A) 15 B) 30 C) 45 D) 60 E) 75

8.  O merkezli yarım çember A semi circle with a center O
 $[AB] \parallel [DE]$ $m(\widehat{BED}) = 30^\circ$ $\Rightarrow m(\widehat{ACD}) = \alpha = ?$

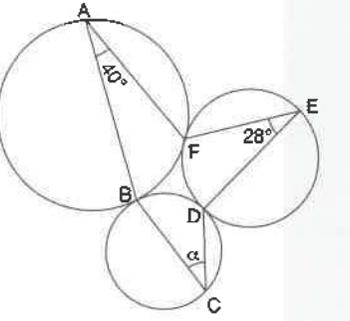
A) 15 B) 30 C) 45 D) 60 E) 75

9.  $\Rightarrow m(\widehat{BAC}) = ?$

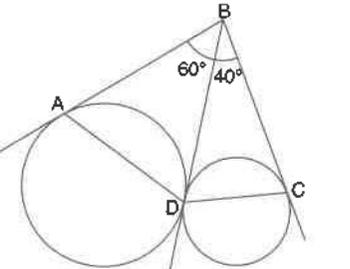
A) 90 B) 75 C) 60 D) 45 E) 30

10.  $m(\widehat{EDC}) = 48^\circ$
 $\Rightarrow m(\widehat{BAE}) = \alpha = ?$

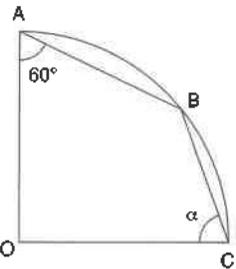
A) 24 B) 42 C) 48 D) 84 E) 96

11.  $m(\widehat{BAF}) = 40^\circ$
 $m(\widehat{FED}) = 28^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

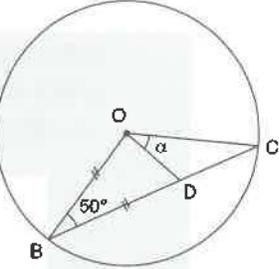
A) 12 B) 22 C) 32 D) 48 E) 68

12.  $m(\widehat{ABD}) = 60^\circ$
 $m(\widehat{DBC}) = 40^\circ$
 $\Rightarrow m(\widehat{ADC}) = ?$

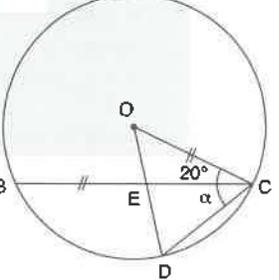
A) 60 B) 80 C) 100 D) 120 E) 130

13.  O merkezli çeyrek çember
A quarter circle with a center O
 $m(\widehat{OAB}) = 60^\circ$
 $\Rightarrow m(\widehat{BCO}) = \alpha = ?$

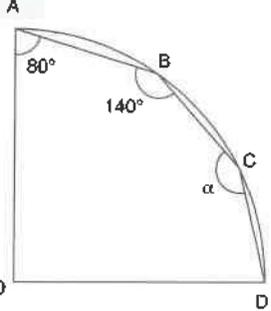
A) 75 B) 60 C) 45 D) 30 E) 15

14.  O merkezli çember
A Circle with a center O
 $|OB| = |OD|$
 $m(\widehat{BOC}) = 50^\circ$
 $\Rightarrow m(\widehat{DOC}) = \alpha = ?$

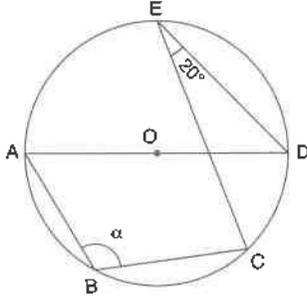
A) 5 B) 10 C) 15 D) 20 E) 25

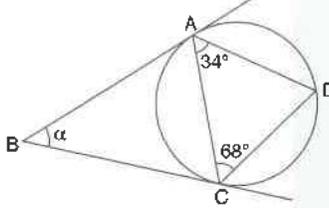
15.  O merkezli çember
A Circle with a center O
 $|BE| = |EC|$
 $m(\widehat{ECB}) = 20^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

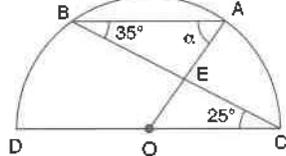
A) 10 B) 15 C) 20 D) 25 E) 40

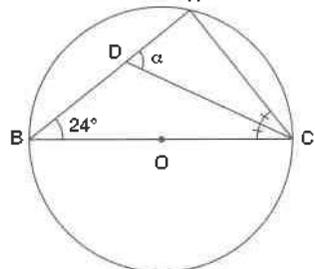
16.  O merkezli çeyrek çember
A quarter circle with a center O
 $m(\widehat{OAB}) = 80^\circ$
 $m(\widehat{ABC}) = 140^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

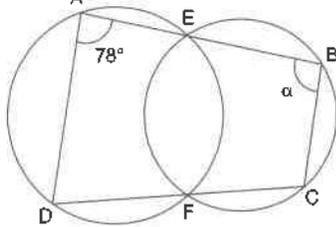
A) 110 B) 125 C) 130 D) 145 E) 160

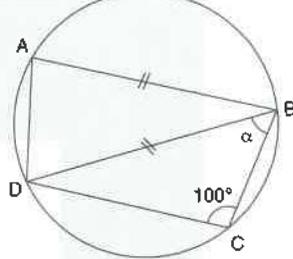
1.  O merkezli çember
A Circle with a center O
 $m(\widehat{CED}) = 20^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$
- A) 110 B) 120 C) 130 D) 140 E) 200

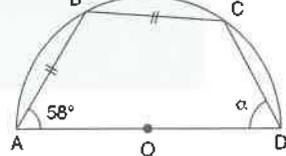
2.  $m(\widehat{DAC}) = 34^\circ$
 $m(\widehat{ACD}) = 68^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$
- A) 24 B) 36 C) 42 D) 48 E) 54

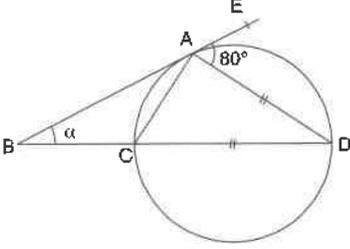
3.  O merkezli yarım çember
A semi circle with a center O
 $m(\widehat{ABC}) = 35^\circ$
 $m(\widehat{BCD}) = 25^\circ$
 $\Rightarrow m(\widehat{BAO}) = \alpha = ?$
- A) 20 B) 35 C) 45 D) 55 E) 60

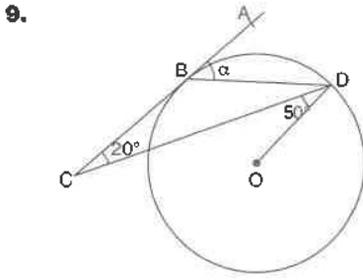
4.  O merkezli çember
A Circle with a center O
 $m(\widehat{ACD}) = m(\widehat{DCB})$
 $m(\widehat{ABC}) = 24^\circ$
 $\Rightarrow m(\widehat{ADC}) = \alpha = ?$
- A) 57 B) 48 C) 38 D) 36 E) 33

5.  $m(\widehat{DAB}) = 78^\circ$
 $\Rightarrow m(\widehat{ABC}) = \alpha = ?$
- A) 12 B) 39 C) 78 D) 102 E) 112

6.  $|AB| = |BD|$
 $|AB| \parallel |DC|$
 $m(\widehat{BCD}) = 100^\circ$
 $\Rightarrow m(\widehat{DBC}) = \alpha = ?$
- A) 20 B) 40 C) 50 D) 60 E) 80

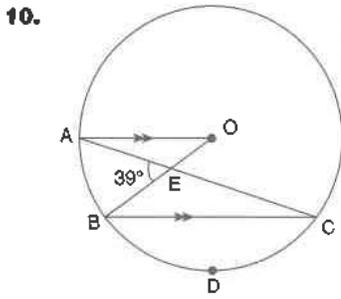
7.  O merkezli yarım çember
A semi circle with a center O
 $|AB| = |BC|$
 $m(\widehat{BAD}) = 58^\circ$
 $\Rightarrow m(\widehat{CDA}) = \alpha = ?$
- A) 128 B) 108 C) 66 D) 64 E) 54

8.  $m(\widehat{EAD}) = 80^\circ$
 $|AD| = |DC|$
 $\Rightarrow m(\widehat{ABD}) = \alpha = ?$
- A) 15 B) 20 C) 30 D) 45 E) 60



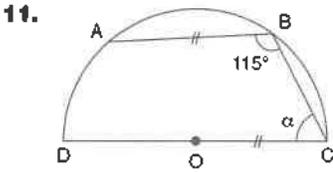
O merkezli çember
A Circle with O
 $m(\widehat{ACD}) = 20^\circ$
 $m(\widehat{ODC}) = 50^\circ$
 $\Rightarrow m(\widehat{ABD}) = \alpha = ?$

- A) 30 B) 40 C) 50 D) 60 E) 80



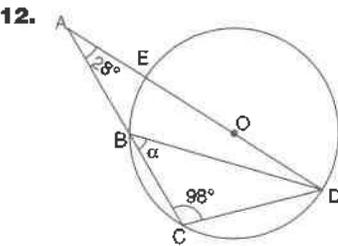
O merkezli çember
A Circle with a center O
 $[AO] \parallel [BC]$
 $m(\widehat{AEB}) = 39^\circ$
 $\Rightarrow m(\widehat{BDC}) = ?$

- A) 128 B) 108 C) 94 D) 84 E) 72



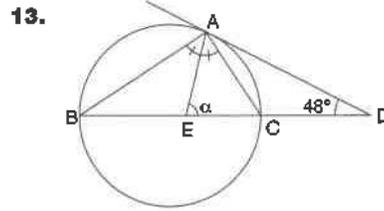
O merkezli yarım çember
A semi circle with center O
 $|AB| = |OC|$
 $m(\widehat{ABC}) = 115^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

- A) 30 B) 40 C) 45 D) 50 E) 55



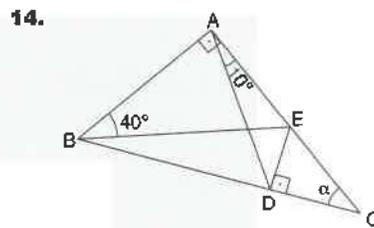
O merkezli çember
A Circle with a center O
 $m(\widehat{CAD}) = 28^\circ$
 $m(\widehat{ACD}) = 98^\circ$
 $\Rightarrow m(\widehat{DBC}) = \alpha = ?$

- A) 36 B) 40 C) 44 D) 45 E) 52



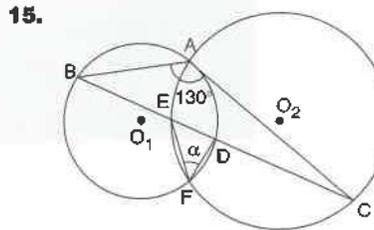
$m(\widehat{BAE}) = m(\widehat{EAC})$
 $m(\widehat{ADB}) = 48^\circ$
 $\Rightarrow m(\widehat{AED}) = \alpha = ?$

- A) 24 B) 48 C) 66 D) 72 E) 78



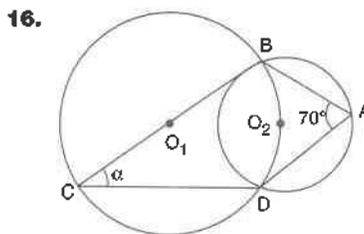
$[BA] \perp [AC]$
 $[ED] \perp [BC]$
 $m(\widehat{DAC}) = 10^\circ$
 $m(\widehat{ABE}) = 40^\circ$
 $\Rightarrow m(\widehat{ACB}) = \alpha = ?$

- A) 10 B) 20 C) 30 D) 40 E) 50



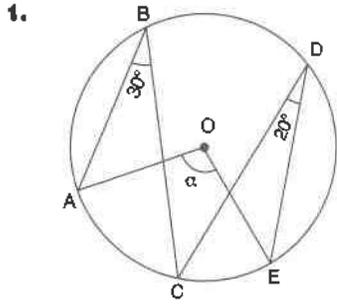
O_1 ve O_2 merkezli çemberler
Circle with central points O_1 and O_2
 $m(\widehat{BAC}) = 130^\circ$
 $\Rightarrow m(\widehat{EFD}) = \alpha = ?$

- A) 30 B) 45 C) 50 D) 65 E) 80



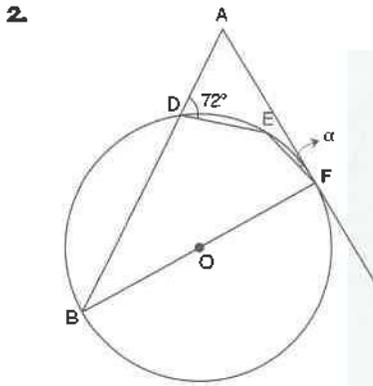
O_1 ve O_2 merkezli çemberler
Circle with central points O_1 and O_2
 $O_2 \in (\widehat{BD})$
 $m(\widehat{BAD}) = 70^\circ$
 $\Rightarrow m(\widehat{BCD}) = \alpha = ?$

- A) 10 B) 20 C) 30 D) 40 E) 50



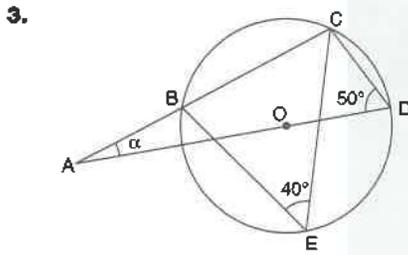
O merkezli çember
A Circle with
center O
 $m(\widehat{ABC}) = 30^\circ$
 $m(\widehat{CDE}) = 20^\circ$
 $\Rightarrow m(\widehat{AOE}) = \alpha = ?$

- A) 25 B) 60 C) 75 D) 100 E) 150



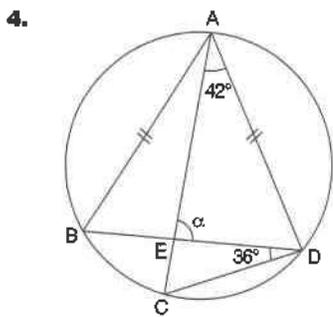
O merkezli çember
A Circle with
center O
 $m(\widehat{ADE}) = 72^\circ$
 $\Rightarrow m(\widehat{FOA}) = \alpha = ?$

- A) 9 B) 18 C) 27 D) 36 E) 48



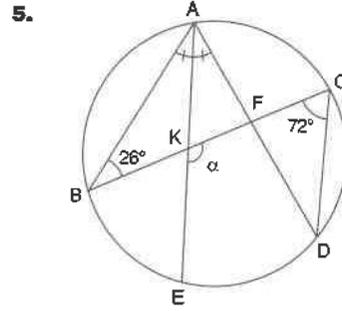
O merkezli çember
A Circle with
center O
 $m(\widehat{CDA}) = 50^\circ$
 $m(\widehat{BEC}) = 40^\circ$
 $\Rightarrow m(\widehat{CAD}) = \alpha = ?$

- A) 10 B) 15 C) 20 D) 25 E) 30



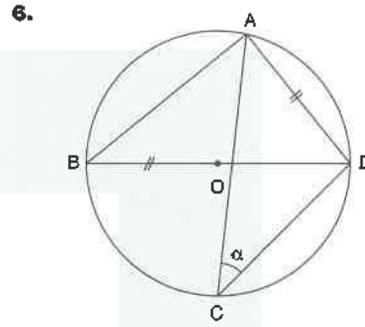
$|AB| = |AD|$
 $m(\widehat{CAD}) = 42^\circ$
 $m(\widehat{BDC}) = 36^\circ$
 $\Rightarrow m(\widehat{AED}) = \alpha = ?$

- A) 45 B) 53 C) 62 D) 65 E) 87



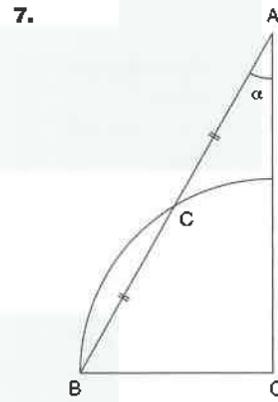
$m(\widehat{BAE}) = m(\widehat{EAD})$
 $m(\widehat{ABC}) = 26^\circ$
 $m(\widehat{BCD}) = 72^\circ$
 $\Rightarrow m(\widehat{EKC}) = \alpha = ?$

- A) 44 B) 48 C) 52 D) 62 E) 118



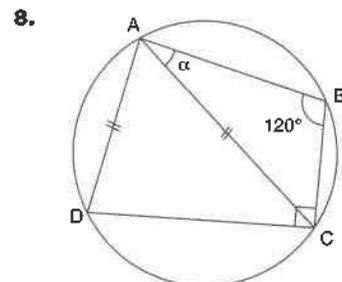
O merkezli çember
A Circle with center O
 $|BC| = |AD|$
 $\Rightarrow m(\widehat{ACD}) = \alpha = ?$

- A) 15 B) 30 C) 45 D) 60 E) 75



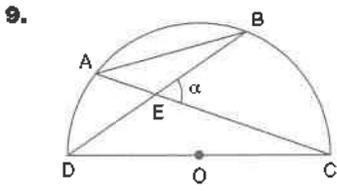
O merkezli çeyrek çember
A quarter circle with
center O
 $|AC| = |CB|$
 $\Rightarrow m(\widehat{BAO}) = \alpha = ?$

- A) 45 B) 40 C) 30 D) 20 E) 10



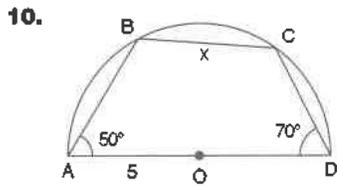
$|AD| = |AC|$
 $|BC| \perp |DC|$
 $m(\widehat{ABC}) = 120^\circ$
 $\Rightarrow m(\widehat{BAC}) = \alpha = ?$

- A) 10 B) 15 C) 30 D) 40 E) 45



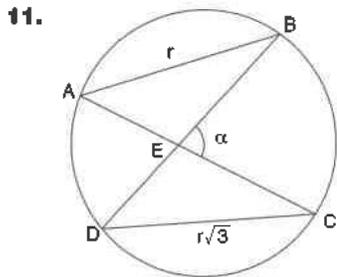
9. O merkezli yarım çember
A semi circle with center O
 $|AB| = |DO| = 4$ br
 $\Rightarrow m(\widehat{BEC}) = \alpha = ?$

- A) 20 B) 30 C) 45 D) 50 E) 60



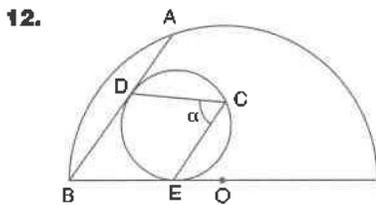
10. O merkezli yarım çember
A semi circle with center O
 $m(\widehat{BAD}) = 50^\circ$
 $m(\widehat{CDA}) = 70^\circ$
 $|AO| = 5$ br
 $\Rightarrow |BC| = x = ?$

- A) $\frac{5}{2}$ B) 5 C) $5\sqrt{2}$ D) $5\sqrt{3}$ E) 20



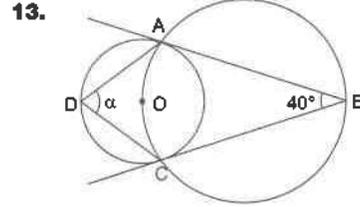
11. r yarıçaplı çember
circle of radius r
 $|AB| = r$ br
 $|DC| = r\sqrt{3}$ br
 $\Rightarrow m(\widehat{BEC}) = \alpha = ?$

- A) 30 B) 45 C) 60 D) 75 E) 90



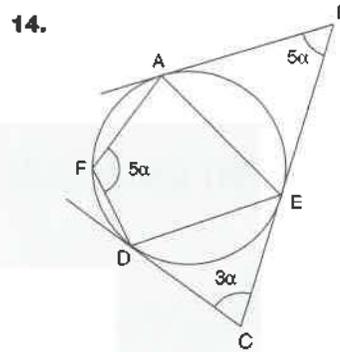
12. O merkezli yarım çember
A semi circle with center O
 $m(\widehat{AB}) = 80^\circ$
 $\Rightarrow m(\widehat{DCE}) = \alpha = ?$

- A) 130 B) 100 C) 80 D) 65 E) 50



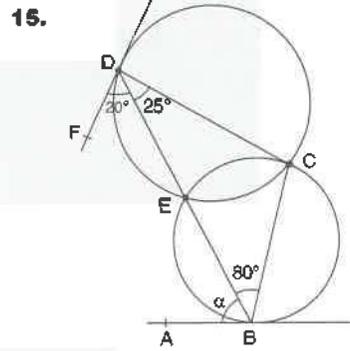
13. O merkezli çember
A circle with center O
 $O \in (\widehat{AC})$
 $m(\widehat{ABC}) = 40^\circ$
 $\Rightarrow m(\widehat{ADC}) = \alpha = ?$

- A) 40 B) 50 C) 70 D) 80 E) 100



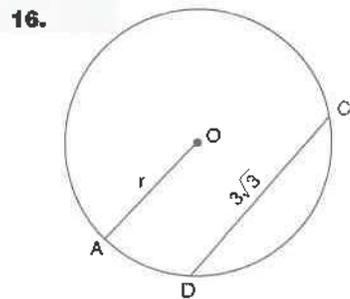
14. $m(\widehat{ABC}) = 5\alpha$
 $m(\widehat{BCD}) = 3\alpha$
 $m(\widehat{AFD}) = 5\alpha$
 $\Rightarrow m(\widehat{AED}) = ?$

- A) 40 B) 60 C) 80 D) 100 E) 120



15. $m(\widehat{FDB}) = 20^\circ$
 $m(\widehat{BDC}) = 25^\circ$
 $m(\widehat{DBC}) = 80^\circ$
 $\Rightarrow m(\widehat{DBA}) = \alpha = ?$

- A) 55 B) 50 C) 45 D) 40 E) 35



16. O merkezli çember
A Circle with center O
 $|DC| = 3\sqrt{3}$ br
 $m(\widehat{CD}) = 120^\circ$
 $\Rightarrow |OA| = r = ?$

- A) $\frac{3}{2}$ B) 3 C) $3\sqrt{2}$ D) $3\sqrt{3}$ E) 6



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	E	C	D	D	B	B	A	A	E	C	A	B	D	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	C	C	C	E	D	B	D	E	A	E	B	D	B	D

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	C	D	D	E	C	A	B	E	C	A	A	B	E	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	B	D	D	B	C	B	A	B	B	E	A	C	E	D

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	A	E	A	D	D	D	E	A	A	E	A	C	D	C	D

TEST 6

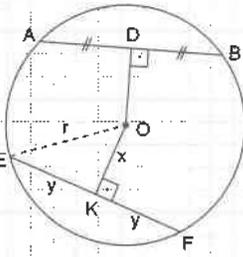
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	E	E	E	B	C	C	E	B	E	D	C	C	A	B



ÇEMBERDE UZUNLUK
LENGTH IN CIRCLE

ÇEMBERDE UZUNLUK

ÖZELLİK | Property 1

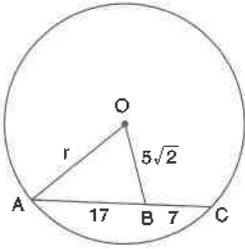


$$|OD| \perp |AB| \Rightarrow |AD| = |DB|$$

$$|OD| > |OK| \Rightarrow |AB| < |EF|$$

$$x^2 + y^2 = r^2$$

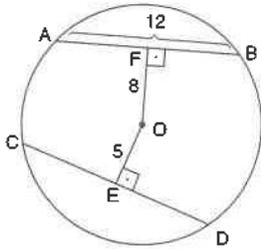
1.



$$\Rightarrow r = ?$$

13

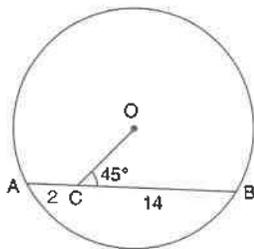
2.



$$\Rightarrow |CD| = ?$$

$10\sqrt{3}$

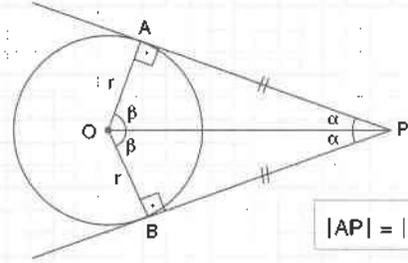
3.



$$\Rightarrow r = ?$$

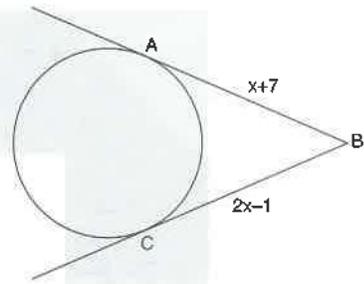
10

ÖZELLİK | Property 2



$$|AP| = |PB|$$

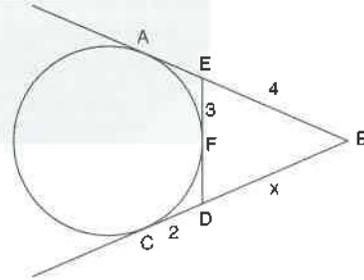
1.



$$\Rightarrow x = ?$$

8

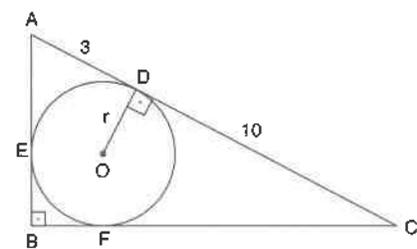
2.



$$\Rightarrow |BD| = x = ?$$

5

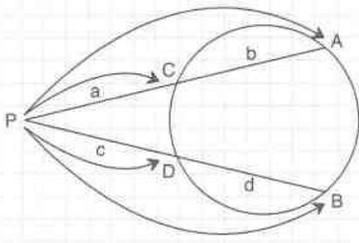
3.



$$\Rightarrow r = ?$$

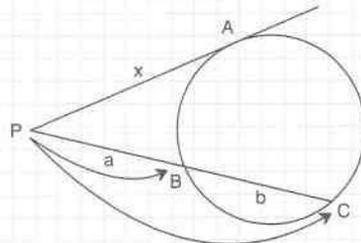
2

ÖZELLİK | Property 3

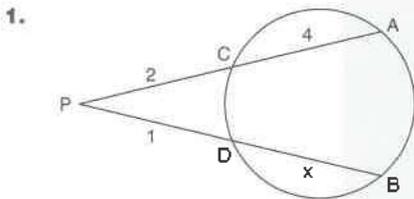


$$a(a + b) = c(c + d)$$

ÖZELLİK | Property 4

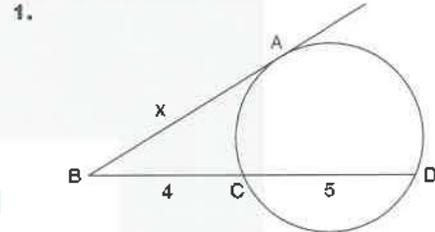


$$x^2 = a(a + b)$$



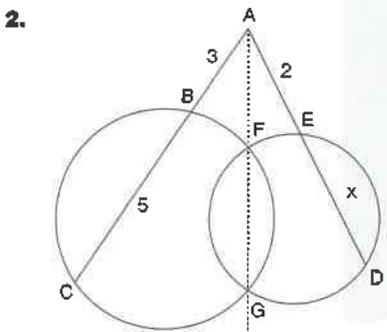
$$\Rightarrow x = ?$$

11



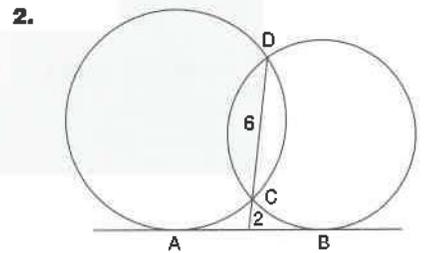
$$\Rightarrow x = ?$$

6



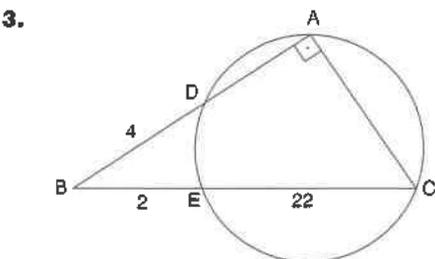
$$\Rightarrow x = ?$$

10



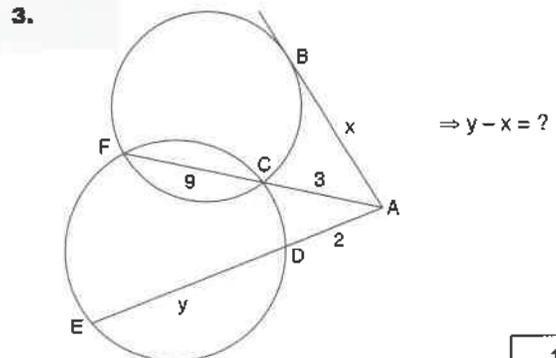
$$\Rightarrow |AB| = ?$$

8



$$\Rightarrow r = ?$$

$2\sqrt{31}$

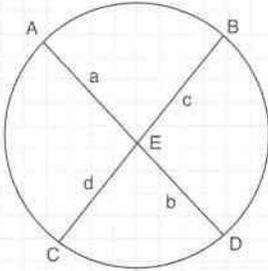


$$\Rightarrow y - x = ?$$

10

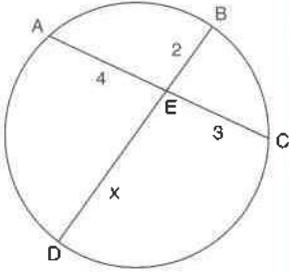
ÇEMBERDE UZUNLUK

ÖZELLİK | Property 5



$$a \cdot b = c \cdot d$$

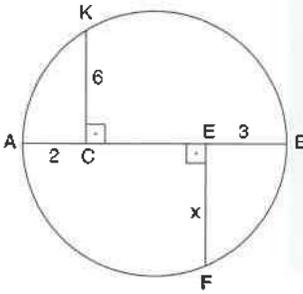
1.



$$\Rightarrow x = ?$$

6

2.

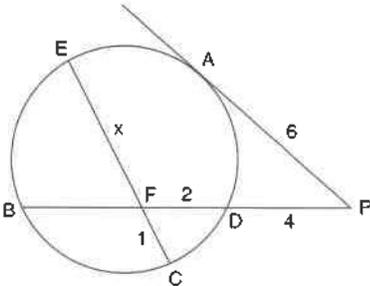


[AB] çaplı çember
Circle with a
diameter [AB]

$$\Rightarrow |EF| = x = ?$$

$\sqrt{51}$

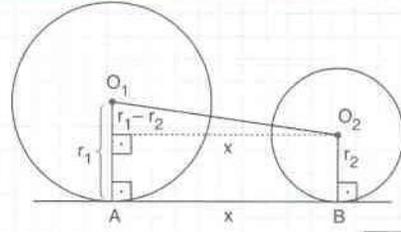
3.



$$\Rightarrow x = ?$$

6

ÖZELLİK | Property 6

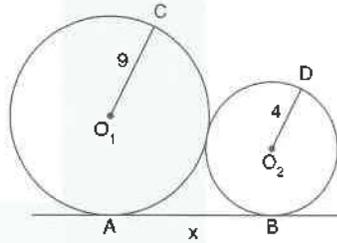


$$|O_1O_2|^2 = (r_1 - r_2)^2 + x^2$$

- Merkezden merkeze doğru çek.
Draw from the center to center.
- Teğetlere dik indir.
Draw a normal perpendicular to the tangential.
- Dik üçgen oluşturarak istenilen uzunluğu bul.
Find the desired length by forming a right triangle.

PUZAYINLARI

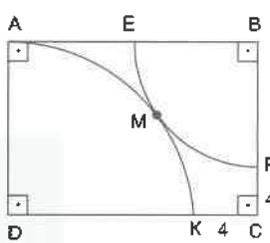
1.



$$\Rightarrow x = ?$$

12

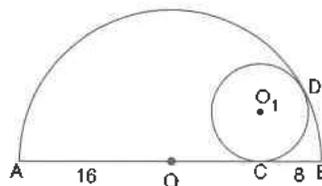
2.



B ve D merkezli
çeyrek çemberler
quarter circles with B
and D center points
 $\Rightarrow A(ABCD) = ?$

192

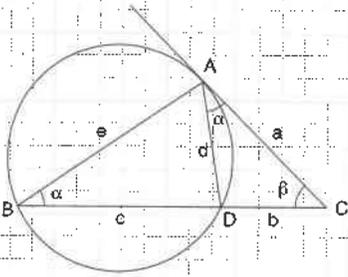
3.



$$\Rightarrow r_1 = ?$$

6

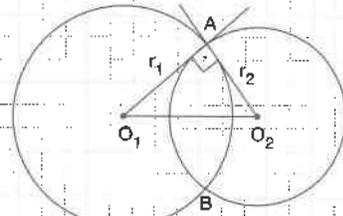
ÖZELLİK | Property 7



$\widehat{ABC} \approx \widehat{DAC}$ Benzer üçgenler
Similar triangles

$$\frac{d}{e} = \frac{b}{a} = \frac{a}{b+c}$$

ÖZELLİK | Property 8

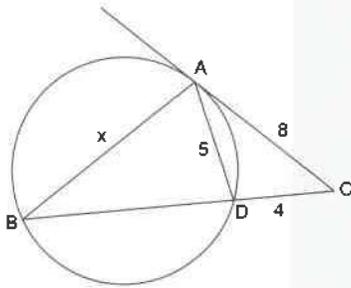


Çemberler dik kesişiyor

The circles intersect perpendicularly

$$(r_1)^2 + (r_2)^2 = |O_1O_2|^2$$

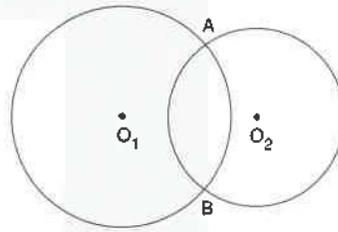
1.



$\Rightarrow x = ?$

10

1.



Çemberler dik kesişiyor

The circles intersect perpendicularly

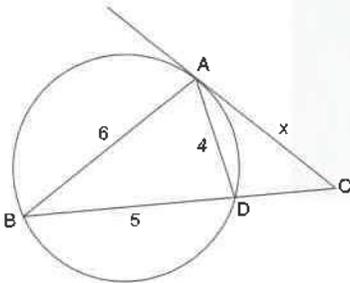
$r_1 = 6$

$r_2 = 8$

$\Rightarrow |O_1O_2| = ?$

10

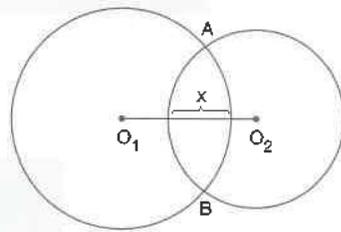
2.



$\Rightarrow x = ?$

6

2.



Çemberler dik kesişiyor

The circles intersect perpendicularly

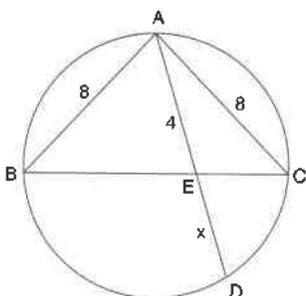
$r_1 = 12$

$r_2 = 5$

$\Rightarrow x = ?$

4

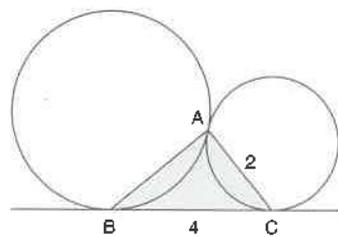
3.



$\Rightarrow x = ?$

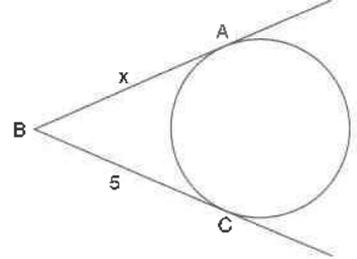
12

3.

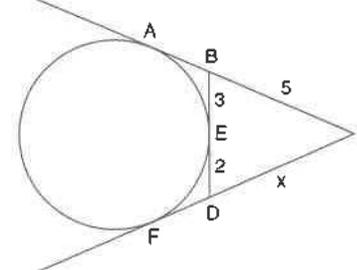


$\Rightarrow A(ABC) = ?$

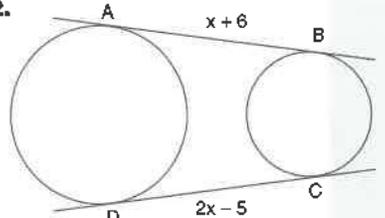
$2\sqrt{3}$

1.  $|BC| = 5 \text{ br}$
 $\Rightarrow |AB| = x = ?$

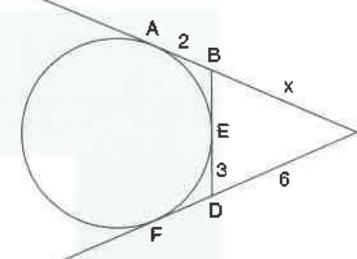
A) $\frac{3}{2}$ B) 2 C) $\frac{5}{2}$ D) 5 E) $\frac{15}{2}$

5.  $|BE| = 3 \text{ br}$
 $|ED| = 2 \text{ br}$
 $|BC| = 5 \text{ br}$
 $\Rightarrow |DC| = x = ?$

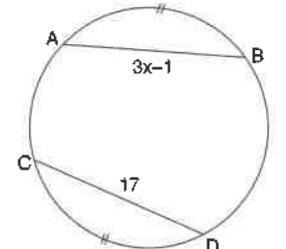
A) 7 B) 6 C) 5 D) 4 E) 3

2.  $|AB| = (x + 6) \text{ br}$
 $|DC| = (2x - 5) \text{ br}$
 $\Rightarrow x = ?$

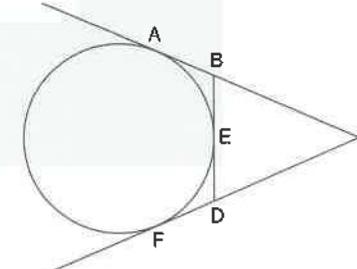
A) 1 B) 3 C) 5 D) 7 E) 11

6.  $|AB| = 2 \text{ br}$
 $|ED| = 3 \text{ br}$
 $|DC| = 6 \text{ br}$
 $\Rightarrow |BC| = x = ?$

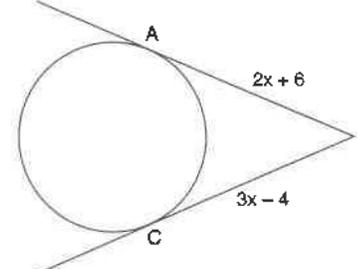
A) 7 B) 6 C) 5 D) 4 E) 3

3.  $m(\widehat{AB}) = m(\widehat{CD})$
 $|AB| = 3x - 1 \text{ br}$
 $|CD| = 17 \text{ br}$
 $\Rightarrow x = ?$

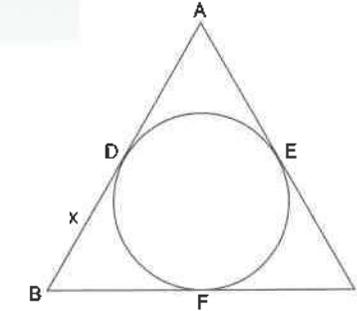
A) 4 B) 5 C) $\frac{16}{3}$ D) 6 E) $\frac{20}{3}$

7.  $|AC| = 8 \text{ br}$
 $\Rightarrow \angle(BDC) = ?$

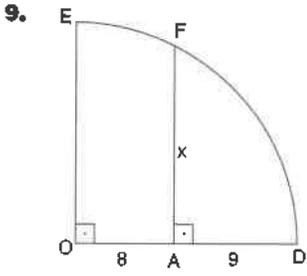
A) 4 B) 8 C) 16 D) 24 E) 32

4.  $|AB| = 2x + 6$
 $|BC| = 3x - 4$
 $\Rightarrow x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

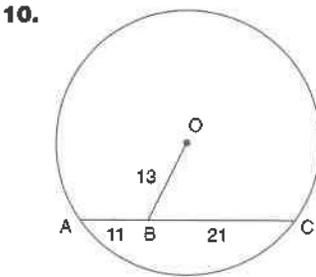
8.  $|AB| = 7 \text{ br}$
 $|AC| = 9 \text{ br}$
 $|BC| = 8 \text{ br}$
 $\Rightarrow |BD| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5



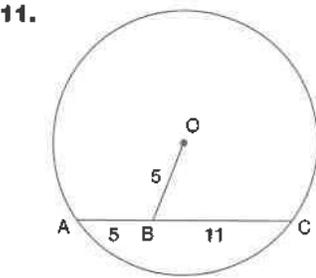
O merkezli çeyrek çember
 A quarter circle with a center O
 $|OA| = 8$ br
 $|AD| = 9$ br
 $\Rightarrow |FA| = x = ?$

- A) 5 B) 9 C) 12 D) 15 E) 17



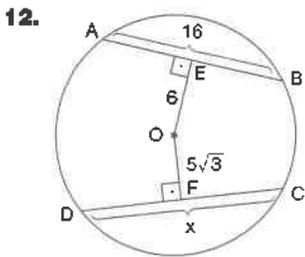
O merkezli çemberin yarıçapı r
 Radius r of a circle with a center O
 $|OB| = 13$ br
 $|AB| = 11$ br
 $|BC| = 21$ br
 $\Rightarrow r = ?$

- A) 20 B) 16 C) 15 D) 13 E) 12



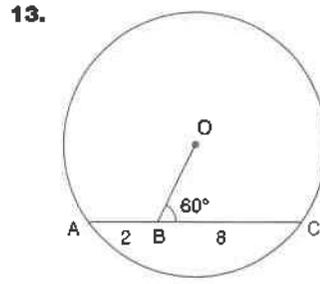
O merkezli çemberin yarıçapı r
 Radius r of a circle with a center O
 $|OB| = |AB| = 5$ br
 $|BC| = 11$ br
 $\Rightarrow r = ?$

- A) 5 B) $2\sqrt{5}$ C) 10 D) $4\sqrt{5}$ E) $8\sqrt{5}$



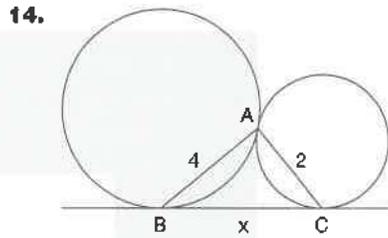
O merkezli çember
 A circle with a center O
 $|AB| = 16$ br
 $|OE| = 6$ br
 $|OF| = 5\sqrt{3}$ br
 $\Rightarrow |DC| = x = ?$

- A) 20 B) 16 C) 12 D) 10 E) 8



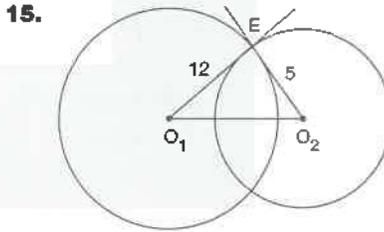
O merkezli çemberin yarıçapı r
 Radius r of a circle with a center O
 $m(\widehat{OBC}) = 60^\circ$
 $|AB| = 2$ br
 $|BC| = 8$ br
 $\Rightarrow r = ?$

- A) $4\sqrt{3}$ B) 7 C) $2\sqrt{13}$ D) 8 E) 10



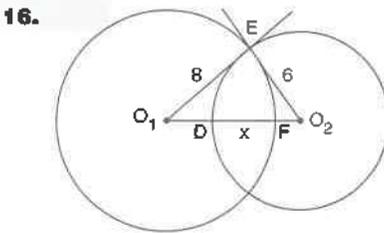
$|AB| = 4$ br
 $|AC| = 2$ br
 $\Rightarrow |BC| = x = ?$

- A) $\sqrt{5}$ B) $2\sqrt{5}$ C) 5 D) 8 E) $4\sqrt{5}$



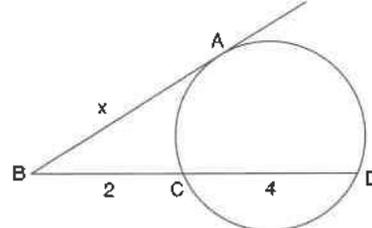
O_1 ve O_2 merkezli çemberler dik kesişiyor.
 Circles with O_1 and O_2 center intersect perpendicularly
 $|O_1E| = 12$ br
 $|O_2E| = 5$ br
 $\Rightarrow |O_1O_2| = ?$

- A) 17 B) 15 C) 13 D) 12 E) 7

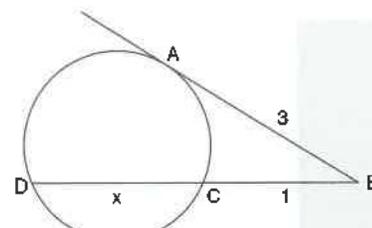


O_1 ve O_2 merkezli çemberler dik kesişiyor.
 Circles with O_1 and O_2 center intersect perpendicularly
 $|O_1E| = 8$ br
 $|O_2E| = 6$ br
 $\Rightarrow |DF| = x = ?$

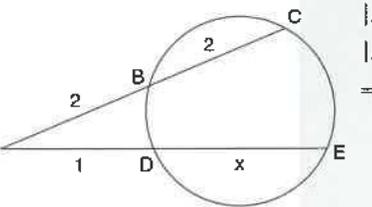
- A) 2 B) 4 C) 5 D) 6 E) 8

1.  $|BC| = 2 \text{ br}$
 $|CD| = 4 \text{ br}$
 $\Rightarrow |AB| = x = ?$

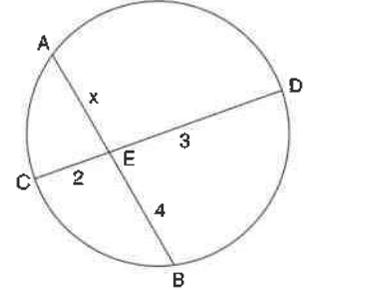
A) $2\sqrt{2}$ B) $2\sqrt{3}$ C) 4 D) $2\sqrt{5}$ E) 5

2.  $|AB| = 3 \text{ br}$
 $|BC| = 1 \text{ br}$
 $\Rightarrow |DC| = x = ?$

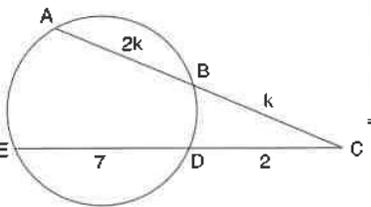
A) 8 B) $4\sqrt{5}$ C) 5 D) $2\sqrt{5}$ E) 3

3.  $|AB| = |BC| = 2 \text{ br}$
 $|AD| = 1 \text{ br}$
 $\Rightarrow |DE| = x = ?$

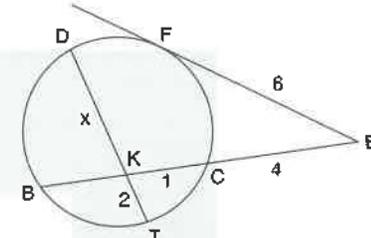
A) 8 B) 7 C) 6 D) 5 E) 4

4.  $|CE| = 2 \text{ br}$
 $|ED| = 3 \text{ br}$
 $|EB| = 4 \text{ br}$
 $\Rightarrow |AE| = x = ?$

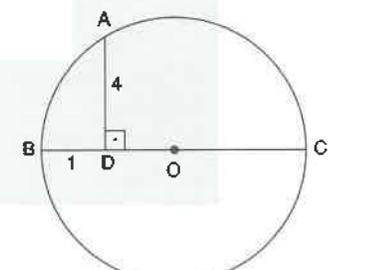
A) $\frac{3}{2}$ B) 2 C) $\frac{5}{2}$ D) 3 E) $\frac{7}{2}$

5.  $|AB| = 2|BC| = 2k$
 $|DC| = 2 \text{ br}$
 $|ED| = 7 \text{ br}$
 $\Rightarrow k = ?$

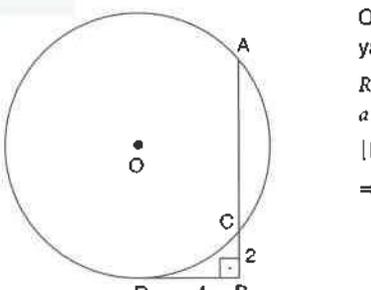
A) 2 B) $\sqrt{5}$ C) $\sqrt{6}$ D) 3 E) $2\sqrt{3}$

6.  $|EF| = 6 \text{ br}$
 $|EC| = 4 \text{ br}$
 $|KC| = 1 \text{ br}$
 $|KT| = 2 \text{ br}$
 $\Rightarrow |DK| = x = ?$

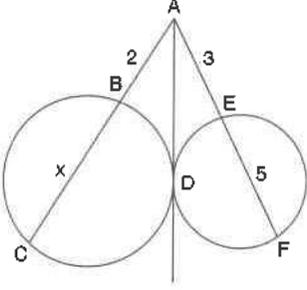
A) 2 B) 3 C) 4 D) 5 E) 6

7.  O merkezli çemberin yarıçapı r
 Radius r of a circle with a center O
 $[AD] \perp [BC]$
 $|AD| = 4 \text{ br}$
 $|BD| = 1 \text{ br}$
 $\Rightarrow r = ?$

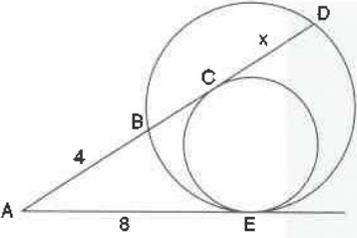
A) 4 B) 6 C) $\frac{15}{2}$ D) 8 E) $\frac{17}{2}$

8.  O merkezli çemberin yarıçapı r
 Radius r of a circle with a center O
 $|DB| = 2|BC| = 4 \text{ br}$
 $\Rightarrow r = ?$

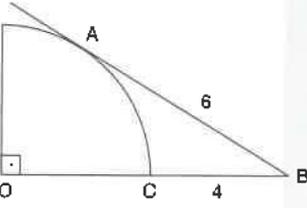
A) 4 B) 5 C) 6 D) 8 E) 10

9.  $|AE| = 3 \text{ br}$
 $|EF| = 5 \text{ br}$
 $|AB| = 2 \text{ br}$
 $\Rightarrow |BC| = x = ?$

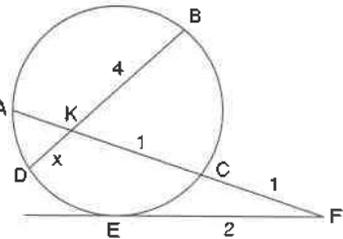
A) 2 B) 4 C) 6 D) 8 E) 10

10.  $|AB| = 4 \text{ br}$
 $|AE| = 8 \text{ br}$
 $\Rightarrow |CD| = x = ?$

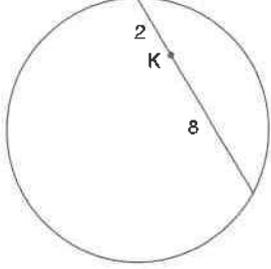
A) 4 B) 6 C) 8 D) 10 E) 12

11.  O merkezli çeyrek çemberin yarıçapı r
 Radius r of a quarter circle with a center O
 $|AB| = 6 \text{ br}$
 $|BC| = 4 \text{ br}$
 $\Rightarrow r = ?$

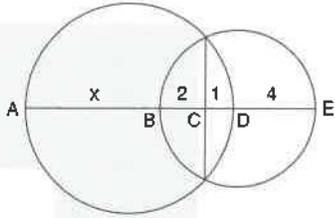
A) $\frac{5}{4}$ B) $\frac{5}{2}$ C) 5 D) $\frac{15}{2}$ E) 10

12.  $|KC| = |CF| = 1 \text{ br}$
 $|BK| = 2|EF| = 4 \text{ br}$
 $\Rightarrow |DK| = x = ?$

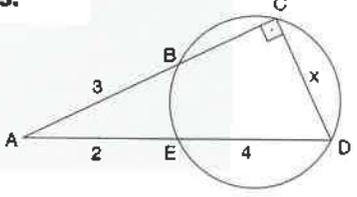
A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

13.  K noktasından geçen en kısa kirişin uzunluğu kaç br dir?
 How many unit is the length of the shortest chord that passes through the point K?

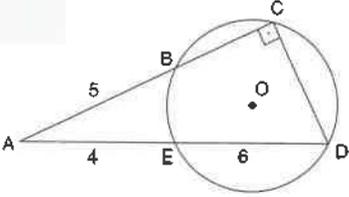
A) 4 B) 6 C) 8 D) 10 E) 12

14.  $|BC| = 2 \text{ br}$
 $|CD| = 1 \text{ br}$
 $|DE| = 4 \text{ br}$
 $\Rightarrow |AB| = x = ?$

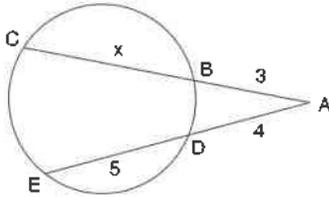
A) 10 B) 8 C) 6 D) 4 E) 2

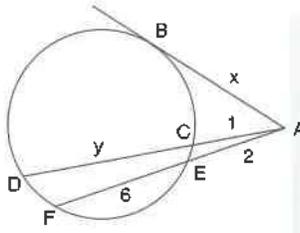
15.  $[AC] \perp [CD]$
 $|AB| = 3 \text{ br}$
 $|AE| = 2 \text{ br}$
 $|ED| = 4 \text{ br}$
 $\Rightarrow |CD| = x = ?$

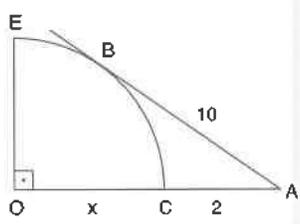
A) $2\sqrt{2}$ B) $2\sqrt{3}$ C) 4 D) $2\sqrt{5}$ E) 5

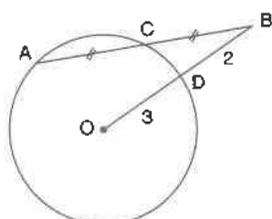
16.  O merkezli çemberin yarıçapı r
 Radius r of a circle with a center O
 $[AC] \perp [CD]$
 $|AB| = 5 \text{ br}$
 $|ED| = 6 \text{ br}$
 $|AE| = 4 \text{ br}$
 $\Rightarrow r = ?$

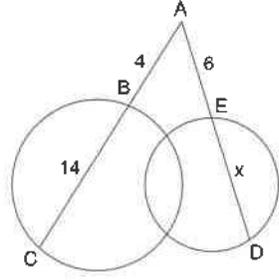
A) $\sqrt{5}$ B) $\frac{3\sqrt{5}}{2}$ C) 5 D) $3\sqrt{5}$ E) 10

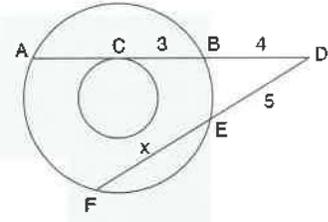
1.  $|AB| = 3 \text{ br}$
 $|AD| = 4 \text{ br}$
 $|ED| = 5 \text{ br}$
 $\Rightarrow |CB| = x = ?$
- A) 7 B) 8 C) 9 D) 10 E) 11

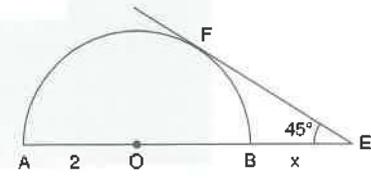
2.  $|AC| = 1 \text{ br}$
 $|AE| = 2 \text{ br}$
 $|EF| = 6 \text{ br}$
 $|AB| = x$
 $|DC| = y$
 $\Rightarrow x + y = ?$
- A) 15 B) 16 C) 16 D) 18 E) 19

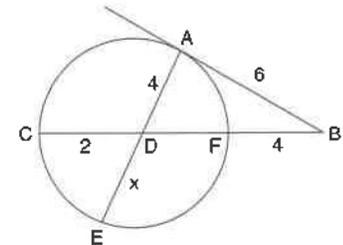
3.  O merkezli çeyrek çember
A quarter circle with a center O
 $|AB| = 10 \text{ br}$
 $|AC| = 2 \text{ br}$
 $[AO] \perp [OE]$
 $\Rightarrow |OC| = x = ?$
- A) 24 B) 26 C) 30 D) 48 E) 50

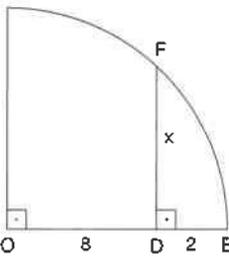
4.  O merkezli çember
A circle with a center O
 $|CB| = |AC|$
 $|BD| = 2 \text{ br}$
 $|OD| = 3 \text{ br}$
 $\Rightarrow |AB| = ?$
- A) $2\sqrt{2}$ B) $4\sqrt{2}$ C) $8\sqrt{2}$ D) $16\sqrt{2}$ E) $18\sqrt{2}$

5.  $|AB| = 4 \text{ br}$
 $|AE| = 6 \text{ br}$
 $|BC| = 14 \text{ br}$
 $\Rightarrow |ED| = x = ?$
- A) 2 B) 3 C) 4 D) 5 E) 6

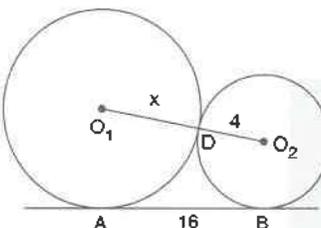
6.  $|ED| = 5 \text{ br}$
 $|CB| = 3 \text{ br}$
 $|BD| = 4 \text{ br}$
 $\Rightarrow |FE| = x = ?$
- A) 2 B) 3 C) 4 D) 5 E) 6

7.  O merkezli yarım çember
A semi circle with a center O
 $m(\widehat{FEA}) = 45^\circ$
 $|OA| = 2 \text{ br}$
 $\Rightarrow |BE| = x = ?$
- A) $2\sqrt{2}$ B) $2\sqrt{2} - 2$ C) $4\sqrt{2}$
 D) $2\sqrt{2} + 2$ E) $4\sqrt{2} - 2$

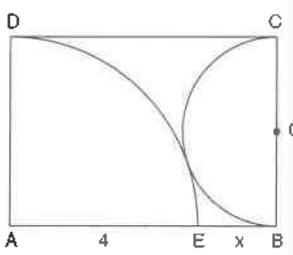
8.  $|AB| = 6 \text{ br}$
 $|DA| = 4 \text{ br}$
 $|CD| = 2 \text{ br}$
 $|FB| = 4 \text{ br}$
 $\Rightarrow |DE| = x = ?$
- A) $\frac{5}{2}$ B) 2 C) $\frac{3}{2}$ D) 1 E) $\frac{1}{2}$

9.  O merkezli çeyrek çember
A quarter circle with a center O
 $|OD| = 8$ br
 $|DE| = 2$ br
 $[FD] \perp [OE]$
 $\Rightarrow |DF| = x = ?$

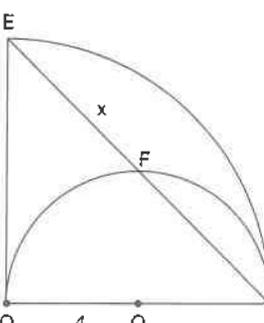
A) 2 B) $2\sqrt{2}$ C) 4 D) 6 E) $6\sqrt{2}$

10.  O_1 ve O_2 merkez
 $|DO_2| = 4$ br
 $|AB| = 16$ br
 $\Rightarrow |DO_1| = x = ?$

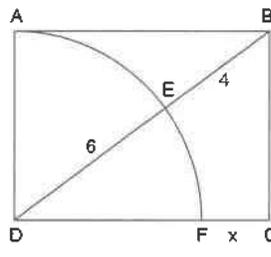
A) 16 B) 10 C) 9 D) 8 E) 7

11.  A merkezli çeyrek çember
A quarter circle with a center A
O merkezli yarı çember
A semi circle with a center O
ABCD dikdörtgen
ABCD rectangle
 $|AE| = 4$ br
 $\Rightarrow |EB| = x = ?$

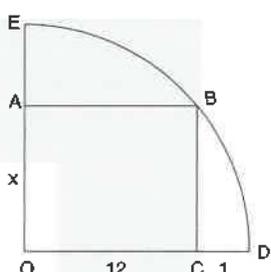
A) $4\sqrt{2} - 4$ B) $2\sqrt{2}$ C) $2\sqrt{2} + 2$
D) $2\sqrt{2} - 2$ E) $4\sqrt{2} - 2$

12.  O_1 ve O_2 merkezli çemberler
Circles with O_1 and O_2 center points
 $|O_1O_2| = 4$ br
 $\Rightarrow |EF| = x = ?$

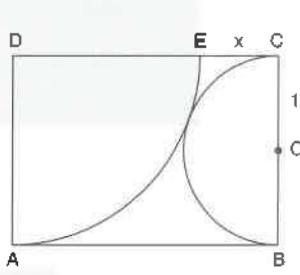
A) $2\sqrt{2}$ B) 3 C) $3\sqrt{2}$ D) 4 E) $4\sqrt{2}$

13.  D merkezli çeyrek çember
A quarter circle with a center D
ABCD dikdörtgen
ABCD rectangle
 $|DE| = 6$ br
 $|EB| = 4$ br
 $\Rightarrow |FC| = x = ?$

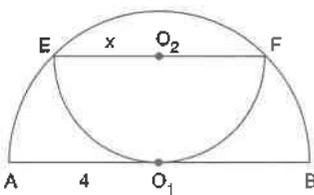
A) 1 B) 2 C) 3 D) 4 E) 5

14.  ABCO dikdörtgen
ABCO rectangle
O merkezli çeyrek çember
A quarter circle with a center O
 $|OC| = 12$ br
 $|CD| = 1$ br
 $\Rightarrow |AO| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

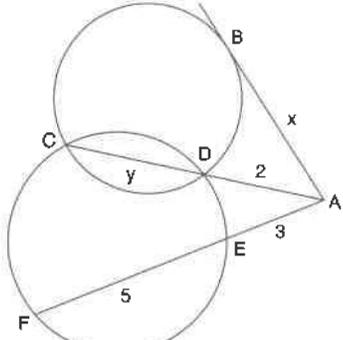
15.  ABCD dikdörtgen
ABCD rectangle
D ve O merkezli çemberler
Circles with D and O center points
 $|CO| = 10$ br
 $\Rightarrow |EC| = x = ?$

A) $20\sqrt{2} + 2$ B) $20\sqrt{2}$ C) $10\sqrt{2} - 10$
D) $20(\sqrt{2} - 1)$ E) $20\sqrt{2} - 10$

16.  $|AO_1| = 4$ br
 O_1 ve O_2 merkezli yarı çemberler
Semi circles with O_1 and O_2 center points
 $\Rightarrow |EO_2| = x = ?$

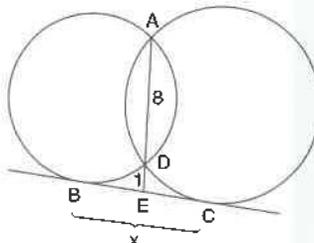
A) $\sqrt{2}$ B) 2 C) $2\sqrt{2}$ D) 4 E) $4\sqrt{2}$

PUZAYYINLARI

1. 

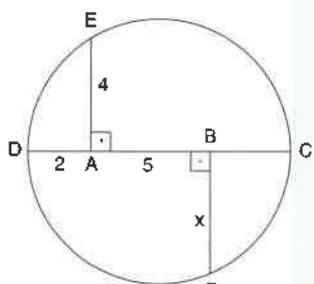
$|AD| = 2 \text{ br}$
 $|AE| = 3 \text{ br}$
 $|EF| = 5 \text{ br}$
 $|AB| = x$
 $|DC| = y$
 $\Rightarrow \frac{x}{y} = ?$

A) $\frac{\sqrt{3}}{5}$ B) $\frac{\sqrt{6}}{5}$ C) 2 D) $2\sqrt{3}$ E) 4

2. 

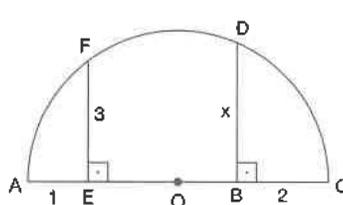
$|DE| = 1 \text{ br}$
 $|AD| = 8 \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) $\frac{3}{2}$ B) 3 C) 6 D) 9 E) 18

3. 

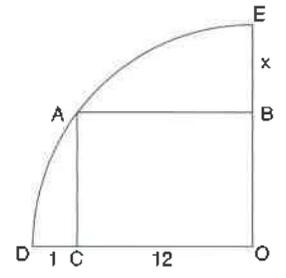
$[DC]$ çaplı çember
Circle with a diameter $[DC]$
 $[EA] \perp [DC]$
 $[FB] \perp [DC]$
 $|EA| = 4 \text{ br}$
 $|DA| = 2 \text{ br}$
 $|AB| = 5 \text{ br}$
 $\Rightarrow |BF| = x = ?$

A) 4 B) $\sqrt{21}$ C) 5 D) 8 E) $2\sqrt{21}$

4. 

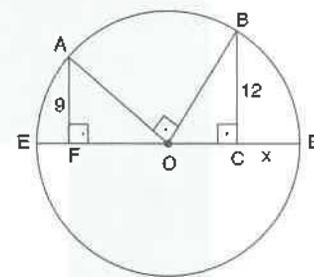
O merkezli yarım çember
A semi circle with a center O
 $[FE] \perp [AC]$
 $[DB] \perp [AC]$
 $|FE| = 3 \text{ br}$
 $|AE| = 1 \text{ br}$
 $|BC| = 2 \text{ br}$
 $\Rightarrow |DB| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

5. 

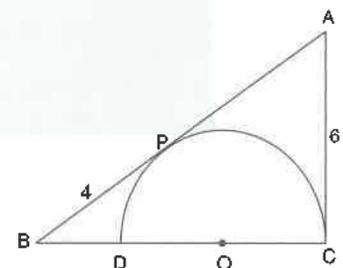
O merkezli çeyrek çember
A quarter circle with a center O
 ABCO dikdörtgen
ABCO rectangle
 $|CO| = 12 \text{ br}$
 $|DC| = 1 \text{ br}$
 $\Rightarrow |BE| = x = ?$

A) 5 B) 7 C) 8 D) 10 E) 12

6. 

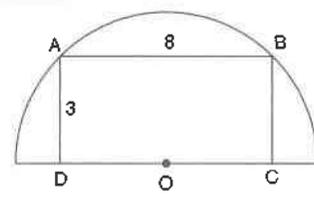
O merkezli çember
A Circle with center O
 $[AF] \perp [EB]$
 $[BC] \perp [EB]$
 $|BC| = 12 \text{ br}$
 $|AF| = 9 \text{ br}$
 $\Rightarrow |CB| = x = ?$

A) 15 B) 12 C) 9 D) 6 E) 5

7. 

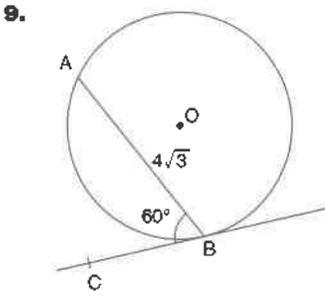
O merkezli yarım çemberin yarıçapı r
Radius r of a semi circle with a center O
 $|AC| = 6 \text{ br}$
 $|BP| = 4 \text{ br}$
 $\Rightarrow r = ?$

A) 8 B) 6 C) 5 D) 4 E) 3

8. 

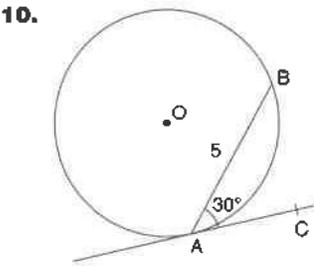
O merkezli yarım çemberin yarıçapı r
Radius r of a semi circle with a center O
 ABCD dikdörtgen
ABCD rectangle
 $|AD| = 3 \text{ br}$
 $|AB| = 8 \text{ br}$
 $\Rightarrow r = ?$

A) 4 B) 5 C) 6 D) 8 E) 10



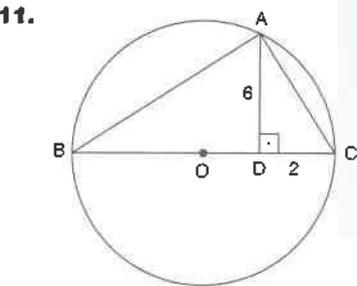
9. O merkezli çemberin yarıçapı r
 Radius r of a circle with a center O
 $m(\widehat{ABC}) = 60^\circ$
 $|AB| = 4\sqrt{3} \text{ br}$
 $\Rightarrow r = ?$

- A) 2 B) 4 C) $4\sqrt{3}$ D) 8 E) $8\sqrt{3}$



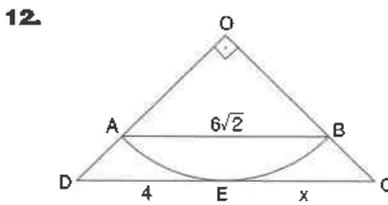
10. O merkezli çemberin yarıçapı r
 Radius r of a circle with a center O
 $|AB| = 5 \text{ br}$
 $m(\widehat{BAC}) = 30^\circ$
 $\Rightarrow r = ?$

- A) $\frac{5}{2}$ B) 5 C) $5\sqrt{3}$ D) 10 E) $10\sqrt{3}$



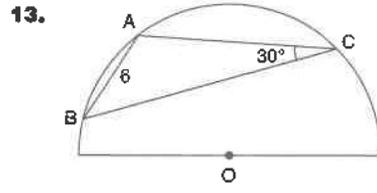
11. O merkezli çemberin yarıçapı r
 Radius r of a circle with a center O
 $|AD| \perp |BC|$
 $|AD| = 6 \text{ br}$
 $|DC| = 2 \text{ br}$
 $\Rightarrow r = ?$

- A) 6 B) $6\sqrt{2}$ C) 9 D) 10 E) $10\sqrt{2}$



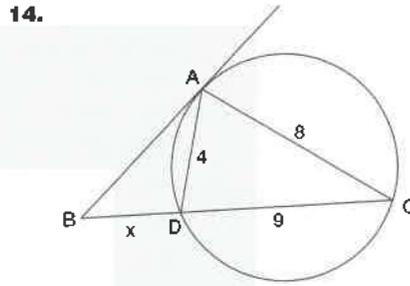
12. O merkezli çeyrek çember
 A quarter circle with a center O
 $|DE| = 4 \text{ br}$
 $|AB| = 6\sqrt{2} \text{ br}$
 $\Rightarrow |EC| = x = ?$

- A) 9 B) 8 C) 6 D) 5 E) 4



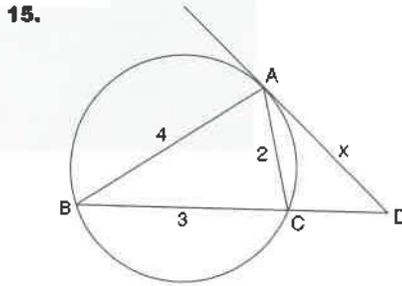
13. O merkezli yarım çemberin yarıçapı r
 Radius r of a semi circle with a center O
 $m(\widehat{ACB}) = 30^\circ$
 $|AB| = 6 \text{ br}$
 $\Rightarrow r = ?$

- A) $12\sqrt{3}$ B) 12 C) $6\sqrt{3}$ D) 6 E) $3\sqrt{3}$



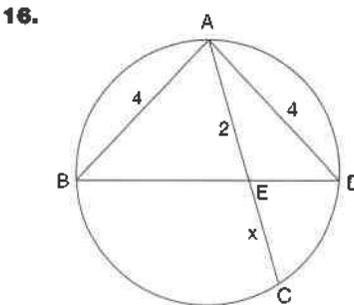
14. $|AD| = 4 \text{ br}$
 $|AC| = 8 \text{ br}$
 $|DC| = 9 \text{ br}$
 $\Rightarrow |BD| = x = ?$

- A) 2 B) 3 C) $\frac{7}{2}$ D) $\frac{13}{3}$ E) 4



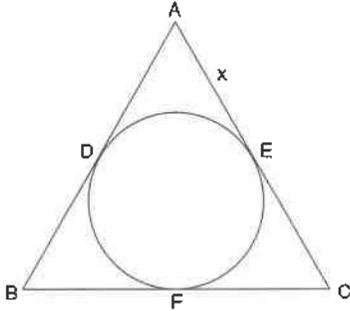
15. $|AB| = 4 \text{ br}$
 $|BC| = 3 \text{ br}$
 $|AC| = 2 \text{ br}$
 $\Rightarrow |AD| = x = ?$

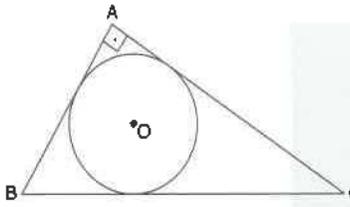
- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

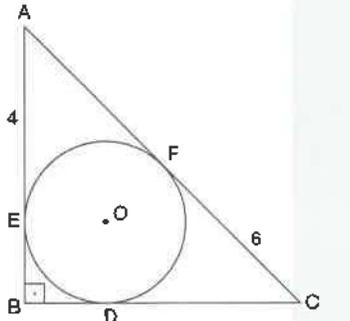


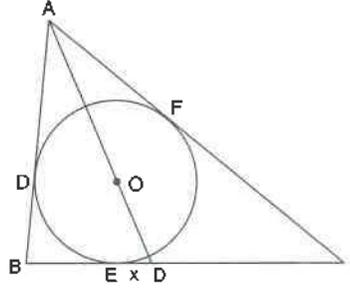
16. $|AB| = |AD| = 4 \text{ br}$
 $|AE| = 2 \text{ br}$
 $\Rightarrow |EC| = x = ?$

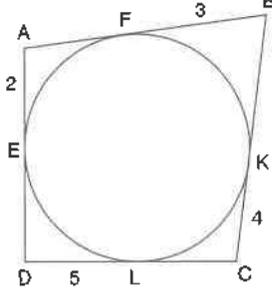
- A) 2 B) 4 C) 6 D) 8 E) 9

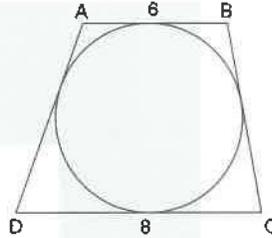
1.  $|AB| = 6 \text{ br}$
 $|AC| = 8 \text{ br}$
 $|BC| = 4 \text{ br}$
 $\Rightarrow |AE| = x = ?$
- A) 5 B) 4 C) 3 D) 2 E) 1

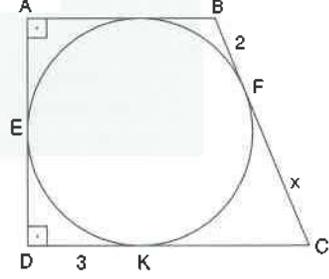
2.  O merkezli çemberin yarıçapı r
Radius r of a circle with a center O
 $[BA] \perp [AC]$
 $|AB| = 6 \text{ br}$
 $|AC| = 8 \text{ br}$
 $\Rightarrow r = ?$
- A) 5 B) 4 C) 3 D) 2 E) 1

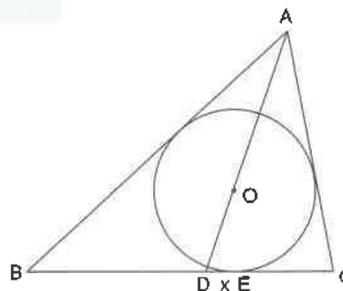
3.  O merkezli çemberin yarıçapı r
Radius r of a circle with a center O
 $[AB] \perp [BC]$
 $|AE| = 4 \text{ br}$
 $|FC| = 6 \text{ br}$
 $\Rightarrow r = ?$
- A) 5 B) 4 C) 3 D) 2 E) 1

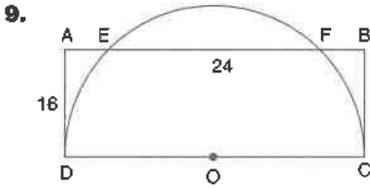
4.  O merkezli çember
A circle with a center O
 $|AB| = 8 \text{ br}$
 $|AC| = 12 \text{ br}$
 $|BC| = 10 \text{ br}$
 $\Rightarrow |ED| = x = ?$
- A) $\frac{2}{5}$ B) $\frac{1}{2}$ C) 1 D) $\frac{3}{2}$ E) $\frac{5}{2}$

5.  $|FB| = 3 \text{ br}$
 $|AE| = 2 \text{ br}$
 $|KC| = 4 \text{ br}$
 $|DL| = 5 \text{ br}$
 $\Rightarrow \hat{C}(ABCD) = ?$
- A) 14 B) 21 C) 28 D) 35 E) 42

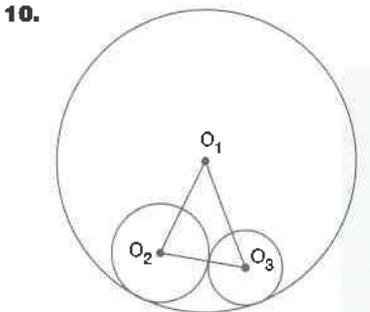
6.  $|AB| = 6 \text{ br}$
 $|DC| = 8 \text{ br}$
 $\Rightarrow \hat{C}(ABCD) = ?$
- A) 14 B) 21 C) 28 D) 35 E) 42

7.  ABCD dik yamuk
ABCD right trapezoid
 $|BF| = 2 \text{ br}$
 $|DK| = 3 \text{ br}$
 $\Rightarrow |FC| = x = ?$
- A) 2,5 B) 3 C) 4 D) 4,5 E) 5

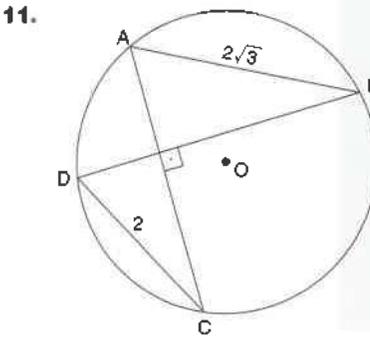
8.  O merkezli çember
A circle with a center O
 $|AB| = 9 \text{ br}$
 $|AC| = 7 \text{ br}$
 $|BC| = 8 \text{ br}$
 $\Rightarrow |DE| = x = ?$
- A) $\frac{1}{2}$ B) $\frac{3}{4}$ C) $\frac{4}{5}$ D) 1 E) $\frac{5}{4}$



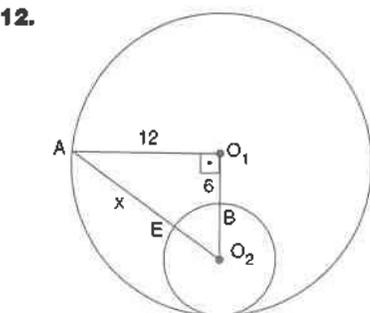
9. ABCD dikdörtgen
 ABCD rectangle
 O merkezli yarım çemberin yarıçapı r
 Radius r of a semi circle with a center O
 $|EF| = 24$ br
 $|AD| = 16$ br
 $\Rightarrow r = ?$
- A) 20 B) 16 C) 15 D) 12 E) 9



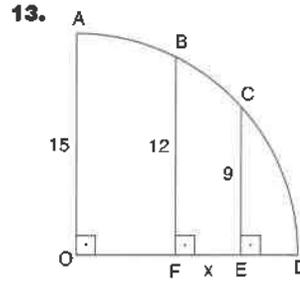
10. O_1, O_2 ve O_3 merkezli çemberlerin yarıçapları sırasıyla r_1, r_2, r_3 tür.
 The radii of the circles with the centers O_1, O_2 and O_3 are r_1, r_2, r_3 respectively.
 $\angle(O_1, O_2, O_3) = 24$ br
 $\Rightarrow r_1 = ?$
- A) 6 B) 9 C) 12 D) 15 E) 24



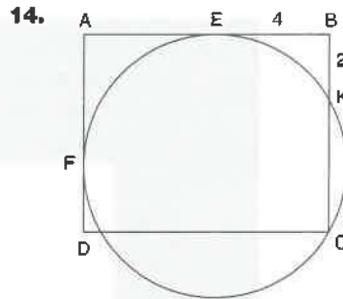
11. O merkezli çemberin yarıçapı r
 Radius r of a circle with a center O
 $|AB| = 2\sqrt{3}$ br
 $|DC| = 2$ br
 $\Rightarrow r = ?$
- A) 1 B) 2 C) $2\sqrt{2}$ D) $2\sqrt{3}$ E) 4



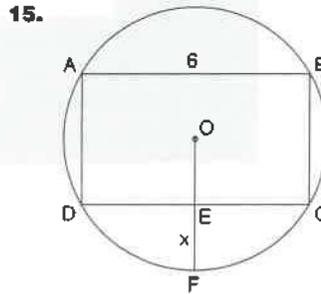
12. O_1 ve O_2 merkezli çemberler
 Circles with the centers O_1 and O_2
 $|O_1B| = 6$ br
 $|O_1A| = 12$ br
 $\Rightarrow |AE| = x = ?$
- A) 3 B) 6 C) 9 D) 10 E) 12



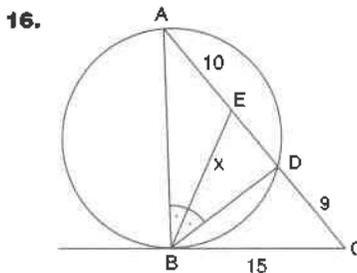
13. O merkezli çeyrek çember
 A quarter circle with a center O
 $[AO] \perp [OD]$
 $[BF] \perp [OD]$
 $[CE] \perp [OD]$
 $|AO| = 15$ br
 $|BF| = 12$ br
 $|CE| = 9$ br
 $\Rightarrow |FE| = x = ?$
- A) 1 B) 3 C) 6 D) 7 E) 9



14. ABCD dikdörtgen
 ABCD rectangle
 $|EB| = 4$ br
 $|BK| = 2$ br
 $\Rightarrow A(ABCD) = ?$
- A) 81 B) 72 C) 63 D) 54 E) 48

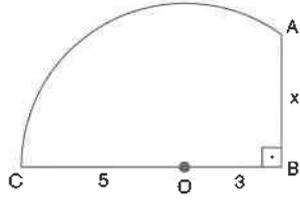


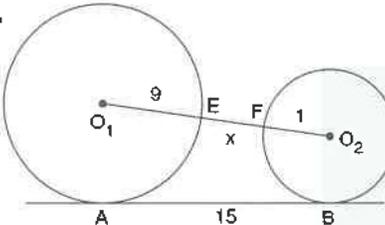
15. O merkezli çember
 A circle with a center O
 ABCD kare
 ABCD square
 $|AB| = 6$ br
 $\Rightarrow |EF| = x = ?$
- A) $3\sqrt{6}$ B) $3\sqrt{2}$ C) 3
 D) $3 - 3\sqrt{2}$ E) $3\sqrt{2} - 3$

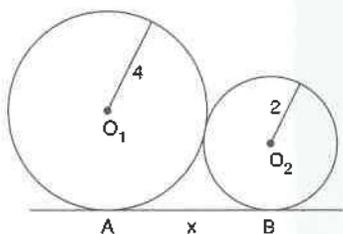


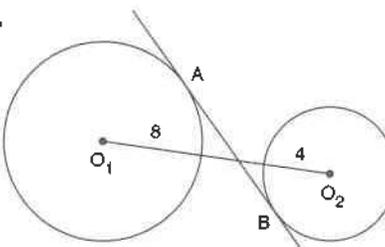
16. $[AB]$ çap
 $[AB]$ diameter
 $m(\widehat{ABE}) = m(\widehat{EBD})$
 $|AE| = 10$ br
 $|DC| = 9$ br
 $|BC| = 15$ br
 $\Rightarrow |EB| = x = ?$
- A) 3 B) 6 C) $6\sqrt{5}$ D) 12 E) $12\sqrt{5}$

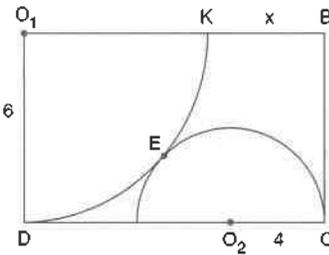
PUZAYANINLARI

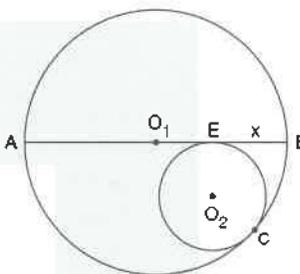
1.  O merkezli çember
Circle with a center O
 $|OB| = 3$ br
 $|OC| = 5$ br
 $\Rightarrow |AB| = x = ?$
- A) 1 B) 2 C) 3 D) 4 E) 8

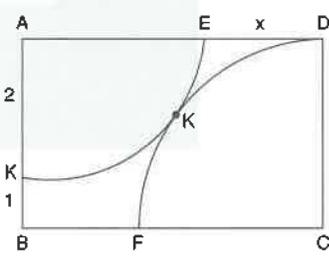
2.  O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 9 ve 1'dir.
The radii of the circles with the centers O_1 and O_2 are 9 and 1 respectively.
 $|AB| = 15$ br
 $\Rightarrow |EF| = x = ?$
- A) 10 B) 8 C) 7 D) 6 E) 5

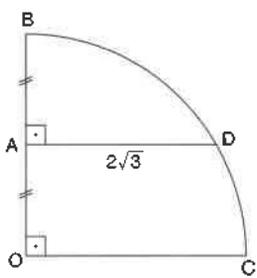
3.  O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 4 ve 2'dir.
The radii of the circles with the centers O_1 and O_2 are 4 and 2 respectively.
 $\Rightarrow |AB| = x = ?$
- A) 5 B) $4\sqrt{2}$ C) 6 D) $4\sqrt{3}$ E) 8

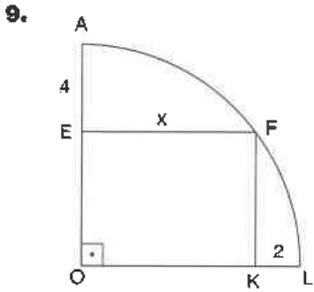
4.  O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 8 ve 4'tür.
The radii of the circles with the centers O_1 and O_2 are 8 and 4 respectively.
 $|AB| = 9$ br
 $\Rightarrow |O_1O_2| = ?$
- A) 15 B) 12 C) 9 D) 8 E) 6

5.  O_1BCD dikdörtgen
 O_1BCD rectangle
 O_1 ve O_2 merkezli çemberler
Circles with the centers O_1 and O_2
 $|O_1D| = 6$ br
 $|O_2C| = 4$ br
 $\Rightarrow |KB| = x = ?$
- A) 2 B) 3 C) 4 D) 5 E) 6

6.  O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 9 ve 4'tür.
The radii of the circles with the centers O_1 and O_2 are 9 and 4 respectively.
 $\Rightarrow |EB| = x = ?$
- A) 7 B) 6 C) 5 D) 4 E) 3

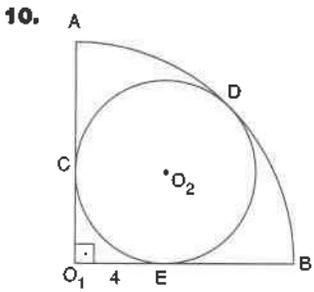
7.  A ve C merkezli çeyrek çemberler
quarter circles with the centers A and C
ABCD dikdörtgen
ABCD rectangle
 $|AK| = 2$ br
 $|KB| = 1$ br
 $\Rightarrow |ED| = x = ?$
- A) 1 B) 2 C) 3 D) 4 E) 5

8.  O merkezli çeyrek çemberin yarıçapı r
Radius r of a quarter circle with a center O
 $|BA| = |AO|$
 $|AD| = 2\sqrt{3}$ br
 $\Rightarrow r = ?$
- A) $4\sqrt{3}$ B) 6 C) 4 D) $2\sqrt{3}$ E) 2



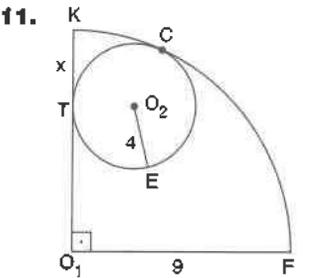
9. O merkezli çember
Circle with a center O
EFKO dikdörtgen
EFKO rectangle
 $|AE| = 4$ br
 $|KL| = 2$ br
 $\Rightarrow |EF| = x = ?$

- A) 6 B) 7 C) 8 D) 9 E) 10



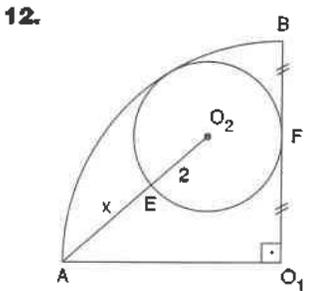
10. O₁ ve O₂ merkezli çemberlerin yarıçapları sırasıyla r₁ ve r₂ dir.
The radii of the circles with the centers O₁ and O₂ are r₁ and r₂ respectively.
 $|O_1E| = 4$ br
 $\Rightarrow r_2 = ?$

- A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) 8



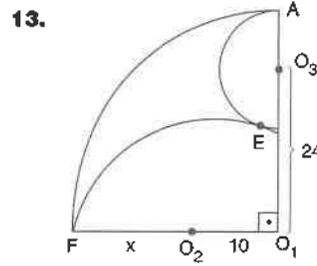
11. O₁ ve O₂ merkezli çemberler
Circles with the centers O₁ and O₂
 $|O_2E| = 4$ br
 $|O_1F| = 9$ br
 $\Rightarrow |TK| = x = ?$

- A) 2 B) 4 C) 6 D) 7 E) 8



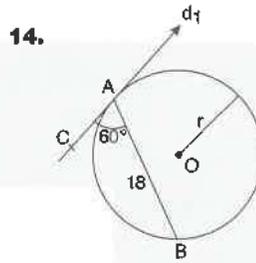
12. O₁ ve O₂ merkezli çemberler
Circles with the centers O₁ and O₂
 $|BF| = |FO_1|$
 $|O_2E| = 2$ br
 $\Rightarrow |EA| = x = ?$

- A) $\frac{2\sqrt{41}}{3} - 2$ B) $2\sqrt{41} - 4$ C) $\sqrt{41} - 4$
D) 4 E) 8



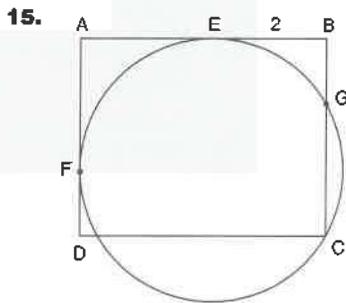
13. O₁, O₂, O₃ merkezli çemberler
Circles with the centers O₁, O₂ and O₃
 $|O_1O_3| = 24$ br
 $|O_1O_2| = 10$ br
 $\Rightarrow |O_2F| = x = ?$

- A) 6 B) 10 C) 14 D) 16 E) 20



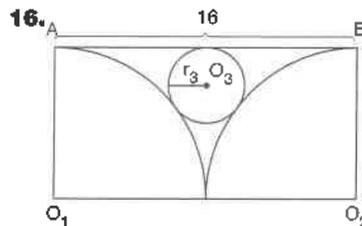
14. $m(\widehat{CAB}) = 60^\circ$
O merkezli çember
A circle with a center O
 $|AB| = 18$ br
d₁, A noktasında teğet
d₁ is tangent at point A
 $\Rightarrow r = ?$

- A) $6\sqrt{3}$ B) $4\sqrt{3}$ C) $2\sqrt{3}$ D) 4 E) 6



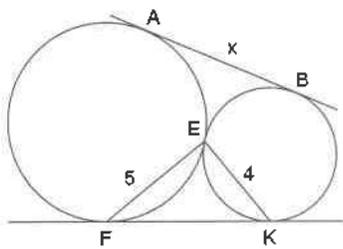
15. ABCD dikdörtgen
ABCD rectangle
 $|BC| = 4$ br
 $|EB| = 2$ br
 $\Rightarrow A(ABCD) = ?$

- A) 36 B) 24 C) 18 D) 9 E) 4,5

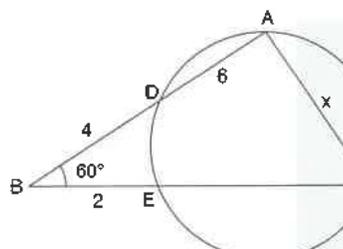


16. O₁, O₂ ve O₃ merkezli çemberler
Circles with the centers O₁, O₂ and O₃
ABO₂O₁ dikdörtgen
ABO₂O₁ rectangle
 $|AB| = 16$ br
 $\Rightarrow r_3 = ?$

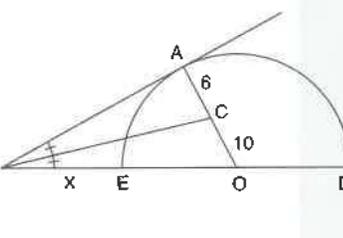
- A) 1 B) 2 C) 3 D) 4 E) 5

1. 
 $|EF| = 5r$
 $|EK| = 4r$
 $\Rightarrow |AB| = x = ?$

A) 1 B) 3 C) 5 D) $\sqrt{41}$ E) 9

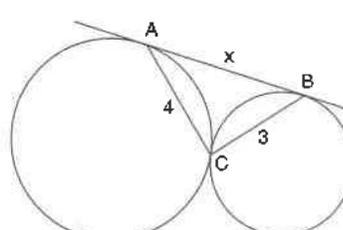
2. 
 $m(\widehat{ABC}) = 60^\circ$
 $|AD| = 6r$
 $|BD| = 4r$
 $|BE| = 2r$
 $\Rightarrow |AC| = x = ?$

A) 10 B) $10\sqrt{3}$ C) $10\sqrt{2}$ D) 20 E) $20\sqrt{3}$

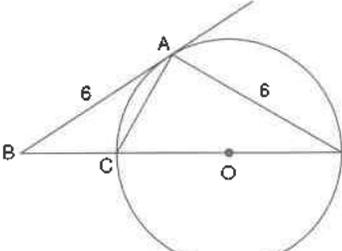
3. 

O merkezli yarım çember
 Semi circle with a center O
 $m(\widehat{ABC}) = m(\widehat{CBD})$
 $|AC| = 6r$
 $|CO| = 10r$
 $\Rightarrow |BE| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

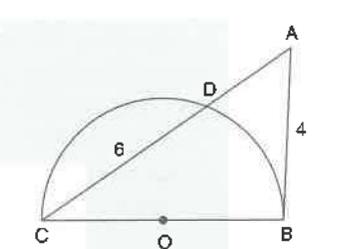
4. 
 $|AC| = 4r$
 $|BC| = 3r$
 $\Rightarrow |AB| = x = ?$

A) 2 B) $2\sqrt{2}$ C) 3 D) $3\sqrt{2}$ E) 5

5. 

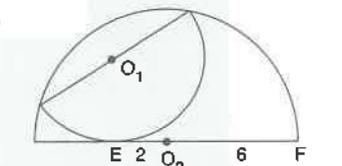
O merkezli çemberin yarıçapı r
 Radius r of a circle with a center O
 $|AB| = |AD| = 6r$
 $\Rightarrow r = ?$

A) 2 B) $2\sqrt{3}$ C) 3 D) 6 E) $4\sqrt{3}$

6. 

O merkezli yarım çemberin yarıçapı r
 Radius r of a semi circle with a center O
 $|CD| = 6r$
 $|AB| = 4r$
 $\Rightarrow r = ?$

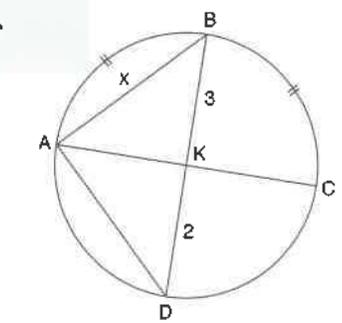
A) $\sqrt{3}$ B) $2\sqrt{3}$ C) 4 D) 6 E) $6\sqrt{3}$

7. 

O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla r_1 ve r_2 'dir.
 The radius of the circles with the centers O_1 and O_2 are r_1 and r_2 respectively.

 $|O_2F| = 6r$ $|EO_2| = 2r$ $\Rightarrow r_1 = ?$

A) 3 B) 4 C) $2\sqrt{5}$ D) $3\sqrt{3}$ E) $4\sqrt{3}$

8. 
 $m(\widehat{AB}) = m(\widehat{BC})$
 $|BK| = 3r$
 $|KD| = 2r$
 $\Rightarrow |AB| = x = ?$

A) $\frac{3\sqrt{15}}{2}$ B) $\sqrt{15}$ C) 3 D) $\sqrt{6}$ E) $\frac{\sqrt{6}}{2}$

9. $m(\widehat{ED}) = m(\widehat{DC})$
 $2|AK| = |KL| = |KE| = 2 \text{ br}$
 $|BK| = 4 \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) 12 B) 10 C) 8 D) 6 E) 4

10. O merkezli çember
 Circle with a center O
 $|AB| = 4\sqrt{3} \text{ br}$
 $|BC| = 6 \text{ br}$
 $|AO| = x + \frac{1}{2}$
 $\Rightarrow |OD| = x = ?$

A) $\frac{3}{4}$ B) 2 C) $\frac{5}{2}$ D) 3 E) $\frac{7}{2}$

11. $m(\widehat{BD}) = m(\widehat{BE})$ $|CD| = 2 \text{ br}$ $|DE| = 3 \text{ br}$
 $\Rightarrow |AB| = x = ?$

A) $\frac{5}{3}$ B) $\frac{5}{2}$ C) $\frac{10}{3}$ D) $4\sqrt{2}$ E) 6

12. O_1, O_2, O_3 merkezli çemberler
 Circles with the centers O_1, O_2 and O_3
 $|O_3B| = 9 \text{ br}$
 $m(\widehat{CE}) = m(\widehat{EO_2})$
 $\Rightarrow |AO_2| = x = ?$

A) 12 B) 15 C) 24 D) 27 E) 54

13. O merkezli yarım çember
 Semi circle with a center O
 $[CB] \perp [BE]$
 $[BE] \perp [ED]$
 $|AC| = 6 \text{ br}$
 $|BF| = 4 \text{ br}$
 $\Rightarrow A(BCDE) = ?$

A) 64 B) 48 C) 40 D) 38 E) 36

14. O merkezli çeyrek çember
 A quarter circle with a center O
 $[AO] \perp [BO]$
 $|AC| = 6\sqrt{2} \text{ br}$
 $|AO| = 5\sqrt{2} \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) 1 B) 2 C) $2\sqrt{2}$ D) 4 E) $4\sqrt{2}$

15. $m(\widehat{BAC}) = m(\widehat{CAD})$
 $[AC] \perp [BD]$
 $|AE| = 2|EC| = 4 \text{ br}$
 $\Rightarrow |BC| = x = ?$

A) 6 B) 4 C) $2\sqrt{3}$ D) $2\sqrt{2}$ E) 2

16. O merkezli çember
 Circle with a center O
 $[AD] \perp [BC]$
 $2|BD| = |DC| = 8 \text{ br}$
 $\Rightarrow |AF| = x = ?$

A) $12\sqrt{5}$ B) $8\sqrt{5}$ C) $4\sqrt{5}$ D) $\frac{12\sqrt{5}}{5}$ E) $\sqrt{5}$

ÇEMBERDE UZUNLUK

LENGTH IN CIRCLE

YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	D	E	B	A	C	C	D	A	D	D	C	B	C	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	A	B	A	C	A	E	B	E	C	B	A	C	B	D	B

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	A	B	E	B	B	C	D	A	A	E	B	D	D	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	B	C	C	D	E	B	B	B	D	A	D	B	C	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	D	C	C	C	D	A	A	C	B	E	B	B	E	C

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	B	A	E	B	B	C	C	C	C	A	E	A	C	B

TEST 7

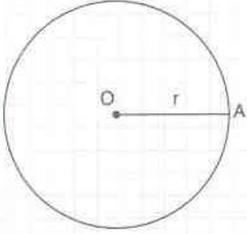
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	B	E	B	B	B	B	A	A	E	E	C	B	C	D



DAIREDE ALAN
AREA IN CIRCULAR REGION

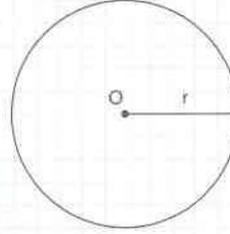
DAİREDE ALAN

ÖZELLİK|Property 1

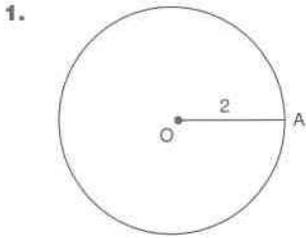


Çemberin Çevresi = $2\pi r$
Circumference of a circle = $2\pi r$

ÖZELLİK|Property 2

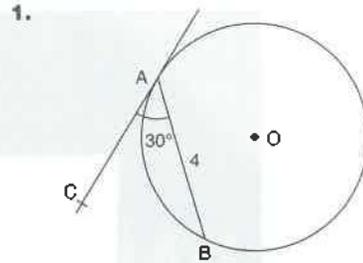


Dairenin Alanı = πr^2
Area of a circular region = πr^2



⇒ O merkezli çemberin çevresi = ?
Circumference of a circle with a center O = ?

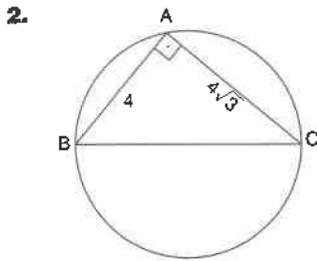
4π



⇒ Dairenin Alanı = ?
Area of a circular region = ?

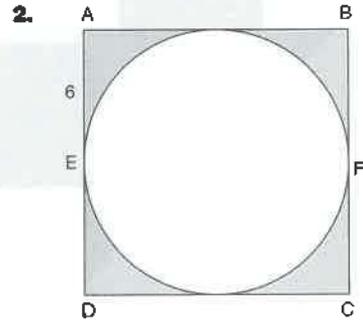
16π

PUZAYANILARI



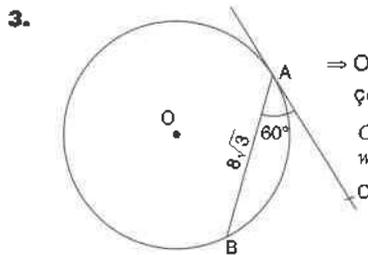
⇒ Çemberin Çevresi = ?
Circumference of a circle = ?

8π



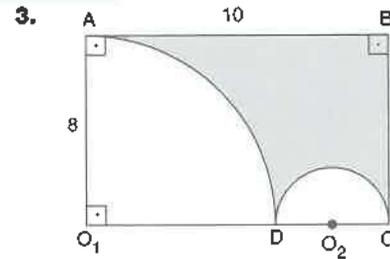
ABCD kare
ABCD square
⇒ Taralı Alan = ?
Shaded area = ?

144 - 36π



⇒ O merkezli çemberin çevresi = ?
Circumference of a circle with a center O = ?

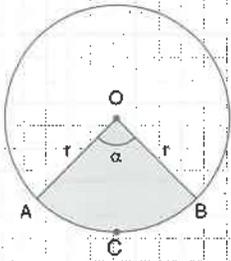
16π



⇒ Taralı Alan = ?
Shaded area = ?

80 - $\frac{33}{2}\pi$

ÖZELLİK|Property 3

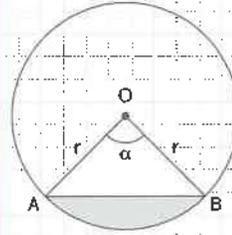


$$\text{Taralı Alan} = \pi r^2 \cdot \frac{\alpha}{360^\circ}$$

Shaded area

$$|\widehat{ACB}| = 2\pi r \cdot \frac{\alpha}{360^\circ}$$

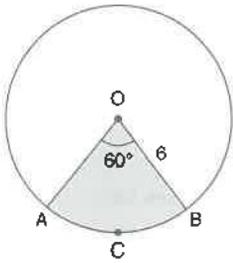
ÖZELLİK|Property 4



$$\text{Taralı Alan} = \pi r^2 \cdot \frac{\alpha}{360} - \frac{1}{2} r^2 \cdot \sin \alpha$$

Shaded area

1.



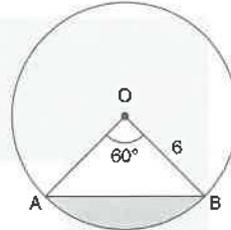
O merkezli çember
Circles with a center O

⇒ Taralı Alan = ?
Shaded area = ?

$$\Rightarrow |\widehat{ACB}| = ?$$

$$6\pi, 2\pi$$

1.



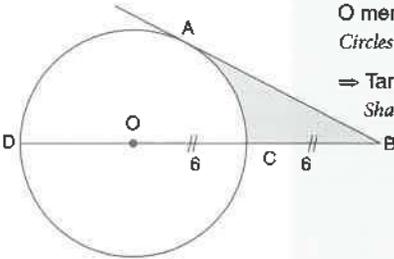
O merkezli çember
Circles with a center O

⇒ Taralı Alan = ?
Shaded area = ?

$$6\pi - 9\sqrt{3}$$

PUZAYYINILARI

2.

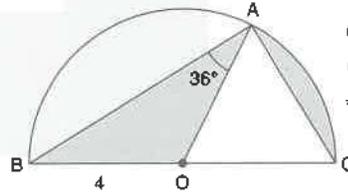


O merkezli çember
Circles with a center O

⇒ Taralı Alan = ?
Shaded area = ?

$$18\sqrt{3} - 6\pi$$

2.

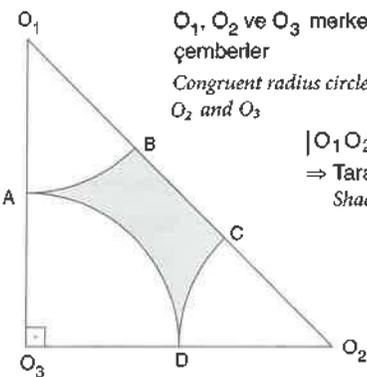


O merkezli çember
Circles with a center O

⇒ Taralı Alan = ?
Shaded area = ?

$$\frac{16\pi}{5}$$

3.



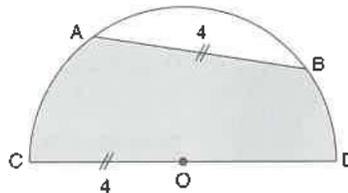
O_1, O_2 ve O_3 merkezli eşit yarıçaplı çemberler
Congruent radius circle with centers of O_1, O_2 and O_3

$$|O_1O_2| = 8\sqrt{2} \text{ br}$$

⇒ Taralı Alan = ?
Shaded area = ?

$$32 - 8\pi$$

3.



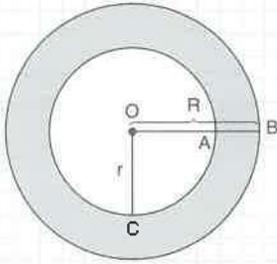
O merkezli çember
Circles with a center O

⇒ Taralı Alan = ?
Shaded area = ?

$$\frac{16\pi}{3} + 4\sqrt{3}$$

DAİREDE ALAN

ÖZELLİK|Property 5

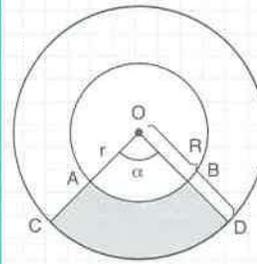


O merkezli çember
Circle with a center O

$$\text{Taralı Alan} = \pi(R^2 - r^2)$$

Shaded area

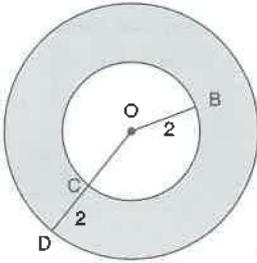
ÖZELLİK|Property 6



$$\text{Taralı Alan} = \pi(R^2 - r^2) \frac{\alpha}{360^\circ}$$

Shaded area

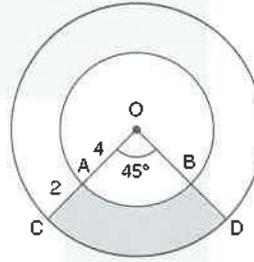
1.



O merkezli çember
Circle with a center O
⇒ Taralı Alan = ?
Shaded area = ?

$$12\pi$$

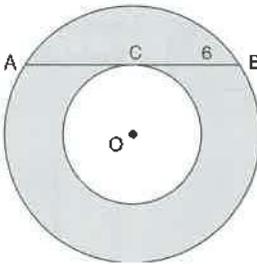
1.



⇒ Taralı Alan = ?
Shaded area = ?

$$\frac{5\pi}{2}$$

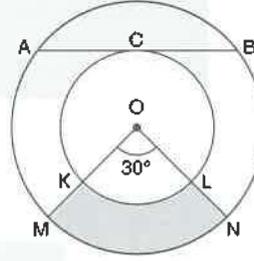
2.



O merkezli çember
Circle with a center O
⇒ Taralı Alan = ?
Shaded area = ?

$$36\pi$$

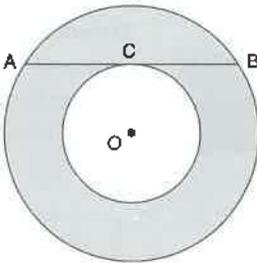
2.



|AB| = 12 br
⇒ Taralı Alan = ?
Shaded area = ?

$$3\pi$$

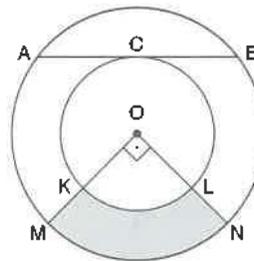
3.



O merkezli çember
Circle with a center O
Taralı Alan $72\pi br^2$
Shaded area $72\pi br^2$
⇒ |AB| = ?

$$12\sqrt{2}$$

3.

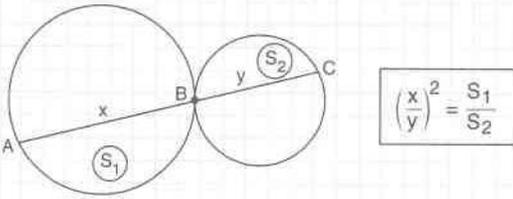


Taralı Alan $45\pi br^2$
Shaded area $45\pi br^2$
⇒ |AB| = ?

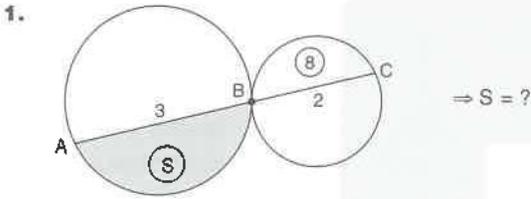
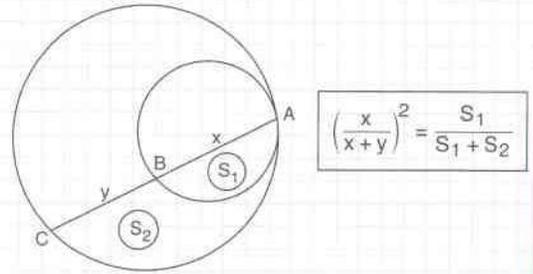
$$12\sqrt{3}$$

AREA IN CIRCULAR REGION

ÖZELLİK|Property 7

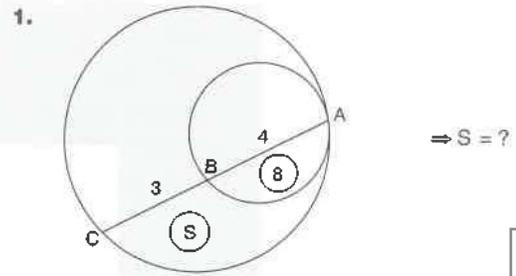


ÖZELLİK|Property 8

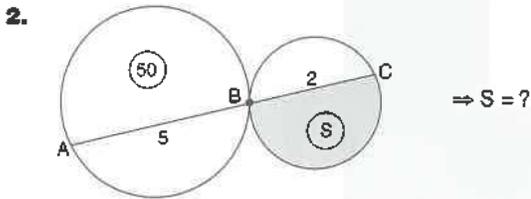


18

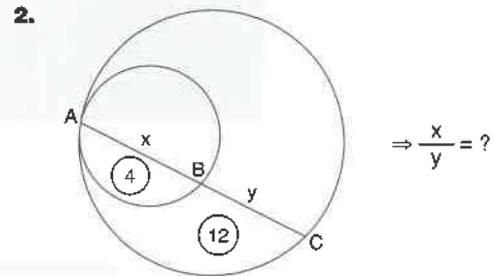
PUZAYANILARI



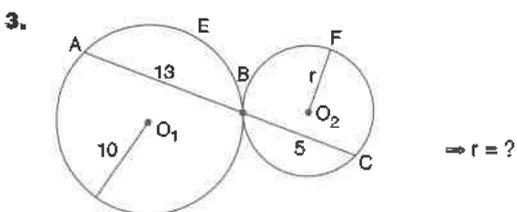
$\frac{33}{2}$



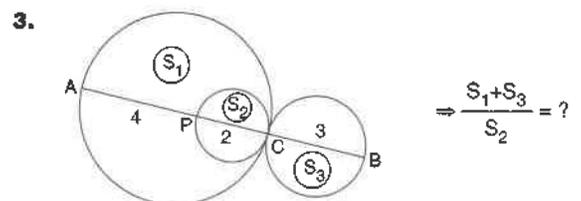
8



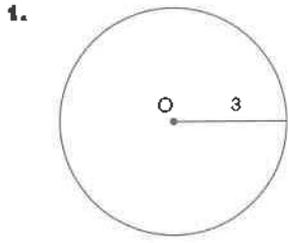
1



$\frac{50}{13}$



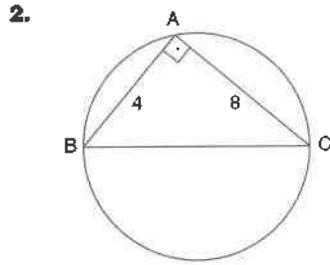
$\frac{41}{4}$



O merkezli yarıçapı 3 br olan dairenin alanı kaç br²'dir?

How many unit² is the area of the circle with a center of O, having an radius of 3 units?

- A) 3π B) 6π C) 9π D) 12π E) 15π



[BA] ⊥ [AC]

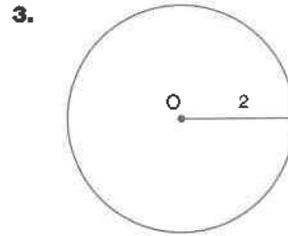
|AB| = 4 br

|AC| = 8 br

Şekildeki dairenin alanı kaç br²'dir?

How many unit² is the area of the circle in the figure?

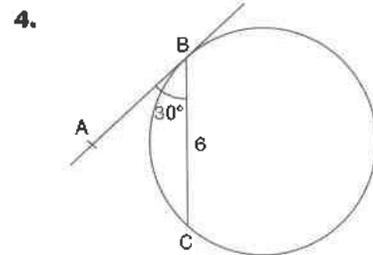
- A) 10π B) 12π C) 15π D) 20π E) 25π



O merkezli yarıçapı 2 br olan çemberin çevresi kaç br'dir?

How many unit is the circumference of the circle with a center O, having an radius of 2 units?

- A) 2π B) 4π C) 6π D) 8π E) 10π



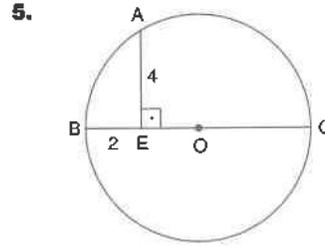
$m(\widehat{ABC}) = 30^\circ$

|BC| = 6 br

Şekildeki çemberin çevresi kaç br'dir?

How many unit is the circumference of the circle in figure?

- A) 3π B) 6π C) 8π D) 12π E) 16π



[AE] ⊥ [BC]

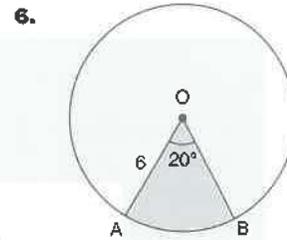
|AE| = 4 br

|BE| = 2 br

O merkezli çemberin çevresi kaç br'dir?

How many unit is the circumference of the O circle?

- A) 6π B) 8π C) 10π D) 12π E) 14π



O merkezli çember

Circle with a center O

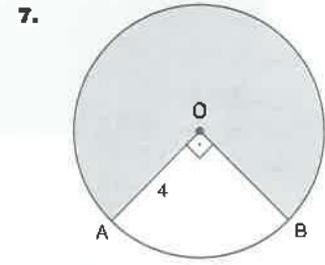
$m(\widehat{AOB}) = 20^\circ$

|OA| = 6 br

Şekildeki taralı daire diliminin alanı kaç br²'dir?

How many unit² is the shaded slice of the circle in the figure?

- A) π B) 2π C) 4π D) 5π E) 6π



O merkezli çember

Circle with a center O

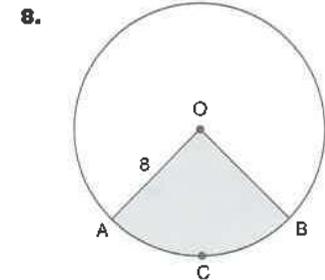
[AO] ⊥ [OB]

|AO| = 4 br

Şekildeki taralı daire diliminin alanı kaç br²'dir?

How many unit² is the shaded slice of the circle in the figure?

- A) 2π B) 4π C) 8π D) 12π E) 16π



O merkezli çemberin yarıçapı 8 br

A circle with a center O, has a radius of 8 units:

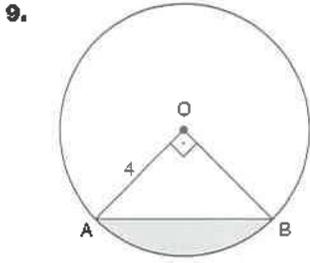
$|\widehat{ACB}| = 2\pi$

Şekildeki taralı daire diliminin alanı kaç br²'dir?

How many unit² is the shaded slice of the circle in figure?

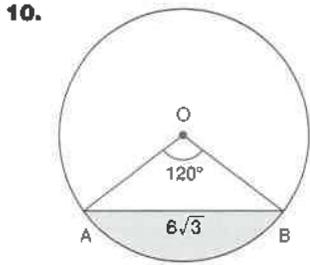
- A) 4π B) 6π C) 8π D) 12π E) 14π

PUZAYANILARI



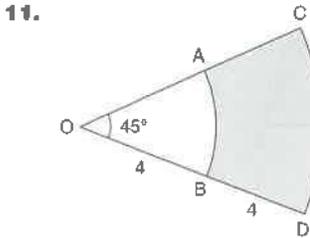
9. O merkezli çemberin yarıçapı 4 br
 A circle with a center O, has a radius of 4 units
 $[AO] \perp [OB]$
 Taralı bölgenin alanı kaç br^2 'dir?
 How many $unit^2$ is the area of the shaded sector?

- A) $4\pi - 8$ B) $4\pi - 4$ C) $4\pi + 4$
 D) 8π E) 12π



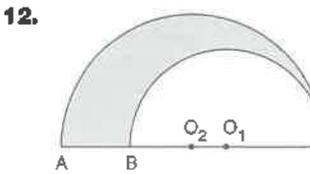
10. O merkezli çember
 Circle with a center O
 $m(\widehat{AOB}) = 120^\circ$
 $|AB| = 6\sqrt{3}$ br
 Taralı bölgenin alanı kaç br^2 'dir?
 How many $unit^2$ is the area of the shaded sector?

- A) $6\pi - 9\sqrt{3}$ B) $12\pi - 9\sqrt{3}$ C) $6\pi + 3\sqrt{3}$
 D) 9π E) 12π



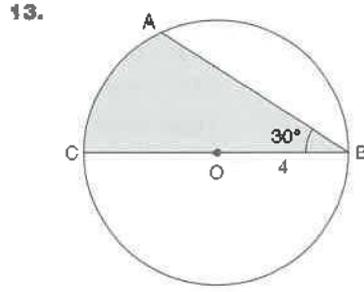
11. O merkezli çember yayları
 Arc of circumference with a center O
 $m(\widehat{COD}) = 45^\circ$
 $|OB| = |BD| = 4$ br
 Taralı bölgenin alanı kaç br^2 'dir?
 How many $unit^2$ is the area of the shaded sector?

- A) 4π B) 6π C) 8π D) 10π E) 12π



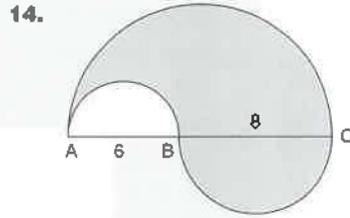
12. O_1 ve O_2 merkezli yarım çemberler
 Semi-circles with O_1 and O_2 center points
 $2|AB| = |BC| = 8$ br
 Taralı bölgenin alanı kaç br^2 'dir?
 How many $unit^2$ is the area of the shaded sector?

- A) 5π B) 8π C) 10π D) 16π E) 20π



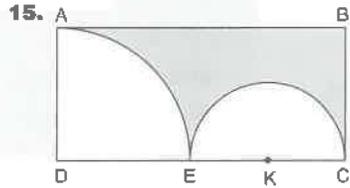
13. O merkezli çemberin yarıçapı 4 br
 A circle with a center O, has a radius of 4 units
 $m(\widehat{ABC}) = 30^\circ$
 Taralı bölgenin alanı kaç br^2 'dir?
 How many $unit^2$ is the area of the shaded sector?

- A) $8\pi - 4\sqrt{3}$ B) $\frac{40\pi}{3} - 4\sqrt{3}$ C) $\frac{40\pi}{3} + 2\sqrt{3}$
 D) $16\pi - 2\sqrt{3}$ E) $\frac{8\pi}{3} + 4\sqrt{3}$



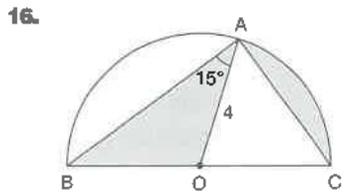
14. Şekildeki gibi üç yarım daire iç içedir.
 Three semi-circles are nested as in figure
 $|AB| = 6$ br
 $|BC| = 8$ br
 Taralı bölgenin alanı kaç br^2 'dir?
 How many $unit^2$ is the area of the shaded sector?

- A) 12π B) 16π C) 18π D) 20π E) 28π



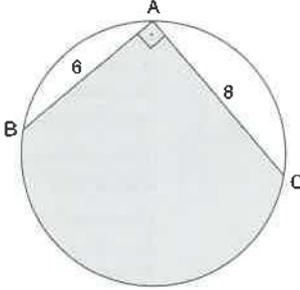
15. ABCD dikdörtgen, D ve K merkezli çemberler
 A rectangle of ABCD, circles with the centers of D and K
 $|DE| = 4$ br
 $|EC| = 6$ br
 Taralı bölgenin alanı kaç br^2 'dir?
 How many $unit^2$ is the area of the shaded sector?

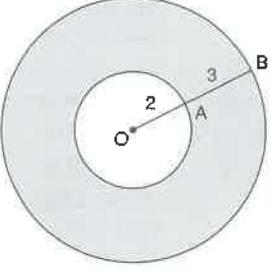
- A) $24 - 7\pi$ B) $40 - \frac{17\pi}{2}$ C) $20 - 4\pi$
 D) $40 - 4\pi$ E) $20 + 4\pi$

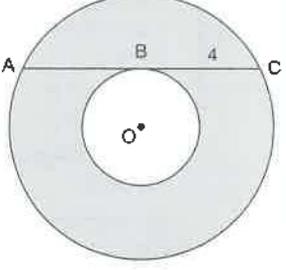


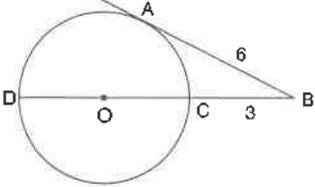
16. O merkezli yarım çember
 Semi-circle with a center O
 $|AO| = 4$ br
 $m(\widehat{BAO}) = 15^\circ$
 Taralı bölgenin alanı kaç br^2 'dir?
 How many $unit^2$ is the area of the shaded sector?

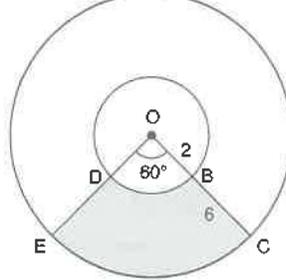
- A) π B) $\frac{4}{3}\pi$ C) $\frac{3\pi}{2}$ D) 2π E) $\frac{7\pi}{3}$

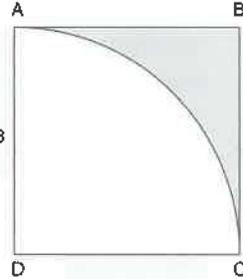
1.  [BA] \perp [AC]
|AB| = 6 br
|AC| = 8 br
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?
A) 10 B) 24 C) 25π
D) $\frac{25\pi}{2} + 24$ E) $25\pi + 24$

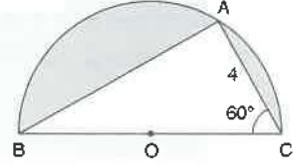
2.  O merkezli çemberler
Circles with a center O
|OA| = 2 br
|OB| = 3 br
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?
A) π B) 4π C) 9π
D) 21π E) 25π

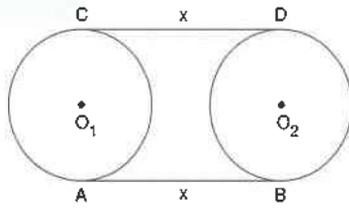
3.  O merkezli çemberler
Circles with a center O
|BC| = 4 br
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?
A) 4π B) 8π C) 16π
D) 32π E) 64π

4.  O merkezli çember
Circles with a center O
|AB| = 2|BC| = 6 br
Çemberin çevresi kaç br'dir?
How many unit is the circumference of the circle?
A) 144π B) 81π C) 36π
D) $\frac{81\pi}{4}$ E) 9π

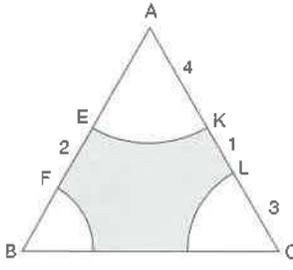
5.  O merkezli çemberler
Circles with a center O
 $3|OB| = |BC| = 6$ br
 $m(\widehat{EOC}) = 60^\circ$
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?
A) 10π B) $\frac{17\pi}{2}$ C) 8π
D) $\frac{15\pi}{2}$ E) 6π

6.  D merkezli çeyrek çember
A quarter circle with a center D
ABCD kare
ABCD square
|AD| = 8 br
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?
A) $64 - 16\pi$ B) $16\pi - 32$ C) $32 - 8\pi$
D) $16\pi + 64$ E) $64\pi + 16$

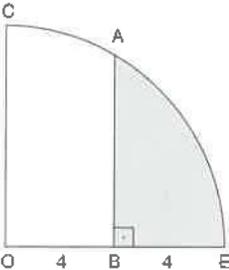
7.  O merkezli yarım çember
Semi-circle with a center O
 $m(\widehat{ACB}) = 60^\circ$
|AC| = 4 br
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?
A) $8\pi - 8\sqrt{3}$ B) $8\pi - 4\sqrt{3}$ C) 4π
D) $4\pi + 4$ E) 8π

8.  O₁ ve O₂ merkezli yarıçapları 3 br olan çemberlerin çevresine gerilmiş ipin uzunluğu 30 ise x kaç br'dir?
($\pi = 3$)
If the length of a thread which is surrounded on circles with a radius of 3 units, having centers of O₁, O₂ is 30 units, then how many unit is x?
A) 4 B) 5 C) 6 D) 7 E) 8

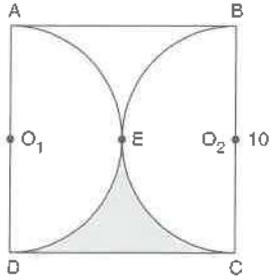
PUZAYYINLARI

9.  ABC eşkenar üçgen
ABC equilateral triangle
A, B, C merkezli daire dilimleri
Slices of circle with the centers of A, B, C.
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

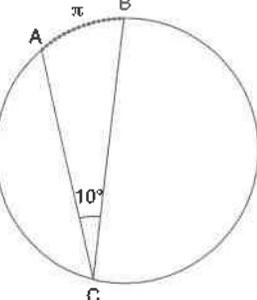
A) $16\sqrt{3} - \frac{29\pi}{6}$ B) $8\sqrt{3} - 4\pi$ C) $16\sqrt{3} - \frac{21\pi}{2}$
D) $2\sqrt{3}$ E) $16\sqrt{3}$

10.  O merkezli çeyrek çember
A quarter circle with a center O
[AB] ⊥ [OE]
|OB| = |BE| = 4 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

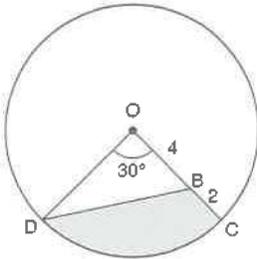
A) $\frac{7\pi}{3} - 8$ B) $\frac{4\pi}{3} - 4$ C) $\frac{4\pi}{3} + 8\sqrt{3}$
D) $\frac{8\pi}{3} + 8$ E) $\frac{32\pi}{3} - 8\sqrt{3}$

11.  O₁ ve O₂ merkezli yarım çemberler
Semi-circles with O₁ and O₂ center points
ABCD kare
ABCD square
|BC| = 10 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

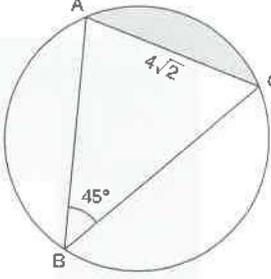
A) 100 B) 50 - 5π C) 25π
D) 100 - 25π E) $50 - \frac{25\pi}{2}$

12.  $\widehat{AB} = \pi$
 $m(\widehat{ACB}) = 10^\circ$
Şekildeki dairenin alanı kaç br²'dir?
How many unit² is the area of the circle in the figure?

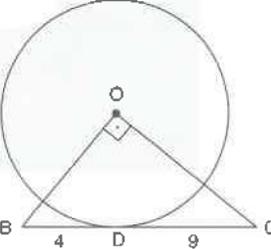
A) 3 B) 9π C) 9 D) 36π E) 81π

13.  O merkezli çember
Circles with a center O
|OB| = 2|BC| = 4 br
 $m(\widehat{BOC}) = 30^\circ$
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

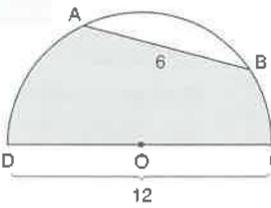
A) 3π - 6 B) 3π - 2 C) 6π - 2 D) 3π E) 6π

14.  $m(\widehat{ABC}) = 45^\circ$
|AC| = 4√2 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

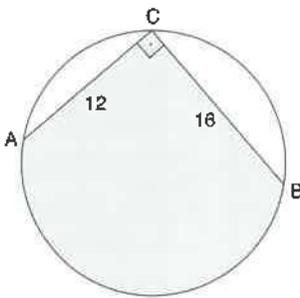
A) 4π - 8 B) 4π - 4 C) 2π + 4
D) 4π + 4 E) 8π - 4

15.  O merkezli çember
Circles with a center O
[BO] ⊥ [OC]
|BD| = 4 br
|DC| = 9 br
Şekildeki dairenin alanı kaç br²'dir?
How many unit² is the area of the circle in figure?

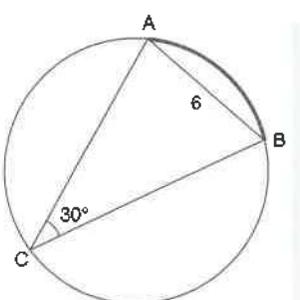
A) 12π B) 16π C) 20π D) 25π E) 36π

16.  O merkezli yarım çember
Semi-circle with a center O
|AB| = 6 br
|DC| = 12 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

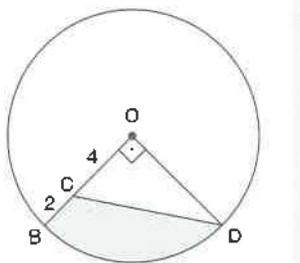
A) 6π - 9√3 B) 4π + 9√3 C) 6π + 4√3
D) 12π - 9√3 E) 12π + 9√3

1.  $[AC] \perp [CB]$
 $|AC| = 12$ br
 $|BC| = 16$ br
 \Rightarrow Taralı Alan = ?

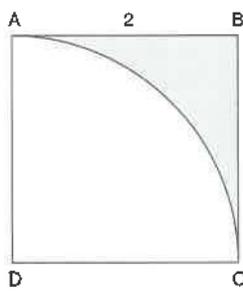
A) $40\pi + 90$ B) $40\pi + 96$ C) $20\pi - 96$
 D) $50\pi + 96$ E) $28\pi - 80$

2.  $|AB| = 6$ br
 $m(\widehat{ACB}) = 30^\circ$
 $\Rightarrow |\widehat{AB}| = ?$

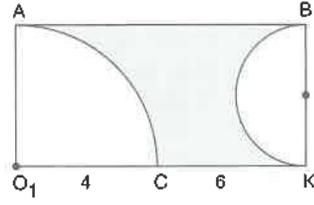
A) π B) 2π C) $\frac{5\pi}{2}$ D) 4π E) 5π

3.  O merkezli çember
 Circle with a center O
 $|OC| = 4$ br
 $|BC| = 2$ br
 $[BO] \perp [OD]$
 \Rightarrow Taralı Alan = ?
 Shaded Area = ?

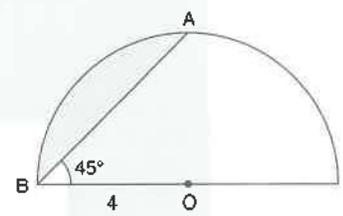
A) $6\pi + 6$ B) $9\pi + 12$ C) $9\pi - 12$
 D) $8\pi - 12$ E) $6\pi - 6$

4.  ABCD kare
 ABCD square
 D merkezli çeyrek çember
 A quarter circle with a center D
 $|AB| = 2$ br
 \Rightarrow Taralı Alan = ?
 Shaded Area = ?

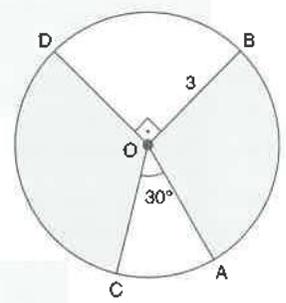
A) $2 - \pi$ B) $2 + \pi$ C) $\pi - 2$
 D) $4 - \pi$ E) $4 + \pi$

5.  $ABKO_1$ dikdörtgen
 $ABKO_1$ rectangle
 O_1 ve O_2 merkezli çemberler
 Circles with O_1 and O_2 center points
 $|O_1C| = 4$ br
 $|CK| = 6$ br
 \Rightarrow Taralı Alan = ?
 Shaded Area = ?

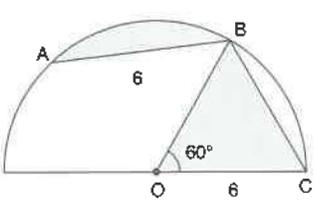
A) $40 - 6\pi$ B) $20 - 4\pi$ C) $40 - 5\pi$
 D) $20 + 4\pi$ E) $80 - 6\pi$

6.  O merkezli yarım çember
 A semi circle with a center O
 $m(\widehat{ABC}) = 45^\circ$
 $|OB| = 4$ br
 \Rightarrow Taralı Alan = ?
 Shaded Area = ?

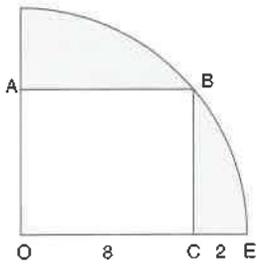
A) $2\pi + 4$ B) $2\pi - 4$ C) $4\pi + 4$
 D) $4\pi - 4$ E) $4\pi - 8$

7.  O merkezli çember
 A circle with a center O
 $m(\widehat{COA}) = 30^\circ$
 $[DO] \perp [OB]$
 $|OB| = 3$ br
 \Rightarrow Taralı Alan = ?
 Shaded Area = ?

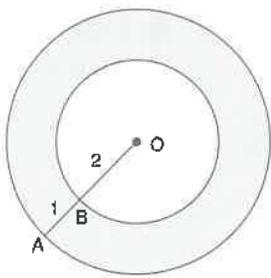
A) 2π B) 4π C) 6π D) 8π E) 16π

8.  O merkezli yarım çember
 A semi circle with a center O
 $|AB| = |OC| = 6$ br
 $m(\widehat{BOC}) = 60^\circ$
 \Rightarrow Taralı Alan = ?
 Shaded Area = ?

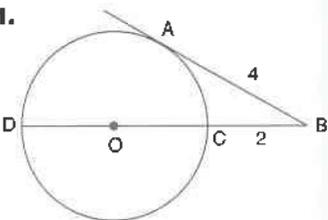
A) π B) 2π C) $6\pi - 6\sqrt{3}$
 D) 6π E) $6\pi + 6\sqrt{3}$

9.  ABCO dikdörtgen
ABCO rectangle
O merkezli çeyrek çember
A quarter circle with a center O
 $|OC| = 8$ br
 $|CE| = 2$ br
 \Rightarrow Taralı Alan = ?

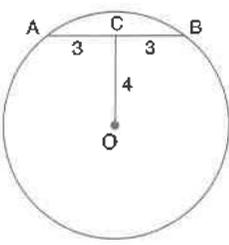
A) $25\pi - 48$ B) $50\pi - 24$ C) $50\pi + 24$
D) $25\pi - 12$ E) $25\pi + 12$

10.  O merkezli çemberler
Circles with a center O
 $|AB| = 1$ br
 $|BO| = 2$ br
 \Rightarrow Taralı Alan = ?
Shaded Area = ?

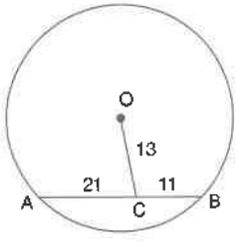
A) 2π B) 3π C) 4π D) 5π E) 6π

11.  $|AB| = 4$ br
 $|CB| = 2$ br
 \Rightarrow O merkezli dairenin alanı = ?
Area of a circular region with a center O = ?

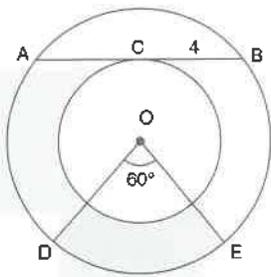
A) π B) 4π C) 9π D) 16π E) 25π

12.  $|AC| = |CB| = 3$ br
 $|CO| = 4$ br
 \Rightarrow O merkezli dairenin alanı = ?
Area of a circular region with a center O = ?

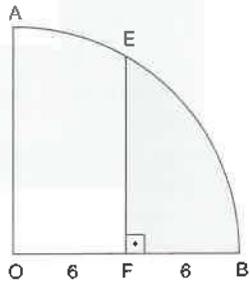
A) π B) 4π C) 9π D) 16π E) 25π

13.  $|OC| = 13$ br
 $|AC| = 21$ br
 $|CB| = 11$ br
 \Rightarrow O merkezli dairenin alanı = ?
Area of a circular region with a center O = ?

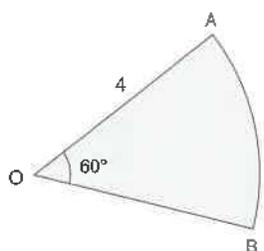
A) 36π B) 64π C) 100π D) 164π E) 400π

14.  O merkezli çemberler
Circles with a center O
 $|CB| = 4$ br
 $m(\widehat{DOE}) = 60^\circ$
 \Rightarrow Taralı Alan = ?
Shaded Area = ?

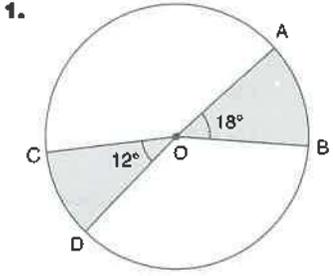
A) $\frac{\pi}{3}$ B) 2π C) $\frac{8\pi}{3}$ D) 4π E) 5π

15.  O merkezli çeyrek çember
A quarter circle with a center O
 $|OF| = |BF| = 6$ br
 $[EF] \perp [OB]$
 \Rightarrow Taralı Alan = ?
Shaded Area = ?

A) $24\pi - \sqrt{3}$ B) $24\pi - 18\sqrt{3}$ C) $12\pi - 18\sqrt{3}$
D) $12\pi - 9\sqrt{3}$ E) $36\pi - 18\sqrt{3}$

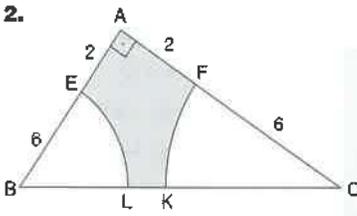
16.  O merkezli çember
Circle with a center O
 $|OA| = 4$ br
 $m(\widehat{AOB}) = 60^\circ$
 \Rightarrow Taralı Alan = ?
Shaded Area = ?

A) 2π B) 3π C) $\frac{8\pi}{3}$ D) $\frac{15\pi}{2}$ E) 10π



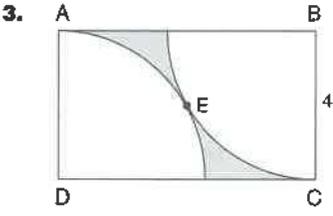
O merkezli çemberin yarıçapı 6 br
 A circle with a center O, has a radius of 6 units
 $m(\widehat{AOB}) = 18^\circ$
 $m(\widehat{COD}) = 12^\circ$
 Taralı bölgenin alanı kaç br^2 'dir?
 How many unit² is the area of the shaded sector?

- A) π B) 2π C) 3π D) 4π E) 6π



B ve C merkezli çember dilimleri
 Slice of circle with the centers of B and C
 $|FC| = |EB| = 6$ br
 $|AE| = |AF| = 2$ br
 Taralı bölgenin alanı kaç br^2 'dir?
 How many unit² is the area of the shaded sector?

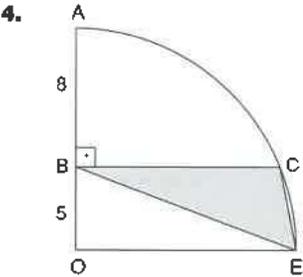
- A) 23π B) 16π C) $32 - 9\pi$
 D) $9\pi - 16$ E) $16\pi - 32$



ABCD dikdörtgen
 ABCD rectangle
 B ve D çeyrek çemberler
 Quarter circles with centers B and D
 $|BC| = 4$ br

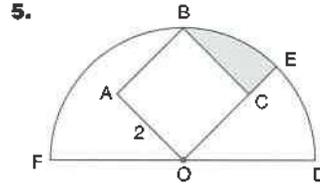
Taralı bölgenin alanı kaç br^2 dir?
 How many unit² is the area of the shaded sector?

- A) $8\pi - 16\sqrt{3}$ B) $8\pi - 8\sqrt{3}$ C) $8\sqrt{3} - 4\pi$
 D) $16\pi - 16\sqrt{3}$ E) $16\sqrt{3} - 8\pi$



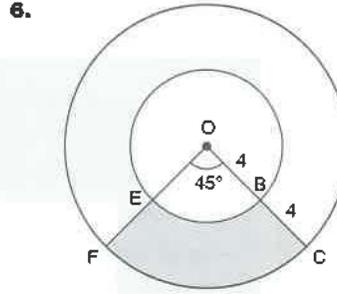
O merkezli çeyrek çember
 A quarter circle with a center O
 $[AB] \perp [BC]$
 $|AB| = 8$ br
 $|BO| = 5$ br
 $\Rightarrow A(BCE) = ?$

- A) 12 B) 15 C) 20 D) 24 E) 30



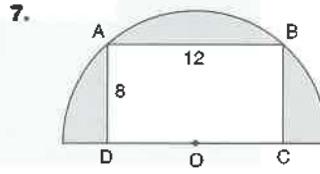
O merkezli yarım çember
 Semi-circle with a center O
 ABCO kare
 ABCD square
 $|AO| = 2$ br
 Taralı bölgenin alanı kaç br^2 'dir?
 How many unit² is the area of the shaded sector?

- A) $\pi - 2$ B) π C) $\pi + 2$ D) $2\pi - 2$ E) 2π



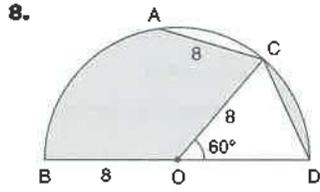
O merkezli çemberler
 Circles with a center O
 $m(\widehat{FOC}) = 45^\circ$
 $|OB| = |BC| = 4$ br
 Taralı bölgenin alanı kaç br^2 'dir?
 How many unit² is the area of the shaded sector?

- A) 4π B) 5π C) 6π D) 8π E) 10π



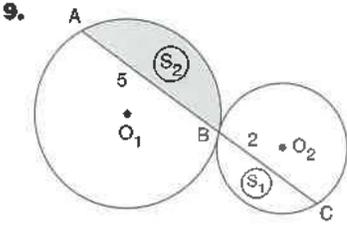
O merkezli yarım çember
 Semi-circle with a center O
 ABCD dikdörtgen
 ABCD rectangle
 $|AB| = 12$ br
 $|AD| = 8$ br
 Taralı bölgenin alanı kaç br^2 'dir?
 How many unit² is the area of the shaded sector?

- A) $50\pi + 96$ B) $25\pi + 96$ C) $100\pi - 96$
 D) $25\pi - 16$ E) $50\pi - 96$



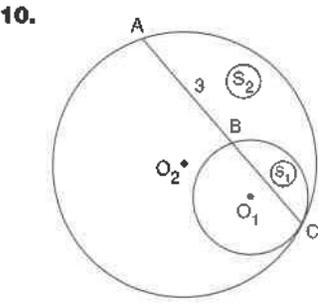
O merkezli yarım çember
 Semi-circle with a center O
 $|AC| = |OC| = |BO| = 8$ br
 $m(\widehat{COD}) = 60^\circ$
 Taralı bölgenin alanı kaç br^2 'dir?
 How many unit² is the area of the shaded sector?

- A) $\frac{32\pi}{3}$ B) 12π C) $\frac{64\pi}{3}$ D) 24π E) 32π



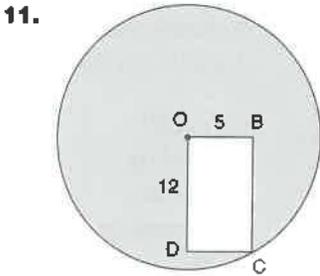
9. O_1 ve O_2 merkezli çemberler dıştan teğettir.
Circles with O_1 and O_2 centers are externally tangent
 $|AB| = 5$ br
 $|BC| = 2$ br
 $S_1 = 8$ br²
 $\Rightarrow S_2 = ?$

- A) 50 B) 40 C) 25 D) 20 E) 15



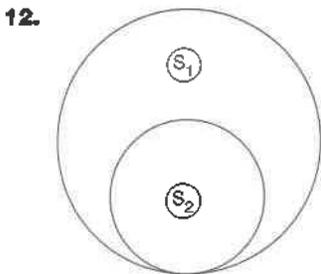
10. O_1 ve O_2 merkezli çemberler içten teğettir.
Circles with O_1 and O_2 centers are internally tangent
 $|AB| = 3$ br
 $|BC| = 1$ br
 $S_1 = 4$ br²
 $\Rightarrow S_2 = ?$

- A) 64 B) 60 C) 32 D) 28 E) 12



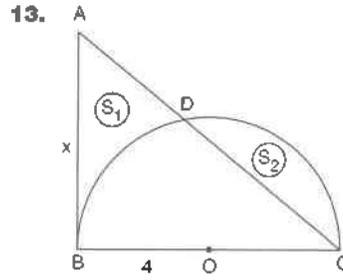
11. O merkezli çember
A circles with a center O
OBCD dikdörtgen
OBCD rectangle
 $|OB| = 5$ br
 $|OD| = 12$ br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

- A) 169π B) $169\pi - 30$ C) $169\pi - 60$
D) 69π E) $26\pi - 60$



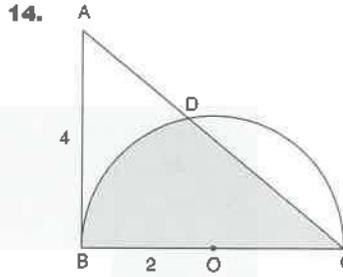
12. Çemberlerin çevreleri oranı $\frac{1}{2}$
The ratio of the circumferences of the circles is $1/2$
 $S_1 = 9$ br²
 $\Rightarrow S_2 = ?$

- A) 3 B) 4 C) 6 D) 8 E) 9



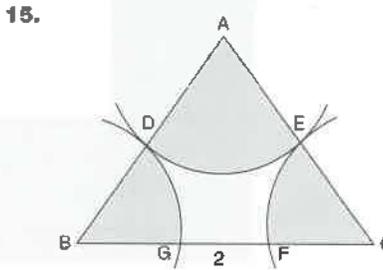
13. O merkezli yarı çemberin yarıçapı 4 br
A Semi-circle with a center O, has a radius of 4 units
 $S_1 = S_2$
 $\Rightarrow |AB| = x = ?$

- A) π B) 2π C) 3π D) 4π E) 5π



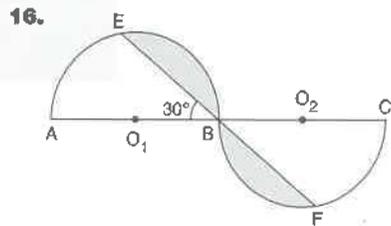
14. O merkezli yarı çemberin yarıçapı 2 br
A Semi-circle with a center O, has a radius of 2 units
 $|AB| = 4$ br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

- A) $\pi - 2$ B) π C) $2\pi - 2$ D) $\pi + 2$ E) $\pi + 4$



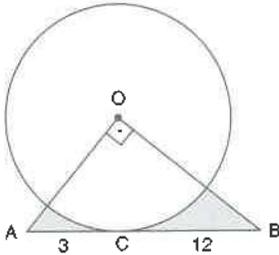
15. Yarıçapları aynı olan A, B, C merkezli çemberler
Circles with the centers A, B and C with the same radii
 $\widehat{C}(ABC) = 14$ br
 $|GF| = 2$ br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

- A) $15 - 4\pi$ B) $4\pi - 3\sqrt{7}$ C) 4π
D) 2π E) π



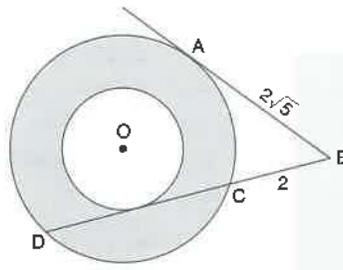
16. O_1 ve O_2 merkezli yarı çemberler
Semi-circles with O_1 and O_2 center points
 $|AB| = 2|BC| = 8$ br
 $m(\widehat{EBA}) = 30^\circ$
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

- A) $\pi - 2$ B) $5\pi - 10$ C) $\frac{20\pi}{3} - 5\sqrt{3}$
D) $\frac{20\pi}{3} - 6\sqrt{3}$ E) 10π

1. 

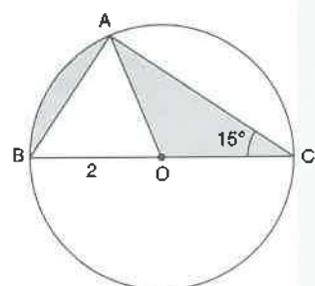
O merkezli çember
A circle with a center O
[AO] ⊥ [OB]
4|AC| = |CB| = 12 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

A) 36π B) 90 - 18π C) 36
D) 45 - 9π E) 36π - 45

2. 

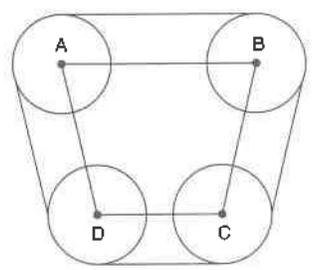
O merkezli çemberler
Circles with a center O
|AB| = 2√5 br
|BC| = 2 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

A) 4π B) 9π C) 16π D) 25π E) 36π

3. 

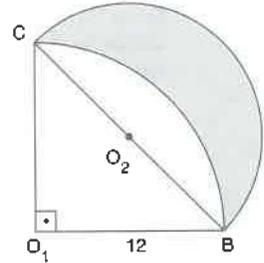
O merkezli çember
A circle with a center O
|BO| = 2 br
m(∠ACB) = 15°
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

A) $\frac{\pi}{3}$ B) $\frac{5\pi}{3}$ C) 3π D) 4π E) 5π

4. 

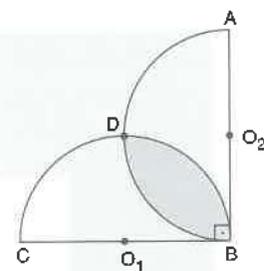
Yarıçapı 2 br olan A, B, C, D merkezli eş çemberler
Congruent circles with the centers A, B and C with a radius of 2 units
Ç(ABCD) = 22π
Çemberlerin çevresine gerilmiş ipin uzunluğu kaç br'dir?
How many unit is the length of the thread tightened around the circumferences of the circles?

A) 24π B) 26π C) 28π D) 30π E) 32π

5. 

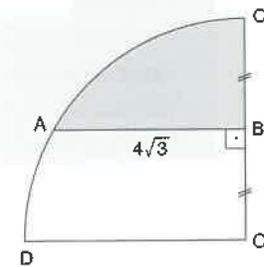
O₁ ve O₂ merkezli çemberler
Circles with O₁ and O₂ center points
[CO₁] ⊥ [O₁B]
|O₁B| = 12 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

A) 72 - 27π B) 72 - 25π C) 16π - 16
D) 72 E) 25π

6. 

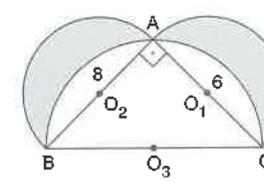
O₁ ve O₂ merkezli eş yarı çemberler
Congruent semicircles with centers of O₁ and O₂
[AB] ⊥ [BC]
|AB| = 4 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

A) π - 4 B) π - 2 C) π
D) 2π - 4 E) 2π - 2

7. 

O merkezli çeyrek çember
A quarter circle with a center O
[CB] ⊥ [BA]
|AB| = 4√3 br
|CB| = |BO|
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

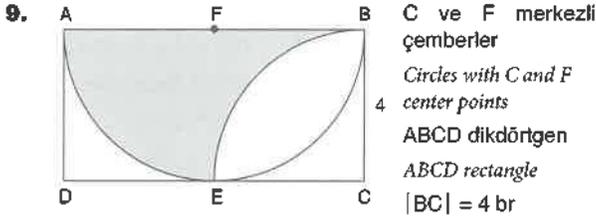
A) $\frac{32\pi}{3} - 8\sqrt{3}$ B) 8π - 4√3 C) $\frac{16\pi}{3} - 4\sqrt{3}$
D) 8π - 8√3 E) 4π + 4√3

8. 

O₁, O₂ ve O₃ merkezli çemberler
Circles with centers of O₁, O₂ and O₃
[BA] ⊥ [AC]
|AB| = 8 br
|AC| = 6 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

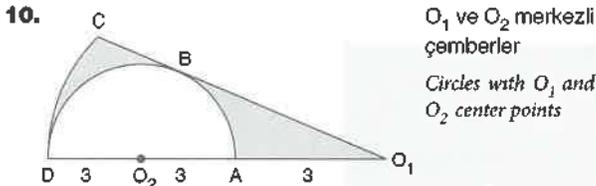
A) 25π B) 24π C) 22π D) 24 E) 12

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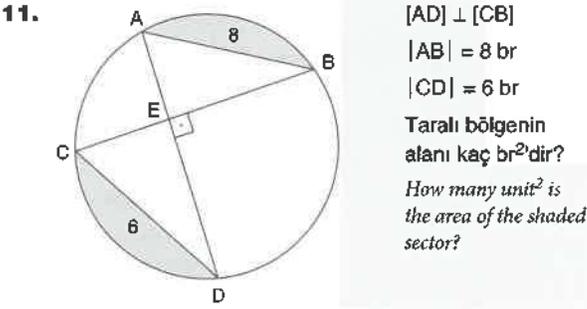
Taralı bölgenin alanı kaç br^2 'dir?
How many unit² is the area of the shaded sector?

- A) 16 B) $18\pi - 4$ C) $32 - 8\pi$
D) $8\pi - 16$ E) $16 - 4\pi$



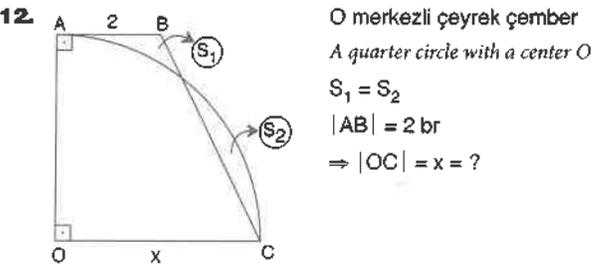
$|DO_2| = |O_2A| = |AO_1| = 3$ br
Taralı bölgenin alanı kaç br^2 'dir?
How many unit² is the area of the shaded sector?

- A) 12π B) 8π C) $\frac{15\pi}{4}$ D) $\frac{9\pi}{4}$ E) 2π



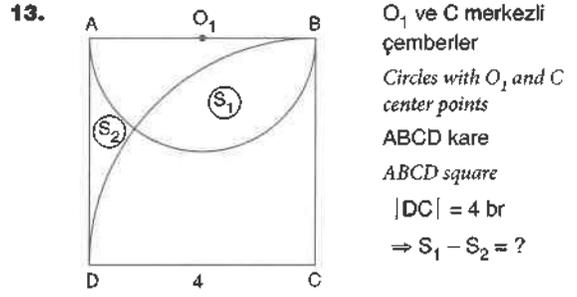
$[AD] \perp [CB]$
 $|AB| = 8$ br
 $|CD| = 6$ br
Taralı bölgenin alanı kaç br^2 'dir?
How many unit² is the area of the shaded sector?

- A) 24 B) $25\pi - 24$ C) $100\pi - 24$
D) $25\pi + 48$ E) $\frac{25\pi}{2} - 24$



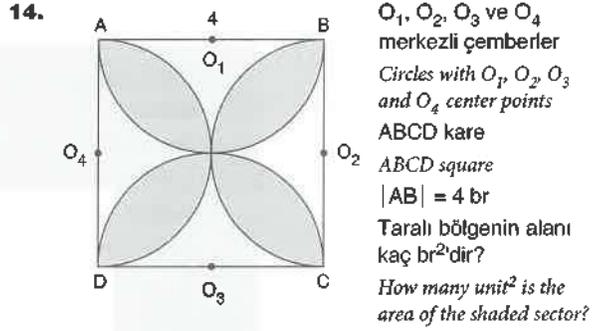
O merkezli çeyrek çember
A quarter circle with a center O
 $S_1 = S_2$
 $|AB| = 2$ br
 $\Rightarrow |OC| = x = ?$

- A) $\frac{2}{\pi - 2}$ B) $\frac{4}{\pi - 2}$ C) $2\pi - 4$
D) $\pi + 2$ E) $4\pi + 8$



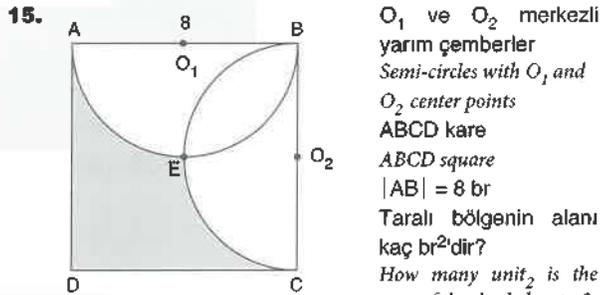
O_1 ve C merkezli çemberler
Circles with O_1 and C center points
ABCD kare
ABCD square
 $|DC| = 4$ br
 $\Rightarrow S_1 - S_2 = ?$

- A) $6\pi - 18$ B) $8\pi - 16$ C) $6\pi - 16$
D) $6\pi - 24$ E) $8\pi - 18$



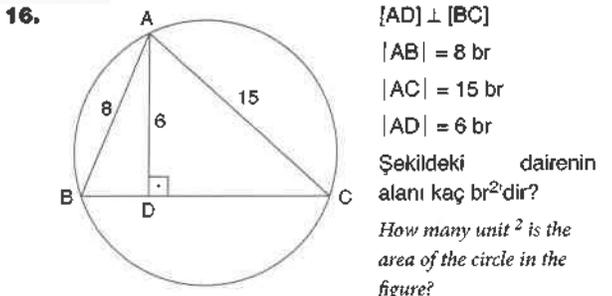
O_1, O_2, O_3 ve O_4 merkezli çemberler
Circles with O_1, O_2, O_3 and O_4 center points
ABCD kare
ABCD square
 $|AB| = 4$ br
Taralı bölgenin alanı kaç br^2 'dir?
How many unit² is the area of the shaded sector?

- A) $2\pi - 5$ B) $\pi - 2$ C) $\pi - 1$
D) $2\pi - 4$ E) $8\pi - 16$



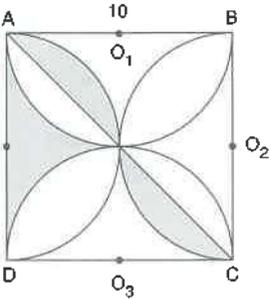
O_1 ve O_2 merkezli yarım çemberler
Semi-circles with O_1 and O_2 center points
ABCD kare
ABCD square
 $|AB| = 8$ br
Taralı bölgenin alanı kaç br^2 'dir?
How many unit² is the area of the shaded sector?

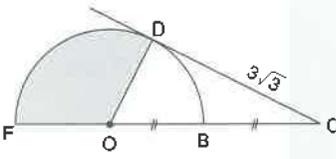
- A) $48 - 8\pi$ B) $80 - 24\pi$ C) $16\pi - 16$
D) $24\pi - 16$ E) $48 + 8\pi$

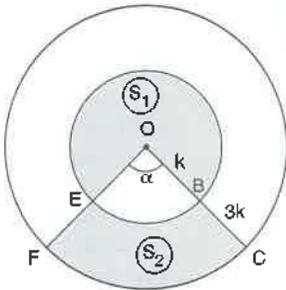


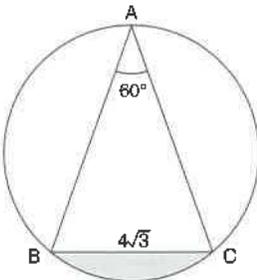
$[AD] \perp [BC]$
 $|AB| = 8$ br
 $|AC| = 15$ br
 $|AD| = 6$ br
Şekildeki dairenin alanı kaç br^2 'dir?
How many unit² is the area of the circle in the figure?

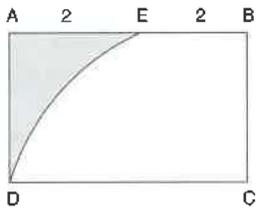
- A) 64π B) $\frac{289\pi}{4}$ C) 81π D) 100π E) 200π

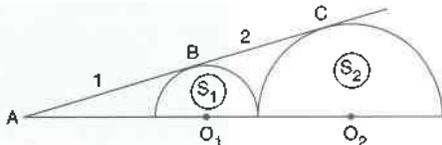
1.  O_1, O_2, O_3 ve O_4 merkezli çemberler
Circles with O_1, O_2, O_3 and O_4 center points
ABCD kare
ABCD square
 $|AB| = 10$ br
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?
- A) 25 B) 50 C) 25π
D) $25\pi - 10$ E) $50\pi - 10$

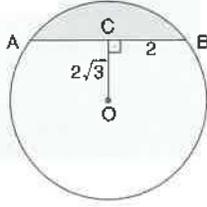
2.  O merkezli yarım çember
Semi-circle with a center O
 $|OB| = |BC|$
 $|DC| = 3\sqrt{3}$ br
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?
- A) 2π B) 3π C) 6π D) 9π E) 12π

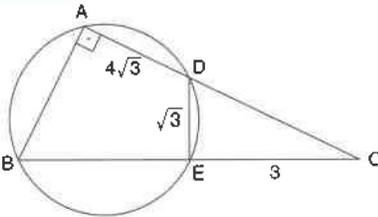
3.  O merkezli çemberler
Circles with a center O
 $S_1 = S_2$
 $3|OB| = |BC|$
 $\Rightarrow m(\widehat{FOC}) = \alpha = ?$
- A) 22,5 B) 30 C) 40 D) 45 E) 60

4.  $m(\widehat{BAC}) = 60^\circ$
 $|BC| = 4\sqrt{3}$ br
Taralı bölgenin alanı kaç br^2 dir?
How many $unit^2$ is the area of the shaded sector?
- A) $4\sqrt{3}$ B) $16\pi - 4\sqrt{3}$ C) $\frac{16\pi}{3} - 4\sqrt{3}$
D) $16\pi - 4$ E) 4π

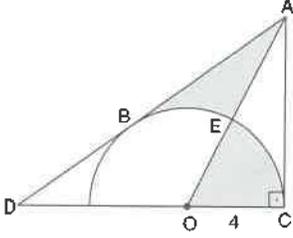
5.  C merkezli çember dilimi
Slice of a circle with a center C
ABCD dikdörtgen
ABCD rectangle
 $|AE| = |EB| = 2$ br
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?
- A) $6\sqrt{3} - \frac{8\pi}{3}$ B) $6\sqrt{3} - 4\pi$ C) $9\sqrt{3} - 4\pi$
D) $9\sqrt{3} + 4\pi$ E) $12\sqrt{3} - \frac{4\pi}{3}$

6.  $|AB| = 1$ br
 $|BC| = 2$ br
 O_1 ve O_2 merkezli yarım çemberler
Semi-circles with O_1 and O_2 center points
 $= \frac{S_2}{S_1} = ?$
- A) 2 B) $\frac{5}{2}$ C) 3 D) $\frac{9}{2}$ E) 9

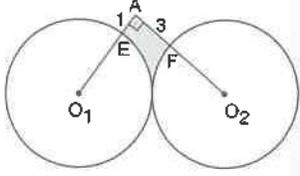
7.  O merkezli çember
Circles with a center O
 $[OC] \perp [AB]$
 $|CB| = 2$ br
 $|OC| = 2\sqrt{3}$ br
Taralı bölgenin alanı kaç br^2 dir?
How many $unit^2$ is the area of the shaded sector?
- A) $\frac{8\pi}{3} - 4\sqrt{3}$ B) $8\pi - 4\sqrt{3}$ C) $4\pi - 2\sqrt{3}$
D) 4π E) 2π

8.  $[BA] \perp [AC]$
 $|AD| = 4\sqrt{3}$ br
 $|DE| = \sqrt{3}$ br
 $|EC| = 3$ br
Şekildeki dairenin alanı kaç br^2 dir?
How many $unit^2$ is the area of circle the in figure?
- A) 21π B) 24π C) 36π D) 64π E) 144π

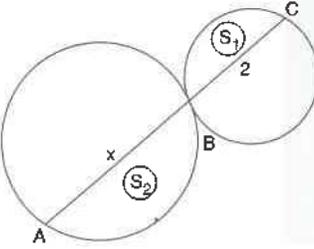
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9.  O merkezli yarım çember
Semi-circle with a center O
 $|AB| = 6br$
 $|OC| = 4br$
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

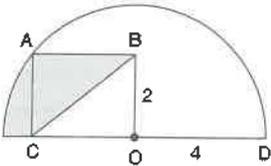
A) $8\pi + 6$ B) $4\pi + 6$ C) 24
D) 12 E) $24 - \frac{25\pi}{2}$

10.  O₁ ve O₂ merkezli eş çemberler
Congruent circles with centers of O₁ and O₂
 $|EA| = 1br$
 $|AF| = 3br$
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

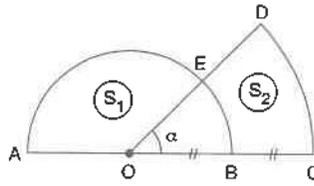
A) 15π B) $96 - 25\pi$ C) $96 - \frac{25\pi}{4}$
D) $24 - \frac{25\pi}{4}$ E) $24 - 15\pi$

11.  $S_1 = 10br^2$
 $S_2 = 20br^2$
 $|BC| = 2br$
 $\Rightarrow |AB| = x = ?$

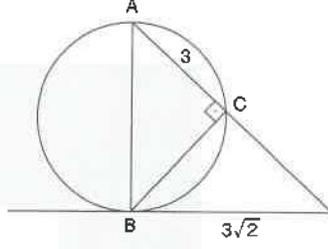
A) 1 B) $\sqrt{2}$ C) 2 D) $2\sqrt{2}$ E) 4

12.  O merkezli yarım çember
Semi-circle with a center O
ABOC dikdörtgen
ABOC rectangle
 $|BO| = 2br$
 $|OD| = 4br$
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

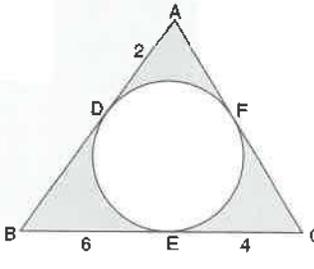
A) $\frac{\pi}{3}$ B) $\frac{4\pi}{3}$ C) 3π D) 6π E) 8π

13.  O merkezli çemberler
Circles with a center O
 $S_1 = S_2$
 $|OB| = |BC|$
 $\Rightarrow m(\widehat{DOC}) = \alpha = ?$

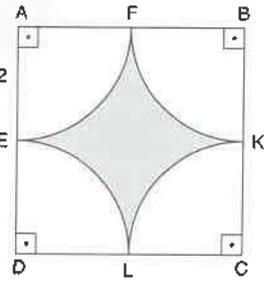
A) 30 B) 36 C) 45 D) 60 E) 67,5

14.  $[AC] \perp [CB]$
 $|AC| = 3br$
 $|BD| = 3\sqrt{2}br$
Şekildeki dairenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the circle in figure?

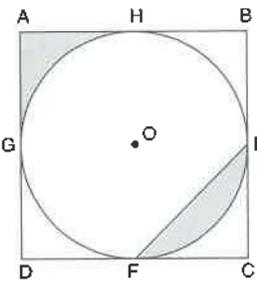
A) 3π B) $\frac{9}{2}\pi$ C) 6π D) 9π E) 18π

15.  $|AD| = 2br$
 $|BE| = 6br$
 $|EC| = 4br$
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

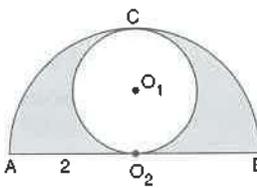
A) 12 B) 24 C) $24 - 4\pi$
D) $12 - 4\pi$ E) $48 - 4\pi$

16.  A, B, C ve D merkezli eş çemberler
Congruent circles with centers of A, B, C and D
 $|AE| = 2br$
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

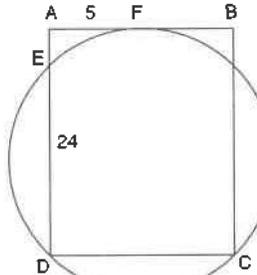
A) $16 - 4\pi$ B) $16 - \pi$ C) $8 - 4\pi$
D) $8 - 2\pi$ E) 4π

1.  O merkezli çember
A circle with a center O
ABCD kare
ABCD square
 $|AB| = 6$ br
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

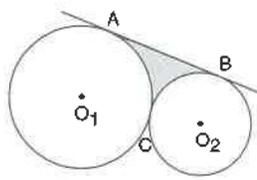
- A) $\frac{3}{2}$ B) π C) $\frac{9}{2}$ D) 9 E) 3π

2.  O_1 ve O_2 merkezli çemberler
Circles with O_1 and O_2 center points
 $|AO_2| = 2$ br
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

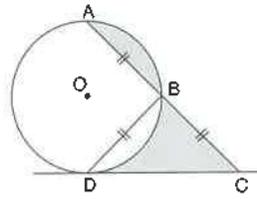
- A) π B) 2π C) 3π D) 4π E) 5π

3.  ABCD dikdörtgen
ABCD rectangle
 $|AF| = 5$ br
 $|ED| = 24$ br
Şekildeki dairenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the circle in the figure?

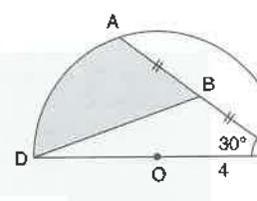
- A) 169π B) 144π C) 100π D) 81π E) 64π

4.  O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 6 ve 2'dir.
The radii of the circles with the centers O_1 and O_2 are 6 and 2, respectively.
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

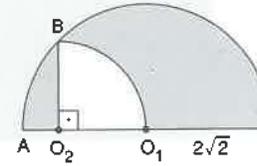
- A) $8\sqrt{3} - \frac{11\pi}{3}$ B) $16\sqrt{3} - 8\pi$ C) $9\pi - 8\sqrt{3}$
D) $16\sqrt{3} - \frac{22\pi}{3}$ E) 8π

5.  O merkezli çemberin çevresi 6π
Circumference of a circle with a center O is 6π
 $|AB| = |BC| = |DB|$
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

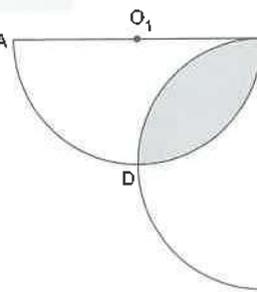
- A) 3 B) $3\pi + 2$ C) 9 D) $9 + \pi$ E) $16 + 2\pi$

6.  O merkezli yarım çemberin yarıçapı 4 br
A semi-circle with a center O , has a radius of 4 units
 $|AB| = |BC|$
 $m(\widehat{ACD}) = 30^\circ$
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

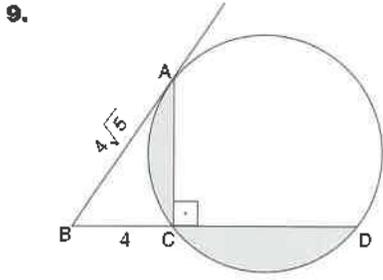
- A) 4 B) 9 C) 16 D) $\frac{\pi}{4}$ E) $\frac{8\pi}{3}$

7.  O_1, O_2 merkezli yarım ve çeyrek çemberler
Semi- and quarter circles with O_1 and O_2 center points
 $|O_1E| = 2\sqrt{2}$ br
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

- A) π B) 2π C) 3π D) 4π E) 5π

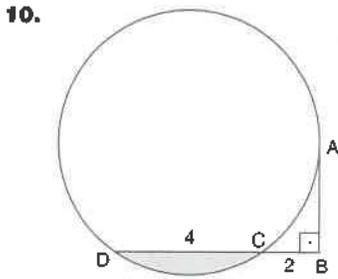
8.  O_1 ve O_2 merkezli eş çemberlerin yarıçapı 2 br
The radius of congruent circles with O_1 and O_2 center points is 2 units
Taralı bölgenin alanı kaç br^2 'dir?
How many $unit^2$ is the area of the shaded sector?

- A) $\pi - 2$ B) π C) $2\pi - 4$ D) $\pi + 4$ E) $2\pi + 4$



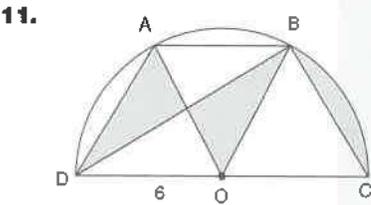
$[AC] \perp [BD]$
 $|AB| = 4\sqrt{5}$ br
 $|BC| = 4$ br
 Taralı bölgenin alanı kaç br^2 dir?
 How many unit² is the area of the shaded sector?

- A) $64 - 18\pi$ B) $20\pi - 32$ C) $40\pi - 32$
 D) $40\pi - 64$ E) $16\pi + 32$



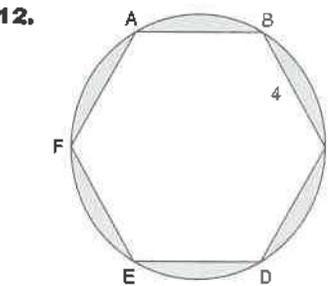
$[AB] \perp [DB]$
 $2|BC| = |DC| = 4$ br
 Taralı bölgenin alanı kaç br^2 dir?
 How many unit² is the area of the shaded sector?

- A) $\frac{4\pi}{3} - 2\sqrt{3}$ B) 4 C) 6
 D) $4\sqrt{3}$ E) $\frac{8\pi}{3} - 4\sqrt{3}$



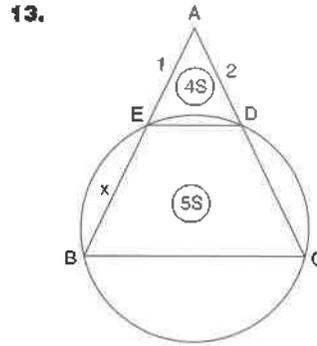
O merkezli yarım çember
 Semi-circle with a center O
 ABOD paralelkenar
 ABOD paralelogram
 $|OD| = 6$ br

- Taralı bölgenin alanı kaç br^2 dir?
 How many unit² is the area of the shaded sector?
 A) 4π B) 6π C) 9π D) 12π E) 15π



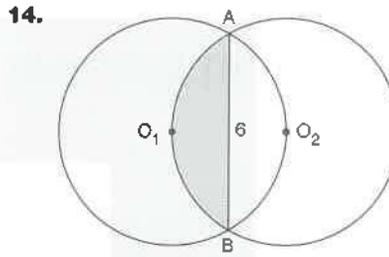
ABCDEF düzgün altıgen
 ABCD regular hexagon
 $|BC| = 4$ br
 Taralı bölgenin alanı kaç br^2 dir?
 How many unit² is the area of the shaded sector?

- A) $16\pi - 2\sqrt{3}$ B) $16\pi - 4\sqrt{3}$ C) $8\pi + 4\sqrt{3}$
 D) $8\pi - 2\sqrt{3}$ E) $16\pi - 24\sqrt{3}$



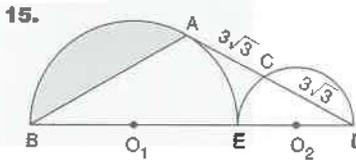
$A(AED) = 4S$
 $A(EDCB) = 5S$
 $|AD| = 2|AE| = 2$ br
 $\Rightarrow |EB| = x = ?$

- A) 1 B) 2 C) 3 D) 4 E) 5



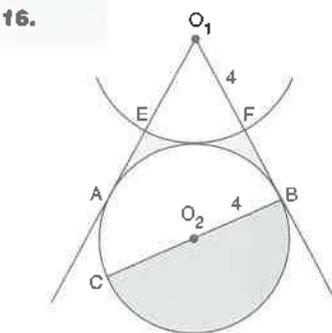
O_1 ve O_2 merkezli eş çemberler
 Congruent circles with centers of O_1 and O_2
 $|AB| = 6$ br
 Taralı bölgenin alanı kaç br^2 dir?
 How many unit² is the area of the shaded sector?

- A) $4\pi + 3\sqrt{3}$ B) $2\pi + 3\sqrt{3}$ C) $9\pi - 18$
 D) $4\pi - 3\sqrt{3}$ E) $4\pi - 6\sqrt{3}$



O_1 ve O_2 merkezli yarım çemberler
 Semi-circles with O_1 and O_2 center points
 $|AC| = |CD| = 3\sqrt{3}$ br
 Taralı bölgenin alanı kaç br^2 dir?
 How many unit² is the area of the shaded sector?

- A) $12\pi - 9\sqrt{3}$ B) 9π C) $12\pi - 18\sqrt{3}$
 D) 6π E) $4\pi - 4\sqrt{3}$



O_1 ve O_2 merkezli 4 br yarıçaplı eş çemberler
 Congruent circles with O_1 and O_2 center points with a radius of 4 units
 Taralı bölgenin alanı kaç br^2 dir?
 How many unit² is the area of the shaded sector?

- A) $3\sqrt{3}$ B) $4\sqrt{3}$ C) $8\sqrt{3}$ D) $12\sqrt{3}$ E) $16\sqrt{3}$

DAİREDE ALAN

AREAS IN CIRCULAR REGION

YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	B	D	C	B	D	C	A	B	B	C	E	E	B	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	D	C	E	A	A	A	C	A	E	E	E	A	A	E	E

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	C	D	A	E	C	D	A	D	C	E	E	C	B	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	E	E	A	C	E	C	A	B	C	A	B	D	D	C

TEST 5

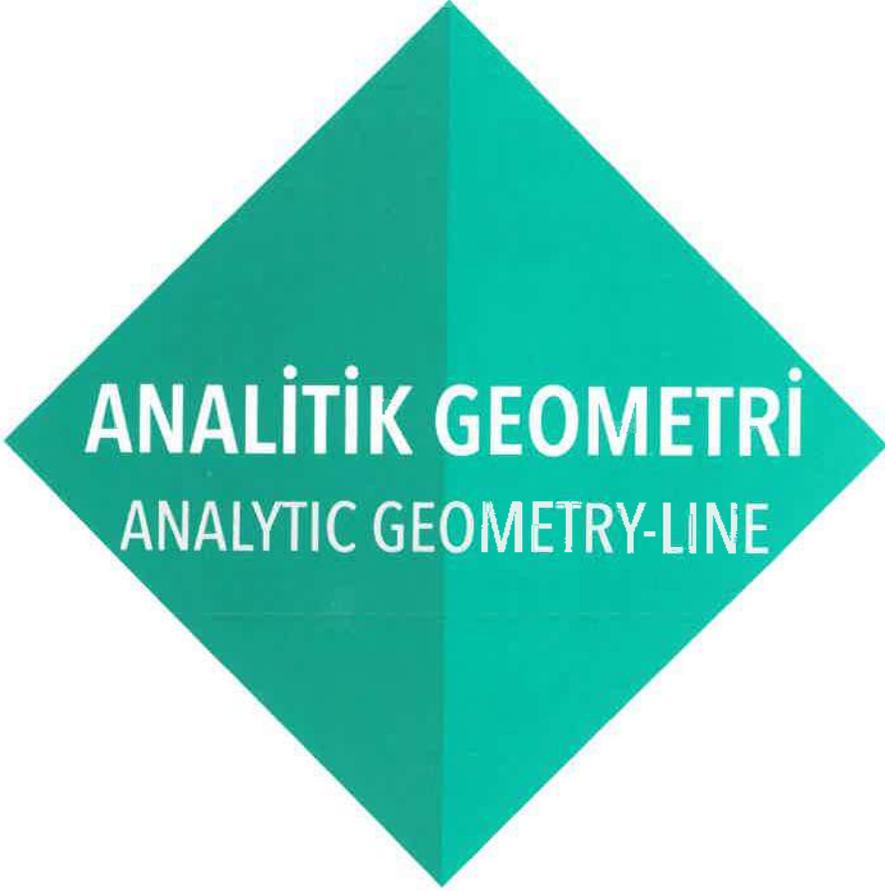
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	A	B	D	D	A	D	A	D	E	B	C	E	A	D

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	B	A	C	A	E	A	A	D	D	D	B	C	B	C	A

TEST 7

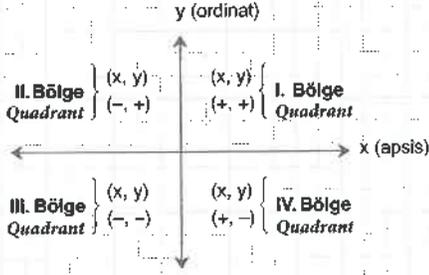
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	A	A	D	C	E	C	C	D	E	B	E	B	D	A	E



ANALİTİK GEOMETRİ
ANALYTIC GEOMETRY-LINE

ANALİTİK GEOMETRİ

ÖZELLİK | Property 1



1. $A(a^2, -b^3 \cdot a^4)$ noktası koordinat düzleminde I. bölgede ise $B(-b, -a^2)$ noktası koordinat düzleminde kaçınıcı bölgededir?

If the point $A(a^2, -b^3 \cdot a^4)$ is in the I.st quadrant at the coordinate system, then which quadrant is the point $B(-b, -a^2)$ at the coordinate system?

IV

2. $A(a - 4, a \cdot b)$ noktası koordinat düzleminde IV. Bölgede ise $B(b - a, a^2 \cdot b)$ noktası koordinat düzleminde kaçınıcı bölgededir?

If the point $A(a - 4, a \cdot b)$ is in the IV.th quadrant at the coordinate system, then which quadrant is the point $B(b - a, a^2 \cdot b)$ at the coordinate system?

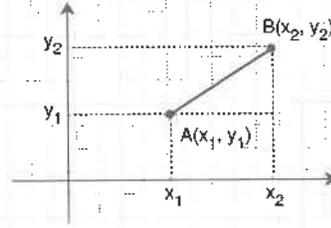
III

3. $A(4a - 24, a - 12)$ noktası koordinat düzleminde IV. Bölgede olduğuna göre, a 'nın tanım aralığı nedir?

In case the point $A(4a-24, a-12)$ is in I.st quadrant at the coordinate system, what is the definition range of a ?

$$6 < a < 12$$

ÖZELLİK | Property 2



$$|AB| = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

1. $A(-7, 3)$, $B(-2, -9)$

$$\Rightarrow |AB| = ?$$

13

2. $A(x, 3)$, $B(2, -5)$, $|AB| = 10$ br

$$\Rightarrow \sum x = ?$$

4

3. $A(3, 2)$, $B(x, 1)$, $C(-2, -2)$
 $|AB| = |BC|$ $\Rightarrow x = ?$

$\frac{3}{10}$

ÖZELLİK | Property 3

$A(x_1, y_1)$ C $B(x_2, y_2)$

$$|AC| = |BC| \Rightarrow C\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

ÖZELLİK | Property 4

$A(x_1, y_1)$ $B(x_0, y_0)$ $C(x_2, y_2)$

$B \in [AC]$

$$\frac{|BA|}{|BC|} = k$$

$$x_0 = \frac{x_1 + kx_2}{1+k}$$

$$y_0 = \frac{y_1 + ky_2}{1+k}$$

1. $A(2, 4)$ $C(x, y)$ $B(-3, -5)$

$$\Rightarrow C(x, y) = ?$$

$$\left(-\frac{1}{2}, -\frac{1}{2}\right)$$

1. $A(-1, 5)$ $B(x, y)$ $C(7, 1)$

$$\Rightarrow B(x, y) = ?$$

$$(1, 4)$$

2. $A(4, -6)$

$$\Rightarrow |AE| = ?$$

$B(3, -1)$ E $C(5, -3)$

$$4$$

2. $A(2, 3)$

$$\Rightarrow D(x, y) = ?$$

$D(x, y)$ $C(5, -5)$

$$(6, -8)$$

3. $A(2, 4)$

$$\Rightarrow |AD| = ?$$

$B(0, 0)$ D $C(-4, 0)$

$$4\sqrt{2}$$

3. $A(0, -2)$ $B(-3, 4)$

$C \notin [AB]$

$C \in AB$

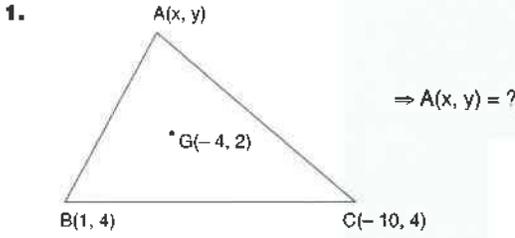
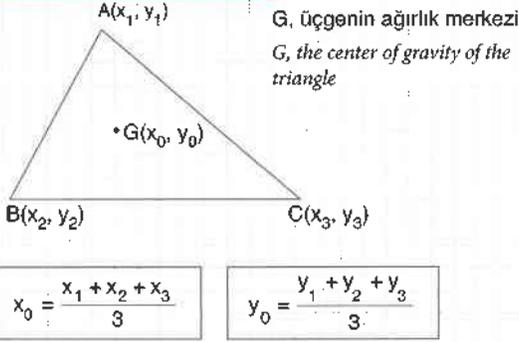
$$\Rightarrow C(x, y) = ?$$

$$\frac{|AC|}{|BC|} = \frac{1}{4}$$

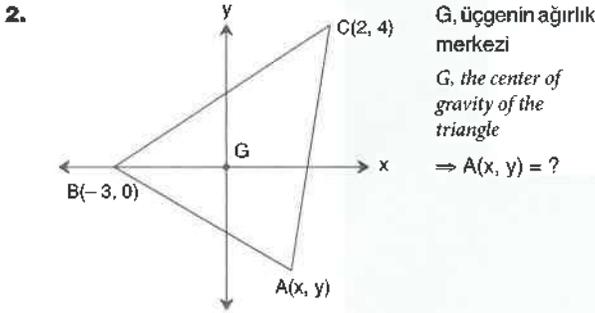
$$(1, -4)$$

ANALİTİK GEOMETRİ

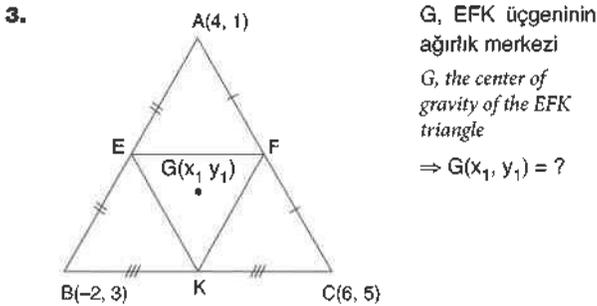
ÖZELLİK | Property 5



$$(-3, -2)$$

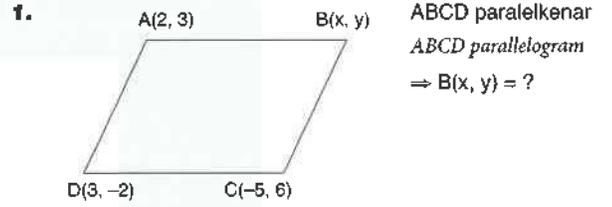
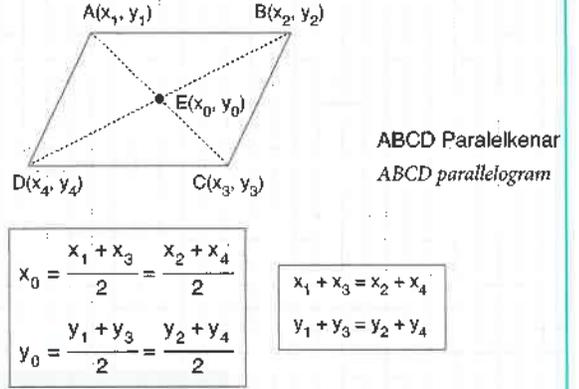


$$(1, -4)$$

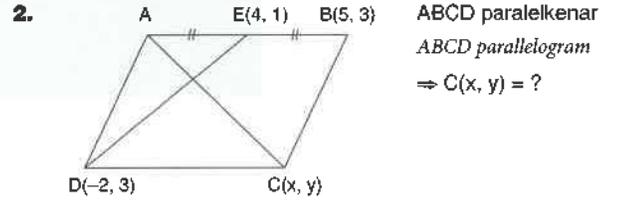


$$\left(\frac{8}{3}, 3\right)$$

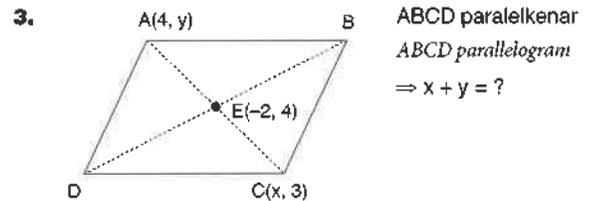
ÖZELLİK | Property 6



$$(-6, 11)$$



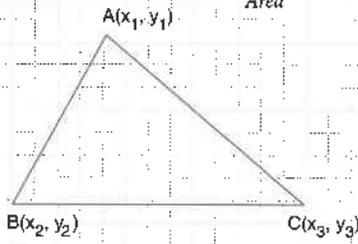
$$(0, 7)$$



$$-3$$

ÖZELLİK | Property 7

Alan
Area

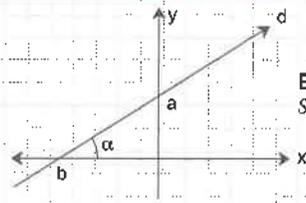


$$A(ABC) = \frac{1}{2} \begin{vmatrix} x_1 & y_1 \\ x_2 & y_2 \\ x_3 & y_3 \end{vmatrix}$$

$$= \frac{1}{2} |x_1 y_2 + x_2 y_3 + x_3 y_1 - y_1 x_2 - y_2 x_3 - y_3 x_1|$$

ÖZELLİK | Property 8

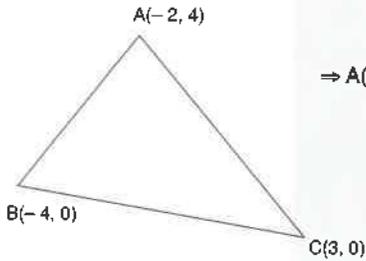
Eğim
Slope



$$\text{Eğim} = m = \tan \alpha = \frac{a}{b}$$

Doğrunun x-ekseni ile pozitif yöndeki yaptığı açının tanjantı
The tangential of an angle between the x axis and a positive direction

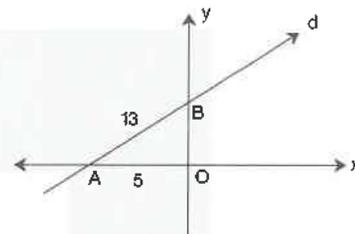
1.



$$\Rightarrow A(ABC) = ?$$

14

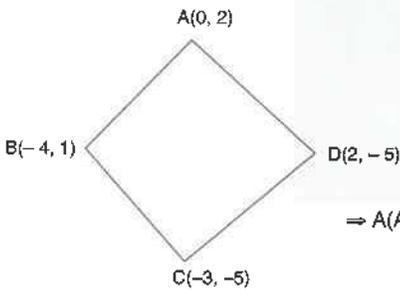
1.



$$\Rightarrow m = ?$$

$\frac{12}{5}$

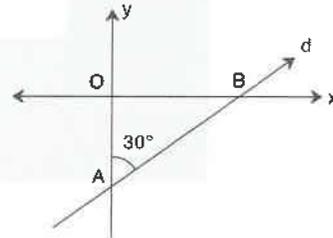
2.



$$\Rightarrow A(ABCD) = ?$$

30

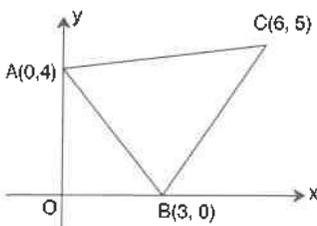
2.



$$\Rightarrow m = ?$$

$\sqrt{3}$

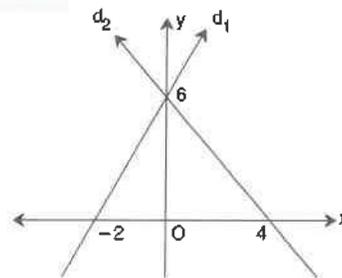
3.



$$\Rightarrow A(ABC) = ?$$

$\frac{27}{2}$

3.



$$\Rightarrow (m_1, m_2) = ?$$

$(3, -\frac{3}{2})$

ANALİTİK GEOMETRİ

ÖZELLİK | Property 9

Eğim
Slope

$$d: ax + by + c = 0 \Rightarrow y = -\frac{a}{b}x - \frac{c}{b}$$

$$m = -\frac{a}{b}$$

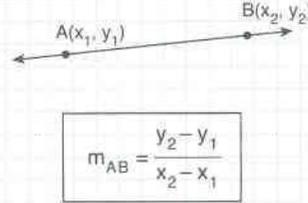
1. $d_1: y = 2x - 4 \Rightarrow m_1 = ?$
 $d_2: y = 7x - 1 \Rightarrow m_2 = ?$

2. $2y - 5 = 3x \Rightarrow m = ?$

3. $d_1: 3x - y + 2 = 0 \Rightarrow m_1 = ?$
 $d_2: 2x + 4y - 1 = 0 \Rightarrow m_2 = ?$

ÖZELLİK | Property 10

Eğim
Slope



$$m_{AB} = \frac{y_2 - y_1}{x_2 - x_1}$$

1. $A(1, 3), B(-2, -7) \Rightarrow m_{AB} = ?$

2, 7

$\frac{10}{3}$

PUZUYAYINLARI

2. $A(2, k), B(3, 5) \quad m_{AB} = 4 \Rightarrow k = ?$

$\frac{3}{2}$

1

3. $A(2, 5), B(4, 9), C(-1, a) \Rightarrow a = ?$

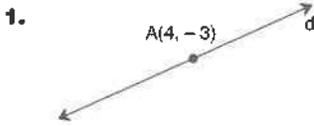
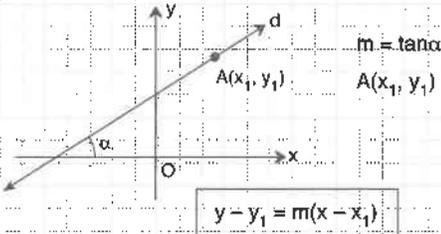
A, B ve C doğrusal noktalar
A, B and C points are linear

$3, -\frac{1}{2}$

-1

ÖZELLİK | Property 11

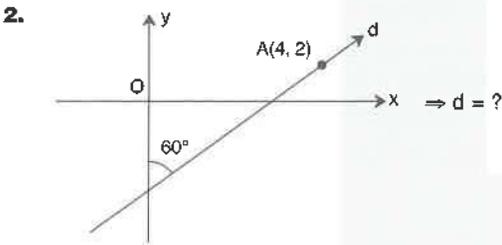
- Bir noktası ve eğimi bilinen doğru denklemi
The equation of a line of which a point and its slope is known



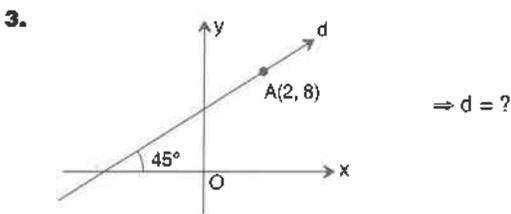
$$m = 3$$

$$\Rightarrow d = ?$$

$$y - 3x + 15 = 0$$



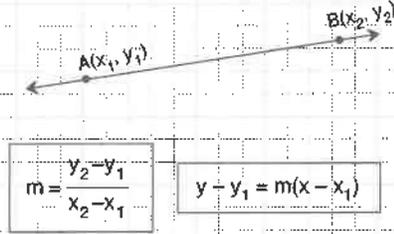
$$\sqrt{3}y - x - 2\sqrt{3} + 4 = 0$$



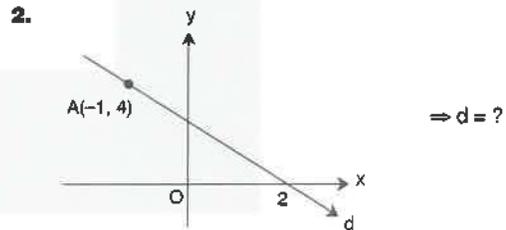
$$y - x - 6 = 0$$

ÖZELLİK | Property 12

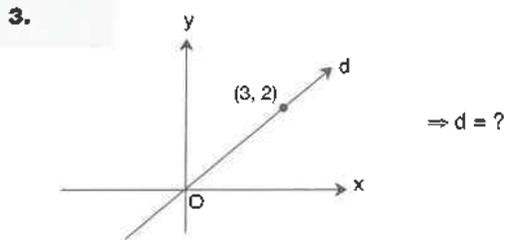
- İki noktası bilinen doğru denklemi
The equation of a line of which two points are known



$$y + 4x - 14 = 0$$



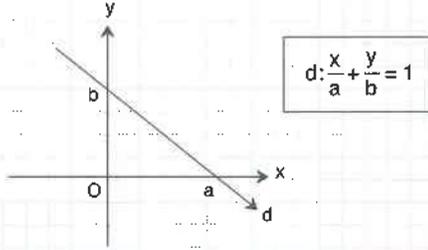
$$3y + 4x - 8 = 0$$



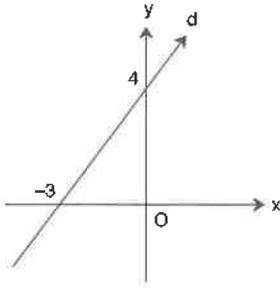
$$3y - 2x = 0$$

ÖZELLİK | Property 13

- Eksenleri kestiği noktaları bilinen doğru denklemi
The equation of a line of which points intersect the axis are known



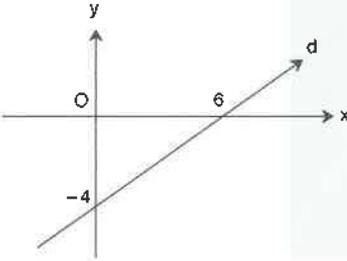
1.



$$\Rightarrow d = ?$$

$$4x - 3y + 12 = 0$$

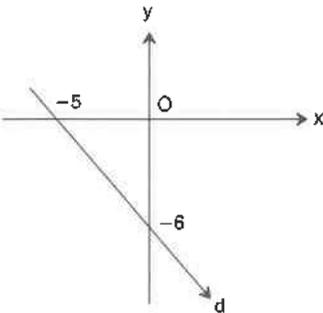
2.



$$\Rightarrow d = ?$$

$$2x - 3y - 12 = 0$$

3.



$$\Rightarrow d = ?$$

$$6x + 5y + 30 = 0$$

ÖZELLİK | Property 14

- Denklemleri verilen doğrunun grafiğinin çizimi
Drawing of the graph of a line of which equation is given

$d: ax + by + c = 0$ denklemi
Its equation $d: ax + by + c = 0$

$x = 0$ için y değeri
For $x=0$, y value

$y = 0$ için x değeri koordinat düzleminde d doğrusunun eksenleri kestiği noktaların koordinatlarıdır.

For $y=0$, the x value have the coordinates of the point where d line intersects at the coordinate plane

1. $2x - 4y + 8 = 0$ doğrusunun grafiğini çiziniz.
draw the graph of the line $2x - 4y + 8 = 0$

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2. $y = 4x - 12$ doğrusunun grafiğini çiziniz.
draw the graph of the line $y = 4x - 12$

3. $2y + 5x + 10 = 0$ doğrusunun grafiğini çiziniz.
draw the graph of the line $2y + 5x + 10 = 0$

ÖZELLİK | Property 15

- Doğrular paralel $d_1 // d_2$
Lines are parallel to each other

$$\begin{aligned} \longrightarrow & d_1 : a_1x + b_1y + c_1 = 0 \\ \longrightarrow & d_2 : a_2x + b_2y + c_2 = 0 \end{aligned}$$

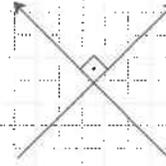
- Doğrular paralel ise eğimleri eşittir.
If the lines are parallel to each other, then their slopes are the same

$$m_1 = m_2 \quad \frac{a_1}{b_1} = -\frac{a_2}{b_2} \Rightarrow \boxed{\frac{a_1}{b_1} = \frac{a_2}{b_2}}$$

ÖZELLİK | Property 16

- Doğrular dik kesişiyor ise
If the lines intersect each other at right angle

$$d_1 : a_1x + b_1y + c_1 = 0 \quad d_2 : a_2x + b_2y + c_2 = 0$$



$$\begin{aligned} d_1 \perp d_2 \\ m_1 \cdot m_2 = -1 \\ \left(-\frac{a_1}{b_1}\right) \cdot \left(-\frac{a_2}{b_2}\right) = -1 \end{aligned}$$

$$\boxed{\frac{a_1}{b_1} \cdot \frac{a_2}{b_2} = -1}$$

- Doğrular birbirine dik ise eğimleri çarpımı -1 'dir.
If the lines are perpendicular to each other, then the multiplication of their slopes is -1 .

1. $d_1 : 2x + 3y + 5 = 0$

$d_2 : x - ay - 4 = 0 \quad d_1 // d_2 \Rightarrow a = ?$

$$\boxed{-\frac{3}{2}}$$

1. $d_1 : 2x + 4y + 3 = 0$

$d_2 : ax - 6y + 4 = 0 \quad d_1 \perp d_2 \Rightarrow a = ?$

$$\boxed{12}$$

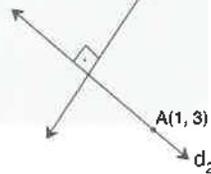
2. $d_1 : 2x - y + 6 = 0$

$A(1, 2) \longrightarrow d_2$

$d_1 // d_2 \Rightarrow d_2 = ?$

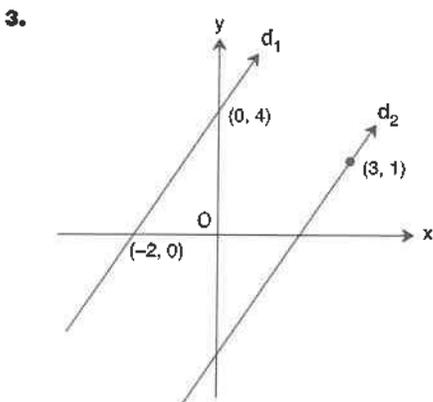
$$\boxed{y = 2x}$$

2. $d_1 : 3y + 3x - 5 = 0$

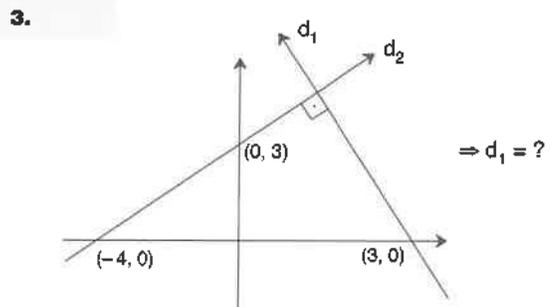


$d_1 \perp d_2 \Rightarrow d_2 = ?$

$$\boxed{y - x - 2 = 0}$$



$$\boxed{y - 2x + 5 = 0}$$



$$\boxed{3y + 4x - 12 = 0}$$

ÖZELLİK | Property 17

- Doğrular çakışık ise
If the lines are coincident

$$\begin{aligned} d_1 : a_1x + b_1y + c_1 = 0 \\ d_2 : a_2x + b_2y + c_2 = 0 \end{aligned} \Rightarrow \frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$$


1. $d_1 : 2x + 3y - 12 = 0$
 $d_2 : 4x + ay + b = 0$
 d_1 ve d_2 doğruları çakışık
 d_1 and d_2 lines coincident

$$\Rightarrow a + b = ?$$

- 18

2. $a > 0$
 $d_1 : ax - 3y + 4 = 0$
 $d_2 : 12x - ay + b = 0$
 d_1 ve d_2 doğruları çakışık
 d_1 and d_2 lines coincident

$$\Rightarrow b = ?$$

8

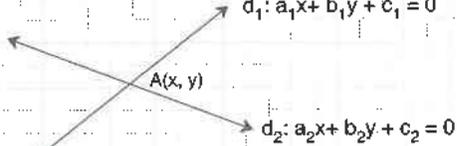
3. $d_1 : (a - 1)x + 10y = 0$
 $d_2 : (a + 1)x + 15y = 0$
 d_1 ve d_2 doğruları çakışık
 d_1 and d_2 lines coincident

$$\Rightarrow a = ?$$

5

ÖZELLİK | Property 18

- Doğrular kesişiyor ise
Lines are intersecting

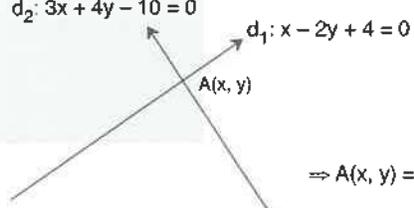
$$\begin{aligned} d_1 : a_1x + b_1y + c_1 = 0 \\ d_2 : a_2x + b_2y + c_2 = 0 \end{aligned}$$


- Doğrular kesişiyorsa ortak çözüm yapıp kesim noktası bulunur.

If the lines intersect, a common solution is applied and the breakpoint / intersecting node is found

1. $d_1 : 2x - 3y + 5 = 0$
 $d_2 : x + y - 10 = 0$
Doğruların kesim noktasını bulunuz.
Find the intersecting points of the lines.

(5, 5)

2. $d_2 : 3x + 4y - 10 = 0$
 $d_1 : x - 2y + 4 = 0$
 $\Rightarrow A(x, y) = ?$
- 

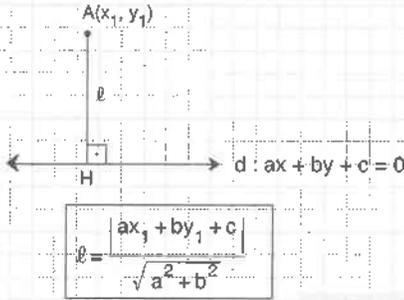
$\left(\frac{2}{5}, \frac{11}{5}\right)$

3. $d_1 : x - y - 1 = 0$
 $d_2 : x + 3y - 9 = 0$
Doğruların kesim noktası ve $(-2, 1)$ noktasından geçen doğru denklemi nedir?
What is the intersecting point of the lines and the equation of the line passes through the point $(-2, 1)$?

$5y - x - 7 = 0$

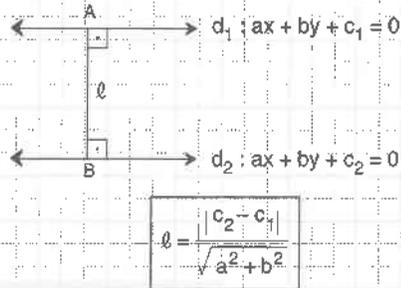
ÖZELLİK | Property 19

- Noktanın doğruya olan uzaklığı
The distance of the point to the line is



ÖZELLİK | Property 20

- Doğrunun doğruya olan uzaklığı $(d_1 \parallel d_2)$
The distance of the line of the line is



1. $A(5, 1)$

$d: 6x + 8y - 8 = 0$

$\Rightarrow l = ?$

3

1. $d_1: 3x - 4y + 5 = 0$

$d_2: 3x - 4y - 15 = 0$

$\Rightarrow l = ?$

4

2. $A(-2, 4)$ noktasının
 $5x - 12y + 20 = 0$ doğrusuna olan uzaklığı kaç birimdir?
Of the point $A(-2, 4)$
the distance of the point to the line $5x - 12y + 20 = 0$ is.

$\frac{38}{13}$

2. $d_1: 6x - 8y - 4 = 0$

$d_2: 3x - 4y + 4 = 0$

$\Rightarrow l = ?$

$\frac{6}{5}$

3.

$C(4, 4)$

$d: 3x + 4y + 12 = 0$

$\Rightarrow A(ABC) = ?$

20

3. $d_1: 5x + 12y - 8 = 0$

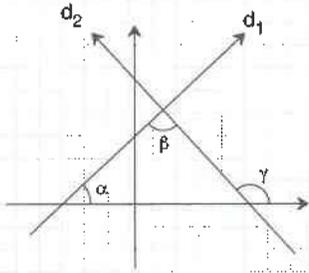
$d_2: 5x + 12y + 18 = 0$

ABCD kare
ABCD square
 $\Rightarrow A(ABCD) = ?$

4

ÖZELLİK | Property 21

- Doğrular arasındaki açının tanjanti
The tangential of the angle between the lines



$$\begin{aligned}\alpha + \beta &= \gamma \\ \beta &= \gamma - \alpha \\ \tan \beta &= \tan(\gamma - \alpha) \\ \tan \beta &= \frac{\tan \gamma - \tan \alpha}{1 + \tan \gamma \cdot \tan \alpha}\end{aligned}$$

$$\tan \beta = \frac{m_2 - m_1}{1 + m_2 \cdot m_1}$$

1. $d_1 : 2x - y + 1 = 0$
 $d_2 : 2y + 6x + 5 = 0$

Doğrular arasındaki dar açının tanjanti nedir?

What is the tangential of the acute angle between the line?

1

2. $d_1 : y = -x$
 $d_2 : y = \sqrt{3}x - 18$
 d_1 ve d_2 doğruları arasındaki dar açının ölçüsü kaç derecedir?
How many degree is the measurement of the acute angle between the d_1 and d_2 lines?

75

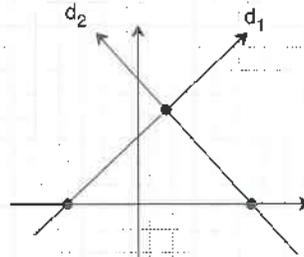
3. $d_1 : nx + y - 4 = 0$
 $d_2 : -\sqrt{3}x + y - 4 = 0$
Doğruları arasındaki dar açının ölçüsü 15° olduğuna göre,
While the measurement of the acute angle between the lines is 15°

$\Rightarrow n = ?$

-1

ÖZELLİK | Property 22

- Eşitsizlik grafikleri
Graphs of inequality



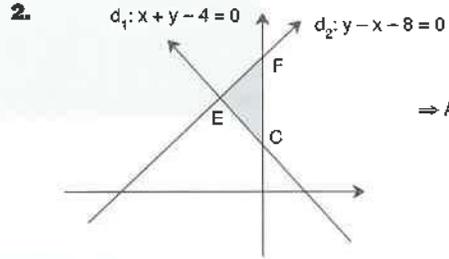
Doğruların kesim noktası ve eksenleri kestiği noktalar bulunarak grafik çizilir. Oluşan bölgelerden noktalar alınarak eşitsizliğin sağlanıp sağlanmadığı kontrol edilir.

By finding intersecting point of the lines, and the points where the axis intersected the graph is drawn, and by sampling the points in the sectors formed it is cross checked whether the inequality is proven or not.

1. $d_1 : -3 \leq x + y$
 $d_2 : 2x - y + 2 \geq 0$

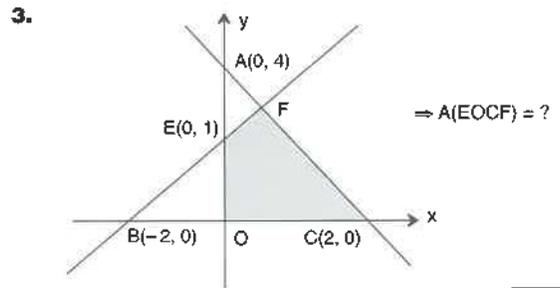
Doğrularının oluşturduğu ifadenin grafiğini çiziniz.

Draw the graph of the expression formed by the lines.



$\Rightarrow A(EFC) = ?$

4

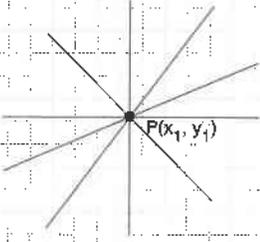


$\Rightarrow A(EOCF) = ?$

11/5

ÖZELLİK | Property 23

Doğru Demeti
Line Bundle



$$\begin{aligned} ax + by + c + k(dx + ey + f) &= 0 \\ ax + by + c &= 0 \\ dx + ey + f &= 0 \end{aligned}$$

1. $k \in \mathbb{R}$

$$(1 + 2k)x - (2 - 3k)y + 6 - 2k = 0$$

Doğrularının geçtiği noktanın koordinatları nedir?

What is the coordinates of the point where the line intersects?

$$(-2, 2)$$

2. $a \in \mathbb{R}$

$$(a - 1)x + 2ay - 4 = 0$$

Doğrularının geçtiği noktanın koordinatları nedir?

What is the coordinates of the point where the line intersects?

$$(-4, 2)$$

3. $k \in \mathbb{R}$

$$(k - 2)y + x - 2k = 0$$

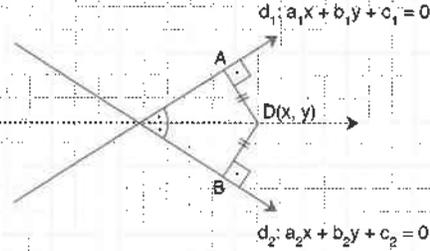
Doğrularının kesim noktası ve orijinden geçen doğru denklemi nedir?

What is the intersecting point of the lines and the equation of the line passes through the origin?

$$2y - x = 0$$

ÖZELLİK | Property 24

Açıortay Denklemi
Equation of Angle Bisector



$$\frac{a_1x + b_1y + c_1}{\sqrt{a_1^2 + b_1^2}} = \pm \frac{a_2x + b_2y + c_2}{\sqrt{a_2^2 + b_2^2}}$$

1. Denklemler:

Equations:

$$3x - 4y + 2 = 0 \text{ ve}$$

$3x + 4y + 4 = 0$ olan doğruların oluşturduğu açıortay denklemlerinden biri nedir?

What is one of the angle bisector equations formed by lines such as?

$$4y + 1 = 0$$

2. Denklemler:

Equations:

$$2x - y - 4 = 0 \text{ ve}$$

$2y + x - 2 = 0$ olan doğruların oluşturduğu açıortay denklemlerinden biri nedir?

What is one of the angle bisector equations formed by lines such as?

$$y + 3x - 6 = 0$$

3. Denklemler:

Equations:

$$3x - 4y + 5 = 0 \text{ ve}$$

$6y + 8x + 4 = 0$ olan doğruların oluşturduğu açıortay denklemlerinden biri nedir?

What is one of the angle bisector equations formed by lines such as?

$$7y + x - 3 = 0$$

1. Analitik düzlemde II. bölgede bulunan $A(m-3, 4)$ noktasının eksenlere uzaklıkları toplamı 6 br

At the analytic plane, for a point $A(m-3, 4)$ in the II.nd sector, a total distance to the axis is 6 units

$$\Rightarrow m = ?$$

- A) -2 B) -1 C) 0 D) 1 E) 2

2. $n \in \mathbb{Z}$

$T(n-4, 2n-2)$ noktaları analitik düzlemde II. bölgededir.
 $T(n-4, 2n-2)$ points are in the II.nd sector at the analytic plain

$$\Rightarrow \sum n = ?$$

- A) 9 B) 7 C) 5 D) 3 E) 1

3. $A(m-3, 4)$ noktası Oy eksenine $B(-2, n+5)$ noktası Ox eksenine üzerinde

$A(m-3, 4)$ point is at the Oy axis, $B(-2, n+5)$ point is at the Ox axis

$$\Rightarrow m+n = ?$$

- A) -2 B) -1 C) 0 D) 2 E) 8

4. Analitik düzlemde $A(k-2, k+6)$ noktasının II. Bölgede olması için k hangi aralıkta olmalıdır?

In order to be the $A(k-2, k+6)$ point at the II.nd. Sector in the analytical plain, in which range has to be the k value?

- A) $k > 2$ B) $k < -6$ C) $-6 < k < 2$
D) $-2 < k < 6$ E) $-8 < k < 8$

5. $A(2, 4)$ $C(x, y)$ $B(-2, 6)$ $|AC| = |CB|$
 $\Rightarrow C(x, y) = ?$

- A) (0, 5) B) (2, 10) C) (0, 1)
D) (4, 2) E) (4, 5)

6. $A(3, 5)$ $B(5, -1)$ $C(x, y)$ $|AB| = |BC|$
 $\Rightarrow C(x, y) = ?$

- A) (8, 4) B) (7, -7) C) (2, 4)
D) (4, 2) E) (14, -14)

7. $A(1, 4)$ $C(x, y)$ $B(4, 1)$ $|AC| = |CB|$
 $\Rightarrow C(x, y) = ?$

- A) $(\frac{1}{2}, \frac{1}{2})$ B) (2, 4) C) $(\frac{5}{2}, \frac{5}{2})$
D) (5, 5) E) (10, 10)

8. $A(2x+1, x+1)$ $C(1, 3)$ $B(x-2, x+3)$ $|AC| = |CB|$
 $\Rightarrow x = ?$

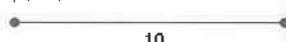
- A) 1 B) 2 C) 3 D) 4 E) 5

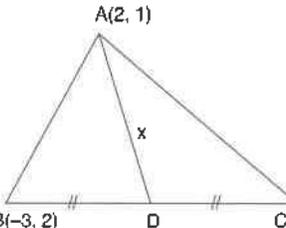
9. $A(2, 3)$ $B(7, -9)$ $\Rightarrow |AB| = ?$

 A) 15 B) 13 C) $\sqrt{79}$ D) $\sqrt{61}$ E) 7

10. $A(5, -2)$ $B(2, -1)$ $\Rightarrow |AB| = ?$

 A) 5 B) 4 C) $\sqrt{10}$ D) 3 E) 2

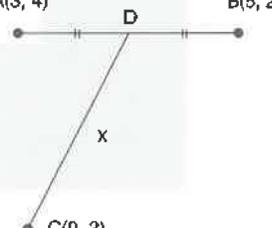
11. $A(1, -2)$ $B(x, 6)$ $|AB| = 10$

 $\Rightarrow \sum x = ?$
 A) 2 B) 4 C) 6 D) 7 E) 8

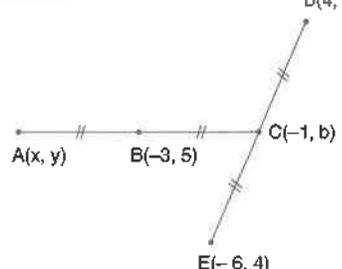
12. $A(2, 1)$ $B(-3, 2)$ $C(1, 4)$

 $|BD| = |DC|$
 $\Rightarrow |AD| = x = ?$
 A) 5 B) $\sqrt{17}$ C) $\sqrt{13}$ D) 3 E) 2

13. $A(3, m)$ $B(4, 2)$ $C(-1, 3)$
 $|AB| = |AC|$ $\Rightarrow m = ?$
 A) 2 B) 4 C) 6 D) 8 E) 10

14. $A(2, -2)$ $B(m, 4)$ $C(0, 3)$
 $|AB| = |BC|$ $\Rightarrow m = ?$
 A) 12 B) $\frac{39}{4}$ C) $\frac{27}{5}$ D) $\frac{1}{5}$ E) -1

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15. $A(3, 4)$ $B(5, 2)$ $C(0, 2)$

 $|AD| = |DB|$
 $\Rightarrow |CD| = x = ?$
 A) $\sqrt{23}$ B) $2\sqrt{5}$ C) $\sqrt{17}$ D) 4 E) $\sqrt{10}$

16. $A(x, y)$ $B(-3, 5)$ $C(-1, b)$ $D(4, 6)$ $E(-6, 4)$

 $|DC| = |CE|$
 $|AB| = |BC|$
 $\Rightarrow |AC| = ?$
 A) 3 B) 4 C) 5 D) 6 E) 8

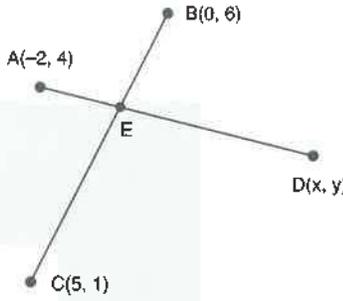
1. $A(-2, 4)$ $B(3, 1)$ $C(x, y)$ $2|AB| = |BC|$
 $\Rightarrow C(x, y) = ?$
- 
- A) $(-2, 4)$ B) $(-4, 8)$ C) $(6, 8)$
 D) $(13, -5)$ E) $(8, -2)$

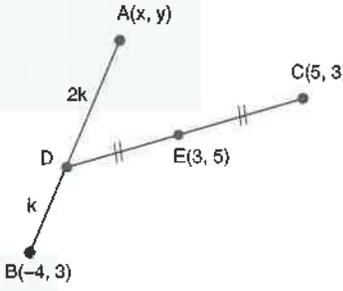
2. $A(0, -2)$ $B(x, y)$ $C(5, -12)$ $3|AB| = 2|BC|$
 $\Rightarrow B(x, y) = ?$
- 
- A) $(4, -4)$ B) $(2, -4)$ C) $(4, -6)$
 D) $(1, -6)$ E) $(2, -6)$

3. $C \notin [AB]$ $C \in AB$ $A(2, 3), B(4, -2)$
 $\frac{|AC|}{|BC|} = \frac{3}{2}$ $\Rightarrow C(x, y) = ?$
- A) $(8, -12)$ B) $(6, -12)$ C) $(6, -7)$
 D) $(8, -7)$ E) $(4, -7)$

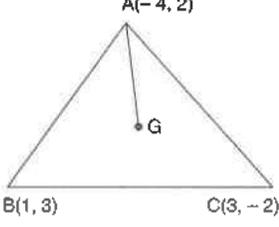
4. $C \notin [AB]$ $C \in AB$ $A(4, 2), B(7, -4)$
 $\frac{|AC|}{|BC|} = \frac{2}{5}$ $\Rightarrow C(x, y) = ?$
- A) $(2, 6)$ B) $(2, 4)$ C) $(4, -4)$
 D) $(6, -4)$ E) $(-4, 4)$

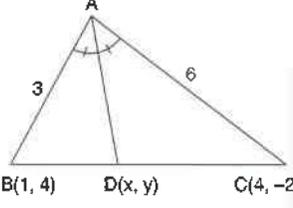
5. $C \in [AB]$ $A(-4, 5), B(-1, 14)$
 $\frac{|AC|}{|BC|} = 2$ $\Rightarrow C(x, y) = ?$
- A) $(-2, 11)$ B) $(-3, 11)$ C) $(-2, 6)$
 D) $(-3, 6)$ E) $(6, -3)$

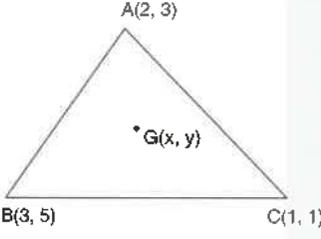
6. $A(-2, 4)$ $B(0, 6)$ $C(5, 1)$ $D(x, y)$ E
 $3|EB| = 2|EC|$
 $3|AE| = |ED|$
 $\Rightarrow D(x, y) = ?$
- 
- A) $(6, 4)$ B) $(6, 6)$ C) $(14, 6)$
 D) $(14, 4)$ E) $(8, 6)$

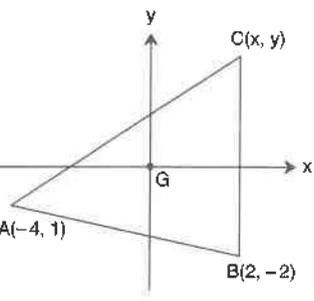
7. $A(x, y)$ $B(-4, 3)$ $C(5, 3)$ D $E(3, 5)$
 $2|DB| = |AD|$
 $|DE| = |EC|$
 $\Rightarrow A(x, y) = ?$
- 
- A) $(7, 11)$ B) $(7, 15)$ C) $(11, 11)$
 D) $(11, 15)$ E) $(7, 7)$

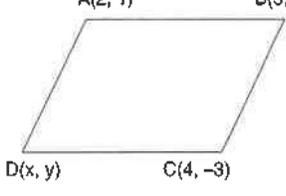
8. $C \notin [AB]$ $C \in AB$ $A(3, 4), B(8, -1)$
 $\frac{|AC|}{|BC|} = \frac{2}{3}$ $\Rightarrow C(x, y) = ?$
- A) $(5, 2)$ B) $(5, 5)$ C) $(2, 5)$
 D) $(-7, 10)$ E) $(-7, 14)$

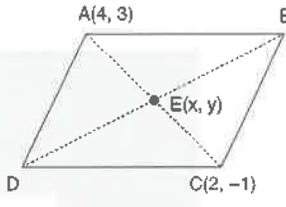
9.  $A(-4, 2)$
 $B(1, 3)$ $C(3, -2)$
 G, ABC üçgeninin
 ağırlık merkezi
*G, the center of gravity of
 ABC triangle*
 $\Rightarrow |AG| = ?$
 A) $\sqrt{39}$ B) 5 C) $\sqrt{17}$ D) 4 E) $\sqrt{10}$

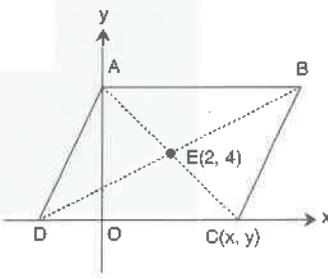
10.  A
 $B(1, 4)$ $D(x, y)$ $C(4, -2)$
 A) (2, 0) B) (3, 0) C) (4, 1)
 D) (2, 2) E) (2, -2)
 $m(\widehat{BAD}) = m(\widehat{DAC})$
 $2|AB| = |AC| = 6$ br
 $\Rightarrow D(x, y) = ?$

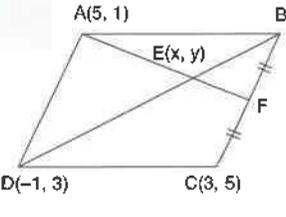
11.  $A(2, 3)$
 $B(3, 5)$ $C(1, 1)$
 $G(x, y)$
 A) (2, 4) B) (1, 3) C) $(2, \frac{9}{2})$
 D) $(3, \frac{5}{3})$ E) (2, 3)
 G, ABC üçgeninin
 ağırlık merkezi
*G, the center of
 gravity of ABC
 triangle*
 $\Rightarrow G(x, y) = ?$

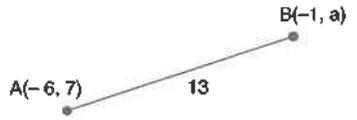
12.  $A(-4, 1)$
 $B(2, -2)$ $C(x, y)$
 G
 A) (1, 1) B) (2, 1) C) (1, 2)
 D) (2, 3) E) (2, 2)
 G, ABC üçgeninin
 ağırlık merkezi
*G, the center of
 gravity of ABC
 triangle*
 $\Rightarrow C(x, y) = ?$

13.  $A(2, 1)$ $B(5, -2)$
 $D(x, y)$ $C(4, -3)$
 A) (1, 0) B) (-1, 2) C) (0, 2)
 D) (-2, 0) E) (2, 1)
 ABCD
 paralelkenar
ABCD parallelogram
 $\Rightarrow D(x, y) = ?$

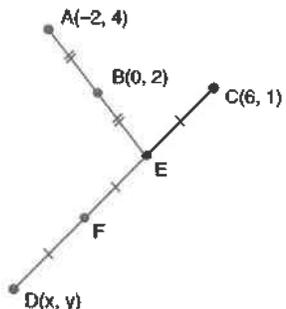
14.  $A(4, 3)$ B
 D $C(2, -1)$
 $E(x, y)$
 A) (3, 0) B) (3, 1) C) (1, 0)
 D) (2, 2) E) (3, -1)
 ABCD paralelkenar
ABCD parallelogram
 $\Rightarrow E(x, y) = ?$

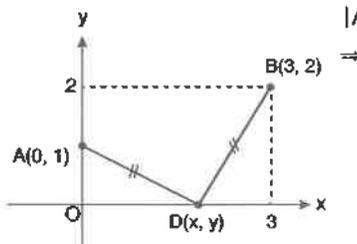
15.  A B
 D O $C(x, y)$
 $E(2, 4)$
 A) (3, 0) B) (4, 0) C) (6, 0)
 D) (8, 0) E) (10, 0)
 ABCD
 paralelkenar
ABCD parallelogram
 $\Rightarrow C(x, y) = ?$

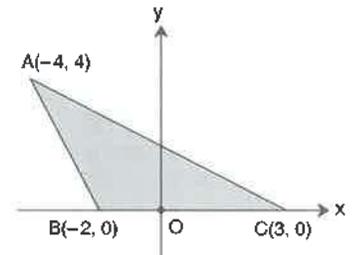
16.  $A(5, 1)$ B
 $D(-1, 3)$ $C(3, 5)$
 $E(x, y)$ F
 A) (2, 3) B) $(\frac{17}{3}, 3)$ C) $(\frac{8}{3}, 3)$
 D) $(\frac{17}{3}, 2)$ E) $(\frac{8}{3}, 2)$
 ABCD paralelkenar
ABCD parallelogram
 $|BF| = |FC|$
 $\Rightarrow E(x, y) = ?$

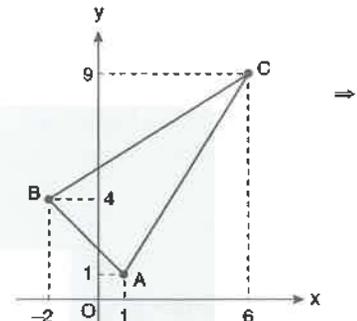
1.  $|AB| = 13$ br
 $\Rightarrow \sum a = ?$
- A) 14 B) 12 C) 8 D) 7 E) 5

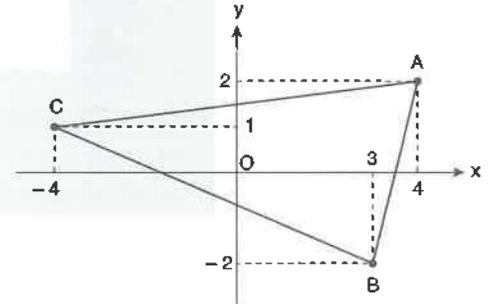
2. $A(2a + 3b, 1)$, $B(4, a + 2b)$
 $[AB]$ nin orta noktası orjin olduğuna göre, $|AB|$ uzunluğu kaç br dir?
Since $A(2a + 3b, 1)$ and $B(4, a + 2b)$ is the origin at the center point of AB , then how many unit is the length of $[AB]$?
- A) $\sqrt{17}$ B) $2\sqrt{17}$ C) $3\sqrt{17}$ D) $6\sqrt{17}$ E) $5\sqrt{17}$

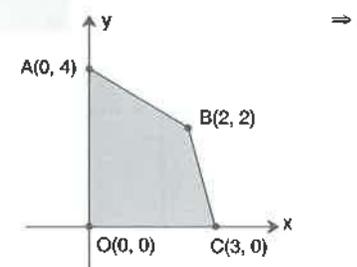
3.  $|AB| = |BE|$
 $|CE| = |EF| = |FD|$
 $\Rightarrow D(x, y) = ?$
- A) $(-8, -2)$ B) $(-6, -1)$ C) $(-8, 0)$
 D) $(-6, 0)$ E) $(-6, -2)$

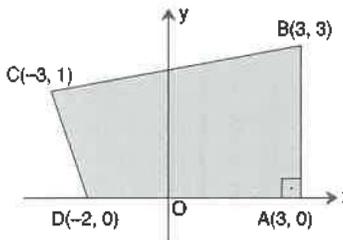
4.  $|AD| = |DB|$
 $\Rightarrow D(x, y) = ?$
- A) $(-2, 0)$ B) $(-1, 0)$ C) $(0, 0)$ D) $(1, 0)$ E) $(2, 0)$

5.  $\Rightarrow A(ABC) = ?$
- A) 20 B) 16 C) 12 D) 10 E) 4

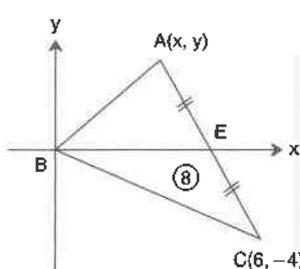
6.  $\Rightarrow A(ABC) = ?$
- A) 39 B) $\frac{39}{2}$ C) 37 D) $\frac{23}{2}$ E) 41

7.  $\Rightarrow A(ABC) = ?$
- A) $\frac{21}{2}$ B) 27 C) 29 D) 31 E) $\frac{31}{2}$

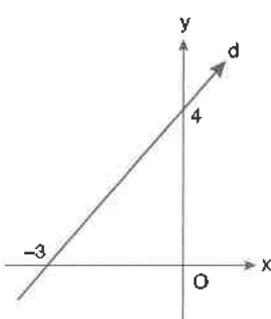
8.  $\Rightarrow A(ABCO) = ?$
- A) 15 B) 12 C) 9 D) 7 E) 6

9.  $\Rightarrow A(ABCD) = ?$

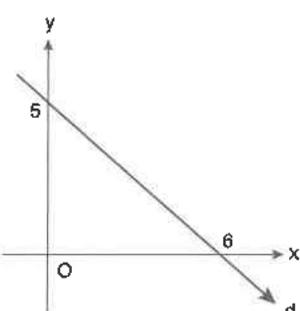
A) 12 B) $\frac{23}{2}$ C) 10 D) $\frac{19}{2}$ E) 8

10.  $|AE| = |EC|$
 $A(BEC) = 8 \text{ br}^2$
 $\Rightarrow A(x, y) = ?$

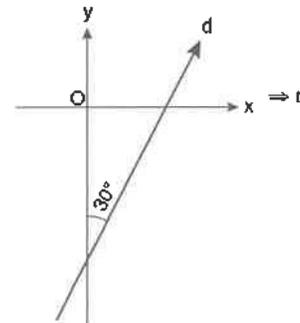
A) (2, 2) B) (2, 4) C) (4, 2)
 D) (4, 4) E) (4, 6)

11.  $\Rightarrow m_d = ?$

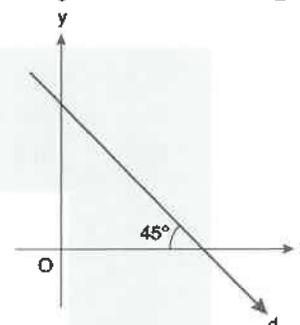
A) $\frac{4}{3}$ B) $-\frac{4}{3}$ C) $\frac{3}{4}$ D) $-\frac{3}{4}$ E) $\frac{3}{5}$

12.  $\Rightarrow m_d = ?$

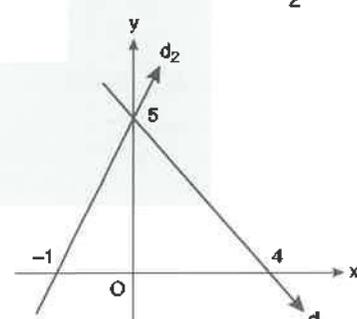
A) $\frac{6}{5}$ B) $-\frac{6}{5}$ C) $\frac{5}{6}$ D) $-\frac{5}{6}$ E) 6

13.  $\Rightarrow m_d = ?$

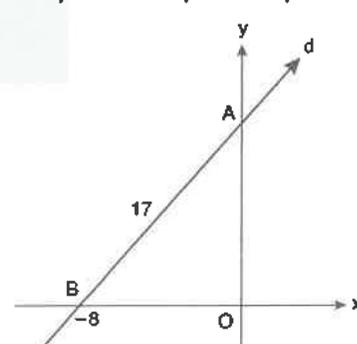
A) $\frac{\sqrt{3}}{3}$ B) $\sqrt{3}$ C) $\frac{1}{2}$ D) 2 E) 1

14.  $\Rightarrow m_d = ?$

A) 1 B) $\sqrt{2}$ C) $-\frac{\sqrt{2}}{2}$ D) $\frac{1}{2}$ E) -1

15.  $\Rightarrow m_1 + m_2 = ?$

A) $\frac{25}{4}$ B) $-\frac{15}{4}$ C) $\frac{15}{4}$ D) $\frac{4}{15}$ E) $-\frac{4}{15}$

16.  $|AB| = 17 \text{ br}$
 $\Rightarrow m_d = ?$

A) $\frac{8}{15}$ B) $\frac{17}{8}$ C) $\frac{15}{8}$ D) $\frac{8}{17}$ E) $-\frac{15}{8}$

1. \longleftrightarrow d: $2x - 4y + 5 = 0$
 $\Rightarrow m = ?$

A) -2 B) $-\frac{1}{2}$ C) 1 D) $\frac{1}{2}$ E) 2

2. \longleftrightarrow d: $2y - 6x - 5 = 0$
 $\Rightarrow m = ?$

A) -3 B) $-\frac{1}{3}$ C) 1 D) $\frac{1}{3}$ E) 3

3. \longleftrightarrow d: $y = 2x - 4$
 $\Rightarrow m = ?$

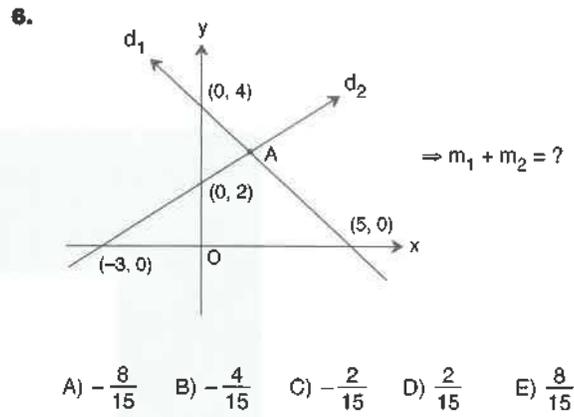
A) -2 B) $-\frac{1}{2}$ C) 1 D) $\frac{1}{2}$ E) 2

4. \longleftrightarrow A(2, 3) B(-4, 1) $\Rightarrow m_{AB} = ?$

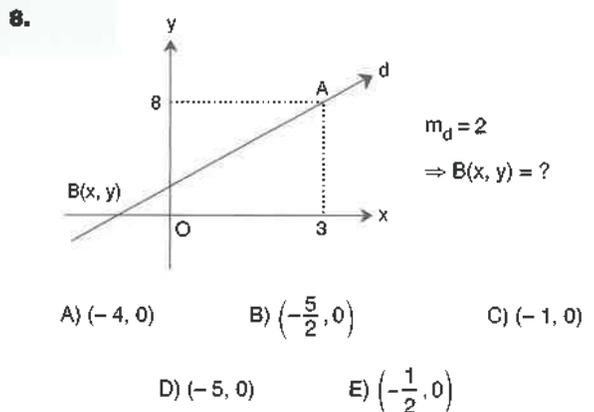
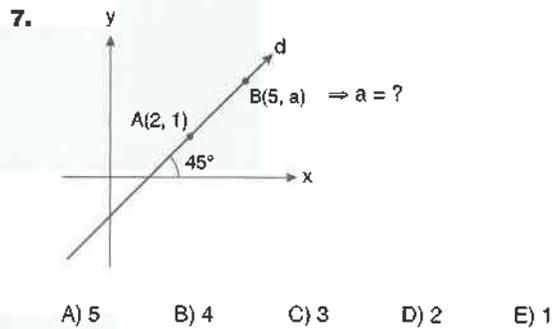
A) -3 B) $-\frac{1}{3}$ C) 1 D) $\frac{1}{3}$ E) 3

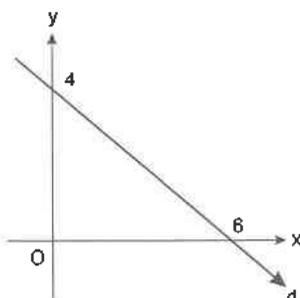
5. \longleftrightarrow A(2, 1) B(3, a) $m_{AB} = 5$
 $\Rightarrow a = ?$

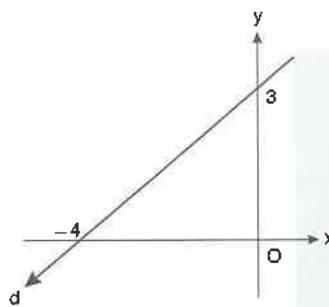
A) 8 B) 6 C) 5 D) 4 E) 3

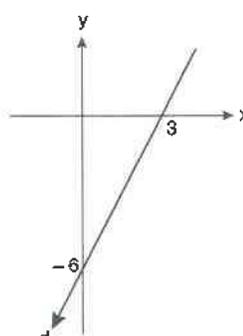


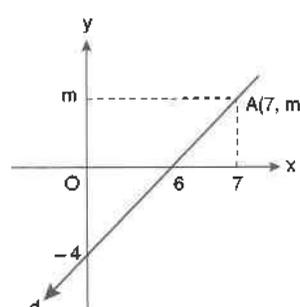
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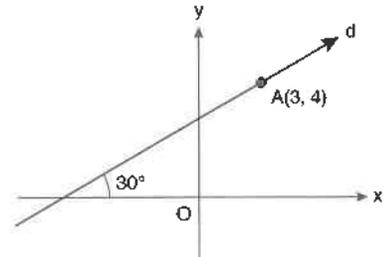


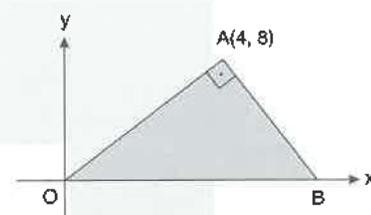
1.  $d : ax + by + c = 0$
 $\Rightarrow d = ?$
- A) $2x + y = 6$ B) $x + 3y = 12$ C) $2x + 3y = 12$
 D) $2x + 3y = 6$ E) $3x + 2y = 12$

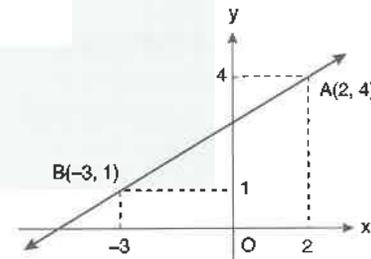
2.  $d : ax + by + c = 0$
 $\Rightarrow d = ?$
- A) $3x + 4y = 12$ B) $-3x + 4y = 12$ C) $4x + 3y = 12$
 D) $4x - 3y = 12$ E) $-3x - 4y = 12$

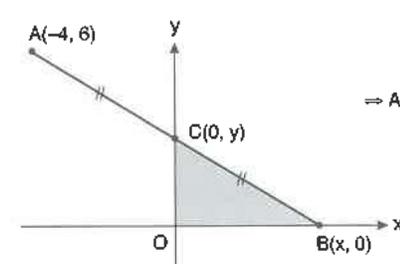
3.  $d : ax + by + c = 0$
 $\Rightarrow m_d = ?$
- A) 2 B) 5 C) 7 D) -7 E) -5

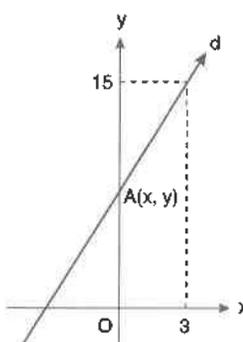
4.  $\Rightarrow m = ?$
- A) $\frac{2}{5}$ B) $\frac{3}{2}$ C) $-\frac{2}{3}$ D) $\frac{2}{3}$ E) $\frac{3}{4}$

5.  $d : ax + by + c = 0$
 $\Rightarrow d = ?$
- A) $\sqrt{3}x + y + 3 = 0$ B) $\sqrt{3}y - x - 4\sqrt{3} = 0$
 C) $\sqrt{3}y - x - 4\sqrt{3} = 3$ D) $\sqrt{3}y - x - 4\sqrt{3} = -3$
 E) $\sqrt{3}y + \sqrt{3}x + 4\sqrt{3} - 3 = 0$

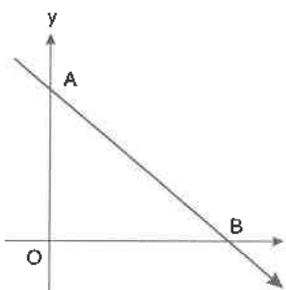
6.  $\Rightarrow A(\text{AOB}) = ?$
- A) 20 B) 40 C) 80 D) 100 E) 160

7.  $d : ax + by + c = 0$
 $\Rightarrow d = ?$
- A) $5y + 3x - 14 = 0$ B) $3y + 5x - 14 = 0$
 C) $3y - 5x - 14 = 0$ D) $5y - 3x - 14 = 0$
 E) $-5y - 3x - 14 = 0$

8.  $\Rightarrow A(\text{COB}) = ?$
- A) 4 B) 6 C) 16 D) 12 E) 18

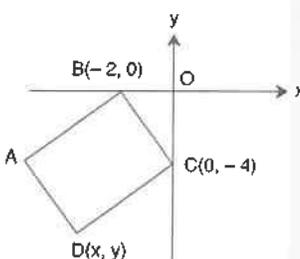
9.  $m_d = 2$
 $A(x, y)$
 $\Rightarrow y = ?$

A) 4 B) 6 C) 8 D) 9 E) 10

10. 

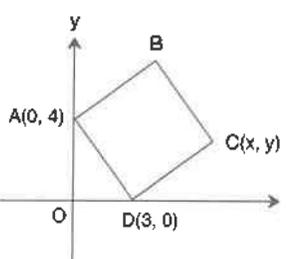
$d: 4x + 3y - 12 = 0$
 $\Rightarrow |AB| = ?$

A) 3 B) 4 C) 5 D) 6 E) 10

11. 

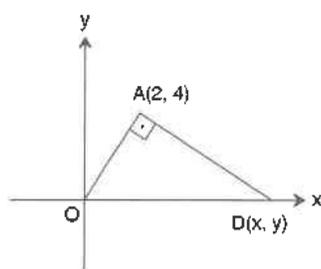
ABCD dikdörtgen
 ABCD rectangle
 $A(ABCD) = 40 \text{ br}^2$
 $\Rightarrow D(x, y) = ?$

A) (8, 8) B) (-2, -6) C) (-6, -8)
 D) (-4, -8) E) (-8, -8)

12. 

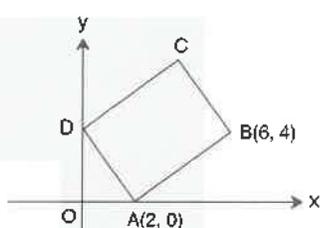
ABCD kare
 ABCD square
 $\Rightarrow C(x, y) = ?$

A) (5, 3) B) (4, 8) C) (7, 3)
 D) (6, 4) E) (7, 8)

13. 

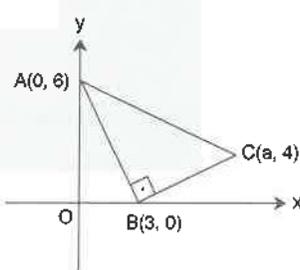
$[OA] \perp [AD]$
 $\Rightarrow D(x, y) = ?$

A) (6, 0) B) (8, 0) C) (10, 0)
 D) (12, 0) E) (14, 0)

14. 

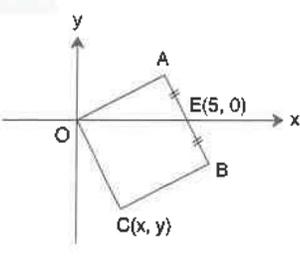
ABCD dikdörtgen
 ABCD rectangle
 $\Rightarrow A(ABCD) = ?$

A) 24 B) 18 C) 16 D) 15 E) 12

15. 

$[AB] \perp [BC]$
 $\Rightarrow a = ?$

A) 13 B) 11 C) 8 D) 7 E) 5

16. 

OABC kare
 OABC square
 $|AE| = |EB|$
 $\Rightarrow C(x, y) = ?$

A) (1, -2) B) (2, -4) C) (2, -2)
 D) (-4, -2) E) $(\sqrt{5}, -2\sqrt{5})$

1. $A(3, -1)$ ve $B(k, 3)$ noktalarından geçen doğrunun eğim açısı 45° olduğuna göre, k kaçtır?

Since the slope angle of a line that passes the points $A(3, -1)$ and $B(k, 3)$ is 45° , then, how many unit is k ?

- A) 1 B) 3 C) 5 D) 7 E) 8

2. $A(1, 2)$ $B(3, 3)$ $C(m, 5)$



A, B, C doğrusal

A, B, C linear

$\Rightarrow m = ?$

- A) 7 B) 6 C) 5 D) 4 E) 3

3. $A(2, 1)$, $B(3, m)$ ve $C(4, n)$ noktalarının doğrusal olması için m ve n arasındaki bağıntı nedir?

In order to be linear the points $A(2, 1)$, $B(3, m)$ and $C(4, n)$ what is the relation between m and n ?

- A) $n = 2m - 1$ B) $n = 2m + 1$ C) $m = 2n - 1$
D) $n = m + 1$ E) $m = 2n + 1$

4. $A(2, -1)$ noktasından geçen $ax - 3y + 2 = 0$ doğrusunun eğimi nedir?

What is the slope of the line with an equation of $ax - 3y + 2 = 0$ which intersects the $A(2, -1)$ point?

- A) $-\frac{5}{8}$ B) $-\frac{5}{6}$ C) 1 D) $\frac{3}{2}$ E) $\frac{5}{2}$

5. $\frac{2x}{3} - \frac{y}{2} = 3$ doğrusunun eğimi nedir?

What is the slope of the line $\frac{2x}{3} - \frac{y}{2} = 3$?

- A) $-\frac{4}{3}$ B) $-\frac{3}{4}$ C) 1 D) $\frac{3}{4}$ E) $\frac{4}{3}$

6. $2x + 3y + 5 = 0$ doğrusu üzerinde apsisi ordinatına eşit olan noktadan ve orijinden geçen doğru denklemi nedir?

What is the equation of a line which passes through a point, equals to the abscissa at the $2x + 3y + 5 = 0$ line and also passes through the origin?

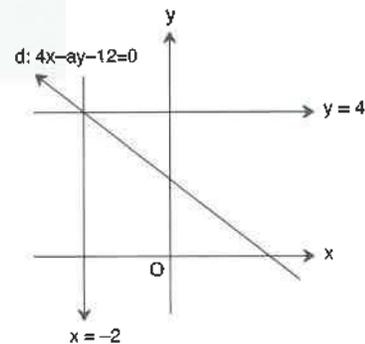
- A) $y - x + 2 = 0$ B) $y - x = 0$ C) $y + x = 0$
D) $y - 2x = 0$ E) $y + 3x = 0$

7. $A(a, 2)$ ve $B(1, -a)$ noktalarından geçen ve x eksenine göre pozitif yönde 135° açı yapan doğru denklemi nedir?

$A(a, 2)$ and $B(1, -a)$ with the x -axis positive direction through the points 135° the equation is the angle?

- A) $y + x - 3 = 0$ B) $y - x = 0$
C) $y + x = 0$ D) $2y + 2x - 3 = 0$
E) $y + 3x = 0$

- 8.



$\Rightarrow m_d = ?$

- A) $\frac{3}{5}$ B) $-\frac{3}{5}$ C) -1 D) $-\frac{4}{5}$ E) $-\frac{7}{4}$

9. $d_1: 2x - 4y + 5 = 0$ $d_1 \parallel d_2$
 $d_2: 3x + ay - 4 = 0$ $\Rightarrow a = ?$

- A) -6 B) -3 C) -1 D) 1 E) 3

10. $d_1: 2x - y + 3 = 0$ doğrusuna paralel olan ve $(3, 1)$ noktasından geçen doğru denklemi nedir?

What is the equation of a line that is parallel to $d_1: 2x - y + 3 = 0$ line and intersects the point $(3, 1)$?

- A) $2x + y - 5 = 0$ B) $2x - y - 5 = 0$
 C) $2x - y + 10 = 0$ D) $2x - y - 10 = 0$
 E) $4x - 2y - 5 = 0$

11. Pozitif yönde x eksenine 45° açı yapan d_1 doğrusuna paralel olan ve $(0, -2)$ noktasından geçen denklemi nedir?

What is the equation of a line that makes a 45° angle to the x axis at the positive direction, that is parallel to d_1 line and intersects the $(0, -2)$ point?

- A) $x - y + 4 = 0$ B) $y - x - 3 = 0$
 C) $x - y - 2 = 0$ D) $2x - y - 2 = 0$
 E) $x - 2y - 4 = 0$

12. $d_1: x + ay - 4 = 0$ $d_1 \perp d_2$
 $d_2: 3x - 2y + 3 = 0$ $\Rightarrow a = ?$

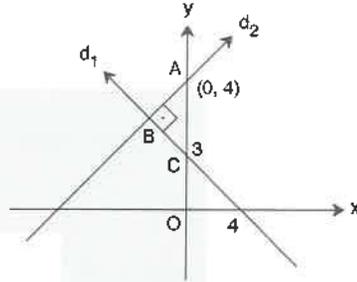
- A) $\frac{3}{2}$ B) 1 C) $\frac{2}{3}$ D) $-\frac{2}{3}$ E) $-\frac{3}{2}$

13. $d_1: 3x - y + 4 = 0$ doğrusuna dik olan ve $(3, 0)$ noktasından geçen doğru denklemi nedir?

What is the equation of a line that is perpendicular to the $d_1: 3x - y + 4 = 0$ line and intersects the point $(3, 0)$?

- A) $y = 2x - 9$ B) $y = x - 3$ C) $y = 2x - 3$
 D) $y = 3x + 1$ E) $3y + x - 3 = 0$

14.



$[AB] \perp [BC]$
 $\Rightarrow d_2 = ?$

- A) $2y - 3x - 1 = 0$ B) $y - 2x - 6 = 0$
 C) $x - y + 1 = 0$ D) $x - y + 2 = 0$
 E) $3y - 4x - 12 = 0$

15. $d_1: 2x - y + 5 = 0$

$d_2: 3x + 2y + 4 = 0$

d_1 ve d_2 doğrularının kesim noktasını bulunuz?

Find the intersecting point of d_1 and d_2 lines?

- A) $(-2, 1)$ B) $(2, 1)$ C) $(-2, -1)$
 D) $(1, -2)$ E) $(-1, 2)$

16. $d_1: x + 2y - 6 = 0$

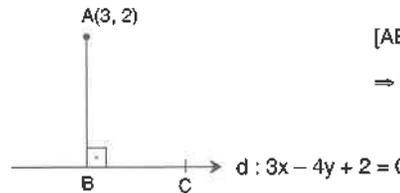
$d_2: 2x - 3y + 2 = 0$

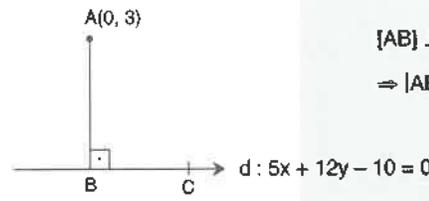
$d_3: ax + 4y - 12 = 0$

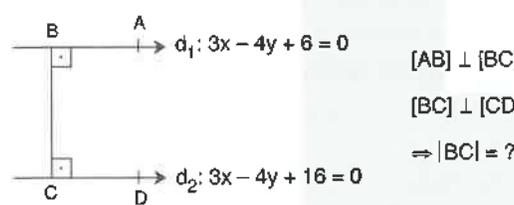
Doğruları sabit bir noktadan geçtiğine göre d_3 doğrusunun eğimi nedir?

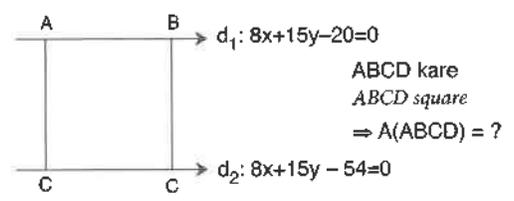
While the d_1 , d_2 and d_3 lines pass through a constant point, what is the slope of the d_3 line?

- A) $-\frac{1}{4}$ B) $-\frac{1}{2}$ C) 1 D) $\frac{1}{2}$ E) $\frac{1}{4}$

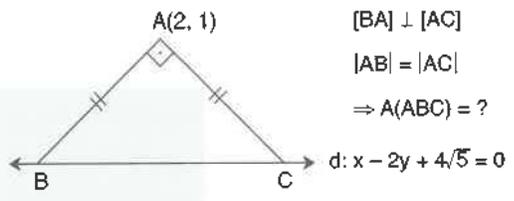
1.  $[AB] \perp [BC]$
 $\Rightarrow |AB| = ?$
 $d: 3x - 4y + 2 = 0$
A) $\frac{19}{5}$ B) 3 C) $\frac{12}{5}$ D) $\frac{4}{5}$ E) $\frac{3}{5}$

2.  $[AB] \perp [BC]$
 $\Rightarrow |AB| = ?$
 $d: 5x + 12y - 10 = 0$
A) 8 B) 6 C) 4 D) 2 E) 1

3.  $[AB] \perp [BC]$
 $[BC] \perp [CD]$
 $\Rightarrow |BC| = ?$
 $d_1: 3x - 4y + 6 = 0$
 $d_2: 3x - 4y + 16 = 0$
A) 6 B) 5 C) 4 D) 2 E) 1

4.  $d_1: 8x + 15y - 20 = 0$
ABCD kare
ABCD square
 $\Rightarrow A(ABCD) = ?$
 $d_2: 8x + 15y - 54 = 0$
A) 1 B) 4 C) 9 D) 16 E) 25

5. $d_1: 2x - 3y + 14 = 0$ $d_1 \parallel d_2$
 $d_2: mx - 6y + 2 = 0$
Bu iki doğru arasındaki uzaklık kaç br'dir?
How many unit is the distance between these two lines?
A) $2\sqrt{13}$ B) $\sqrt{13}$ C) $\frac{2\sqrt{13}}{3}$ D) $2\sqrt{3}$ E) $\frac{\sqrt{3}}{2}$

6.  $[BA] \perp [AC]$
 $|AB| = |AC|$
 $\Rightarrow A(ABC) = ?$
 $d: x - 2y + 4\sqrt{5} = 0$
A) 4 B) 9 C) 16 D) 25 E) 36

7. A(1, 2) noktasının $y = \frac{2}{3}x + 1$ doğrusuna olan uzaklığı kaç br'dir?
How many unit is the distance of A(1, 2) point to $y = \frac{2}{3}x + 1$ line?
A) $\frac{\sqrt{13}}{2}$ B) $\frac{4\sqrt{13}}{13}$ C) $\frac{\sqrt{13}}{4}$
D) $\frac{3\sqrt{13}}{13}$ E) $\frac{\sqrt{13}}{13}$

8. $\left. \begin{array}{l} 3x - 4y + 2 = 0 \\ 4x + 3y - 6 = 0 \end{array} \right\}$
Doğrularına eşit uzaklıkta bulunan doğru denklemlerinden biri aşağıdakilerden hangisidir?
Which one of the followings is the one of equations of the line that is the same distance to the lines?
A) $7x - y - 6 = 0$ B) $7x + y - 4 = 0$
C) $x - y + 4 = 0$ D) $x + y - 6 = 0$
E) $7x - y - 4 = 0$

9. $d_1: x + 2y - 4 = 0$

$d_2: 3x - y + 4 = 0$

Doğruları arasındaki dar açının tanjantı kaçtır?

What is the tangential of the acute angle between the lines?

- A) -7 B) -3 C)
- $\frac{3}{2}$
- D) 3 E) 7

10. $d_1: x - y + 4 = 0$

$d_2: -\sqrt{3}x + y - 4 = 0$

Doğruları arasındaki geniş açı kaçtır?

What is the measure of the obtuse angle between the lines?

- A) 165° B) 150° C) 135° D) 120° E) 110°

11. $d_1: y + x = 0$

$d_2: y + \sqrt{3}x + 5 = 0$

Doğruları arasındaki dar açı kaçtır?

What is the tangential of the acute angle between the lines?

- A) 15° B) 30° C) 45° D) 60° E) 75°

12. $d_1: ax + y + 4 = 0$

$d_2: 2x - y + 1 = 0$

Doğruları arasındaki dar açının tanjantı 2 olduğuna göre a'nın alacağı değer aşağıdakilerden hangisidir?

While the tangential of the acute angle between the lines is 2, which one of the following can "a" take as a value?

- A) -3 B)
- $\frac{4}{3}$
- C) 1 D) 2 E)
- $\frac{5}{2}$

13. $x(2k + 3) + y(k - 2) + 6 - 3k = 0$

Doğrularının kesim noktasını bulunuz?

Find the intersecting point of the lines?

- A)
- $(\frac{1}{7}, 0)$
- B) (0, 1) C) (0, 3)
-
- D)
- $(\frac{1}{7}, 2)$
- E)
- $(\frac{1}{7}, -2)$

14. $(k + 1)x + (k - 2)y + k - 3 = 0$

Doğrularının kesim noktası ve orijinden geçen doğru denklemini aşağıdakilerden hangisidir?

Which one of the following is the equation of line that passes through the origin and the intersecting / breakpoint of lines?

- A)
- $y - 4x = 0$
- B)
- $y + 2x = 0$
- C)
- $x - 4y = 0$
-
- D)
- $x + 3y = 0$
- E)
- $y + 4x = 0$

15. $3x - 4y + 3 = 0$ ve $4x + 3y - 2 = 0$ doğrularının açıortay denklemlerinden birinin denklemi aşağıdakilerden hangisidir?Which one of the following is the equation of angle bisector equations of $3x - 4y + 3 = 0$ and $4x + 3y - 2 = 0$ lines?

- A)
- $x - 7y - 6 = 0$
- B)
- $4x - 3y + 3 = 0$
-
- C)
- $7y + x - 5 = 0$
- D)
- $y + 7x - 4 = 0$
-
- E)
- $3x - 4y - 1 = 0$

16. $5x - 12y + 3 = 0$ ve $5y + 12x - 4 = 0$ doğrularının açıortay denklemlerinden birinin denklemi aşağıdakilerden hangisidir?Which one of the following is the equation of angle bisector equations of $5x - 12y + 3 = 0$ ve $5y + 12x - 4 = 0$ lines?

- A)
- $-17x + 7y + 1 = 0$
- B)
- $7x - 4y + 1 = 0$
-
- C)
- $5x - 12y - 1 = 0$
- D)
- $x + y - 1 = 0$
-
- E)
- $5x - 12y + 4 = 0$

1. $x = t + 1$ ve $y = 2t - 4$ parametrik denklemleriyle verilen noktaların analitik düzlemdeki görüntüsü nedir?

What is the image of points that are given by parametric equations $x = t + 1$ and $y = 2t - 4$ at the analytical plane?

- A) $2x + y - 4 = 0$ B) $4x - y + 4 = 0$
 C) $2x - y + 4 = 0$ D) $y - 2x + 6 = 0$
 E) $y - 2x - 2 = 0$

2. $A(2a - 1, 3a + 2)$ noktalarının geometrik yer denklemi aşağıdakilerden hangisidir?

Which one of the followings is the geometrical location equation of the $A(2a - 1, 3a + 2)$ points?

- A) $2x - 5y + 4 = 0$ B) $2x + 3y - 4 = 0$
 C) $3x - 2y + 7 = 0$ D) $2x - 3y + 4 = 0$
 E) $x + 2y - 6 = 0$

3. $A(1, 2)$ ve $B(6, -3)$ noktaları veriliyor. $C(x, 0)$ noktası için $\min(|AC| + |BC|)$ yapan x değeri nedir?

$A(1, 2)$ and $B(6, -3)$ points are given. What is the x value that makes $\min(|AC| + |BC|)$ for the $C(x, 0)$ point?

- A) 2 B) 3 C) 4 D) 5 E) 6

4. $A(-3, 18)$ ve $B(12, 3)$ noktaları veriliyor. $C(x, 0)$ olmak üzere $\max(|AC| - |CB|)$ için x değeri nedir?

$A(-3, 18)$ and $B(12, 3)$ points are given. What is the x value that makes $\max(|AC| - |CB|)$ for the $C(x, 0)$ point?

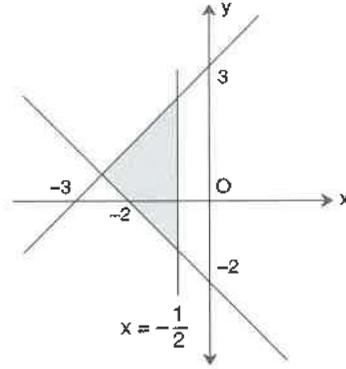
- A) 10 B) 13 C) 15 D) 17 E) 20

5. $A(2, 3)$ ve $B(3, 4)$ noktaları veriliyor. $C(x, 0)$ olmak üzere $\max(|BC| - |AC|)$ için x değeri nedir?

$A(2, 3)$ and $B(3, 4)$ points are given. What is the x value that makes $\max(|BC| - |AC|)$ for the $C(x, 0)$ point?

- A) 1 B) -1 C) 2 D) $2\sqrt{2}$ E) 4

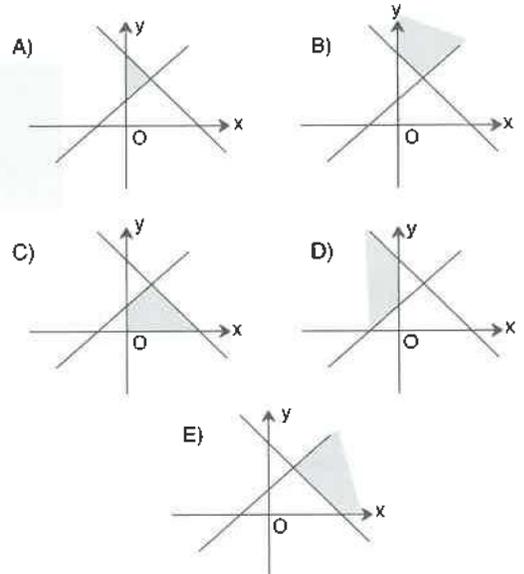
- 6.



- A) $x - y + 6 \geq 0$ B) $x - y + 3 \leq 0$
 $x - y - 2 \geq 2$ $x + y \leq 0$
 $x > -\frac{1}{2}$ $x \geq -\frac{1}{2}$
 C) $x - y + 1 \geq 0$ D) $x - 2y + 6 \leq 0$
 $x + y > 3$ $x - y + 2 \geq 0$
 $x \leq 0$ $x \geq -1$
 E) $y - x - 3 \leq 0$
 $x + y + 2 \geq 0$
 $x \leq -\frac{1}{2}$

7. Analitik düzlemde $y \geq x + 2$, $y \leq 4 - x$ ve $x \geq 0$ eşitsizliklerini sağlayan grafik aşağıdakilerden hangisidir?

Which one of the followings is the graph that proves the $y \geq x + 2$, $y \leq 4 - x$ and $x \geq 0$ inequalities at the analytical plane?



8. $y \leq 0, x \geq -4$ ve $3x - y + 6 \leq 0$ eşitsizlik sistemini gerçekleyen noktaların oluşturduğu bölgenin alanı kaç br^2 'dir?

How many unit² is the surface area of the sector that proves the $y \leq 0, x \geq -4$ and $3x - y + 6 \leq 0$ inequalities?

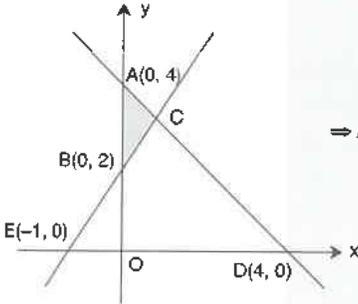
- A) 6 B) 10 C) 18 D) 20 E) 24

9. Analitik düzlemde, $(y + 1)(x - 2) - xy = 0$ bağıntısı ile verilen doğru denkleminin eğimi kaçtır?

What is the slope of line equation given with the $(y + 1)(x - 2) - xy = 0$ relationship at the analytical plane?

- A) -2 B) $-\frac{1}{2}$ C) 1 D) $\frac{1}{2}$ E) 2

10.



$\Rightarrow A(ABC) = ?$

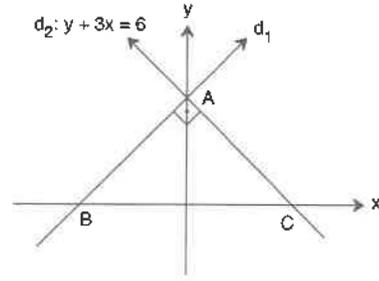
- A) $\frac{4}{9}$ B) $\frac{2}{3}$ C) 1 D) 2 E) $\frac{7}{3}$

11. A(2, 3) ve B(4, 5) noktaları veriliyor. [AB] doğru parçasının orta dikme doğru denklemi nedir?

A(2, 3) and B(4, 5) points are given. What is the equation of the perpendicular bisector of AB line segment?

- A) $y - x - 4 = 0$ B) $y + x - 1 = 0$
 C) $y + x - 7 = 0$ D) $y + x + 1 = 0$
 E) $x - y - 1 = 0$

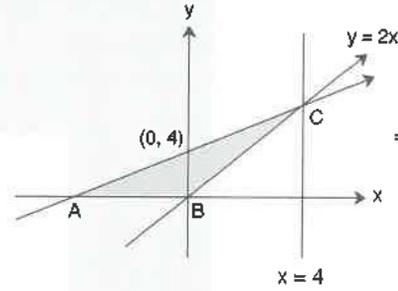
12.



[BA] \perp [AC]
 $\Rightarrow d_1 = ?$

- A) $y - x - 6 = 0$ B) $y - x - 18 = 0$
 C) $3y + x - 6 = 0$ D) $y - 3x - 6 = 0$
 E) $3y - x - 18 = 0$

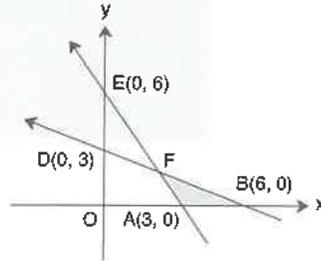
13.



$\Rightarrow A(ABC) = ?$

- A) 64 B) 32 C) 28 D) 24 E) 16

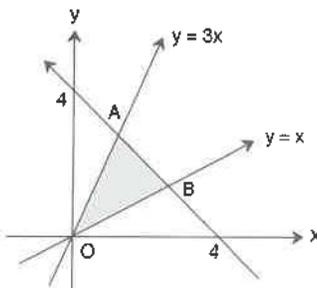
14.



$\Rightarrow A(AFB) = ?$

- A) 3 B) 4 C) 6 D) 9 E) 18

15.



$\Rightarrow A(AOB) = ?$

- A) 2 B) 4 C) 6 D) 8 E) 12

1. $(2 - a)y + ax - a + 2 = 0$ doğrularının kesim noktasından geçen ve $2x - 4y + 5 = 0$ doğrusuna dik olan doğru denklemi nedir?

What is the equation of a line that is perpendicular to the $(2 - a)y + ax - a + 2 = 0$ line and passes through the point that the lines $2x - 4y + 5 = 0$ intersect at?

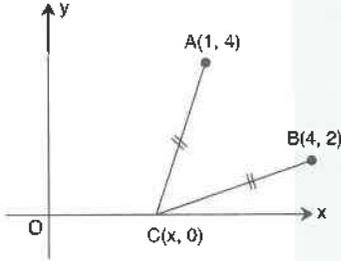
- A) $2y - x - 1 = 0$ B) $y + 2x + 1 = 0$
 C) $x + 2y - 1 = 0$ D) $x + 2y + 1 = 0$
 E) $2y + x - 2 = 0$

2. $-y + x - 4 = 0$ ve $x + \sqrt{3}y - 6 = 0$ doğruları arasındaki açılardan bir tanesi aşağıdakilerden hangisidir?

Which one of the following is the one of angles between the $-y + x - 4 = 0$ ve $x + \sqrt{3}y - 6 = 0$ lines?

- A) 120° B) 105° C) 90° D) 60° E) 25°

3.

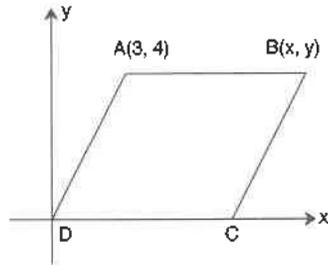


$$|AC| = |CB|$$

$$\Rightarrow x = ?$$

- A) $\frac{1}{6}$ B) $\frac{1}{2}$ C) 1 D) 2 E) 3

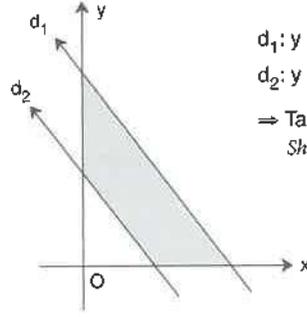
4.



ABCD eşkenar dörtgen
 ABCD rhombus
 $\Rightarrow B(x, y) = ?$

- A) (5, 4) B) (5, 3) C) (8, 3)
 D) (8, 4) E) (10, 4)

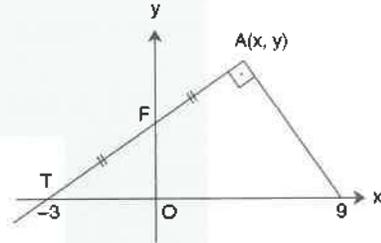
5.



$d_1: y = -x + 8$
 $d_2: y = -2x + 6$
 \Rightarrow Tarah alan kaç br² dir?
 Shaded area = ?

- A) 21 B) 23 C) 30 D) 42 E) 46

6.



$|AF| = |FT|$
 $\Rightarrow x + y = ?$

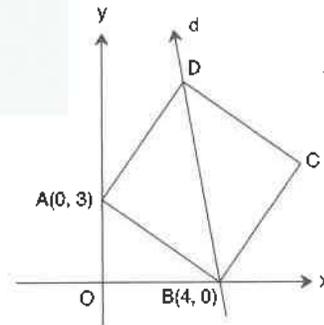
- A) 12 B) 9 C) 8 D) 6 E) 4

7. $3x - 4y + 6 = 0$ ve $4x - 3y + 1 = 0$ doğrularına eşit uzaklıktaki noktaların geometrik yer denklemi nedir?

What is the geometrical location equation of the points that have the same distance to the $3x - 4y + 6 = 0$ and $4x - 3y + 1 = 0$ lines?

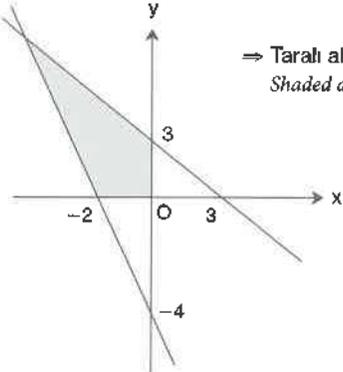
- A) $x - y + 7 = 0$ B) $x - y + 1 = 0$
 C) $x - y + 5 = 0$ D) $x - y - 1 = 0$
 E) $7x - 7y + 8 = 0$

8.

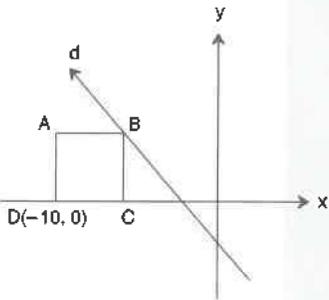


ABCD kare
 ABCD square
 $\Rightarrow d: ax + by + c = ?$

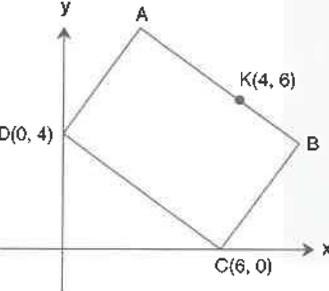
- A) $y - x + 4 = 0$ B) $y + x - 2 = 0$
 C) $2x - y - 4 = 0$ D) $y + 7x - 28 = 0$
 E) $2x - y + 2 = 0$

9.  ⇒ Taralı alan kaç br² dir?
Shaded area = ?

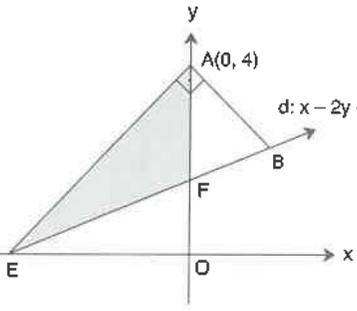
A) 14 B) $\frac{41}{2}$ C) 22 D) $\frac{45}{2}$ E) 26

10.  ABCD kare
ABCD square
d: $\frac{x}{2} + \frac{y}{2} = -1$
⇒ A(ABCD) = ?

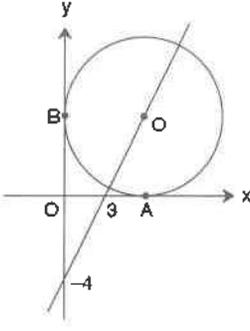
A) 49 B) 36 C) 25 D) 16 E) 14

11.  ABCD dikdörtgen
ABCD rectangle
⇒ A(ABCD) = ?

A) 36 B) 32 C) 28 D) 24 E) 14

12.  [EA] ⊥ [AB]
⇒ A(AFE) = ?

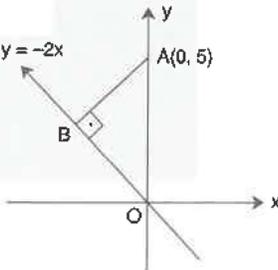
A) 2 B) 4 C) 8 D) $4\sqrt{5}$ E) $8\sqrt{5}$

13.  O merkezli dairenin alanı kaç br² dir?
How many unit² is the area of the circular region with a center O?

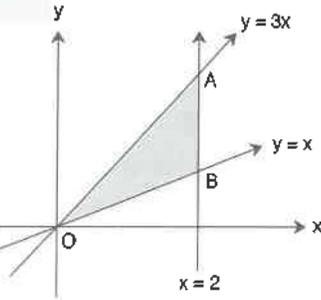
A) 169π B) 144π C) 100π D) 64π E) 36π

14. Analitik düzlemde eğimleri 3 ve $-\frac{1}{3}$ olan iki doğrunun açtıkları ortay doğrularından birinin eğimi aşağıdakilerden hangisidir?
Which one of the followings is the slope of the one of angle bisector lines that have the slope of 3 and $-\frac{1}{3}$ at the analytical plane?

A) $-\frac{1}{3}$ B) -1 C) $\frac{1}{2}$ D) 1 E) 3

15.  [AB] ⊥ [BO]
⇒ A(ABO) = ?

A) $\frac{1}{5}$ B) $\frac{\sqrt{5}}{5}$ C) 1 D) $\sqrt{5}$ E) 5

16.  ⇒ A(AOB) = ?

A) 4 B) 16 C) 32 D) 36 E) 64



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	A	C	A	B	C	A	B	C	A	C	E	B	C	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	A	A	A	D	D	E	C	D	E	B	A	B	B	B

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	B	E	E	D	B	E	D	B	B	A	D	B	E	C	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	E	D	B	C	B	C	A	E	C	B	B	C	E	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	A	D	D	C	D	B	D	C	E	C	C	C	B	B

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	A	B	E	B	D	D	A	B	C	A	E	E	A	B

TEST 7

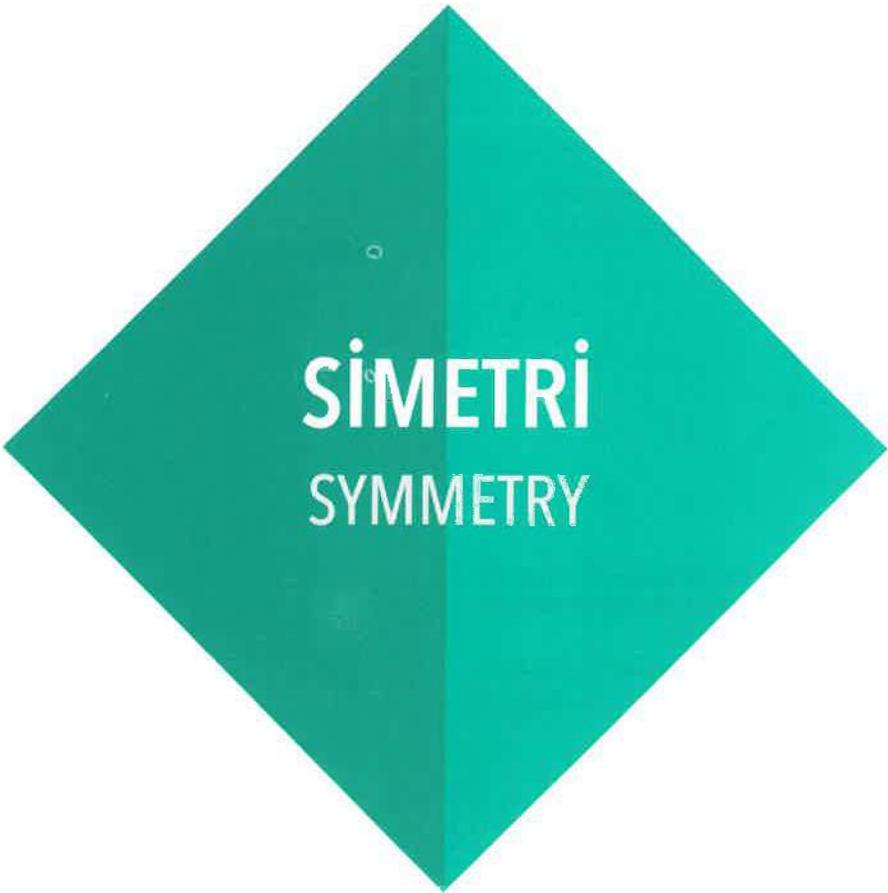
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	D	D	B	B	C	E	E	E	A	A	B	C	E	C	A

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
D	C	B	C	B	E	A	A	D	B	C	E	E	A	A

TEST 9

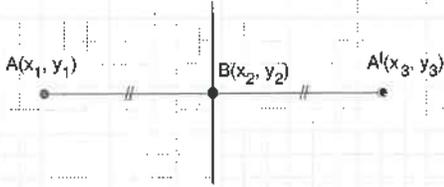
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	B	D	B	B	B	D	B	D	C	B	B	C	E	A



ÖZELLİK | Property 1

Noktanın Noktaya Göre Simetriği

Symmetry of a point as per another point:



$$\frac{x_3 + x_1}{2} = x_2$$

$$\frac{y_3 + y_1}{2} = y_2$$

1. $A(3, 2)$ noktasının $B(-1, 4)$ noktasına göre simetriği?
Symmetry of a point $A(3, 2)$ as per another point $B(-1, 4)$?

(-5, 6)

2. $A(1, -2)$ noktasının $B(a, b)$ noktasına göre simetriği olan nokta $C(-5, -6)$ ise $B(a, b)$ noktasının koordinatları nedir?

If the Symmetry of a point $A(1, -2)$ as per another point $B(a, b)$ is a point $C(-5, -6)$, then what are the coordinates of point $B(a, b)$?

(-2, -4)

3. $A(a, b)$ noktasının $B(-3, 2)$ noktasına göre simetriği $C(-6, 3)$ noktası ise $A(a, b)$ noktasının koordinatları nedir?

If the Symmetry of a point $A(a, b)$ as per another point $B(-3, 2)$ is a point $C(-6, 3)$, then what are the coordinates of point $A(a, b)$?

(0, 1)

ÖZELLİK | Property 2

Noktanın - Of a point

$A(x, y)$ $\xrightarrow{\text{x eksenine - x-axis}}$ $A'(x, -y)$

$A(x, y)$ $\xrightarrow{\text{y eksenine - y-axis}}$ $A'(-x, y)$

$A(x, y)$ $\xrightarrow{\text{orjine - origine}}$ $A'(-x, -y)$

$A(x, y)$ $\xrightarrow{\text{y = x}}$ $A'(y, x)$

$A(x, y)$ $\xrightarrow{\text{y = -x}}$ $A'(-y, -x)$

göre simetrikleri

the symmetry as per

1. $A(-2, 3)$ noktasının x eksenine göre simetriği B ve B noktasının $y = x$ doğrusuna göre simetriği C noktası olduğuna göre,

Since the symmetry of a point $A(-2, 3)$ as per the axis x is B, and the symmetry of a point B as per the line of $y = x$ is point C

$\Rightarrow C(a, b) = ?$

(-3, -2)

2. $A(a, b)$ noktasının $y = -x$ doğrusuna göre simetriği B ve B noktasının orijine göre simetriği $C(-4, 2)$ noktası olduğuna göre,

Since the symmetry of a point $A(a, b)$ as per the line $y = -x$ is B, and the symmetry of a point B as per the origin is point $C(-4, 2)$

$\Rightarrow A(a, b) = ?$

(2, -4)

3. $A(2, 1)$ noktasının x eksenine göre simetriği B ve y eksenine göre simetriği C noktası olduğuna göre,

Since the symmetry of a point $A(2, 1)$ as per the axis x is B, and as per the axis y is point C

$\Rightarrow A(ABC) = ?$

4

ÖZELLİK | Property 3

- Noktanın $x = a$ ve $y = b$ doğrularına göre simetriği
Symmetry of a point as per the $x = a$ and $y = b$ lines.

$$A(x, y) \xrightarrow{x = a} A'(2a - x, y)$$

$$A(x, y) \xrightarrow{y = b} A'(x, 2b - y)$$

- $A(4, 6)$ noktasının $x = 2$ doğrusuna göre simetriği olan noktanın koordinatları nedir?
What are the coordinates of the point which is the symmetry of point $A(4, 6)$ as per the $x = 2$ line?

(0, 6)

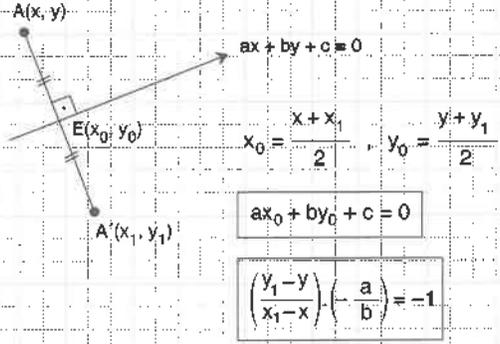
- $A(-2, 4)$ noktasının $y + 2 = 0$ doğrusuna göre simetriği olan noktanın koordinatları nedir?
What are the coordinates of the point which is the symmetry of point $A(-2, 4)$ as per the $y + 2 = 0$ line?

(-2, -8)

- $A(-3, 5)$ noktasının $y = 2$ noktasına göre simetriği B ve B noktasının orijine göre simetriği C noktası olduğuna göre
Since the symmetry of a point $A(-3, 5)$ as per the point $y = 2$ is B, and the symmetry of a point B as per the origin is point C
 $\Rightarrow C(a, b) = ?$

(3, 1)

ÖZELLİK | Property 4



- $A(2, -2)$ noktasının $3x + 4y - 8 = 0$ doğrusuna göre simetriği B noktası ise,
If the symmetry of a point $A(2, -2)$ as per the $3x + 4y - 8 = 0$ line is a point B

$$\Rightarrow |AB| = ?$$

4

- $A(-2, 0)$ noktasının $x + 2y - 8 = 0$ doğrusuna göre simetriği olan noktanın koordinatları nedir?
What are the coordinates of the point which is the symmetry of point $A(-2, 0)$ as per the $x + 2y - 8 = 0$ line?

(2, 8)

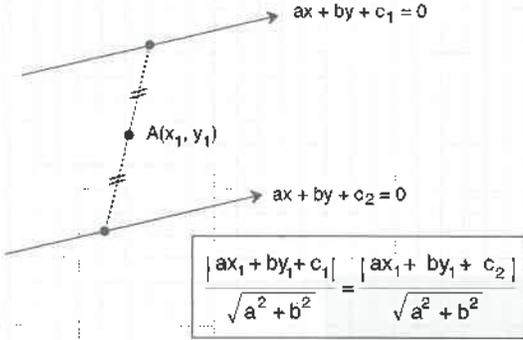
- $A(1, 4)$ noktasının d: $ax + by + c = 0$ doğrusuna göre simetriği olan nokta B(4, 8) noktası ise A noktasının d doğrusuna olan en kısa uzaklığını bulunuz?
If the symmetry of a point $A(1, 4)$ as per the d: $ax + by + c = 0$ line is a point B(4, 8), then find the shortest distance of point A to d line?

3

ÖZELLİK | Property 5

$d: ax + by + c = 0$ doğrusunun $A(x_1, y_1)$ noktasına göre simetriği

Symmetry of a $d: ax + by + c = 0$ line as per the point $A(x_1, y_1)$



1. $3x - 2y + 6 = 0$ doğrusunun $A(2, 4)$ noktasına göre simetriği olan doğru nedir?

What is the line which is the symmetry of a $3x - 2y + 6 = 0$ line as per the point $A(2, 4)$?

$$3x - 2y - 2 = 0$$

2. $x + 3y - 6 = 0$ doğrusunun $A(1, 0)$ noktasına göre simetriği olan doğru nedir?

What is the line which is the symmetry of a $x + 3y - 6 = 0$ line as per the point $A(1, 0)$?

$$x + 3y + 4 = 0$$

3. $y - x + 4 = 0$ doğrusunun $A(0, 0)$ noktasına göre simetriği olan doğru nedir?

What is the line which is the symmetry of a $y - x + 4 = 0$ line as per the point $A(0, 0)$?

$$y - x - 4 = 0$$

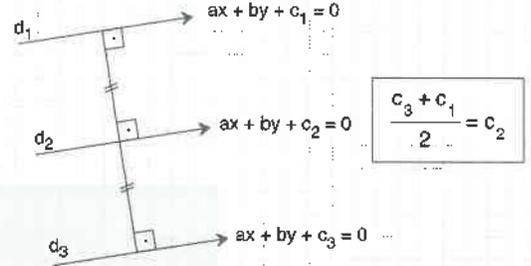
ÖZELLİK | Property 6

• $d_1: ax + by + c_1 = 0$ doğrusunun

$d_2: ax + by + c_2 = 0$ doğrusuna göre simetriği

$d_3: ax + by + c_3 = 0$ doğrusudur.

Symmetry of a $d_1: ax + by + c_1 = 0$ line as per the $d_2: ax + by + c_2 = 0$ line is the $d_3: ax + by + c_3 = 0$ line ($d_1 \parallel d_3$)



1. $d_1: 3x - 4y + 6 = 0$

$d_2: 3x - 4y + 10 = 0$

d_1 doğrusunun d_2 doğrusuna göre simetriği olan doğru nedir?

What is the line which is the symmetry of the d_1 line as per the d_2 line?

$$3x - 4y + 14 = 0$$

2. $d_1: 2x - 4y + 5 = 0$

$d_2: 2x - 4y + 7 = 0$

d_1 doğrusunun d_2 doğrusuna göre simetriği olan doğru nedir?

What is the line which is the symmetry of the d_1 line as per the d_2 line?

$$2x - 4y + 9 = 0$$

3. $d_1: x - 3y + 5 = 0$

$d_2: 6y - 2x - 8 = 0$

d_1 doğrusunun d_2 doğrusuna göre simetriği olan doğru nedir?

What is the line which is the symmetry of the d_1 line as per the d_2 line?

$$x - 3y + 3 = 0$$

ÖZELLİK | Property 7

Doğrunun - Of a line	
$ax + by + c = 0$	x eksenine - x-axis → $ax - by + c = 0$
$ax + by + c = 0$	y eksenine - y-axis → $-ax + by + c = 0$
$ax + by + c = 0$	orijine - origine → $-ax - by + c = 0$
$ax + by + c = 0$	$y = x$ → $bx + ay + c = 0$
$ax + by + c = 0$	$y = -x$ → $-bx - ay + c = 0$
göre simetrikleri the symmetry as per	

ÖZELLİK | Property 8

d_1 doğrusunun d_2 doğrusuna göre simetriği

$$d_1: a_1x + b_1y + c_1 = 0$$

$$d_2: a_2x + b_2y + c_2 = 0$$

symmetry of a $d_1: a_1x + b_1y + c_1 = 0$ line
as per the $d_2: a_2x + b_2y + c_2 = 0$ line

$$a_1x + b_1y + c_1 + k(a_2x + b_2y + c_2) = 0$$

$$k = -2 \cdot \frac{a_1a_2 + b_1b_2}{a_2^2 + b_2^2}$$

1. $2x - 3y + 5 = 0$ doğrusunun $y = x$ doğrusuna göre simetriği olan doğru nedir?

What is the line that is symmetry of a $2x - 3y + 5 = 0$ line as per the $y = x$ line?

$$-3x + 2y + 5 = 0$$

1. $d_1: 2x - y + 5 = 0$ doğrusunun

$d_2: 3x + y + 4 = 0$ doğrusuna göre simetriği nedir?

What is the symmetry of a $d_1: 2x - y + 5 = 0$ line as per the $d_2: 3x + y + 4 = 0$ line?

$$x + 2y - 1 = 0$$

2. $d_1: x - 2y + 4 = 0$ doğrusunun orijine göre simetriği olan doğru d_2 , d_2 doğrusunun $y = -x$ doğrusuna göre simetriği olan doğru d_3 doğrusudur.

The line that is the symmetry of a $d_1: x - 2y + 4 = 0$ line as per the origin is d_2 , the symmetry of a line d_2 as per the $y = -x$ line is d_3 line.

$$\Rightarrow d_3 = ?$$

$$-2x + y + 4 = 0$$

2. $d_1: x - y + 4 = 0$ doğrusunun

$d_2: 2x + y - 2 = 0$ doğrusuna göre simetriği nedir?

What is the symmetry of a $d_1: x - y + 4 = 0$ line as per the $d_2: 2x + y - 2 = 0$ line?

$$x - 7y + 24 = 0$$

3. $d_1: 2x + 4y - 6 = 0$ doğrusunun orijine göre simetriği d_2 , d_2 doğrusuna paralel olan ve $(2, 0)$ noktasından geçen doğru denklemini nedir?

What is the equation of a line that is parallel to d_2 line that is the symmetry of a $d_1: 2x + 4y - 6 = 0$ line as per the origin and intersects the point $(2, 0)$?

$$x + 2y - 2 = 0$$

3. $d_1: x + 3y - 1 = 0$ doğrusunun

$d_2: x + y - 2 = 0$ doğrusuna göre simetriği nedir?

What is the symmetry of a $d_1: x + 3y - 1 = 0$ line as per the $d_2: x + y - 2 = 0$ line?

$$3x + y - 7 = 0$$

1. A(2, 3) noktasının B(1, -3) noktasına göre simetriği olan nokta C(x, y)'dir.

Symmetry of a point A(2, 3) as per another point B(1, -3) is point C(x, y).

$$\Rightarrow C(x, y) = ?$$

- A) (0, -6) B) $\left(\frac{3}{2}, 0\right)$ C) (0, -9)
D) (3, 0) E) (3, 9)

2. A(-2, 4) noktasının B(a, b) noktasına göre simetriği olan nokta C(0, 0)'dir.

Symmetry of a point A(-2, 4) as per another point B(a, b) is point C(0, 0).

$$\Rightarrow B(a, b) = ?$$

- A) (-1, 2) B) (-4, 8) C) (2, -4)
D) (2, 6) E) (-1, 0)

3. A(-2, 3) noktasının x eksenine göre simetriği B, B noktasının y = x doğrusuna göre simetriği C(x, y) noktasıdır.

The symmetry of a point A(-2, 3) as per the axis x is B, and the symmetry of a point B as per the line of y = x is point C(x, y).

$$\Rightarrow C(x, y) = ?$$

- A) (3, 2) B) (-3, 2) C) (-2, -3)
D) (-3, -2) E) (2, -3)

4. A(a, b) noktasının orijine göre simetriği B, B noktasının y = -x doğrusuna göre simetriği C(-4, 7) noktasıdır.

The symmetry of a point A(a, b) as per the origin is B, and the symmetry of a point B as per the line of y = -x is point C(-4, 7).

$$\Rightarrow A(a, b) = ?$$

- A) (-7, -4) B) (7, -4) C) (7, 4)
D) (4, -7) E) (5, 7)

5. A(-4, 5) noktasının y eksenine göre simetriği olan nokta ax + y - 4 = 0 doğrusu üzerinde ise,

If the symmetry of a point A(-4, 5) as per the axis y is the point on the ax + y - 4 line,

$$\Rightarrow a = ?$$

- A) $-\frac{1}{4}$ B) $-\frac{1}{2}$ C) $\frac{1}{2}$ D) 1 E) $\frac{1}{4}$

6. A(-3, 4) noktası y = x doğrusuna göre simetriği B, x eksenine göre simetriği C noktası ise,

If the symmetry of a point A(-3, 4) as per the y = x line is B, and as per the axis x is point C,

$$\Rightarrow A(ABC) = ?$$

- A) 16 B) 28 C) 32 D) 40 E) 48

7. A(-5, 6) noktasının B(-3, 3) noktasına göre simetriği C, C noktasının orijine göre simetriği D(x, y) noktası ise,

If the symmetry of a point A(-5, 6) as per the point B(-3, 3) is C, and the symmetry of a point C as per the origin is point D(x, y)

$$\Rightarrow D(x, y) = ?$$

- A) (0, -1) B) (1, 0) C) (-1, 2)
D) (1, -2) E) (2, 1)

8. A(a, b) noktasının x eksenine göre simetriği B, B noktasının orijine göre simetriği C(3a - 4, 2b - 2) noktası ise,

If the symmetry of a point A(a, b) as per the axis x is B, and the symmetry of a point B as per the origin is point C(3a - 4, 2b - 2),

$$\Rightarrow a + b = ?$$

- A) 2 B) 3 C) 4 D) 6 E) 8

9. $A(4, 3)$ noktasının $x = 6$ doğrusuna göre simetriği $B(x, y)$ noktası ise,

If the symmetry of point $A(4, 3)$ as per the line $x = 6$ is point $B(x, y)$,

$$\Rightarrow B(x, y) = ?$$

- A) (6, 3) B) (4, 9) C) (8, 3)
D) (10, 3) E) (14, 3)

10. $A(-2, 3)$ noktasının $y - 3 = 0$ doğrusuna göre simetriği $B(x, y)$ noktası ise,

If the symmetry of point $A(-2, 3)$ as per the line $y - 3 = 0$ is point $B(x, y)$,

$$\Rightarrow B(x, y) = ?$$

- A) (-2, 6) B) (8, 3) C) (-4, 3)
D) (-2, 3) E) (3, -2)

11. $A(5, 1)$ noktasının x eksenine göre simetriği B , B noktasının $x + 3 = 0$ doğrusuna göre simetriği $C(x, y)$ noktası ise,

If the symmetry of a point $A(5, 1)$ as per the axis x is B , and the symmetry of a point B as per the $x + 3 = 0$ line is point $C(x, y)$

$$\Rightarrow x + y = ?$$

- A) -14 B) -12 C) -10 D) -8 E) -6

12. $A(-2, 3)$ noktasının $y = -x$ doğrusuna göre simetriği B , B noktasının $x - 2 = 0$ doğrusuna göre simetriği C , C noktasının y eksenine göre simetriği $D(a, b)$ noktası ise,

If the symmetry of a point $A(-2, 3)$ as per the $y = -x$ line is B , and the symmetry of a point B as per the $x - 2 = 0$ line is C , and the symmetry of point C as per the axis y is the point $D(a, b)$,

$$\Rightarrow a + b = ?$$

- A) -9 B) -5 C) 3 D) 7 E) 9

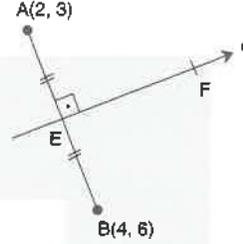
13. $A(2, 4)$ noktasının $3x - 4y = 0$ doğrusuna göre simetriği olan nokta B noktası ise,

If the symmetry of point $A(2, 4)$ as per the line $3x - 4y = 0$ is the point B ,

$$\Rightarrow |AB| = ?$$

- A) 2 B) 4 C) 6 D) 8 E) 10

- 14.



$$\begin{aligned} [AB] &\perp d \\ |AE| &= |EB| \\ \Rightarrow |AE| &= ? \end{aligned}$$

- A) 13 B) $\frac{13}{2}$ C) $\sqrt{13}$ D) $\frac{\sqrt{13}}{2}$ E) 2

15. $A(3, 5)$ noktasının $x - y + 6 = 0$ doğrusuna göre simetriği olan nokta $B(a, b)$ ise,

If the symmetry of point $A(3, 5)$ as per the line $x - y + 6 = 0$ is the point $B(a, b)$,

$$\Rightarrow B(a, b) = ?$$

- A) (-3, -5) B) (9, -1) C) (-2, 3)
D) (-9, 1) E) (-1, 9)

16. $A(0, 2)$ noktasının $2x + y - 4 = 0$ doğrusuna göre simetriği olan nokta $B(a, b)$ ise,

If the symmetry of point $A(0, 2)$ as per the line $2x + y - 4 = 0$ is the point $B(a, b)$,

$$\Rightarrow B(a, b) = ?$$

- A) (4, -5) B) $(\frac{2}{5}, \frac{4}{5})$ C) $(\frac{8}{5}, \frac{14}{5})$
D) $(\frac{4}{5}, \frac{14}{5})$ E) (4, 5)

1. $x - y + 6 = 0$ doğrusunun

$A(2, 4)$ noktasına göre simetriği nedir?

What is the symmetry of a $x - y + 6 = 0$ line as per the $A(2, 4)$ point?

- A) $x - y - 2 = 0$ B) $x - y - 6 = 0$
 C) $2x - y - 2 = 0$ D) $x - 2y - 2 = 0$
 E) $x - y - 4 = 0$

2. $2x - y = 0$ doğrusunun

$A(-1, 3)$ noktasına göre simetriği nedir?

What is the symmetry of a $2x - y = 0$ line as per the $A(-1, 3)$ point?

- A) $x - y + 2 = 0$ B) $2x - y + 4 = 0$
 C) $x + y + 2 = 0$ D) $2x - y + 10 = 0$
 E) $2x - y - 2 = 0$

3. $x - 2y + 6 = 0$ doğrusunun

$x - 2y + 10 = 0$ doğrusuna göre simetriği nedir?

What is the symmetry of a $x - 2y + 6 = 0$ line as per the $x - 2y + 10 = 0$ line?

- A) $x - 2y + 14 = 0$ B) $x - 2y - 14 = 0$
 C) $x - 2y + 28 = 0$ D) $x - 2y - 28 = 0$
 E) $2x - y - 28 = 0$

4. $3x - 2y + 5 = 0$ doğrusunun

$-6x + 4y - 4 = 0$ doğrusuna göre simetriği nedir?

What is the symmetry of a $3x - 2y + 5 = 0$ line as per the $-6x + 4y - 4 = 0$ line?

- A) $-6x + 4y - 1 = 0$ B) $3x - 2y - 1 = 0$
 C) $-6x + 4y - 4 = 0$ D) $3x - 2y - 2 = 0$
 E) $3x - 2y + 2 = 0$

5. $x - 2y + 5 = 0$ doğrusunun

$y = x$ doğrusuna göre simetriği nedir?

What is the symmetry of a $x - 2y + 5 = 0$ line as per the $y = x$ line?

- A) $x - 2y + 10 = 0$ B) $2x - 4y - 5 = 0$
 C) $2x - 4y + 5 = 0$ D) $y - 2x + 5 = 0$
 E) $x - 2y - 5 = 0$

6. $3x + 2y - 4 = 0$ doğrusunun

$y + x = 0$ doğrusuna göre simetriği nedir?

What is the symmetry of a $3x + 2y - 4 = 0$ line as per the $y + x = 0$ line?

- A) $6x - 4y + 6 = 0$ B) $3x + 2y + 3 = 0$
 C) $3x + 2y + 1 = 0$ D) $3x + 2y + 6 = 0$
 E) $2x + 3y + 4 = 0$

7. $2x + ay - 4 = 0$ doğrusunun

$y + x = 0$ doğrusuna göre simetriği $A(2, 1)$ noktasından geçtiğine göre,

Since the symmetry of a $2x + ay - 4 = 0$ line as per the $y + x = 0$ line passes through the point $A(2, 1)$

$\Rightarrow a = ?$

- A) -6 B) -3 C) 0 D) 3 E) 6

8. $2x - y + 4 = 0$ doğrusunun

$x = 0$ doğrusuna göre simetriği nedir?

What is the symmetry of a $2x - y + 4 = 0$ line as per the $x = 0$ line?

- A) $2x + y - 8 = 0$ B) $2x + y - 4 = 0$
 C) $2x - y + 16 = 0$ D) $x + y - 8 = 0$
 E) $x + 2y - 8 = 0$

- 9.** $A(3, 5)$ noktasının $y = x$ doğrusuna göre simetriği B , B noktasının $y = -x$ doğrusuna göre simetriği $C(a, b)$ ise,
If the symmetry of a point $A(3, 5)$ as per the $y = x$ line is B , and the symmetry of a point B as per the line of $y = -x$ is point $C(a, b)$,
 $\Rightarrow C(a, b) = ?$

A) $(0, 5)$ B) $(3, 5)$ C) $(3, -5)$
 D) $(-3, 5)$ E) $(-3, -5)$

- 10.** $A(2, 4)$ noktasının $B(a, 3)$ noktasına göre simetriği $3x + y + 4 = 0$ doğrusu üzerinde ise,
If the symmetry of a point $A(2, 4)$ as per another point $B(a, 3)$ is on the $3x + y + 4 = 0$ line,
 $\Rightarrow a = ?$

A) $-\frac{6}{7}$ B) -1 C) 0 D) $\frac{6}{7}$ E) 8

- 11.** Analitik düzlemde verilen $y = mx + n$ doğrusunun $A(1, 4)$ noktasına göre simetriği $2x - y + 1 = 0$ doğrusu olduğuna göre,
Since the symmetry of a $y = mx + n$ line given at the analytical plane, as per the point $A(1, 4)$ is $2x - y + 1 = 0$,
 $\Rightarrow m + n = ?$

A) 3 B) 4 C) 5 D) 6 E) 7

- 12.** Analitik düzlemde verilen $x + y - 4 = 0$ doğrusunun $A(a, b)$ noktasına göre simetriği $x + y + 6 = 0$ doğrusu ise,
Since the symmetry of a $x + y - 4 = 0$ line given at the analytical plane as per the point $A(a, b)$ is $x + y + 6 = 0$ line,
 $\Rightarrow a + b = ?$

A) -1 B) 0 C) 1 D) 3 E) 6

- 13.** $A(a + 2, a - 2)$ noktasının $y = x$ doğrusuna göre simetriği x ekseninde ise, A noktasının $x + 2 = 0$ doğrusuna göre simetriği nedir?
If the symmetry of a point $A(a + 2, a - 2)$ as per the $y = x$ line is on the x axis, then what is the symmetry of a point A as per the $x + 2 = 0$ line?

A) $(1, 0)$ B) $(1, 2)$ C) $(4, 4)$
 D) $(-4, -4)$ E) $(-4, -2)$

- 14.** $A(-1, 2)$ noktasının $x = 2$ doğrusuna göre simetriği B , $y = 3$ doğrusuna göre simetriği C noktası ise B ve C noktalarından geçen doğru denklemini nedir?
If the symmetry of a point $A(-1, 2)$ as per the $x = 2$ line is B , the symmetry as per the $y = 3$ line is C , then what is the equation of the line that passes through the point B and C ?

A) $y = 2$ B) $y = 4$ C) $x = 5$
 D) $3x - y - 6 = 0$ E) $3y + x - 11 = 0$

- 15.** $x - 2y - 6 = 0$, $2x + y - 5 = 0$ doğrularının açıortay denklemlerinden birinin orijine göre simetriği nedir?
What is the symmetry of one of the equations of angles bisectors of the $x - 2y - 6 = 0$, $2x + y - 5 = 0$ lines as per the origin?

A) $x + 3y - 1 = 0$ B) $x + 3y - 2 = 0$
 C) $x + 3y + 1 = 0$ D) $2x + 3y - 2 = 0$
 E) $2x - 3y - 1 = 0$

- 16.** $2x + 3y - 6 = 0$ doğrusunun $3x - 2y - 6 = 0$ doğrusuna göre simetriği nedir?
What is the symmetry of a $2x + 3y - 6 = 0$ line as per the $3x - 2y - 6 = 0$ line?

A) $x - 5y = 0$ B) $2x + 3y - 6 = 0$
 C) $x - 5y + 6 = 0$ D) $x - 5y + 12 = 0$
 E) $x + 5y - 12 = 0$



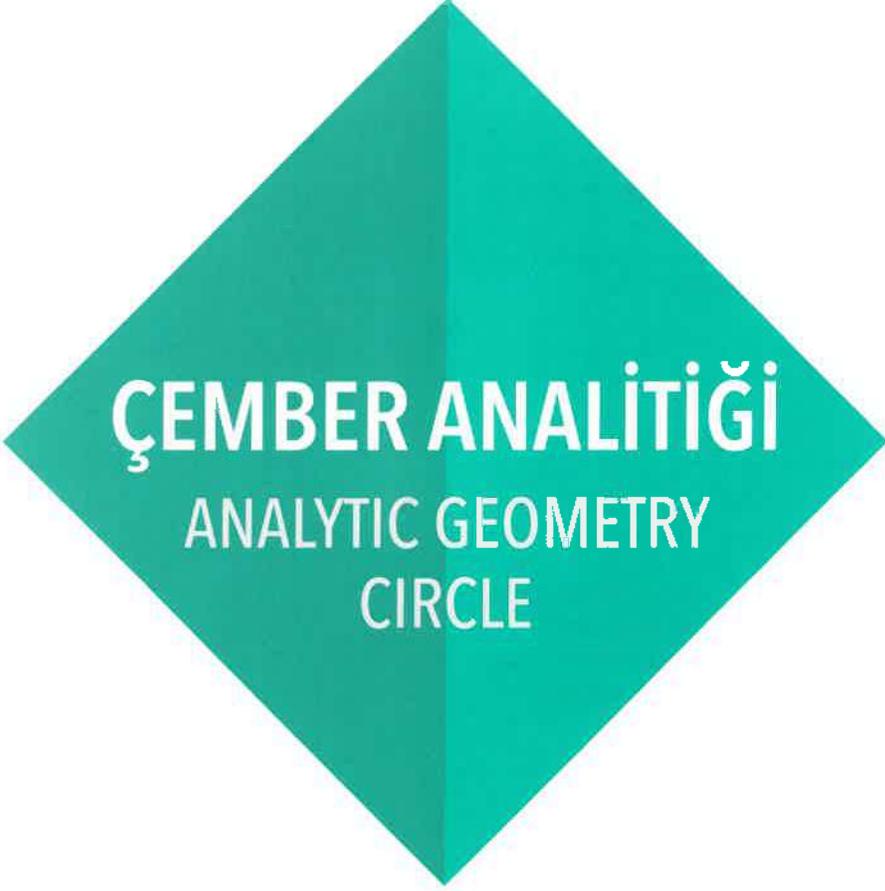
YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	A	D	B	A	B	B	B	C	D	B	B	B	D	E	C

TEST 2

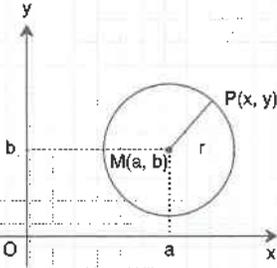
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	A	B	D	E	B	B	E	C	C	A	D	E	A	B



ÇEMBER ANALİTİĞİ
ANALYTIC GEOMETRY
CIRCLE

ÇEMBER ANALİTİĞİ

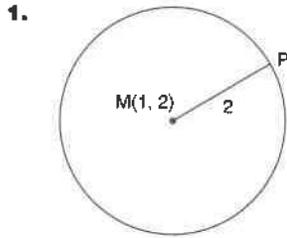
ÖZELLİK | Property 1



$$r = \sqrt{(x-a)^2 + (y-b)^2}$$

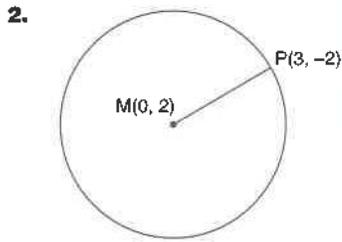
$$r^2 = (x-a)^2 + (y-b)^2$$

$M(a, b)$ merkez
 $M(a, b)$ center
 r yarıçaplı çember
 circle with radius r



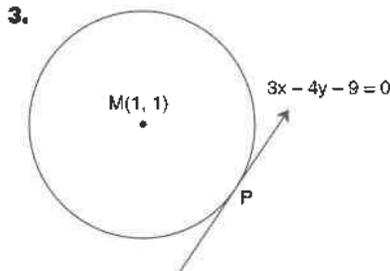
⇒ M merkezli çember denklemleri nedir?
 What is the circle equation with a center M?

$$(x - 1)^2 + (y - 2)^2 = 4$$



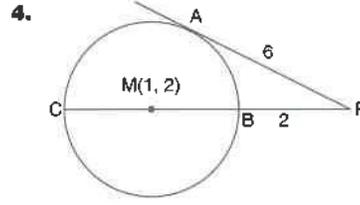
⇒ M merkezli çember denklemleri nedir?
 What is the circle equation with a center M?

$$x^2 + (y - 2)^2 = 25$$



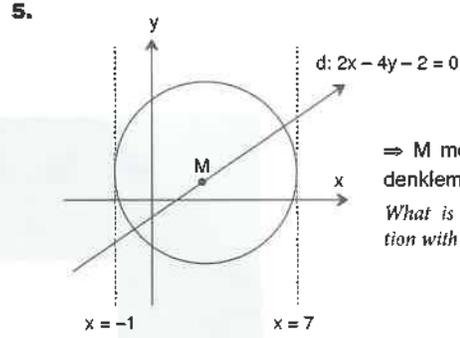
⇒ M merkezli çember denklemleri nedir?
 What is the circle equation with a center M?

$$(x - 1)^2 + (y - 1)^2 = 4$$



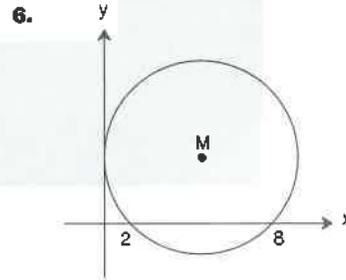
⇒ M merkezli çember denklemleri nedir?
 What is the circle equation with a center M?

$$(x - 1)^2 + (y - 2)^2 = 64$$



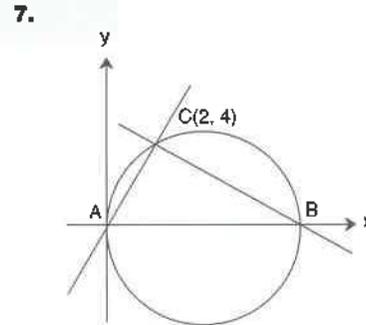
⇒ M merkezli çember denklemleri nedir?
 What is the circle equation with a center M?

$$(x - 3)^2 + (y - 1)^2 = 16$$



⇒ M merkezli çember denklemleri nedir?
 What is the circle equation with a center M?

$$(x - 5)^2 + (y - 4)^2 = 25$$

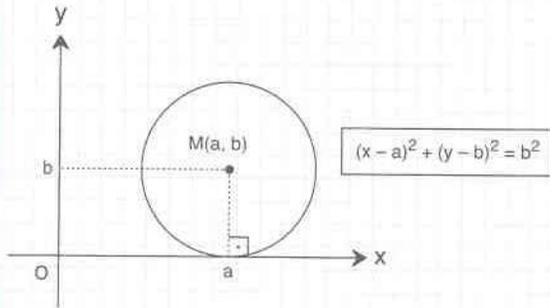


⇒ [AB] çaplı çember denklemleri nedir?
 What is the circle equation with a diameter [AB]?

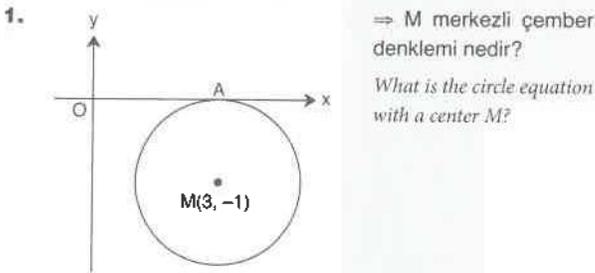
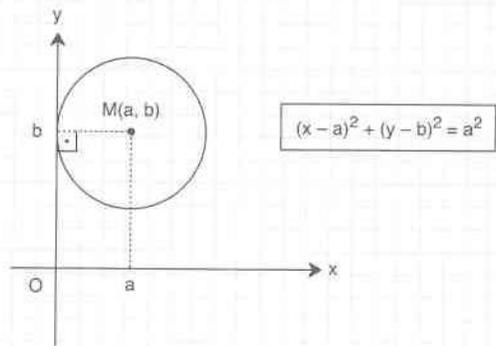
$$(x - 5)^2 + y^2 = 25$$

PUZAYANILARI

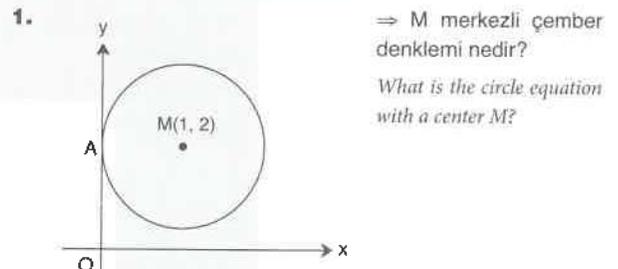
ÖZELLİK | Property 2



ÖZELLİK | Property 3

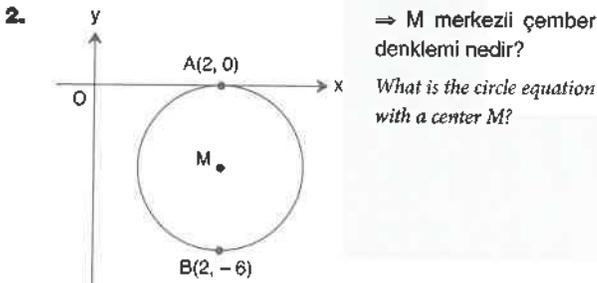


$(x - 3)^2 + (y + 1)^2 = 1$

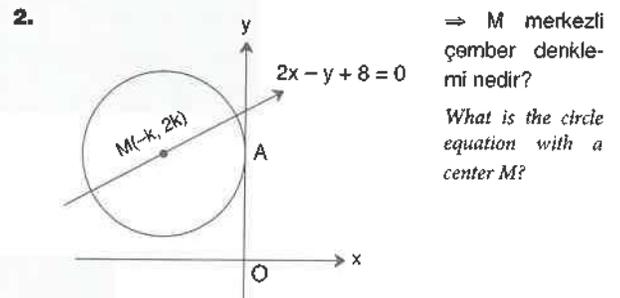


$(x - 1)^2 + (y - 2)^2 = 1$

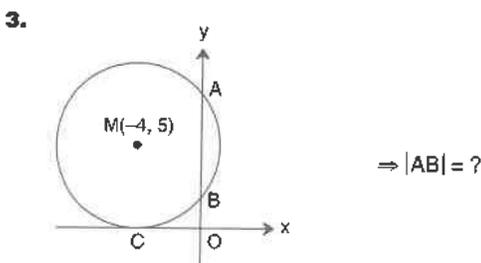
PUZATAYINLARI



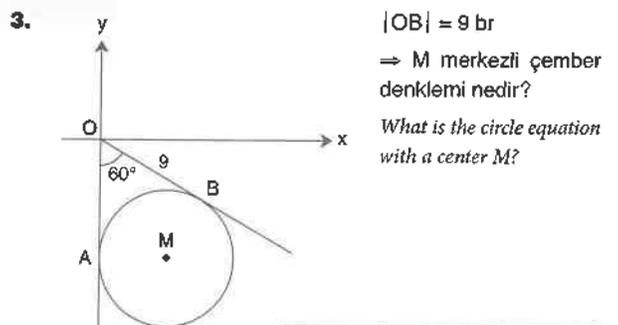
$(x - 2)^2 + (y + 3)^2 = 9$



$(x + 2)^2 + (y - 4)^2 = 4$



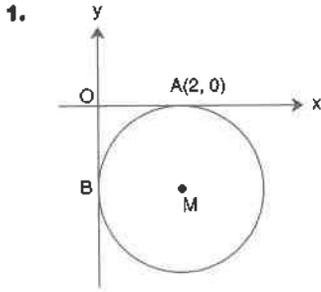
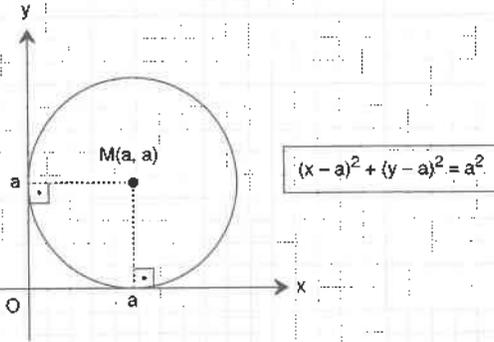
6



$(x - 3\sqrt{3})^2 + (y + 9)^2 = 27$

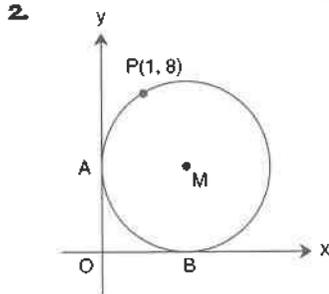
ÇEMBER ANALİTİĞİ

ÖZELLİK | Property 4



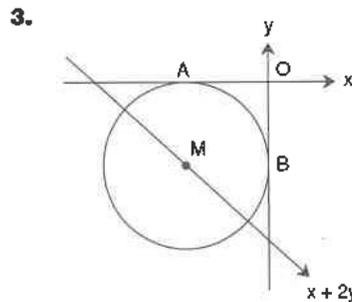
⇒ M merkezli çember denklemini nedir?
What is the circle equation with a center M?

$$(x - 2)^2 + (y + 2)^2 = 4$$



⇒ M merkezli çember denklemini nedir?
What is the circle equation with a center M?

$$(x - 5)^2 + (y - 5)^2 = 25$$



⇒ M merkezli çember denklemini nedir?
What is the circle equation with a center M?

$$(x + 2)^2 + (y + 2)^2 = 4$$

ÖZELLİK | Property 5

$$(x - a)^2 + (y - b)^2 = r^2$$

$$x^2 + y^2 - 2ax - 2by + a^2 + b^2 - r^2 = 0$$

$$-2a = D \quad -2b = E \quad a^2 + b^2 - r^2 = F$$

$$x^2 + y^2 + Dx + Ey + F = 0$$

$$M\left(-\frac{D}{2}, -\frac{E}{2}\right) \quad r = \frac{1}{2}\sqrt{D^2 + E^2 - 4F}$$

$\Delta = D^2 + E^2 - 4F$

- $\Delta > 0$ çember (circle)
- $\Delta = 0$ nokta (point)
- $\Delta < 0$ çember belirtmez (it does not define a circle)

1. $x^2 + y^2 - 6x + 4y - 3 = 0$

⇒ M = ?
⇒ r = ?

$$(3, -2), 4$$

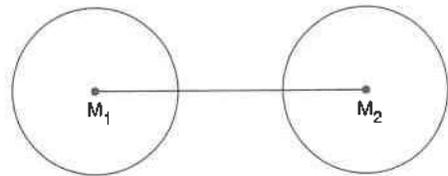
PUZAYANILARI

2. $(m - 2)x^2 + 4y^2 + 8x + (m + 2)y - 4 = 0$ çember belirtiyorsa (If it defines a circle)

⇒ r = ?

$$\sqrt{3}$$

3. $x^2 + y^2 - 2x - 6y - 12 = 0 \rightarrow M_1$ (merkezi) (its center is)
 $x^2 + y^2 + 6x - 4y - 8 = 0 \rightarrow M_2$ (merkezi) (its center is)

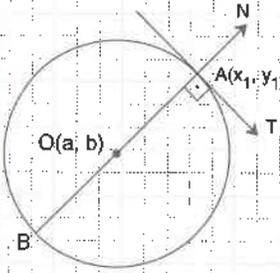


⇒ $|M_1M_2| = ?$

$$\sqrt{17}$$

ÖZELLİK | Property 6

Çember üzerinden çizilen teğet ve normal denklemleri
The equation of a tangent and normal line that is drawn over the circle



$$m_N = \frac{y_1 - b}{x_1 - a}$$

$$m_T \cdot m_N = -1$$

Teğet Denklemi

Equation of tangential

$$y - y_1 = m_T(x - x_1)$$

Normal Denklemi

Equation of normal line

$$y - y_1 = m_N(x - x_1)$$

ÖZELLİK | Property 7

Doğru ile çemberin birbirine göre durumları.
Cases of a line and circle as per each other

$$(x - a)^2 + (y - b)^2 = r^2 \quad y = mx + n$$

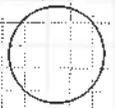
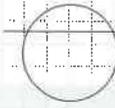
$$(x - a)^2 + (mx + n - b)^2 = r^2$$

$$(x - a)^2 + (mx + n - b)^2 - r^2 = 0$$

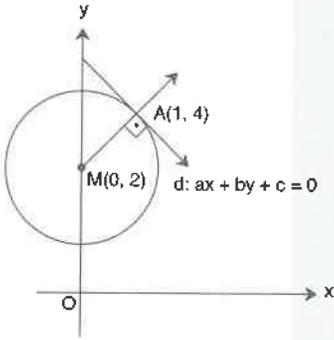
$$\Delta > 0$$

$$\Delta = 0$$

$$\Delta < 0$$



1.

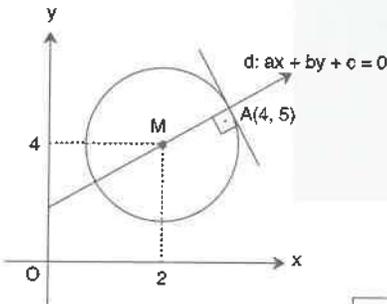


$$\Rightarrow d = ?$$

$$2y + x - 9 = 0$$

$$(0, 2), (2, 4)$$

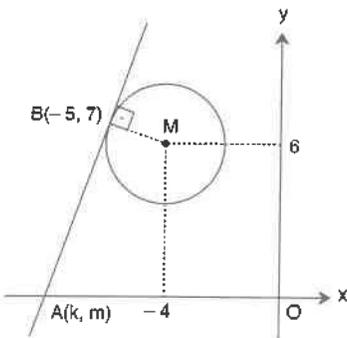
2.



$$\Rightarrow d = ?$$

$$2y - x - 6 = 0$$

3.



$$\Rightarrow k + m = ?$$

$$-12$$

1.

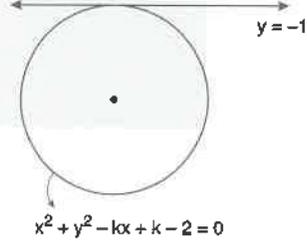
$(x - 1)^2 + (y - 3)^2 = 2$ çemberi ile $y = x + 2$ doğrusunun varsa kesim noktalarını bulunuz.

Find the intersecting points of the $(x - 1)^2 + (y - 3)^2 = 2$ circle and the $y = x + 2$ line if there is any.

PUZUYAYINLARI

$$(0, 2), (2, 4)$$

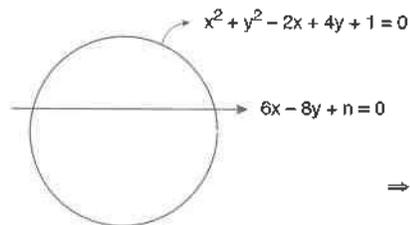
2.



$$\Rightarrow k = ?$$

$$2$$

3.



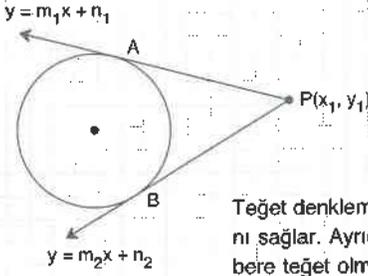
$$\Rightarrow ? < n < ?$$

$$-42 < n < -2$$

ÇEMBER ANALİTİĞİ

ÖZELLİK | Property 8

Çember dışındaki bir noktadan çizilen teğet denklemleri
The equations of tangent which are drawn from a point outside the circle



Teğet denklemleri $P(x_1, y_1)$ noktasını sağlar. Ayrıca, doğrunun çembere teğet olma şartı kullanılarak m ve n değerleri bulunur.

An equation of tangent proves the point $P(x_1, y_1)$. Furthermore, by utilizing the condition being tangential to a circle, m and n values are found.

1. $(x - 6)^2 + y^2 = 36$ çemberinin dışındaki $(16, 0)$ noktasından çizilen teğet denklemleri nedir?

The equations of tangents which are drawn from a point $(16, 0)$ outside the circle $(x - 6)^2 + y^2 = 36$

$$\begin{aligned} 4y + 3x - 48 &= 0 \\ 4y - 3x + 48 &= 0 \end{aligned}$$

2. $x^2 + y^2 = 5$ çemberinin dışındaki $A(3, 1)$ noktasından çizilen teğet denklemleri nedir?

The equations of tangents which are drawn from a point $A(3, 1)$ outside the circle $x^2 + y^2 = 5$

$$\begin{aligned} y &= 2x - 5 \\ y &= -\frac{1}{2}x + \frac{5}{2} \end{aligned}$$

3. $x^2 + y^2 = 10$ çemberine dışındaki $A(2, 4)$ noktasından çizilen teğet denklemleri nedir?

The equations of tangents which are drawn from a point $A(2, 4)$ outside the circle $x^2 + y^2 = 10$

$$\begin{aligned} 3y - x - 10 &= 0 \\ y + 3x - 10 &= 0 \end{aligned}$$

ÖZELLİK | Property 9

$A(x_1, y_1)$ noktası ile $(x - a)^2 + (y - b)^2 = r^2$ çemberi için

$(x_1 - a)^2 + (y_1 - b)^2 < r^2 \Rightarrow$ nokta çemberin içinde
the point inside the circle

$(x_1 - a)^2 + (y_1 - b)^2 > r^2 \Rightarrow$ nokta çemberin dışında
the point outside the circle

$(x_1 - a)^2 + (y_1 - b)^2 = r^2 \Rightarrow$ nokta çemberin üstünde
the point at the circle

1. $A(1, -2)$ noktası $(x - 2)^2 + (y - 1)^2 = k$ çemberinin dışında ise k ne olmalıdır?

If the point $A(1, -2)$ is outside the $(x - 2)^2 + (y - 1)^2 = k$ circle, what must k be?

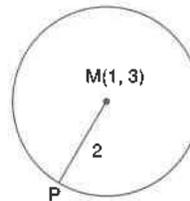
$$k < 10$$

2. $A(2, 1)$ noktası $(x - 1)^2 + (y + 1)^2 = k$ çemberinin içinde ise k ne olmalıdır?

If the point $A(2, 1)$ is inside the $(x - 1)^2 + (y + 1)^2 = k$ circle, what must k be?

$$5 < k$$

- 3.



$A(4, -1)$

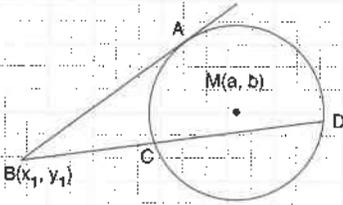
A noktasının çemberin en uzak noktasına olan uzaklığı kaç br'dir?

How many unit is the distance of a point A to the farthest point of the circle?

$$7$$

ÖZELLİK | Property 10

Bir noktanın çembere göre kuvveti
Power of a point with respect to a circle



$|AB|^2 = |BC| \cdot |BD|$ (kuvvete p.darsek) (Let the power be p).

☆ $(x - a)^2 + (y - b)^2 = r^2$

$|p| = (x_1 - a)^2 + (y_1 - b)^2 - r^2$

☆ $x^2 + y^2 + Dx + Ey + F = 0$

$|p| = x_1^2 + y_1^2 + Dx_1 + Ey_1 + F$

1. $A(1, -2)$ noktasının $(x - 1)^2 + (y - 2)^2 = 3$ çemberine göre kuvvetini bulunuz.

Find the power of the point $A(1, -2)$ as per the circle $(x - 1)^2 + (y - 2)^2 = 3$.

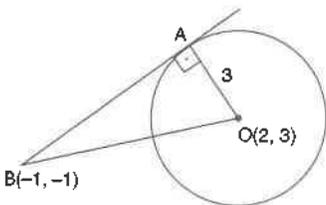
13

2. $A(-2, 1)$ noktasının $x^2 + y^2 + 2x + y + 1 = 0$ çemberine göre kuvvetini bulunuz.

Find the power of the point $A(-2, 1)$ as per the circle $x^2 + y^2 + 2x + y + 1 = 0$.

3

- 3.

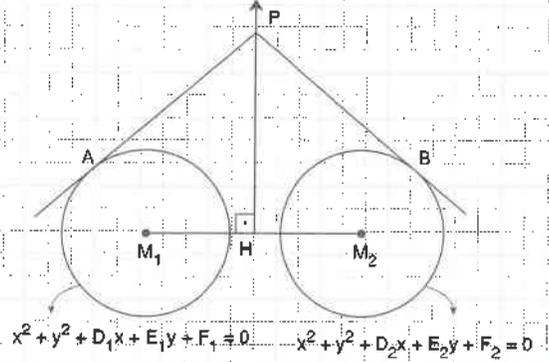


$\Rightarrow |AB| = ?$

4

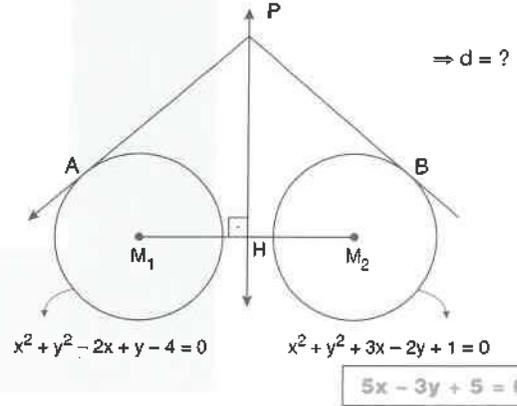
ÖZELLİK | Property 11

Kuvvet Eksenini
Radical axis



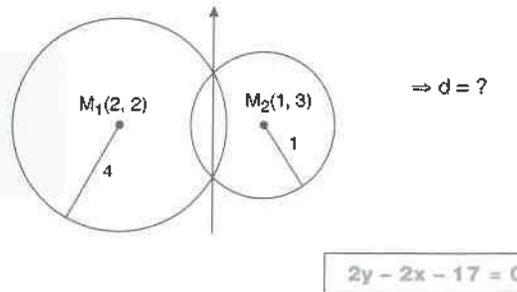
Kuvvet eksenini bulmak için x^2 ve y^2 yok edilir.
In order to find the radical axis, the x^2 and y^2 are eliminated.

1. d. $ax + by + c = 0$



$\Rightarrow d = ?$

2. d. $ax + by + c = 0$



$\Rightarrow d = ?$

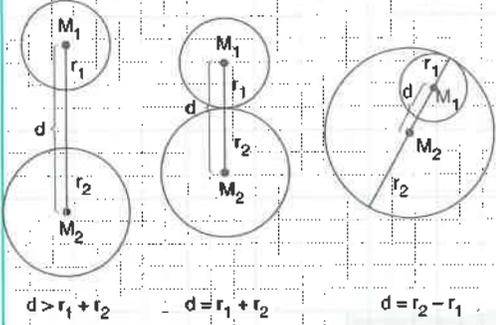
3. $x^2 + y^2 + 4x + 6y + 4 = 0$ $x^2 + y^2 - 8x - 10y + 30 = 0$
 çemberlerinin kuvvet eksenini nedir?

*What is the radical axis of the circles $x^2 + y^2 + 4x + 6y + 4 = 0$
 $x^2 + y^2 - 8x - 10y + 30 = 0$?*

6x + 8y - 13 = 0

ÖZELLİK | Property 12

İki çemberin birbirine göre durumu
Cases of a two circles as per each other



1. $x^2 + y^2 = 16$ $(x + 4)^2 + (y - a)^2 = 1$
 $a > 0$ çemberleri dıştan teğet olduğuna göre
 if the circles are externally tangential

$\Rightarrow a = ?$

3

2. $x^2 + (y - a)^2 = 16$ $(x - 2)^2 + y^2 = 1$
 $a > 0$ çemberleri içten teğet ise
 in case the circles are internally tangents

$\Rightarrow a = ?$

$\sqrt{5}$

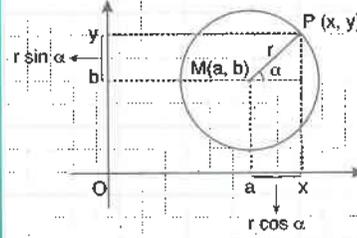
3. $(x + 3)^2 + (y - 2)^2 = 9$
 $(x - 1)^2 + (y + 1)^2 = r^2$
 çemberleri dıştan teğet olduğuna göre
 if the circles are externally tangential

$\Rightarrow r = ?$

2

ÖZELLİK | Property 13

Çemberin Parametrik Denklemi
The parametric equation of a circle



$$\begin{aligned} (x - a) &= r \cos \alpha \\ (y - b) &= r \sin \alpha \\ x &= a + r \cos \alpha \\ y &= b + r \sin \alpha \end{aligned}$$

$$\begin{aligned} (x - a)^2 + (y - b)^2 &= r^2(\cos^2 \alpha + \sin^2 \alpha) \\ (x - a)^2 + (y - b)^2 &= r^2 \end{aligned}$$

1. $x = 2 \cos \alpha + 1$
 $y = 2 \sin \alpha - 3$

\Rightarrow çemberinin denklemi nedir?
 What is the equation of the circle?

$$(x - 1)^2 + (y + 3)^2 = 4$$

2. $x = 3 + 4 \cos \alpha$
 $y = -2 + 4 \sin \alpha$

\Rightarrow çemberinin denklemi nedir?
 What is the equation of the circle?

$$(x - 3)^2 + (y + 2)^2 = 16$$

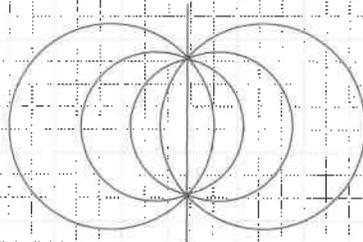
3. $(x - 1)^2 + (y + 2)^2 = 4$ olan çemberin parametrik denklemi nedir?

What is the parametric equation of the circle which is
 $(x - 1)^2 + (y + 2)^2 = 4$?

$$\begin{aligned} x &= 1 + 2 \cos \alpha \\ y &= -2 + 2 \sin \alpha \end{aligned}$$

ÖZELLİK | Property 14

Çember Demeti Circle Bundle



$$x^2 + y^2 + D_1x + E_1y + F_1 + k(x^2 + y^2 + D_2x + E_2y + F_2) = 0$$

1. $(x - 4)^2 + (y - 4)^2 = 9$ ve $(x - 3)^2 + (y - 3)^2 = 4$ çemberlerinin kesim noktalarından ve $P(2, 1)$ noktasından geçen çember denklemini nedir?

What is the equation of a circle that passes through the intersecting point of $(x - 4)^2 + (y - 4)^2 = 9$ and $(x - 3)^2 + (y - 3)^2 = 4$ circles and a point $P(2, 1)$?

$$x^2 + y^2 - \frac{16}{3}x - \frac{16y}{3} + 3 = 0$$

2. $x^2 + y^2 - 2x + y - 4 = 0$
 $x^2 + y^2 - 2x + 2y - 8 = 0$

çemberlerinin kesim noktalarından geçen doğru denklemini nedir?

What is the equation of a line that passes through the intersecting point of $x^2 + y^2 - 2x + y - 4 = 0$ and $x^2 + y^2 - 2x + 2y - 8 = 0$ circles?

$$y = 4$$

3. $x^2 + y^2 - 8x + 4y + 16 = 0$
 $x^2 + y^2 + 4x - 8y - 4 = 0$

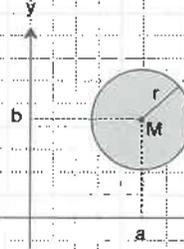
çemberlerinin kesim noktalarından geçen doğru denklemini nedir?

What is the equation of a line that passes through the intersecting point of $x^2 + y^2 - 8x + 4y + 16 = 0$ and $x^2 + y^2 + 4x - 8y - 4 = 0$ circles?

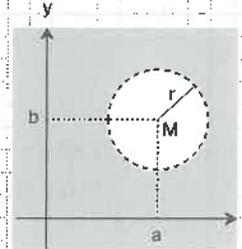
$$3y - 3x + 5 = 0$$

ÖZELLİK | Property 15

Çemberin Düzlemde Ayırdığı Bölge
Sector that a circle separates at the plane



$$(x - a)^2 + (y - b)^2 \leq r^2$$



$$(x - a)^2 + (y - b)^2 > r^2$$

1. $(x - 2)^2 + (y - 1)^2 \leq 4$

Eşitsizliğin çözüm kümesinin grafiğini çizin.

Draw the graph of a solution set of the $(x - 2)^2 + (y - 1)^2 \leq 4$ inequality.

2. $4 < x^2 + y^2 \leq 9$

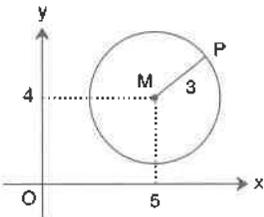
Eşitsizliğin çözüm kümesinin grafiğini çizin.

Draw the graph of a solution set of the $4 < x^2 + y^2 \leq 9$ inequality.

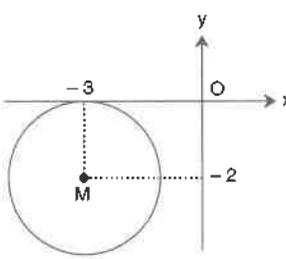
3. $x^2 + y^2 - 2x + 4y - 4 > 0$

Eşitsizliğin çözüm kümesinin grafiğini çizin.

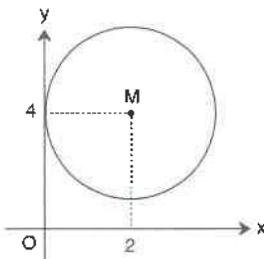
Draw the graph of a solution set of the $x^2 + y^2 - 2x + 4y - 4 > 0$ inequality.

1.  $|MP| = 3$ br
Şekildeki M merkezli çemberin denklemi nedir?
What is the circle equation with a center M as in figure?

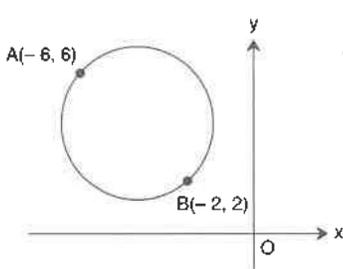
A) $(x + 4)^2 + (y + 5)^2 = 9$ B) $(x - 5)^2 + (y - 4)^2 = 3$
C) $(x - 5)^2 + (y + 4)^2 = 9$ D) $(x + 5)^2 + (y + 4)^2 = 9$
E) $(x - 5)^2 + (y - 4)^2 = 9$

2.  Şekildeki M merkezli çemberin denklemi nedir?
What is the circle equation with a center M as in the figure?

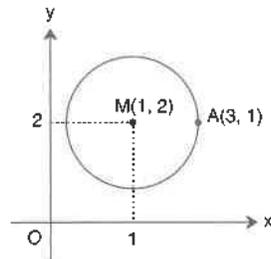
A) $(x - 3)^2 + (y - 2)^2 = 9$ B) $(x + 3)^2 + (y + 2)^2 = 4$
C) $(x + 3)^2 + (y + 2)^2 = 9$ D) $(x - 3)^2 + (y - 2)^2 = 4$
E) $(x + 3)^2 + (y + 2)^2 = 2$

3.  Şekildeki M merkezli çemberin denklemi nedir?
What is the circle equation with a center M as in figure?

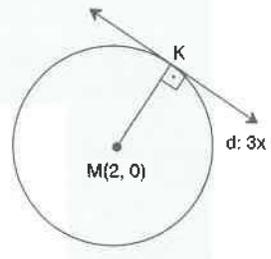
A) $(x - 2)^2 + (y - 4)^2 = 16$ B) $(x + 2)^2 + (y - 4)^2 = 4$
C) $(x + 2)^2 + (y + 4)^2 = 16$ D) $(x + 2)^2 + (y + 4)^2 = 4$
E) $(x - 2)^2 + (y - 4)^2 = 4$

4.  Şekildeki [AB] çaplı çemberin denklemi nedir?
What is the circle equation with a diameter [AB] as in figure?

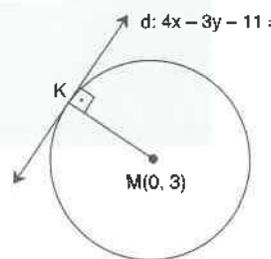
A) $(x - 4)^2 + (y + 4)^2 = 8$ B) $(x + 4)^2 + (y - 4)^2 = 8$
C) $(x + 4)^2 + (y - 4)^2 = 32$ D) $(x - 4)^2 + (y - 4)^2 = 16$
E) $(x - 2)^2 (y + 2)^2 = 8$

5.  M merkezli çemberin denklemi nedir?
What is the circle equation with a center M?

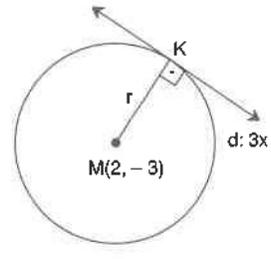
A) $(x - 1)^2 + (y - 2)^2 = 2$ B) $(x - 1)^2 + (y - 2)^2 = 5$
C) $(x + 1)^2 + (y + 2)^2 = 2$ D) $(x + 1)^2 + (y + 2)^2 = 4$
E) $(x + 1)^2 + (y + 2)^2 = 5$

6.  M merkezli çemberin yarıçapı kaç birimdir?
What's the length of the radius of the given circle with center M?

A) 1 B) 2 C) 3 D) 4 E) 5

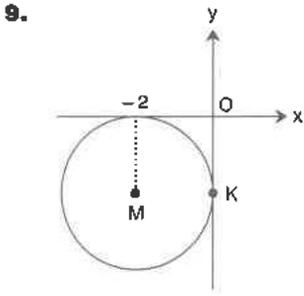
7.  M merkezli çemberin denklemi nedir?
What is the circle equation with a center M?

A) $x^2 + (y - 3)^2 = 3$ B) $x^2 + (y - 3)^2 = 25$
C) $x^2 + (y + 3)^2 = 3$ D) $x^2 + (y - 3)^2 = 16$
E) $x^2 + (y + 3)^2 = 16$

8.  $r = ?$

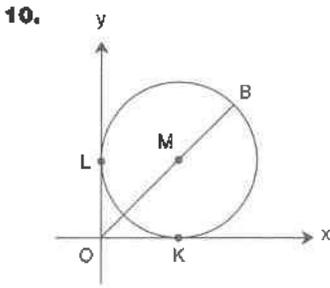
A) 2 B) 3 C) 4 D) 5 E) 6

PUZAY YAYINLARI



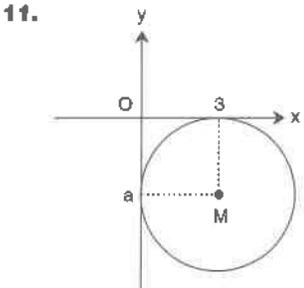
M merkezli çemberin denklemini nedir?
What is the circle equation with a center M?

- A) $(x + 2)^2 + (y + 2)^2 = 2$ B) $(x - 2)^2 + (y - 2)^2 = 2$
C) $x^2 + y^2 = 4$ D) $(x + 2)^2 + (y + 2)^2 = 4$
E) $(x - 2)^2 + (y - 2)^2 = 4$



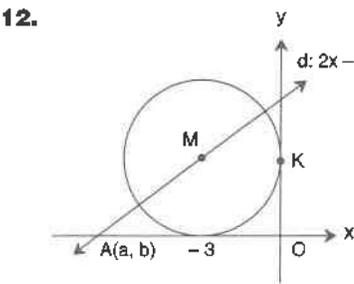
$|OB| = (6 + 6\sqrt{2})$ br
M merkezli çemberin denklemini nedir?
What is the circle equation with a center M?

- A) $(x - 1)^2 + (y - 1)^2 = 1$ B) $(x - 2)^2 + (y - 2)^2 = 4$
C) $(x - 3)^2 + (y - 3)^2 = 9$ D) $(x - 6)^2 + (y - 6)^2 = 36$
E) $x^2 + y^2 = 6$



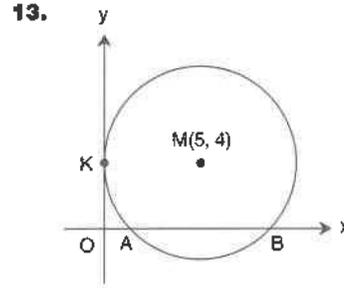
M merkezli çemberin denklemini
The circle equation with a center M
 $(x - 3)^2 + (y - a)^2 = 9$
 $\Rightarrow a = ?$

- A) -2 B) -3 C) -4 D) -5 E) -6



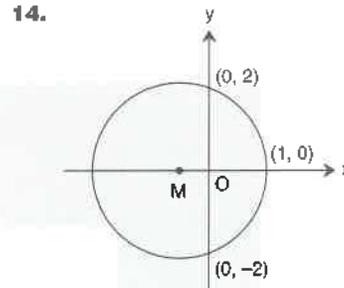
$\Rightarrow a = ?$

- A) $-\frac{9}{2}$ B) -4 C) $-\frac{10}{3}$ D) -3 E) -1,5



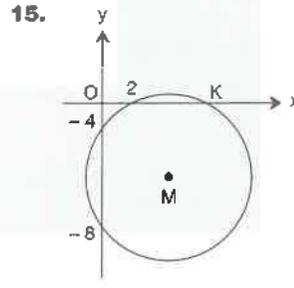
$\Rightarrow |AB| = ?$

- A) 2 B) 4 C) 6 D) 8 E) 10



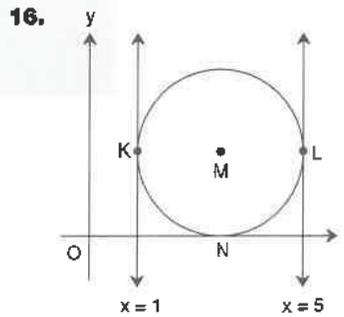
M merkezli çemberin yarıçapı kaç birimdir?
What's the length of the radius of the given with center M?

- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3



M merkezli çemberin denklemini nedir?
What is the circle equation with a center M?

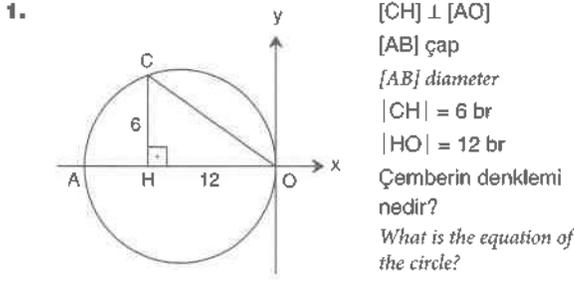
- A) $(x - 3)^2 + (y + 6)^2 = 16$ B) $(x - 9)^2 + (y + 6)^2 = 85$
C) $(x - 3)^2 + (y - 6)^2 = 80$ D) $(x - 2)^2 + (y + 2)^2 = 16$
E) $(x - 9)^2 + (y + 6)^2 = 117$



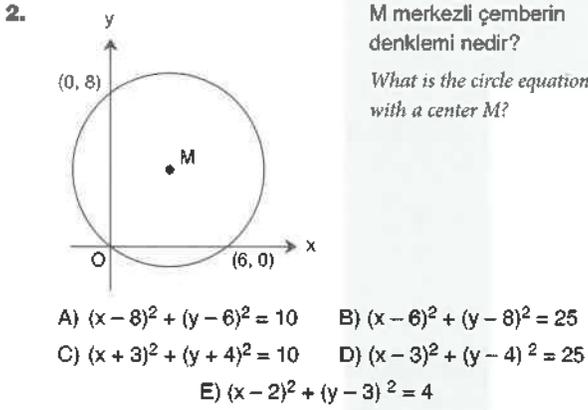
M merkezli çemberin denklemini nedir?
What is the circle equation with a center M?

- A) $(x - 1)^2 + (y - 5)^2 = 16$ B) $(x - 3)^2 + (y - 2)^2 = 4$
C) $(x - 3)^2 + (y - 3)^2 = 4$ D) $(x - 3)^2 + (y - 2)^2 = 16$
E) $(x - 3)^2 + y^2 = 16$

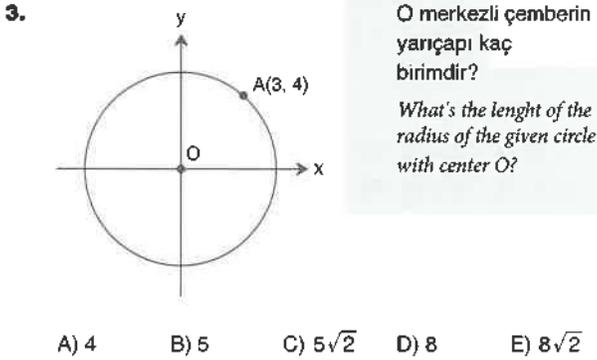
PUZUYUNLARI



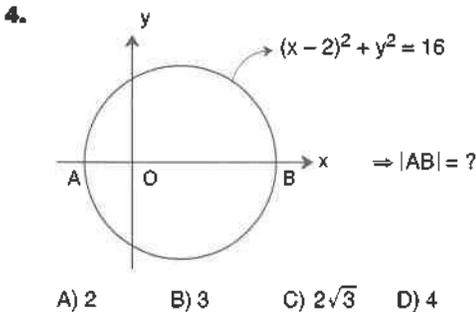
- A) $(x - 12)^2 + y^2 = 36$ B) $(x + 12)^2 + y^2 = 36$
 C) $(x + \frac{15}{2})^2 + y^2 = \frac{225}{4}$ D) $(x - \frac{5}{2})^2 + (y - \frac{5}{2})^2 = \frac{25}{4}$
 E) $(x + \frac{5}{2})^2 + (y - \frac{5}{2})^2 = \frac{25}{4}$



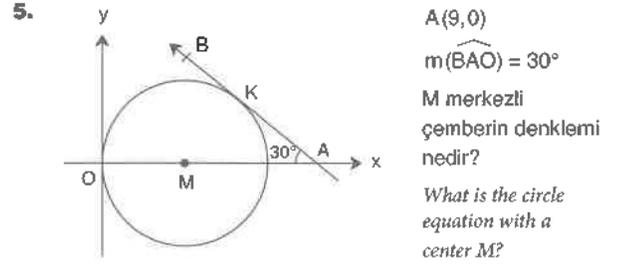
- A) $(x - 8)^2 + (y - 6)^2 = 10$ B) $(x - 6)^2 + (y - 8)^2 = 25$
 C) $(x + 3)^2 + (y + 4)^2 = 10$ D) $(x - 3)^2 + (y - 4)^2 = 25$
 E) $(x - 2)^2 + (y - 3)^2 = 4$



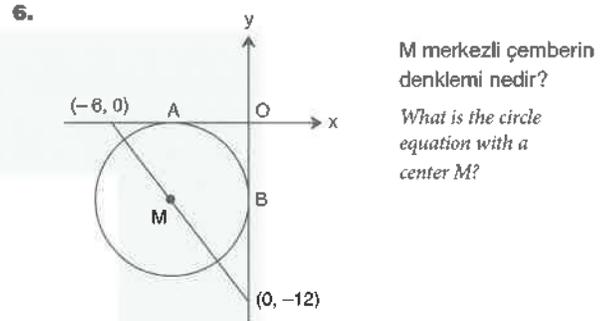
- A) 4 B) 5 C) $5\sqrt{2}$ D) 8 E) $8\sqrt{2}$



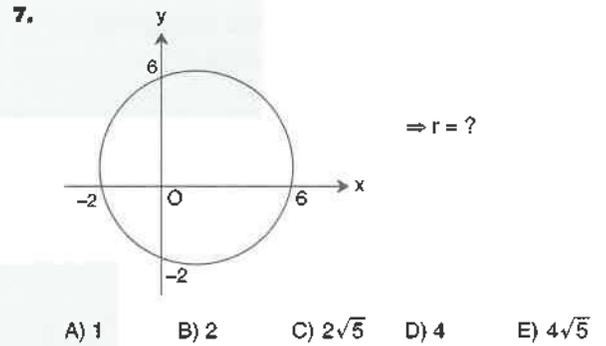
- A) 2 B) 3 C) $2\sqrt{3}$ D) 4 E) 8



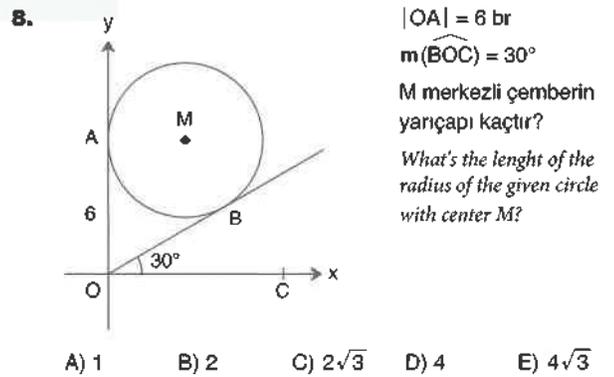
- A) $(x - 2)^2 + y^2 = 4$ B) $(x + 1)^2 + y^2 = 4$
 C) $(x + 3)^2 + y^2 = 9$ D) $(x - 3)^2 + y^2 = 9$
 E) $(x - 1)^2 + y^2 = 1$



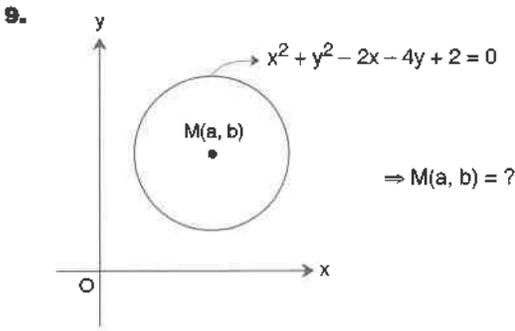
- A) $(x + 2)^2 + (y + 2)^2 = 3$ B) $(x + 2)^2 + (y + 2)^2 = 4$
 C) $(x - 1)^2 + (y + 1)^2 = 1$ D) $(x + 1)^2 + (y + 1)^2 = 1$
 E) $(x + 4)^2 + (y + 4)^2 = 16$



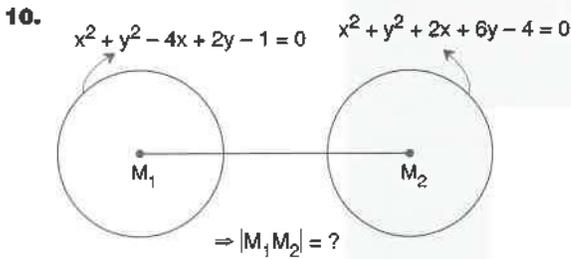
- A) 1 B) 2 C) $2\sqrt{5}$ D) 4 E) $4\sqrt{5}$



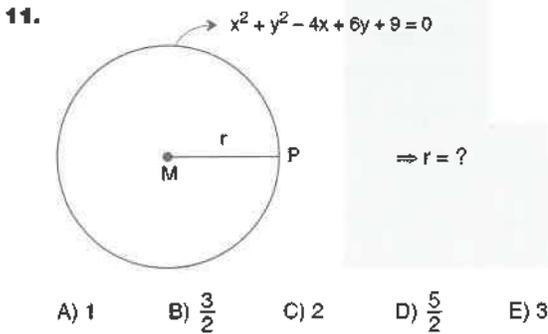
- A) 1 B) 2 C) $2\sqrt{3}$ D) 4 E) $4\sqrt{3}$



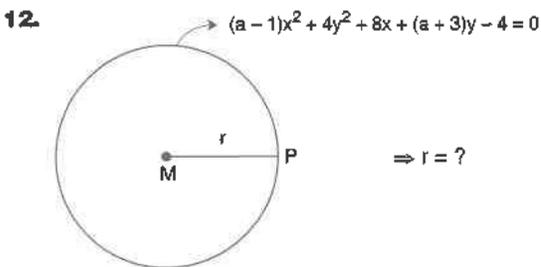
- A) (-2, -4) B) (2, 4) C) (-1, -2)
 D) (1, 2) E) (-4, 2)



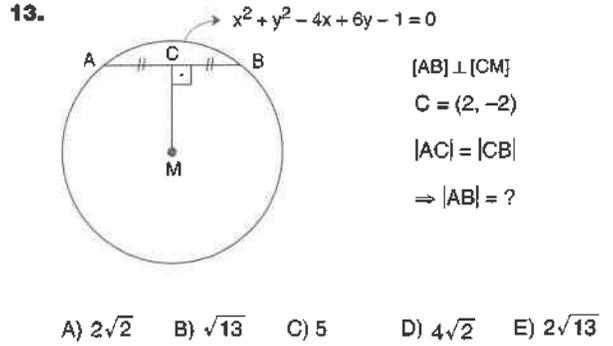
- A) $\sqrt{7}$ B) $\sqrt{13}$ C) 5 D) 6 E) $\sqrt{51}$



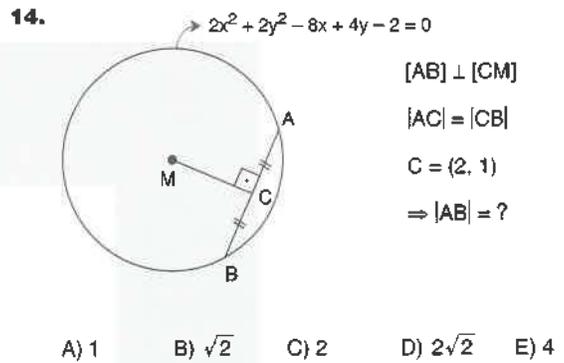
- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3



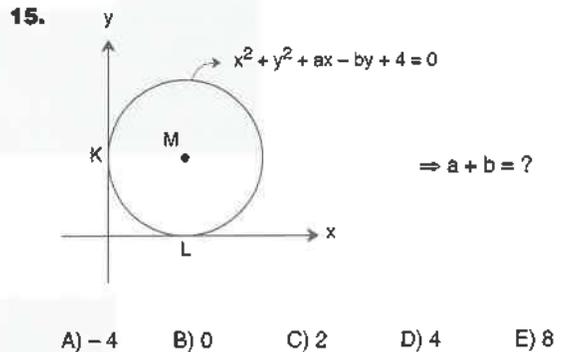
- A) 1 B) $\sqrt{2}$ C) $\frac{3}{2}$ D) $\sqrt{3}$ E) $\frac{7}{2}$



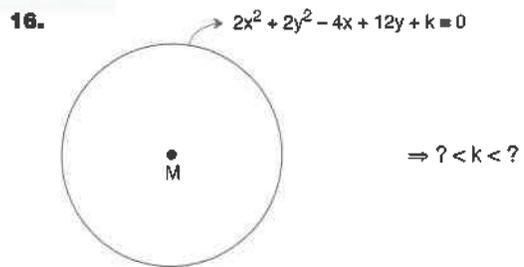
- A) $2\sqrt{2}$ B) $\sqrt{13}$ C) 5 D) $4\sqrt{2}$ E) $2\sqrt{13}$



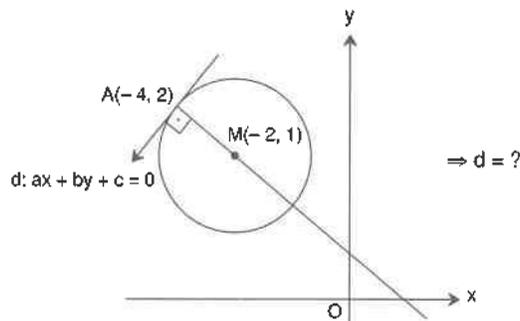
- A) 1 B) $\sqrt{2}$ C) 2 D) $2\sqrt{2}$ E) 4

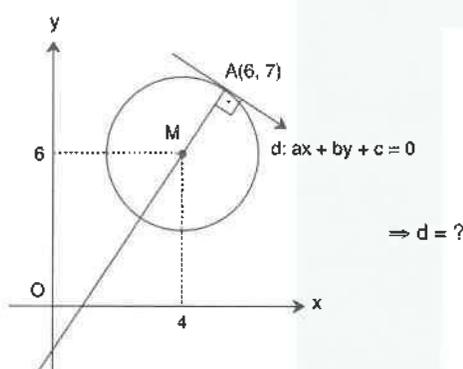


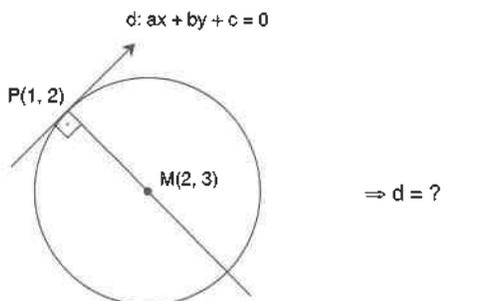
- A) -4 B) 0 C) 2 D) 4 E) 8

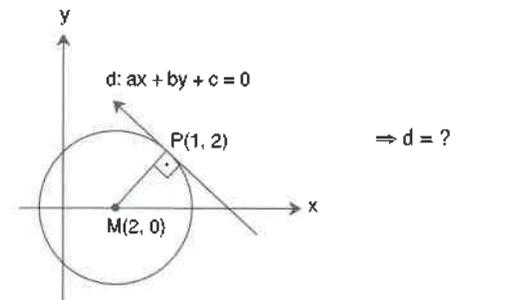


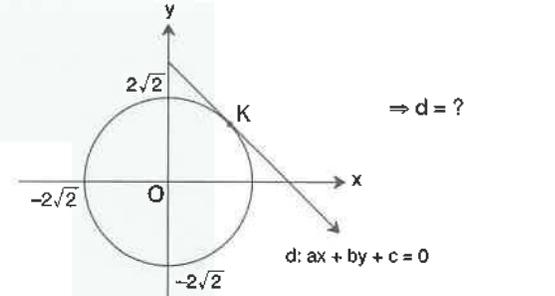
- A) $(-\infty, 20)$ B) $(-\infty, -20)$ C) $(-\infty, 0)$
 D) $(0, \infty)$ E) $(20, \infty)$

1.  $\Rightarrow d = ?$
- A) $x - y - 8 = 0$ B) $2y + x - 8 = 0$
 C) $2y + x - 18 = 0$ D) $y - 2x - 10 = 0$
 E) $y - 2x + 6 = 0$

2.  $\Rightarrow d = ?$
- A) $y + 2x - 6 = 0$ B) $y - x + 1 = 0$
 C) $y + 2x - 19 = 0$ D) $y + x - 6 = 0$
 E) $2x + y - 12 = 0$

3.  $\Rightarrow d = ?$
- A) $2y - x - 5 = 0$ B) $y - 2x - 4 = 0$
 C) $x + y - 3 = 0$ D) $2y + x - 1 = 0$
 E) $2y - x - 5 = 0$

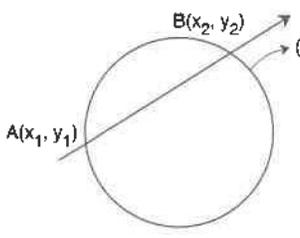
4.  $\Rightarrow d = ?$
- A) $x + 2y - 5 = 0$ B) $2y - x - 3 = 0$
 C) $y - 2x - 4 = 0$ D) $y + 2x - 4 = 0$
 E) $y + 2x - 3 = 0$

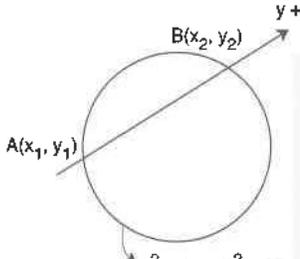
5.  $\Rightarrow d = ?$
- A) $x - y = 2$ B) $x + y = 2$ C) $x + 2y = 2$
 D) $x + y = 4$ E) $2x + y = 2$

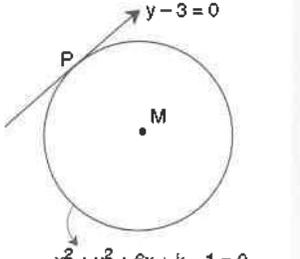
6. $(x - 1)^2 + (y - 2)^2 = 4$ çemberinin dışındaki $A(-1, 1)$ noktasından çizilen teğetlerden birinin denklemi nedir?
 What is one of the equations of tangents which are drawn from a point $A(-1, 1)$ outside the circle $(x - 1)^2 + (y - 2)^2 = 4$?
- A) $3x - y - 4 = 0$ B) $2x + y - 2 = 0$
 C) $3x + 4y - 1 = 0$ D) $x - y + 1 = 0$
 E) $2x + y - 1 = 0$

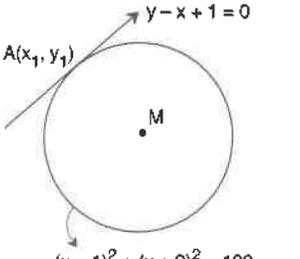
7. $(x - 1)^2 + (y - 1)^2 = 1$ çemberinin dışındaki $A(0, 3)$ noktasından çizilen teğetlerden birinin denklemi nedir?
 What is one of the equations of tangents which are drawn from a point $A(0, 3)$ outside the circle $(x - 1)^2 + (y - 1)^2 = 1$?
- A) $3x - y - 6 = 0$ B) $x + y - 3 = 0$
 C) $3x + 4y - 12 = 0$ D) $2x - y - 6 = 0$
 E) $x + y - 5 = 0$

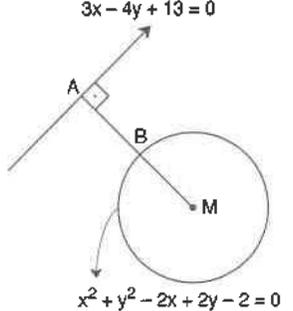
8. $x^2 + y^2 = 5$ çemberinin dışındaki $A(3, 1)$ noktasından çizilen teğetlerden birinin denklemi nedir?
 What is one of the equations of tangents which are drawn from a point $A(3, 1)$ outside the circle $x^2 + y^2 = 5$?
- A) $x + y - 1 = 0$ B) $x - 2y - 1 = 0$
 C) $x - y - 1 = 0$ D) $x + y + 2 = 0$
 E) $y - 2x + 5 = 0$

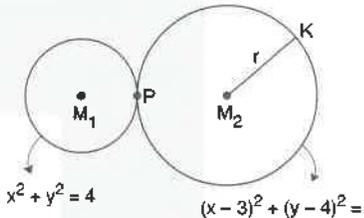
9.  $y = x + 3$
 $(x - 1)^2 + (y - 4)^2 = 8$
 $\Rightarrow x_1 + x_2 - y_1 - y_2 = ?$
 A) -6 B) 0 C) 2 D) 4 E) 5

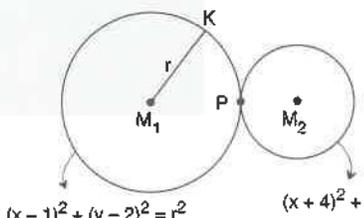
10.  $y + 2 - x = 0$
 $x^2 + (y - 4)^2 = 25$
 $\Rightarrow x_1 + x_2 = ?$
 A) -6 B) -3 C) 0 D) 3 E) 6

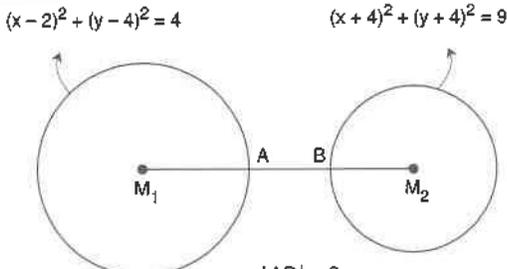
11.  $y - 3 = 0$
 $x^2 + y^2 + 6x + k - 1 = 0$
 $k > 0$
 $\Rightarrow k = ?$
 A) 5 B) 4 C) 3 D) 2 E) 1

12.  $y - x + 1 = 0$
 $(x - 1)^2 + (y + 2)^2 = 100$
 $x_1 > 0$
 $\Rightarrow x_1 + y_1 = ?$
 A) 8 B) 10 C) 13 D) 15 E) 16

13.  $3x - 4y + 13 = 0$
 $x^2 + y^2 - 2x + 2y - 2 = 0$
 $\Rightarrow |AB| = ?$
 A) 1 B) 2 C) 3 D) 4 E) 5

14.  $x^2 + y^2 = 4$
 $(x - 3)^2 + (y - 4)^2 = r^2$
 $\Rightarrow r = ?$
 A) 1 B) 3 C) 4 D) 6 E) 9

15.  $(x - 1)^2 + (y - 2)^2 = r^2$
 $(x + 4)^2 + (y + 10)^2 = 9$
 $\Rightarrow r = ?$
 A) 12 B) 10 C) 9 D) 8 E) 7

16.  $(x - 2)^2 + (y - 4)^2 = 4$
 $(x + 4)^2 + (y + 4)^2 = 9$
 $\Rightarrow |AB| = ?$
 A) 6 B) 5 C) 4 D) 3 E) 2

1. $A(1, 2)$ noktasının $x^2 + y^2 + 2x - y + 1 = 0$ çemberine göre kuvveti nedir?

What is the power of point $A(1, 2)$ with respect to circle $x^2 + y^2 + 2x - y + 1 = 0$?

- A) 36 B) 12 C) 10 D) 6 E) 4

2. $A(-2, 1)$ noktasının $x^2 + y^2 + 2x - y + 3 = 0$ çemberine göre kuvveti nedir?

What is the power of point $A(-2, 1)$ with respect to circle $x^2 + y^2 + 2x - y + 3 = 0$?

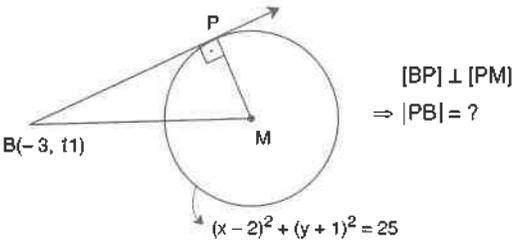
- A) 15 B) 4 C) 3 D) 2 E) 1

3. $A(-1, 1)$ noktasının $(x - 2)^2 + (y - 3)^2 = 4$ çemberine göre kuvvet uzunluğu kaç birimdir?

What is the length of power of point $A(-1, 1)$ with respect to a circle $(x - 2)^2 + (y - 3)^2 = 4$?

- A) 6 B) 5 C) 3 D) 2 E) 1

4.



- A) 20 B) 16 C) 14 D) 12 E) 10

5. $(x - a)^2 + y^2 = a^2$ çemberi ile $x^2 + (y - 3)^2 = 1$ çemberi dıştan teğet ise a kaçtır?

If the circle $(x - a)^2 + y^2 = a^2$ and the circle $x^2 + (y - 3)^2 = 1$ are externally tangents then what is the value of a ?

- A) 5 B) 4 C) $\frac{7}{2}$ D) 3 E) $\frac{5}{2}$

6. $a > 0$

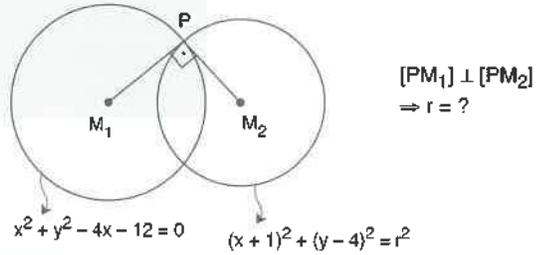
$(x - 1)^2 + y^2 = 1$ çemberi ile $x^2 + (y - a)^2 = 9$ çemberi içten teğet ise a kaçtır?

If the circle $(x - 1)^2 + y^2 = 1$ and the circle $x^2 + (y - a)^2 = 9$ are internally tangents, then what is the value of a ?

- A) $4\sqrt{2}$ B) 4 C) 3 D) $\sqrt{3}$ E) $\sqrt{2}$

PUZAYAYINLARI

7.



- A) 1 B) 2 C) 3 D) 4 E) 5

8. $(x + 2)^2 + (y - 3)^2 = 25$ çemberi ile $x^2 + (y + 2)^2 = r^2$ çemberi dik kesiştiğine göre r kaçtır?

In case the circle $(x + 2)^2 + (y - 3)^2 = 25$ and the circle $x^2 + (y + 2)^2 = r^2$ are intersecting at right angles, then what is the value of r ?

- A) $2\sqrt{5}$ B) 4 C) $\sqrt{6}$ D) $\sqrt{5}$ E) 2

9. $x = 2 \cos t - 1$
 $y = 2 \sin t$
 sistemine karşılık gelen çemberin denklemi nedir?
 What is the equation of the circle that corresponds to the system
 $x = 2 \cos t - 1, y = 2 \sin t$?

- A) $(x + 1)^2 + y^2 = 4$ B) $x^2 + (y + 1)^2 = 2$
 C) $(x - 1)^2 + y^2 = 2$ D) $(x - 1)^2 + y^2 = 8$
 E) $x^2 + (y - 1)^2 = 2$

10. $x^2 + y^2 = 10$ çemberinin parametrik denklemi nedir?
 What is the parametric equation of the circle $x^2 + y^2 = 10$?

- A) $y = \cos \alpha$ B) $x = \sqrt{10} \cos \alpha$
 $y = \sin \alpha$ $y = \sqrt{10} \sin \alpha$
 C) $x = 10 \cos \alpha$ D) $x = 5 \cos \alpha$
 $y = 10 \sin \alpha$ $y = 5 \sin \alpha$
 E) $x = 25 \cos \alpha$
 $y = 25 \sin \alpha$

11. $x = 1 + 5 \sin \alpha$
 $y = -2 + 5 \cos \alpha$
 sistemine karşılık gelen çemberin denklemi nedir?
 What is the equation of the circle that corresponds to the system
 $x = 1 + 5 \sin \alpha, y = -2 + 5 \cos \alpha$?

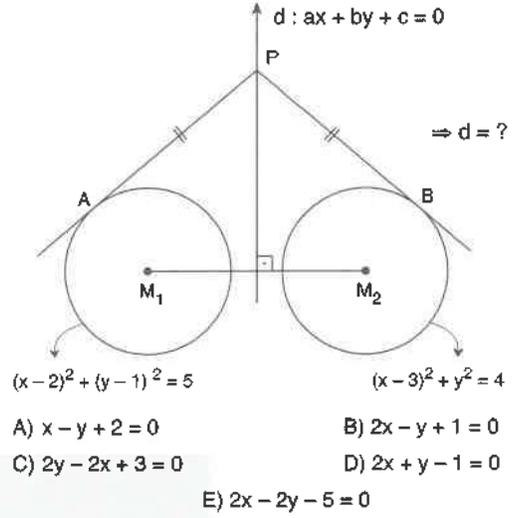
- A) $(x - 2)^2 + (y + 1)^2 = 25$ B) $(x - 1)^2 + (y + 2)^2 = 25$
 C) $(x + 1)^2 + (y - 2)^2 = 25$ D) $(x - 1)^2 + (y - 2)^2 = 25$
 E) $(x - 1)^2 + (y - 2)^2 = 25$

12. Denklemleri $x^2 + y^2 - 2x + y - 6 = 0$ ve
 $x^2 + y^2 + 3x - y - 1 = 0$ olan çemberlerin kuvvet ekseninin
 denklemi nedir?

What is the equation of the radical axis of the circles with the
 equations $x^2 + y^2 - 2x + y - 6 = 0$ and $x^2 + y^2 + 3x - y - 1 = 0$?

- A) $2y - 5x - 5 = 0$ B) $y - x - 4 = 0$
 C) $-x - 5 = 0$ D) $x + 2y - 2 = 0$
 E) $2x - y - 6 = 0$

- 13.

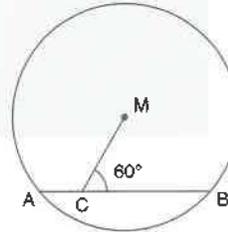


14. $x^2 + y^2 - 2x + y - 6 = 0$
 $x^2 + y^2 + 3x - 5y - 1 = 0$
 çemberlerinin kesim noktalarından geçen doğrunun denklemi nedir?

What is the equation of the line that passes through the
 intersecting point of $x^2 + y^2 - 2x + y - 6 = 0, x^2 + y^2 + 3x - 5y - 1 = 0$
 circles?

- A) $x - 4y - 7 = 0$ B) $5x - 6y + 5 = 0$
 C) $5x - 6y - 5 = 0$ D) $x + y - 5 = 0$
 E) $-x + 4y - 5 = 0$

- 15.



Şekildeki çemberin denklemi
 aşağıdakilerden hangisidir?

Which of the following is the equation
 of the given circle above?

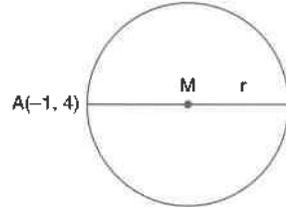
- A) $(x + 4)^2 + (y - 4)^2 = 100$
 B) $(x - 2)^2 + (y + 4)^2 = 10$
 C) $(x + 4)^2 + (y - 2)^2 = 10$
 D) $(x - 2)^2 + (y - 2)^2 = 100$
 E) $(x + 4)^2 + (y - 2)^2 = 100$

16. $x^2 + y^2 - x + y - 1 = 0$
 $x^2 + y^2 - 2x + y - 2 = 0$

Çemberlerinin kesim noktalarından geçen doğrunun
 denklemi nedir?

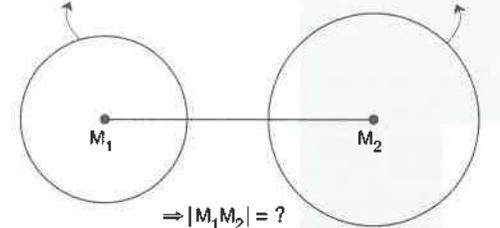
What is the equation of the line that passes through the intersecting
 point of $x^2 + y^2 - x + y - 1 = 0, x^2 + y^2 - 2x + y - 2 = 0$
 circles?

- A) $x - 4y - 7 = 0$ B) $5x + 4y - 5 = 0$
 C) $5x - 6y - 5 = 0$ D) $x + 1 = 0$
 E) $-x + 4y - 5 = 0$

1.  [AB] çaplı çemberin yarıçapı nedir?
What is the radius of circle with a diameter [AB]?

- A) $\sqrt{2}$ B) $\sqrt{5}$ C) 4 D) $2\sqrt{5}$ E) $4\sqrt{5}$

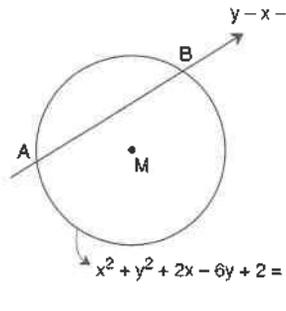
2. $x^2 + y^2 + 6x - 4y + 8 = 0$ $x^2 + y^2 - 2x - 6y + 12 = 0$



$\Rightarrow |M_1M_2| = ?$

- A) $2\sqrt{7}$ B) $2\sqrt{5}$ C) $\sqrt{17}$ D) 4 E) $\sqrt{10}$

3. $y - x - 4 = 0$



$\Rightarrow |AB| = ?$

$x^2 + y^2 + 2x - 6y + 2 = 0$

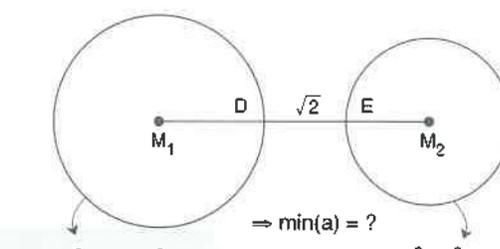
- A) 8 B) $4\sqrt{2}$ C) 4 D) $3\sqrt{2}$ E) 3

4. $(x + 2)^2 + (y - 5)^2 = 26$
çemberine üzerindeki A(-1, 10) noktasında çizilen teget denklemini nedir?
What is the equation of tangent which is drawn from a point A(-1, 10) at the circle $(x + 2)^2 + (y - 5)^2 = 26$?

- A) $x + y - 1 = 0$ B) $5x + y - 49 = 0$
C) $5y + x - 49 = 0$ D) $5x + y - 1 = 0$
E) $x + y - 4 = 0$

5. $x^2 + y^2 - 4x + 2y + k = 0$
çemberinin yarıçapı 3 br ise k kaçtır?
If the radius of the $x^2 + y^2 - 4x + 2y + k = 0$ circle is 3 units, then what is the value of k?

- A) -10 B) -9 C) -8 D) -5 E) -4

6.  $\Rightarrow \min(a) = ?$
 $(x - a)^2 + (y - 5)^2 = 2$ $(x - 6)^2 + y^2 = 18$

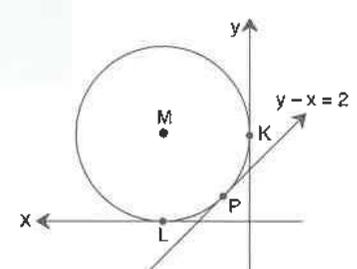
- A) -2 B) -1 C) 1 D) 2 E) 3

7. A(-1, -2) noktasından 2 br uzaklıktaki noktaların geometrik yerinin denklemini nedir?
What is the geometrical locus equation of the points which are at a distance of 2 units from the point A (-1, -2)?

- A) $x^2 + y^2 = 4$ B) $(x - 1)^2 + (y + 4)^2 = 4$
C) $(x - 1)^2 + (y + 2)^2 = 4$ D) $(x - 1)^2 + (y + 2)^2 = 2$
E) $(x + 1)^2 + (y + 2)^2 = 4$

8. A(3, 2) noktasından 1 br uzaklıktaki noktaların geometrik yerinin denklemini nedir?
What is the geometrical locus equation of the points which are at a distance of 1 units from the point A (3, 2)?

- A) $(x - 3)^2 + (y - 2)^2 = 1$ B) $x^2 + y^2 = 1$
C) $(x - 2)^2 + (y - 1)^2 = 1$ D) $(x - 4)^2 + (y - 3)^2 = 1$
E) $(x + 2)^2 + (y + 1)^2 = 1$

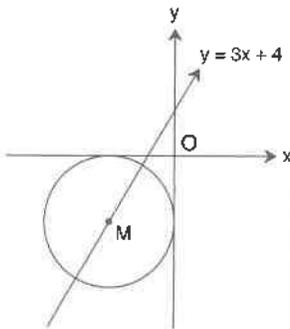
9.  $\Rightarrow M(a, b) = ?$

- A) (-2, 2) B) $(-\sqrt{2}, \sqrt{2})$
C) $(2 - \sqrt{2}, 2 + \sqrt{2})$ D) $(-2 + \sqrt{2}, 2 - \sqrt{2})$
E) $(-2 - \sqrt{2}, 2 + \sqrt{2})$

10. $kx^2 + 2y^2 - (k + 6)x - 16y + 8 = 0$ çemberinin yarıçapı kaçtır?
 What is the radius of the $kx^2 + 2y^2 - (k + 6)x - 16y + 8 = 0$ circle?

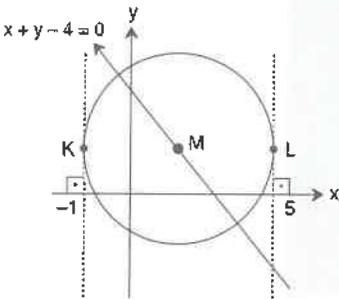
A) 2 B) 3 C) 4 D) 5 E) 6

11. M merkezli çemberin yarıçapı kaç br'dir?
 How many unit is the radius of a circle with a center M?



A) 1 B) 2 C) 3 D) 4 E) 5

12. M merkezli çember
 The circle with a center M
 $\Rightarrow M(a, b) = ?$



A) (1, 3) B) (-1, 2) C) (2, 2) D) (1, 4) E) (3, 2)

13. A(0, 3) noktasından $x^2 + y^2 - 4x + 2y + 1 = 0$ çemberine çizilen teget denkleminin nedir?
 What is the equation of tangent which is drawn from a point A(0, 3) to the $x^2 + y^2 - 4x + 2y + 1 = 0$ circle?

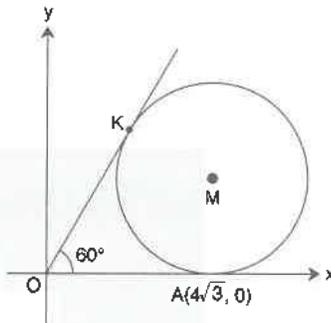
A) $3x + 4y - 12 = 0$ B) $x - y - 2 = 0$
 C) $x - 2 = 0$ D) $2x + y - 10 = 0$
 E) $y + 3 = 0$

14. A(1,1) noktasının $y = mx + 1$ doğrusuna göre simetrisinin geometrik yer denkleminin nedir?

What are geometrical locus which is the symmetry of point A(1, 1) as per the $y = mx + 1$ line?

A) $x^2 + y^2 = 2$
 B) $(x - 1)^2 + (y - 2)^2 = 4$
 C) $(x - 1)^2 + (y + 2)^2 = 2$
 D) $(x - 1)^2 + (y - 1)^2 = 4$
 E) $x^2 + y^2 = 4$

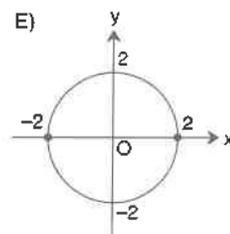
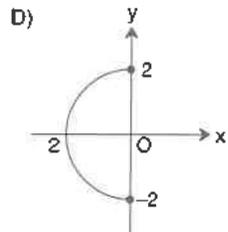
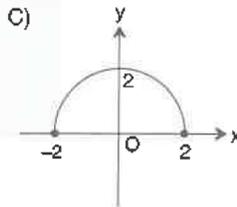
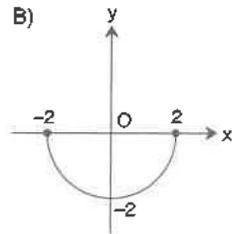
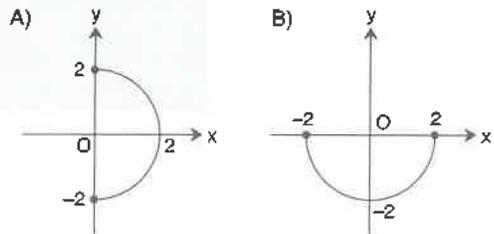
15. M merkezli çemberin yarıçapı nedir?
 What is the radius of circle with a center M?



A) $2\sqrt{3}$ B) 4 C) $3\sqrt{2}$ D) 5 E) $4\sqrt{3}$

16. $y = \sqrt{4 - x^2}$ denklemine ait grafik aşağıdakilerden hangisidir?

Which is the graph belongs to $y = \sqrt{4 - x^2}$ line equation amongst the following ones?





YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	E	B	B	A	D	C	D	D	B	A	C	D	B	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	B	E	D	E	C	C	D	B	C	D	E	D	B	A

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	B	D	C	C	E	A	E	E	C	B	B	B	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	D	B	D	C	E	A	B	B	A	E	B	E	D

TEST 5

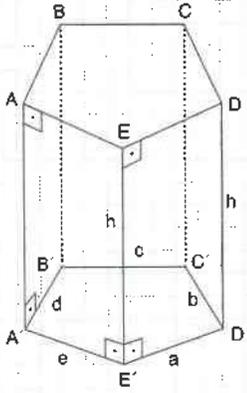
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	C	B	C	E	C	E	A	E	C	B	C	A	D	B	C



KATI CİSİM
SOLID OBJECT

ÖZELLİK | Property 1

Dik Prizma
Right Prism



$$V_{(\text{Hacim})} = \text{Taban alanı} \cdot \text{yükseklik (h)}$$

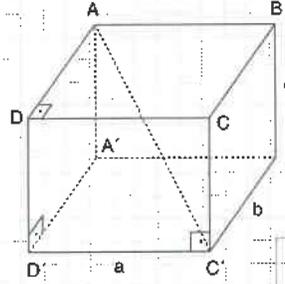
$$V_{(\text{Volume})} = \text{Bottom area} \cdot \text{height (h)}$$

$$\text{Yanal Alan} = \text{Taban çevresi} \cdot \text{yükseklik}$$

$$\text{Lateral Area} = \text{Bottom circumference} \cdot \text{height} \\ = (a + b + c + d + e) \cdot h$$

ÖZELLİK | Property 2

Dikdörtgenler Prizması
Rectangular prism



$$V_{(\text{Hacim})} = a \cdot b \cdot c$$

$$V_{(\text{Volume})} = a \cdot b \cdot c$$

$$\text{Yanal alan} = 2(a + b) \cdot c$$

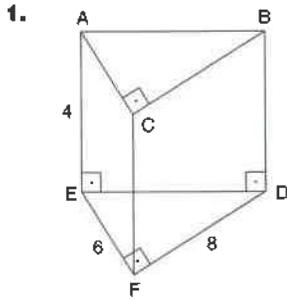
$$\text{Lateral area} = 2(a + b) \cdot c$$

$$\text{Yüzey Alanı} = 2(ab + ac + bc)$$

$$\text{Surface area} = 2(ab + ac + bc)$$

$$\text{Cisim Köşegeni} = |AC'| = \sqrt{a^2 + b^2 + c^2}$$

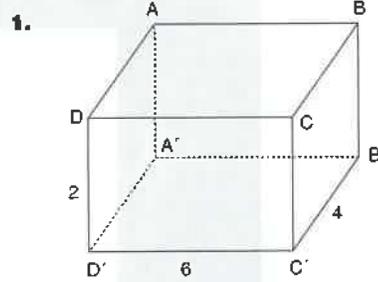
Solid diagonal



$$\Rightarrow V_{(\text{Hacim})} = ?$$

$$V_{(\text{Volume})} = ?$$

96



$$\Rightarrow V_{(\text{Hacim})} = ?$$

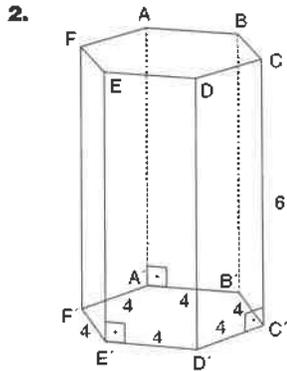
$$V_{(\text{Volume})} = ?$$

$$\Rightarrow \text{Yüzey Alanı} = ?$$

$$\text{Surface Area} = ?$$

$$\Rightarrow |BD'| = ?$$

48, 88, $2\sqrt{14}$



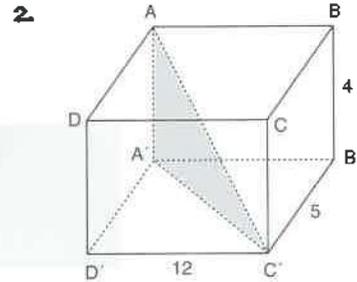
ABCDEF altıgen

ABCDEF hexagon

$$\Rightarrow V_{(\text{Hacim})} = ?$$

$$V_{(\text{Volume})} = ?$$

$144\sqrt{3}$



$$\Rightarrow A(AA'C') = ?$$

26

3. Taban çevresi 12 cm ve yüksekliği 6 cm olan dik prizmanın yanal alanı kaç cm^2 'dir?

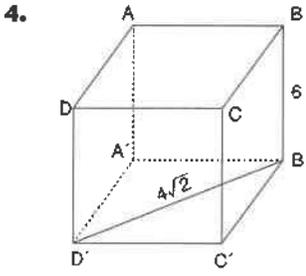
How many cm^2 is the lateral area of a right prism having a bottom circumference of 12 cm and a height of 6 cm?

72

3. Hacmi 100 cm^3 ve yüksekliği 4 cm olan kare dik prizmanın alanı kaç cm^2 'dir?

How many cm^2 is the area of a square right prism having a volume of 100 cm^3 and a height of 4 cm?

130



ABCD kare (square)

$$\Rightarrow V_{(\text{Hacim})} = ?$$

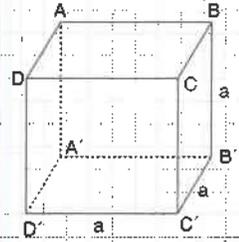
$$V_{(\text{Volume})} = ?$$

96

ÖZELLİK | Property 3

Küp

Cube



$$V_{(\text{Hacim})} = a^3$$

$$V_{(\text{Volume})} = a^3$$

$$\text{Yanal Alan} = 4a^2$$

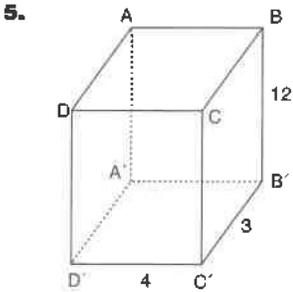
$$\text{Lateral area} = 4a^2$$

$$\text{Yüzey Alanı} = 6a^2$$

$$\text{Surface area} = 6a^2$$

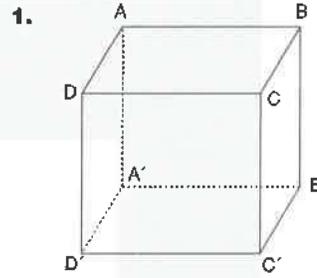
$$\text{Cisim Köşegeni} = |AC'| = a\sqrt{3}$$

$$\text{Object diagonal} = |AC'| = a\sqrt{3}$$



$$\Rightarrow |AC'| = ?$$

13



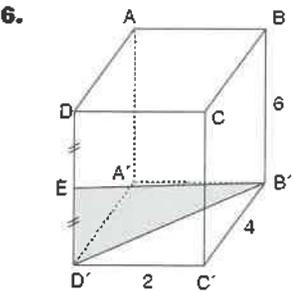
Şekil bir küp
A form cube

$$|AC'| = 5\sqrt{3} \text{ cm}$$

$$\Rightarrow V_{(\text{Hacim})} = ?$$

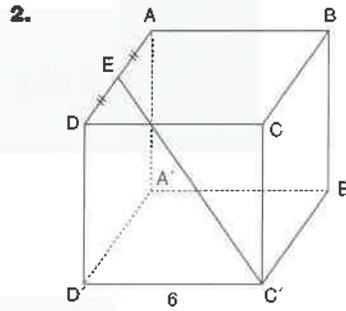
$$V_{(\text{Volume})} = ?$$

125



$$\Rightarrow A(ED'B') = ?$$

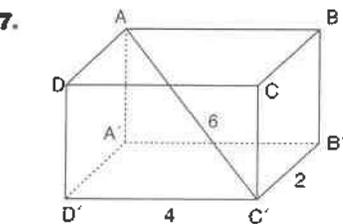
$3\sqrt{5}$



Şekil bir küp
A form cube

$$\Rightarrow |EC'| = ?$$

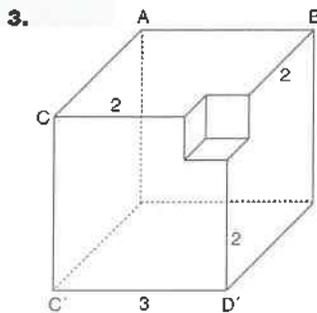
9



$$\Rightarrow V_{(\text{Hacim})} = ?$$

$$V_{(\text{Volume})} = ?$$

32



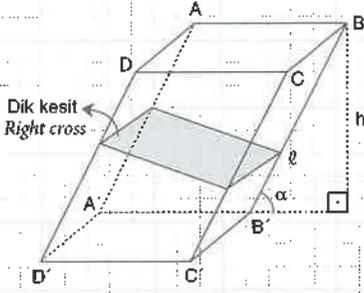
Şekildeki küpün köşesinden bir parça küp çıkarılıyor. Geri kalan cismin yüzey alanı kaç cm^2 'dir?

A piece of cube form is cut off at a corner of the cube shown as figure. How many cm^2 is the lateral surface of the remaining solid?

54

ÖZELLİK | Property 4

Eğik Prizma
Oblique Prism



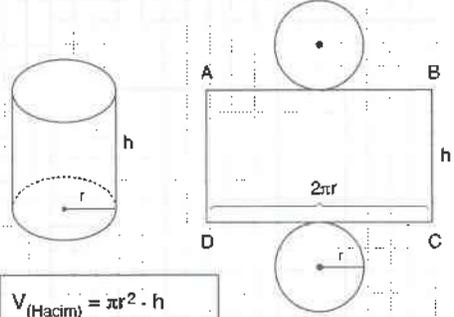
Dik kesit alanı = Taban alanı $\cdot \sin \alpha$
Area of the right cross sectional = Bottom area $\cdot \sin \alpha$

$V_{(Hacim)} = \text{Taban alanı} \cdot h = \text{Dik kesit alanı} \cdot l$
 $V_{(Volume)} = \text{Bottom area} \cdot h = \text{Area of the right cross sectional} \cdot l$

Yanal alan = Dik kesit çevresi $\cdot l$
Lateral area = Circumference of the right cross sectional $\cdot l$

ÖZELLİK | Property 5

Silindirik
Cylinder



$V_{(Hacim)} = \pi r^2 \cdot h$
 $V_{(Volume)} = \pi r^2 \cdot h$

Yanal Alan = $2\pi r \cdot h$
Lateral Area = $2\pi r \cdot h$

Tüm Alan = $2(\pi r \cdot h + \pi r^2)$
Total Area = $2(\pi r \cdot h + \pi r^2)$

1. $A(ABCD) = 10 br^2$
 $\Rightarrow V_{(Hacim)} = ?$
 $V_{(Volume)} = ?$

80

2. $A(ABCD) = 8 br^2$
 $\Rightarrow \text{Dik kesit alanı} = ?$
Area of the right cross sectional = ?

4

3. ABCD kare (square)
 $\Rightarrow V_{(Hacim)} = ?$
 $V_{(Volume)} = ?$

192

1. $V_{(Hacim)} = 24\pi br^3$
 $V_{(Volume)} = 24\pi br^3$
 $\Rightarrow r = ?$

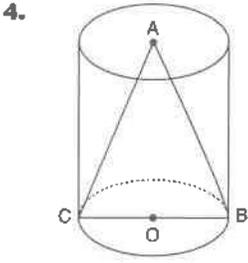
2

2. $\Rightarrow \text{Yüzey Alanı} = ?$
Surface Area = ?

42π

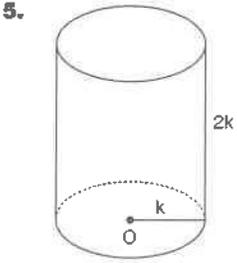
3. $\Rightarrow V_{(Hacim)} = ?$
 $V_{(Volume)} = ?$

216π



ABC eşkenar üçgen
 ABC equilateral triangle
 $|AC| = 6$ br
 $\Rightarrow V_{(Hacim)} = ?$
 $V_{(Volume)} = ?$

$27\sqrt{3}\pi$

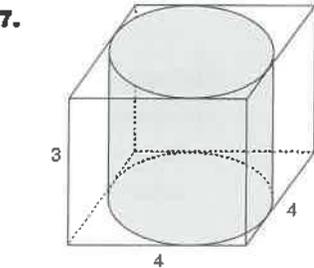


$V_{(Hacim)} = 128\pi$
 $V_{(Volume)} = 128\pi$
 \Rightarrow Yüzeı Alanı = ?
 Surface Area = ?

96π

6. Hacmi 18π cm³ olan 3 cm yarıçapındaki silindirin yanıl alanı kaç cm²'dir?
 How many cm² is the lateral area of a cylinder having a volume of 18π cm³ and with a radius of 3 cm?

12π

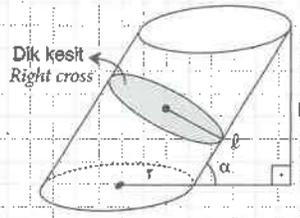


Dik prizmanın içine silindir yerleştirilmiştir. Silindir ile prizma arasındaki boşluğun hacmi en az kaç cm³'tür?
 A cylinder is placed inside of a right prism. What is the minimum cm³ of the space volume between the cylinder and prism?

$48 - 12\pi$

ÖZELLİK | Property 6

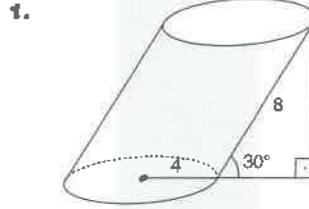
Eğik Silindir
 Oblique Cylinder



Yanal Alan = Dik kesit çevresi \cdot l
 Lateral Area = Circumference of the right cross sectional \cdot l

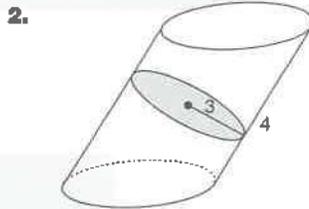
Dik Kesit Alanı = Taban Alanı \cdot $\sin\alpha$
 Area of the right cross sectional = Bottom area \cdot $\sin\alpha$

$V_{(Hacim)} = \text{Taban Alanı} \cdot h = \text{Dik kesit alanı} \cdot l$
 $V_{(Volume)} = \text{Bottom area} \cdot h$
 $= \text{Area of the right cross sectional} \cdot l$



$\Rightarrow V_{(Hacim)} = ?$
 $V_{(Volume)} = ?$

64π



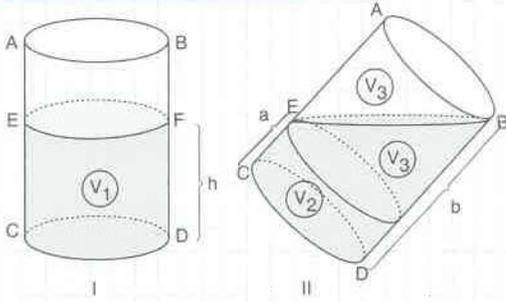
\Rightarrow Yanıl alan = ?
 Lateral area = ?

24π

3. Taban düzlemi ile 60° açı yapan eğik silindirin taban alanı 18 cm² ise dik kesit alanı kaç cm²'dir?
 If the bottom area of an oblique cylinder making an angle of 60° with the bottom plane is 18 cm², how many cm² is the right cross sectional area of that cylinder?

$9\sqrt{3}$

ÖZELLİK | Property 7

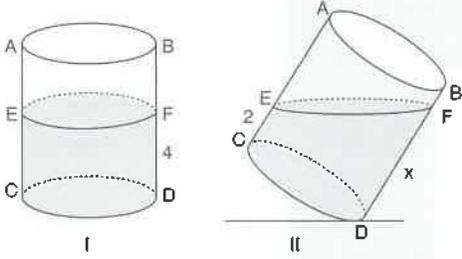


Silindir I. durumdan II. duruma getiriliyor.
Cylinder turns from I. situation to II. situation.

$$V_1 = V_2 + V_3$$

$$h = \frac{a+b}{2}$$

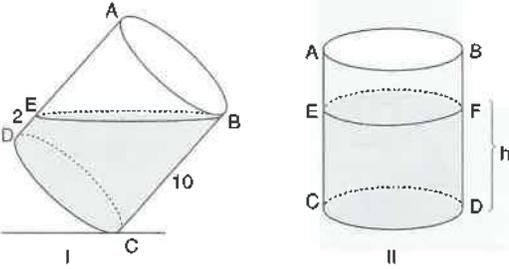
1.



Silindir I. durumdan II. duruma getiriliyor.
Cylinder I situation II brought the situation
 $\Rightarrow x = ?$

$$6$$

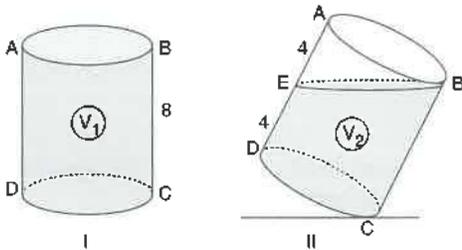
2.



Silindir I. durumdan II. duruma getiriliyor.
Cylinder turns from I. situation to II. situation.
 $\Rightarrow h = ?$

$$6$$

3.

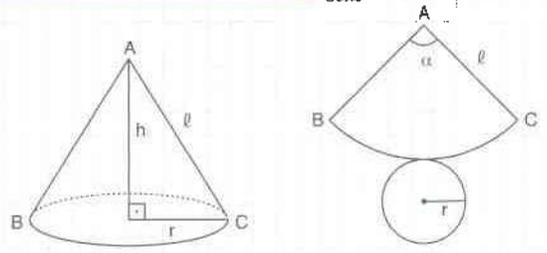


Silindir I. durumdan II. duruma getiriliyor.
Cylinder turns from I. situation to II. situation.
 $\Rightarrow \frac{V_1}{V_2} = ?$

$$\frac{4}{3}$$

ÖZELLİK | Property 8

Koni
Cone



$$V_{(\text{Hacim})} = \frac{\pi r^2 h}{3}$$

$$V_{(\text{Volume})}$$

$$\text{Yüzey Alanı} = \pi r^2 + \pi r l$$

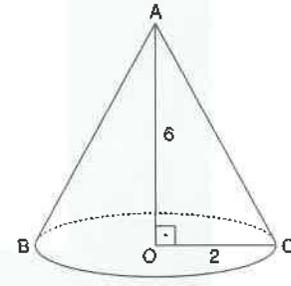
$$\text{Surface Area}$$

$$\text{Yanal alan} = \pi r l$$

$$\text{Lateral area}$$

$$2\pi r = 2\pi l \cdot \frac{\alpha}{360^\circ} \Rightarrow r = l \cdot \frac{\alpha}{360^\circ}$$

1.

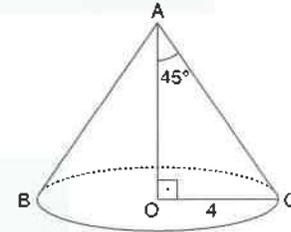


$$\Rightarrow V_{(\text{Hacim})} = ?$$

$$V_{(\text{Volume})} = ?$$

$$8\pi$$

2.

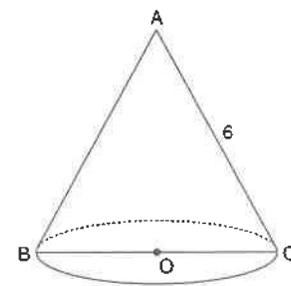


$$\Rightarrow \text{Yanal Alan} = ?$$

$$\text{Lateral Area} = ?$$

$$16\sqrt{2}\pi$$

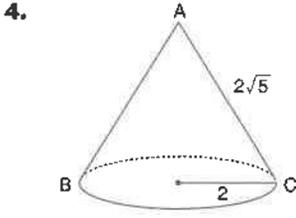
3.



ABC eşkenar üçgen
ABC equilateral triangle
 $\Rightarrow \text{Yüzey Alanı} = ?$
Surface Area = ?

$$27\pi$$

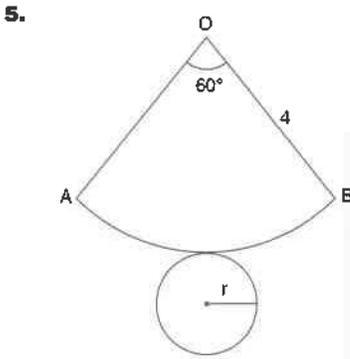
PUZZA YAYINLARI



$$\Rightarrow V_{(\text{Hacim})} = ?$$

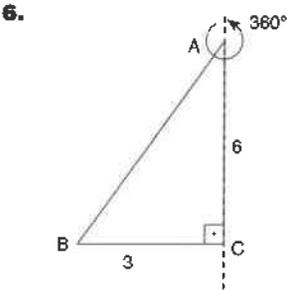
$$V_{(\text{Volume})} = ?$$

$$\frac{16\pi}{3}$$



$$\Rightarrow r = ?$$

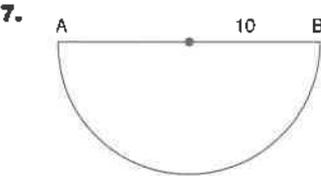
$$\frac{2}{3}$$



Yandaki şekilde, [AC] kenarın etrafında 360° döndürülmesi ile oluşan şeklin hacmi kaç cm^3 'tür?

As a result of a 360° revolving of the figure adjoining around the [AC] edge, how many cm^3 is the volume of the solid formed?

$$18\pi$$



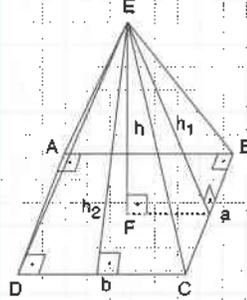
Şekildeki daire dilimi yanal alan olacak şekilde kıvrılarak bir koni oluşturuluyor. Bu koninin hacmi kaç br^3 'tür?

As shown in the picture, a slice of circle is curled in order to form a surface area and formed a cone. How many unit^3 is the volume of this cone?

$$\frac{125\sqrt{3}\pi}{3}$$

ÖZELLİK | Property 9

Piramit
Pyramid



$$V_{(\text{Hacim})} = \frac{a \cdot b \cdot h}{3}$$

$$V_{(\text{Volume})}$$

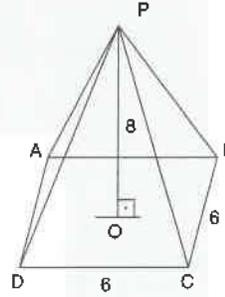
$$\text{Yanal Alan} = a \cdot h_1 + b \cdot h_2$$

$$\text{Lateral Area}$$

$$\text{Yüzey Alanı} = a \cdot h_1 + b \cdot h_2 + ab$$

$$\text{Surface Area}$$

1.



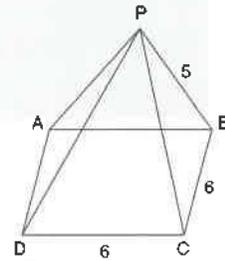
Kare piramit
Square pyramid

$$|PO| = 8 \text{ br}$$

$$\Rightarrow V(P, ABCD) = ?$$

$$96$$

2.



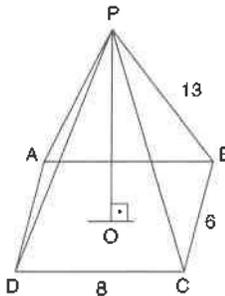
Kare piramit
Square pyramid

$$\Rightarrow \text{Yanal Alan} = ?$$

$$\text{Lateral Area} = ?$$

$$48$$

3.

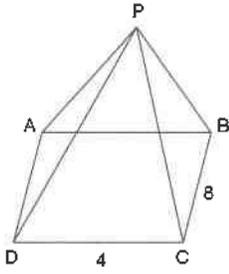


Dikdörtgen piramit
Rectangle pyramid

$$\Rightarrow V(P, ABCD) = ?$$

$$192$$

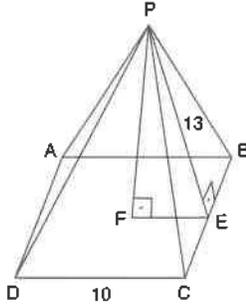
4.



Dikdörtgen piramit
Rectangle pyramid
 $V(P, ABCD) = 64 \text{ br}^3$
 $\Rightarrow |PD| = ?$

$2\sqrt{14}$

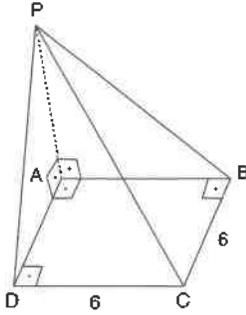
5.



Kare piramit
Square pyramid
IPEI = 13 br
 $\Rightarrow V(P, ABCD) = ?$

400

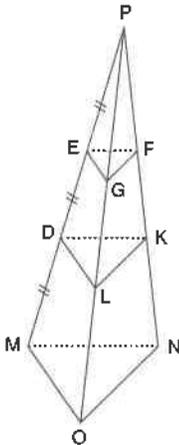
6.



Kare Piramit
Square Pyramid
 $V(P, ABCD) = 36\sqrt{3} \text{ br}^3$
 $\Rightarrow |PC| = ?$

$3\sqrt{11}$

7.



Üçgen Piramit
Triangular Pyramid
 $V_{(\text{Hacim})}(\text{EFG}, \text{DLK}) = 14 \text{ br}^3$
 $V_{(\text{Volume})}$
 $\Rightarrow V_{(\text{Hacim})}(\text{DLK}, \text{MON}) = ?$
 $V_{(\text{Volume})}$

38

ÖZELLİK | Property 10

Düzensün Dörtüzlü
Regular Tetrahedron

$$h = \frac{a\sqrt{6}}{3}$$

$$h_y = \frac{a\sqrt{3}}{2}$$

$$\text{Yüzey Alanı} = a^2\sqrt{3}$$

Surface Area

$$V_{(\text{Hacim})} = \frac{a^3\sqrt{2}}{12}$$

$V_{(\text{Volume})}$

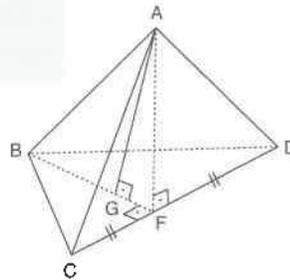
1. Bir ayrıntı uzunluğu 4 cm olan düzensün dörtüzlünün alanı kaç cm^2 'dir?
How many cm^2 is the area of a regular tetrahedron having an edge of 4 cm?

$16\sqrt{3}$

2. Hacmi $18\sqrt{2} \text{ cm}^3$ olan düzensün dörtüzlünün alanı kaç cm^2 'dir?
How many cm^2 is the area of a regular tetrahedron having a volume of $18\sqrt{2} \text{ cm}^3$?

$36\sqrt{3}$

3.



Düzensün dörtüzlü
Regular tetrahedron

G, BDC'nin ağırlık merkezi
G is the center of gravity of a triangle BDC

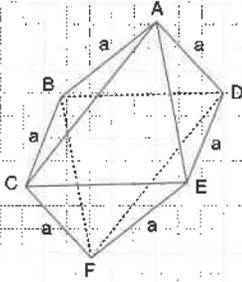
$$|AF| = 4\sqrt{3} \text{ br}$$

$$\Rightarrow V(A, BDC) = ?$$

$\frac{128\sqrt{2}}{3}$

ÖZELLİK | Property 11

Düzensün Sekizyüzlü
Regular Octahedron



$$V_{(\text{Hacim})} = \frac{a^3 \sqrt{2}}{3}$$

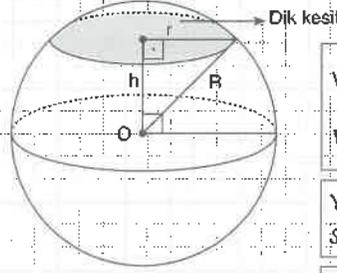
$$V_{(\text{Volume})}$$

$$\text{Yüzey Alanı} = 2a^2 \sqrt{3}$$

$$\text{Surface Area}$$

ÖZELLİK | Property 12

Küre
Sphere



$$V_{(\text{Hacim})} = \frac{4\pi R^3}{3}$$

$$V_{(\text{Volume})} = \frac{4\pi R^3}{3}$$

$$\text{Yüzey Alanı} = 4\pi R^2$$

$$\text{Surface Area} = 4\pi R^2$$

$$\text{Kesit Alanı} = \pi r^2$$

$$\text{Cross Sectional Area} = \pi r^2$$

1. Bir ayrıtı 6 cm olan düzensün sekizyüzlünün hacmi kaç cm^3 tür?

How many cm^3 is the volume of a regular octahedron having an edge of 6 cm?

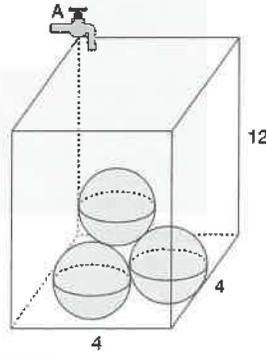
72 $\sqrt{2}$

2. Yüzey alanı $32\sqrt{3} \text{ cm}^2$ olan düzensün sekizyüzlünün bir ayrıtının uzunluğu kaç cm'dir?

How many cm of one edge of a regular octahedron having a total area of $32\sqrt{3} \text{ cm}^2$?

4

- 2.



Ayrıtları 4 cm, 4 cm ve 12 cm olan üstü açık prizmaya 2 cm çapındaki 3 bilye atılıyor ve A musluğu açılıyor. Bu prizmanın dolması için musluktan kaç cm^3 su akıtılmalıdır? ($\pi = 3$)

3 pieces of marbles with 2 cm of diameter is dropped into a prism with an opened top having the dimensions / edges of 4 cm, 4 cm and 12 cm and then the tap A is opened. In order to be filled of this prism how many cm^3 of water has to be fed by the tap?

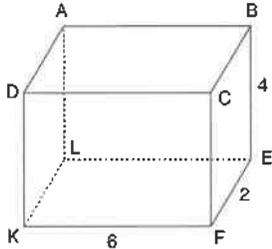
180

3. Yarıçapı 10 cm olan bir kürenin merkezinden 6 cm uzakta alınan kesitin alanı kaç cm^2 'dir?

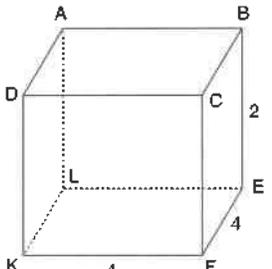
How many cm^2 is the cross sectional area of a sphere cut off 6 cm away from the center of a sphere having a radius of 10 cm?

18 $\sqrt{3}$

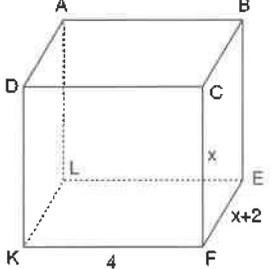
64 π

1.  $|BE| = 4$ br
 $|EF| = 2$ br
 $|KF| = 6$ br
 Şekildeki dik prizmanın hacmi kaç br^3 'tür?
 How many $unit^3$ is the volume of right prism in the figure?

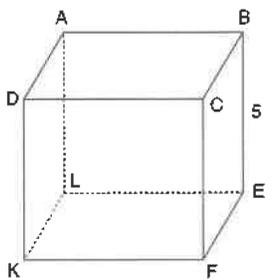
- A) 18 B) 24 C) 36 D) 48 E) 96

2.  $|BE| = 2$ br
 $|EF| = |KF| = 4$ br
 Şekildeki kare dik prizmanın alanı kaç br^2 'dir?
 How many $unit^2$ is the area of right prism in the figure?

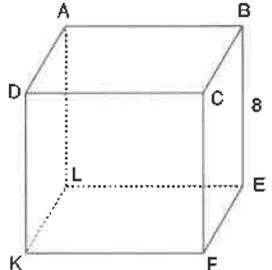
- A) 20 B) 32 C) 48 D) 60 E) 64

3.  $|KF| = 4$ br
 $|CF| = x$
 $|FE| = x + 2$
 Hacmi $96 br^3$ olan dik prizmanın alanı kaç br^2 'dir?
 How many $unit^2$ is the area of a right prism having a volume of $96 unit^3$?

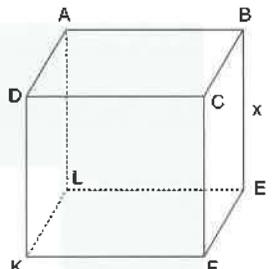
- A) 32 B) 48 C) 64 D) 96 E) 128

4.  $|BE| = 5$ br
 Şekildeki bir ayrıtı 5 br olan küpün hacmi kaç br^3 'tür?
 How many $unit^3$ is the volume of the cube having an edge of 5 unit as in the figure?

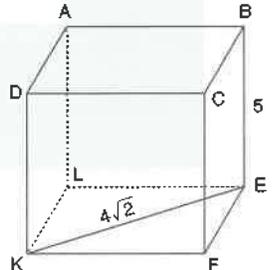
- A) 5 B) 10 C) 25 D) 50 E) 125

5.  $|BE| = 8$ br
 Şekildeki bir ayrıtı 8 br olan küpün alanı kaç br^2 'dir?
 How many $unit^2$ is the surface area of the cube having an edge of 8 unit as in the figure?

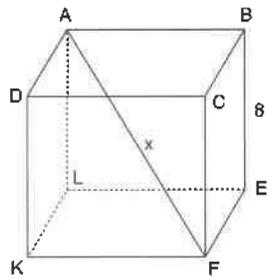
- A) 384 B) 256 C) 144 D) 64 E) 48

6.  Küpün alanı $96 br^2$
 The surface area of the cube is $96 unit^2$
 $\Rightarrow |BE| = x = ?$

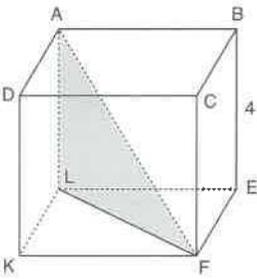
- A) 3 B) 4 C) 5 D) 6 E) 7

7.  $|EK| = 4\sqrt{2}$ br
 $|BE| = 5$ br
 Şekildeki kare dik prizmanın hacmi kaç br^3 'tür?
 How many $unit^3$ is the volume of square right prism in the figure?

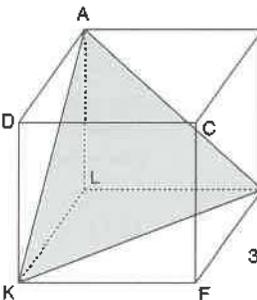
- A) 160 B) 150 C) 120 D) 100 E) 80

8.  Bir ayrıtı 8 br olan küp
 A cube with an edge of 8 units
 $|BE| = 8$ br
 $\Rightarrow |AF| = x = ?$

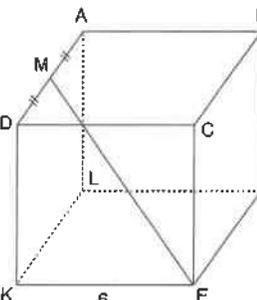
- A) 4 B) $4\sqrt{3}$ C) 8 D) $8\sqrt{3}$ E) 16

9.  Bir ayrıtı 4 br olan küp
A cube with an edge of 4 units
 $|BE| = 4$ br
 $\Rightarrow A(ALF) = ?$

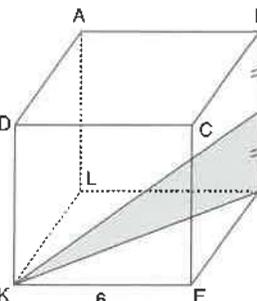
A) $4\sqrt{2}$ B) 8 C) $8\sqrt{2}$ D) 16 E) $16\sqrt{2}$

10.  Bir ayrıtı 3 br olan küp
A cube with an edge of 3 units
 $|EF| = 3$ br
 $\Rightarrow A(AKE) = ?$

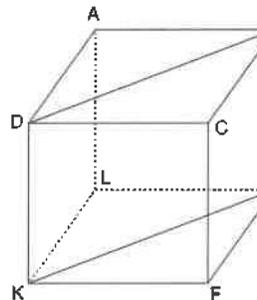
A) $\frac{9\sqrt{3}}{4}$ B) $\frac{9\sqrt{3}}{2}$ C) $9\sqrt{3}$ D) $18\sqrt{3}$ E) 54

11.  Bir ayrıtı 6 br olan küp
A cube with an edge of 6 units
 $|KF| = 6$ br
 $|DM| = |MA|$
 $\Rightarrow |MF| = ?$

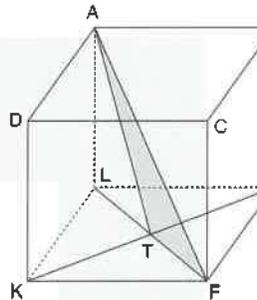
A) 9 B) $4\sqrt{5}$ C) $2\sqrt{17}$ D) 7 E) $4\sqrt{3}$

12.  Bir ayrıtı 6 br olan küp
A cube with an edge of 6 units
 $|KF| = 6$ br
 $|BM| = |ME|$
 $\Rightarrow A(MEK) = ?$

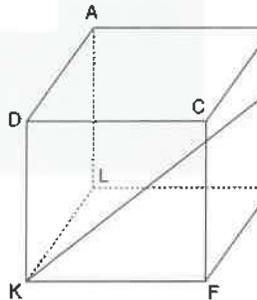
A) $9\sqrt{2}$ B) 9 C) $4\sqrt{5}$ D) $2\sqrt{17}$ E) $4\sqrt{3}$

13.  $A(DBEK) = 25\sqrt{2}$ br²
Şekildeki küpün alanı kaç br²'dir?
How many unit² is the area of the cube in figure?

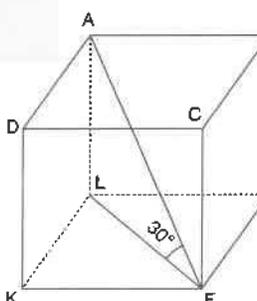
A) 150 B) 125 C) 120 D) 100 E) 80

14.  Bir ayrıtı 6 br olan küp
A cube with an edge of 6 units
 $|BE| = 6$ br
 $\Rightarrow A(ATF) = ?$

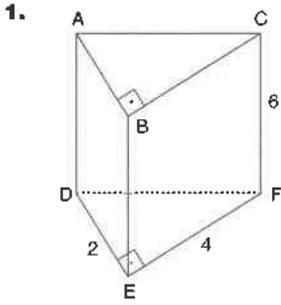
A) $18\sqrt{2}$ B) 18 C) $9\sqrt{2}$ D) 9 E) $6\sqrt{2}$

15.  Bir ayrıtı 6 br olan küp
A cube with an edge of 6 units
 $|BM| = 2$ br
 $|ME| = 4$ br
 $\Rightarrow |KM| = ?$

A) 10 B) $2\sqrt{22}$ C) $4\sqrt{5}$ D) 8 E) $5\sqrt{2}$

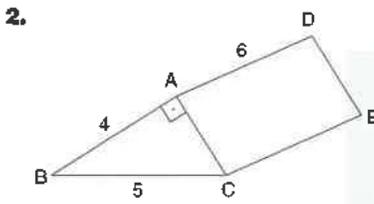
16.  Kare dik prizmanın cisim köşegeni 12 br
The solid diagonal of square right prism is 12 units
 $m(\widehat{AFL}) = 30^\circ$
 $|AF| = 12$ br
Kare dik prizmanın hacmi kaç br³'tür?
How many unit³ is the volume of square right prism?

A) 566 B) 484 C) 324 D) 300 E) 256



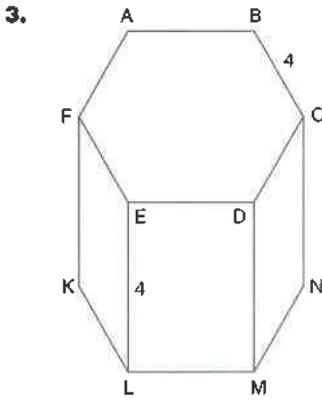
$|CF| = 6 \text{ br}$
 $|EF| = 4 \text{ br}$
 $|DE| = 2 \text{ br}$
 Şekildeki dik üçgen prizmanın hacmi kaç br^3 'tür?
 How many unit^3 is the volume of right triangular prism in the figure?

- A) 96 B) 64 C) 48 D) 24 E) 12



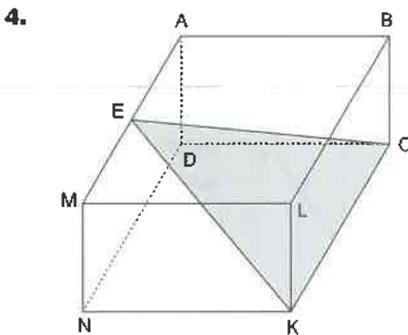
Dik üçgen prizma
 Right triangle prism
 $|BA| = 4 \text{ br}$
 $|BC| = 5 \text{ br}$
 $|AD| = 6 \text{ br}$
 $\Rightarrow V_{(\text{Hacim})} = ?$
 $V_{(\text{volume})} = ?$

- A) 13 B) 15 C) 18 D) 27 E) 36



$|EL| = |BC| = 4 \text{ br}$
 Şekildeki düzgün altıgen prizmanın yan yüzey alanı kaç br^2 'dir?
 How many unit^2 is the lateral surface area of the regular hexagonal prism in the figure?

- A) 128 B) 118 C) 100 D) 96 E) 78



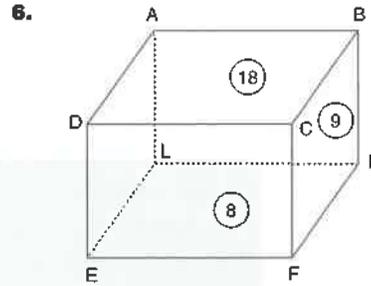
Dikdörtgen prizma
 Rectangular prism
 $|BC| = 2 \text{ br}$
 $|KC| = 6 \text{ br}$
 $|NK| = 4 \text{ br}$
 $\Rightarrow A(\text{EKC}) = ?$

- A) $6\sqrt{5}$ B) $2\sqrt{19}$ C) 8 D) $5\sqrt{2}$ E) 36

5. Taban alanı 30 br^2 , taban çevresi 25 br ve yanıl alanı 100 br^2 olan dik prizmanın hacmi kaç br^3 'tür?

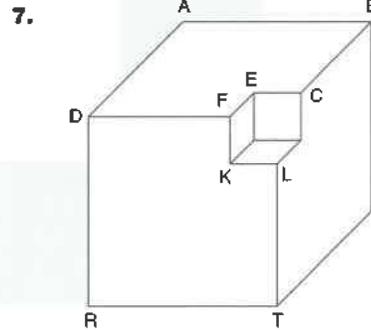
How many unit^3 is the volume of a right prism with a bottom area of 30 unit^2 , a bottom circumference of 25 unit and a lateral area of 100 unit^2 ?

- A) 100 B) 108 C) 120 D) 122 E) 144



$A(\text{ABCD}) = 18 \text{ br}^2$
 $A(\text{BKFC}) = 9 \text{ br}^2$
 $A(\text{DCFE}) = 8 \text{ br}^2$
 Dikdörtgen prizmanın hacmi kaç br^3 'tür?
 How many unit^3 is the volume of right rectangular prism?

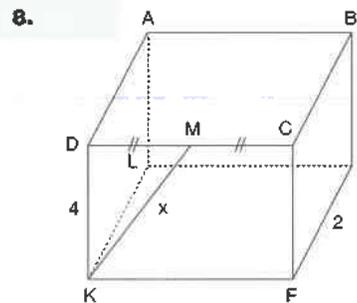
- A) 36 B) 49 C) 60 D) 72 E) 98



Şekildeki tahtadan oluşan küpün bir köşesinden şekildedeki gibi küçük bir küp çıkartılıyor. Geri kalan cismin alanı 150 br^2 'dir. Buna göre bu prizmanın hacmi kaç br^3 'tür?

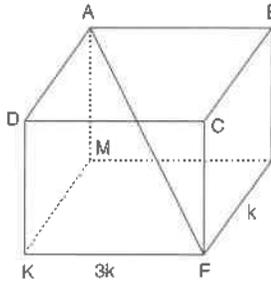
A small wooden cube form is cut off at a corner of a cube as indicated in the picture. The area of the remaining solid is 150 unit^2 . Thus, how many unit^3 is the volume of this prism?

- A) 150 B) 125 C) 120 D) 100 E) 80



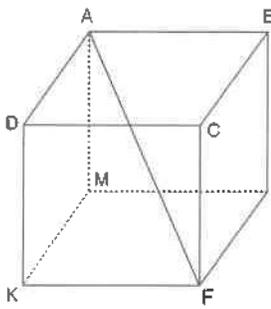
Dikdörtgen prizmanın hacmi 48 br^3
 The volume of a rectangular prism is 48 unit^3
 $|EF| = 2 \text{ br}$
 $|DK| = 4 \text{ br}$
 $|DM| = |MC|$
 $\Rightarrow |KM| = x = ?$

- A) $4\sqrt{5}$ B) $4\sqrt{2}$ C) 5 D) 4 E) 3

9. 

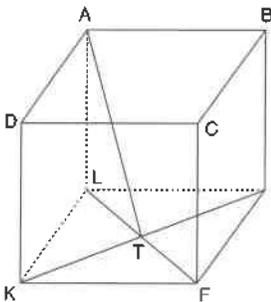
$|BE| = 2k$
 $|FE| = k$
 $|KF| = 3k$
 $|AF| = 3\sqrt{14}$ br
 Dikdörtgen prizmasının hacmi kaç br^3 'tür?
 How many unit³ is the volume of right rectangular prism?

A) 162 B) 196 C) 198 D) 200 E) 208

10. 

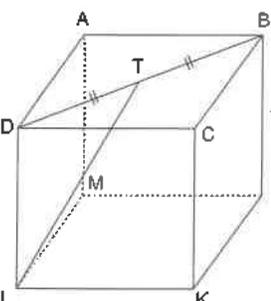
Alanı hacmine eşit olan küpün cisim köşegeni uzunluğu kaç br'dir?
 How many unit is the length of a solid diagonal of a cube of which area equals to its volume?
 $\Rightarrow |AF| = x = ?$

A) $3\sqrt{3}$ B) $4\sqrt{3}$ C) $5\sqrt{3}$ D) $6\sqrt{3}$ E) $8\sqrt{3}$

11. 

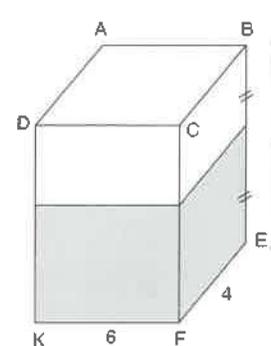
Bir ayrıntının uzunluğu 6 br olan küp verilmiştir.
 A cube with an edge of 6 units is given
 $|BE| = 6$ br
 $\Rightarrow |AT| = ?$

A) 3 B) $3\sqrt{2}$ C) $3\sqrt{5}$ D) $3\sqrt{6}$ E) $6\sqrt{5}$

12. 

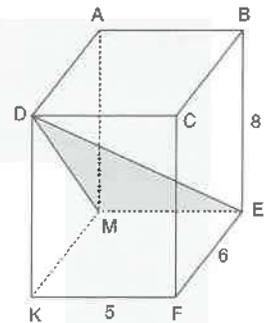
Bir ayrıntının uzunluğu 8 br olan küp verilmiştir.
 A cube with an edge of 8 units is given
 $|BE| = 8$ br
 $|DT| = |TB|$
 $\Rightarrow |LT| = ?$

A) $8\sqrt{5}$ B) 10 C) $4\sqrt{6}$ D) 9 E) $6\sqrt{2}$

13. 

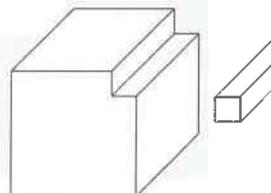
Ayrıtları 4, 6, 8 br olan dikdörtgenler prizmasının yarısı su ile doludur. Bu prizma büyük yüzey üzerine yatırılırsa suyun yüksekliği kaç br olur?
 A half of a rectangular prism with the edge lengths of 4, 6, 8 units is filled with water. In case it is laid over the larger surface, how many units of the height of the water level shall be?

A) 1 B) 2 C) 3 D) 4 E) 5

14. 

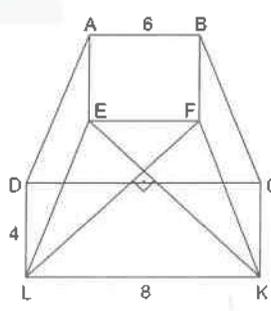
Ayrıtları 8, 6, 5 br olan dikdörtgen prizma
 A rectangular prism with the edge lengths of 8, 6, 5 units
 $\Rightarrow A(DME) = ?$

A) 100 B) 80 C) 50 D) 30 E) 25

15. 

Yandaki şekilde alanı 600 br^2 olan bir küp şeklindeki gibi bir köşesinden dik bir kare prizma çıkartıldığında alanı 592 br^2 oluyor. Buna göre çıkartılan dik kare prizmanın hacmi kaç br^3 'tür?
 At the picture adjoining, when a right square prism is cut off from any vertex, a cube's area of 600unit² becomes 592 unit². Thus, how many unit³ is the volume of this right square prism that is cut off?

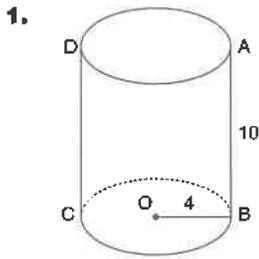
A) 5 B) 10 C) 15 D) 20 E) 40

16. 

$|LF| \perp |EK|$
 $|AB| = 6$ br
 $|LK| = 8$ br
 $|DL| = 4$ br
 Şekildeki ikizkenar yamuk dik prizmanın hacmi kaç br^3 'tür?
 How many unit³ is the volume of a square right prism with a isosceles trapezoidal bottom?

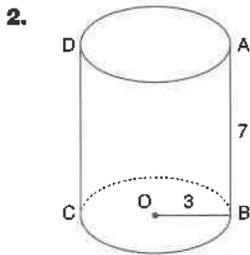
A) 196 B) 168 C) 144 D) 96 E) 84

PUZAY YAYINLARI



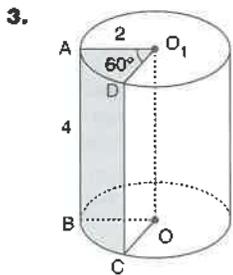
$|AB| = 10$ br
 $|OB| = 4$ br
 Şekildeki dik silindirin hacmi kaç br^3 'tür?
 How many $unit^3$ is the volume of right cylinder in the figure?

- A) 150π B) 160π C) 180π D) 200π E) 240π



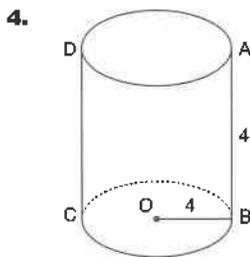
$|AB| = 7$ br
 $|OB| = 3$ br
 Şekildeki dik silindirin alanı kaç br^2 'dir?
 How many $unit^2$ is the surface area of the right cylinder in the figure?

- A) 36π B) 48π C) 56π D) 58π E) 60π



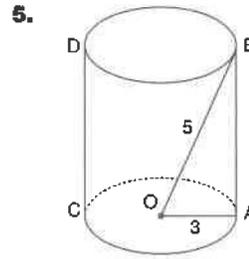
$|AB| = 4$ br
 $|AO_1| = 2$ br
 $m(\angle AO_1D) = 60^\circ$
 Şekildeki taralı silindir diliminin hacmi kaç br^3 'tür? ($\pi = 3$)
 How many $unit^3$ is the volume of a slice of a cylinder as traced in figure? ($\pi = 3$)

- A) 8 B) 12 C) 16 D) 20 E) 24



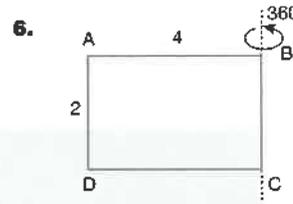
$|OB| = 4$ br
 $|BA| = 4$ br
 Şekildeki dik silindirin yanal alanı kaç br^2 'dir?
 How many $unit^2$ is the lateral surface area of the right cylinder in the figure?

- A) 64π B) 32π C) 16π D) 8π E) 4π



$|OB| = 5$ br
 $|OA| = 3$ br
 Şekildeki dik silindirin hacmi kaç br^3 'tür?
 How many $unit^3$ is the volume of right cylinder in the figure?

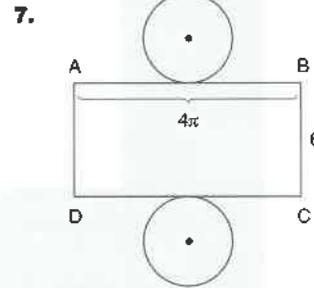
- A) 64π B) 48π C) 45π D) 36π E) 27π



$|AD| = 2$ br
 $|AB| = 4$ br
 ABCD dikdörtgenini [BC] kenarının etrafında 360° döndürülmesi ile oluşan şeklin hacmi kaç br^3 'tür?

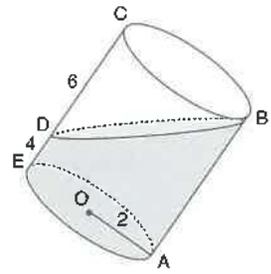
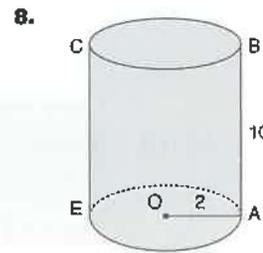
As a result of a 360° revolving of an ABCD rectangle around its [BC] edge, how many $unit^3$ is the volume of the solid thus formed?

- A) 16π B) 24π C) 32π D) 48π E) 64π



ABCD dikdörtgen
 ABCD rectangle
 $|AB| = 4\pi$
 $|BC| = 6$ br
 Şeklin birleştirilmesi ile oluşan silindirin hacmi kaç br^3 'tür?
 How many $unit^3$ is the volume of the cylinder formed as aggregating the figure?

- A) 6π B) 12π C) 18π D) 24π E) 30π



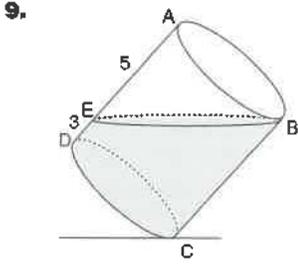
Şekil I / Figure I

Şekil II / Figure II

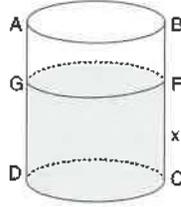
$|AB| = 10$ br , $|OA| = 2$ br , $|DE| = 4$ br , $|DC| = 6$ br
 Şekilde içi su ile dolu bir dik silindir Şekil I'deki konumdan Şekil II'deki konuma getirildiğinde suyun bir kısmı dökülüyor. Buna göre Şekil II'deki suyun hacmi kaç br^3 'tür?

When a right cylinder filled with water inside as in figure is put the position indicated in Figure I to the position indicated in Figure II some amount of water is dropped. According to this how many $unit^3$ of the volume of the water in Figure II?

- A) 40π B) 36π C) 32π D) 30π E) 28π



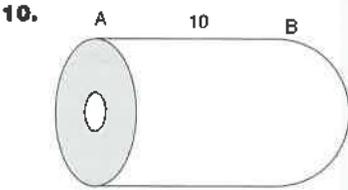
Şekil I / Figure I



Şekil II / Figure II

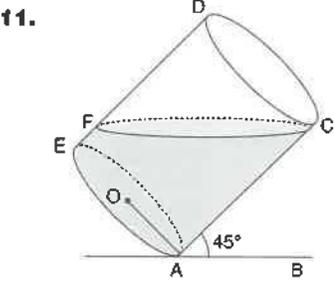
Silindir I. durumdan II. duruma getiriliyor.
Cylinder turns from I. situation to II. situation.

$|AE| = 5 \text{ br}$, $|ED| = 3 \text{ br}$ $\Rightarrow |FC| = x = ?$
A) 3 B) 4 C) 4,5 D) 5 E) 5,5



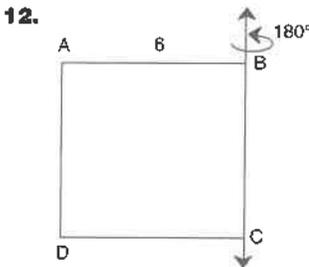
It is required to fill water between two pipes having a radius of 4 units and 6 units, how many unit^3 of water is required for that?
A) 200π B) 166π C) 160π D) 96π E) 20π

$|AB| = 10 \text{ br}$
Yarıçapı 4 br ve 6 br olan iki borunun arasına su doldurulmak isteniyor. Bunun için kaç br^3 suya ihtiyaç vardır?



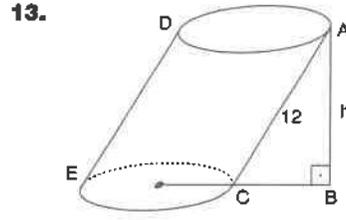
A) 12π B) 24π C) 48π D) 96π E) 100π

$|EF| = 2 \text{ br}$
 $|OA| = 4 \text{ br}$
 $m(\widehat{CAB}) = 45^\circ$
Silindirin içindeki suyun hacmi kaç br^3 'tür?
How many unit^3 is the volume of water in figure?



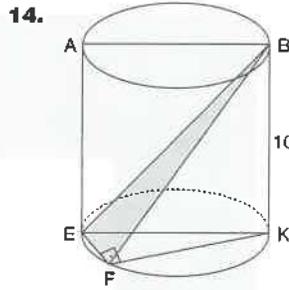
A) 216π B) 240π C) 120π D) 108π E) 30π

$|AB| = 6 \text{ br}$
ABCD karesi [BC] doğru-su etrafında 180° döndürülmesi ile oluşan şeklin hacmi kaç br^3 'tür?
How many unit^3 is the volume of the solid formed by revolving 180° of an ABCD square around [BC] line?



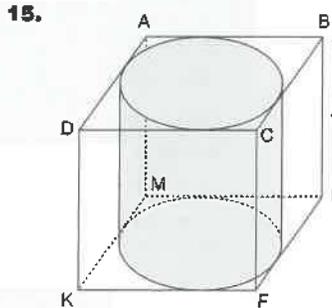
$\Rightarrow |AB| = ?$
A) 12 B) 10 C) 9 D) 8 E) 6

$[AB] \perp [CB]$
Taban alanı 30 br^2 , dik kesit alanı 20 br^2 ve eğik silindirin yanıl ayrıtı 12 br 'dir.
The bottom area is 30 unit^2 , the right cross sectional area is 20 unit^2 and, the lateral edge of an oblique cylinder is 12 unit .



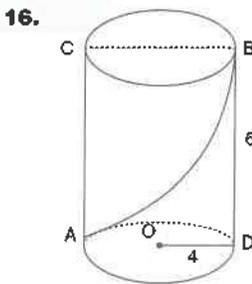
A) $6\sqrt{41}$ B) $30\sqrt{2}$ C) 30 D) $3\sqrt{41}$ E) 24

$[EF] \perp [FK]$
 $[AB] \parallel [EK]$
 $|EF| = 6 \text{ br}$
 $|FK| = 8 \text{ br}$
 $|BK| = 10 \text{ br}$
 $\Rightarrow A(\text{EFB}) = ?$



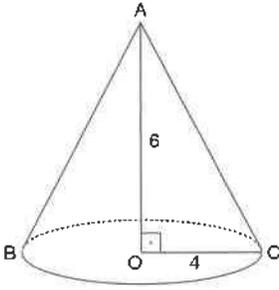
A) 60π B) 48π C) 42π D) 40π E) 24π

$|BE| = 4 \text{ br}$
Şekildeki küpün içine yerleştirilecek en büyük hacimli silindirin yüzey alanı kaç br^2 'dir?
How many unit^2 is the area of a cylinder with maximum volume, placed in a cube in figure?



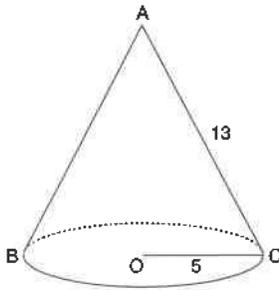
A) $12\sqrt{5}$ B) 12 C) $6\sqrt{5}$ C) $4\sqrt{3}$ D) 6

$|OA| = 4 \text{ br}$
 $|AB| = 6 \text{ br}$
A noktasından B noktasına gitmek isteyen bir karıncanın alacağı en kısa mesafe kaç br'dir? ($\pi = 3$)
How many units is the shortest distance for an ant that wants to go from point A to point B? ($\pi = 3$)

1. 

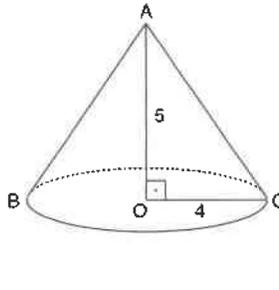
A) 24π B) 32π C) 48π D) 64π E) 96π

$[AO] \perp [OC]$
 $|AO| = 6 \text{ br}$
 $|OC| = 4 \text{ br}$
 Şekildeki dik koninin hacmi kaç br^3 'tür?
 How many unit^3 is the volume of right cone in the figure?

2. 

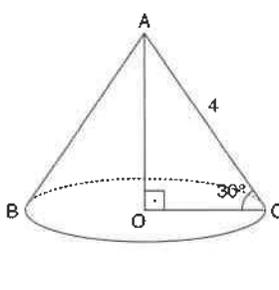
A) 100π B) 150π C) 200π D) 300π E) 325π

$|OC| = 5 \text{ br}$
 $|AC| = 13 \text{ br}$
 Şekildeki dik koninin hacmi kaç br^3 'tür?
 How many unit^3 is the volume of right cone in the figure?

3. 

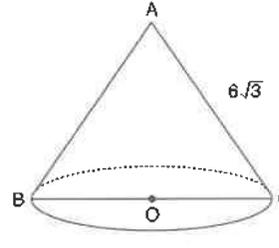
A) 12π B) 16π C) 20π D) $4\sqrt{41}\pi$ E) 30π

$[AO] \perp [OC]$
 $|AO| = 5 \text{ br}$
 $|OC| = 4 \text{ br}$
 Şekildeki dik koninin yanıl alanı kaç br^2 'dir?
 How many unit^2 is the lateral area of the right cone in the figure?

4. 

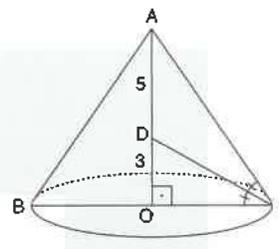
A) 2π B) 4π C) 8π D) 10π E) 12π

$[AO] \perp [OC]$
 $|AC| = 4 \text{ br}$
 $m(\widehat{ACO}) = 30^\circ$
 Şekildeki dik koninin hacmi kaç br^3 'tür?
 How many unit^3 is the volume of right cone in the figure?

5. 

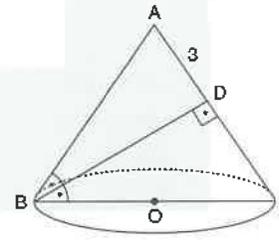
A) 27π B) $27\pi + 3\sqrt{3}\pi$ C) 81π
 D) 100π E) 144π

ABC eşkenar üçgen
 ABC equilateral triangle
 $|AC| = 6\sqrt{3}$
 Şekildeki O merkezli koninin alanı kaç br^2 'dir?
 How many unit^2 is the area of cone with a center O in the figure?

6. 

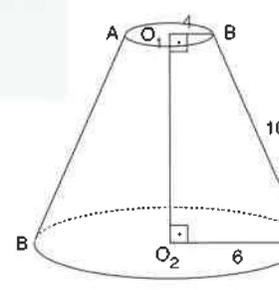
A) 12π B) 48π C) 71π D) 96π E) 100π

$m(\widehat{ACD}) = m(\widehat{DCB})$
 $|AD| = 5 \text{ br}$
 $|DO| = 3 \text{ br}$
 Şekildeki O merkezli koninin hacmi kaç br^3 'tür?
 How many unit^3 is the volume of cone with a center O in the figure?

7. 

A) 9π B) $9\sqrt{3}\pi$ C) 27π D) 81π E) 90π

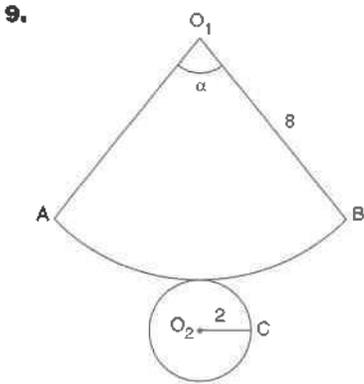
$m(\widehat{ABD}) = m(\widehat{DBC})$
 $[BD] \perp [AC]$
 $|AD| = 3 \text{ br}$
 Şekildeki O merkezli koninin hacmi kaç br^3 'tür?
 How many unit^3 is the volume of right cone in the figure?

8. 

A) 5π B) 10π C) 25π D) 50π E) 100π

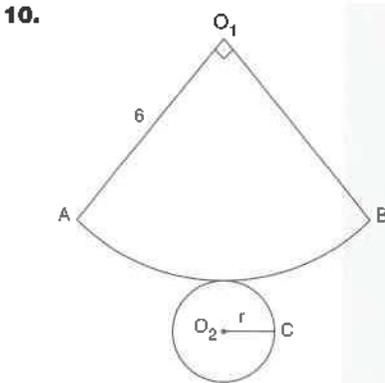
O_1 ve O_2 merkezli çemberler
 Circles with O_1 and O_2 center points
 $|O_1B| = 4 \text{ br}$
 $|O_2C| = 6 \text{ br}$
 $|BC| = 10 \text{ br}$
 Şekildeki kesik koninin yanıl alanı kaç br^2 'dir?

How many unit^2 is the lateral area of a truncated cone in the figure?



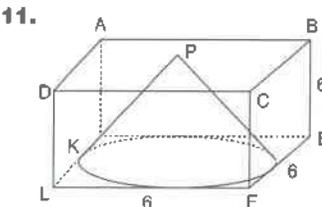
Şekildeki açık koni
Open cone in figure
 $|O_1B| = 8 \text{ br}$
 $|O_2C| = 2 \text{ br}$
 $\Rightarrow m(\widehat{AO_1B}) = \alpha = ?$

- A) 30 B) 45 C) 60 D) 75 E) 90



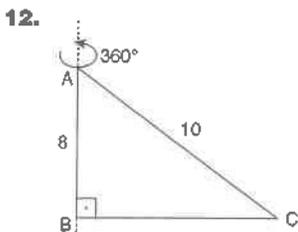
Şekildeki açık koni
Open cone in figure
 $m(\widehat{AO_1B}) = 90^\circ$
 $|O_1A| = 6 \text{ br}$
 $\Rightarrow |O_2C| = r = ?$

- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3



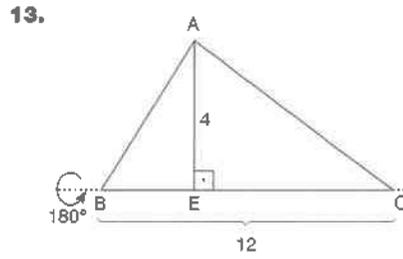
$|LF| = |FE| = |BE| = 6 \text{ br}$
Küpün içine yerleştirilmiş en büyük hacimli koninin tüm alanı kaç br^2 dir?
How many unit^2 is the area of a cone with maximum volume, placed in a cube in figure?

- A) 9π B) 18π C) $9\pi + 9\sqrt{5}\pi$
D) $27\pi + 9\sqrt{3}\pi$ E) 36π



As a result of a 360° revolving of a right-angled triangle around its $[AB]$ edge, how many unit^2 is the surface area of the figure thus formed?

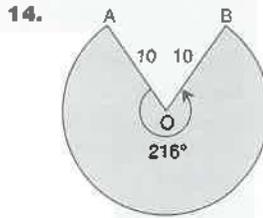
- A) 48π B) 96π C) 128π D) 288π E) 384π



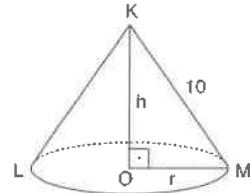
$[AE] \perp [BC]$
 $|AE| = 4 \text{ br}$
 $|BC| = 12 \text{ br}$
Şekildeki ABC üçgeninin $[BC]$ kenarı etrafında 180° döndürülmesi ile oluşan şeklin hacmi kaç br^3 'tür?

As a result of an 180° revolving of the ABC triangle adjoining around the $[BC]$ edge, how many unit^3 is the volume of the solid formed?

- A) 32π B) 48π C) 64π D) 72π E) 96π



Şekil I / Figure I



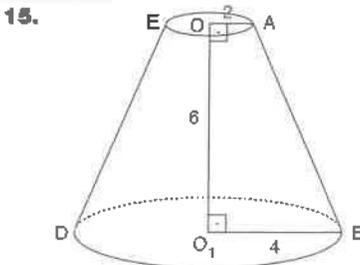
Şekil II / Figure II

$|AO| = |OD| = |KM| = 10 \text{ br}$

Şekil I'deki daire yanal alan olacak şekilde kıvrılarak Şekil II'deki koni oluşturuluyor. Buna göre Şekil II'deki koninin hacmi kaç br^3 'tür?

A slice of a circle in Figure I is curled so as to form a lateral and thus a cone as in Figure II is formed. Accordingly how many unit^3 is the volume of the cone in Figure II?

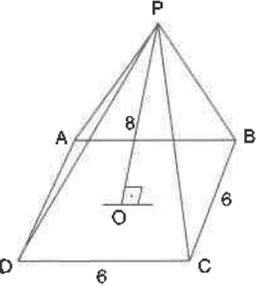
- A) 10π B) 90π C) 92π D) 96π E) 108π

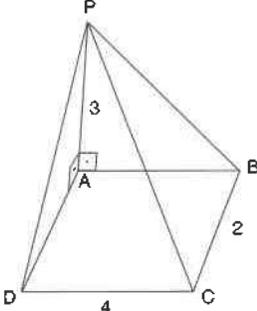


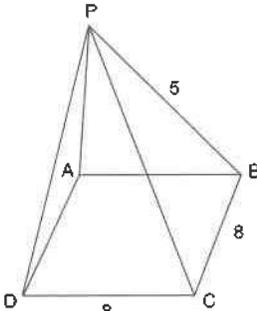
$[AO] \perp [OO_1]$
 $[OO_1] \perp [O_1B]$
 $|OA| = 2 \text{ br}$
 $|OO_1| = 6 \text{ br}$
 $|O_1B| = 4 \text{ br}$
Şekildeki kesik koninin hacmi kaç br^3 tür?

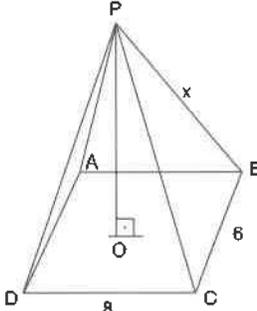
How many unit^3 is the volume of truncated cone in the figure?

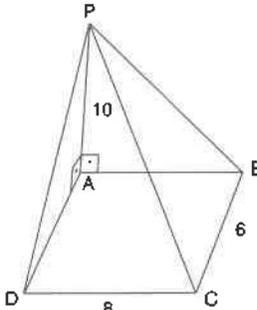
- A) 8π B) 24π C) 32π D) 48π E) 56π

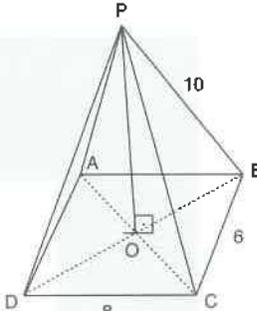
1.  (P, ABCD) kare dik piramit
(P, ABCD) square right pyramid
 $|BC| = |DC| = 6$ br
 $|PO| = 8$ br
Şekildeki piramitin hacmi kaç br^3 tür?
How many unit^3 is the volume of the pyramid in the figure?
A) 148 B) 96 C) 72 D) 56 E) 48

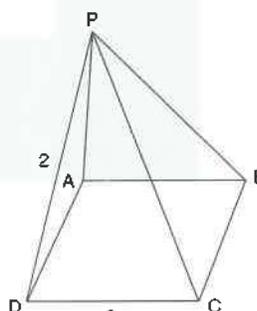
2.  ABCD dikdörtgen
ABCD rectangle
 $[PA] \perp [AD]$
 $[PA] \perp [AB]$
 $|PA| = 3$ br
 $|BC| = 2$ br
 $|DC| = 4$ br
Şekildeki piramitin hacmi kaç br^3 tür?
How many unit^3 is the volume of the pyramid in the figure?
A) 6 B) 8 C) 12 D) 24 E) 36

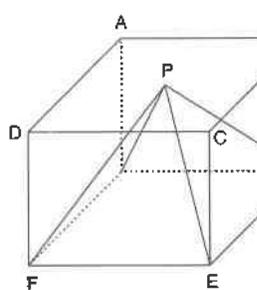
3.  (P, ABCD) kare dik piramit
(P, ABCD) square right pyramid
 $|BC| = |DC| = 8$ br
 $|PB| = 5$ br
Şekildeki piramitin yanal yüzey alanı kaç br^2 dir?
How many unit^2 in the lateral surface area of pyramid in the figure?
A) 24 B) 32 C) 36 D) 42 E) 48

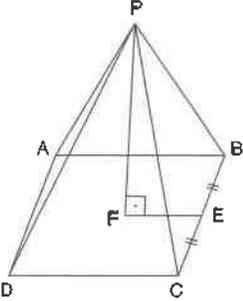
4.  (P, ABCD) dikdörtgen piramit (rectangle pyramid)
 $|BC| = 6$ br
 $|DC| = 8$ br
 $|PO| = 12$ br
 $\Rightarrow |PB| = x = ?$
A) 5 B) 6 C) 8 D) 10 E) 13

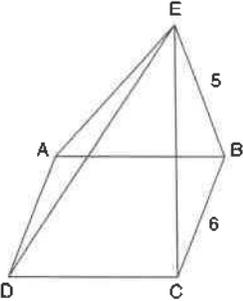
5.  $[PA] \perp [AB]$
 $[PA] \perp [AD]$
ABCD dikdörtgen
ABCD rectangle
 $|PA| = 10$ br
 $|BC| = 6$ br
 $|DC| = 8$ br
 $\Rightarrow |PC| = ?$
A) 6 B) 8 C) 10 D) $8\sqrt{2}$ E) $10\sqrt{2}$

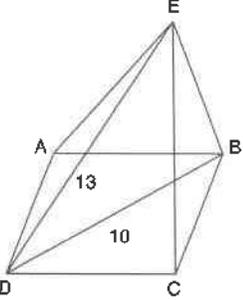
6.  (P, ABCD) dikdörtgen piramit (rectangle pyramid)
 $|BC| = 6$ br
 $|DC| = 8$ br
 $|PB| = 10$ br
 $\Rightarrow |PO| = ?$
A) 6 B) 8 C) $5\sqrt{3}$ D) $10\sqrt{2}$ E) 13

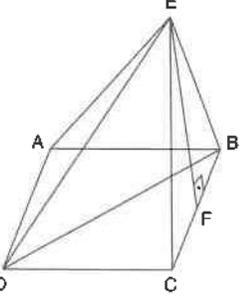
7.  (P, ABCD) kare piramit (square right pyramid)
 $|DC| = |PD| = 2$ br
Şekildeki kare dik piramit yüzey alanı kaç br^2 dir?
How many unit^2 is the surface area of the square right pyramid in figure?
A) 8 B) 16 C) $4 + 2\sqrt{3}$
D) $4 + 4\sqrt{3}$ E) $4 - \sqrt{3}$

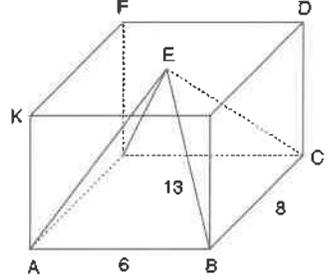
8.  Küpün içerisine yerleştirilmiş en büyük hacimli piramitin hacmi kaç br^3 tür?
 $|EK| = 6$ br
How many unit^3 is the volume of a pyramid with maximum volume, placed in a cube?
A) 36 B) 54 C) 72 D) 108 E) 124

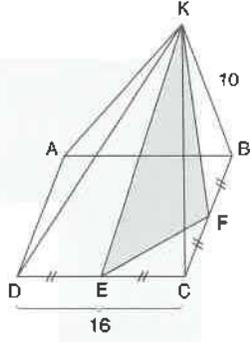
9.  $|EB| = |EC|$
 $|PF| \perp |FE|$
 $|PB| = 6 \text{ br}$
 $|BC| = 4 \text{ br}$
 Şekildeki kare dik piramitin hacmi kaç br^3 'tür?
 How many unit^3 is the volume of square right pyramid in the figure?
 A) 64 B) 32 C) $\frac{32\sqrt{7}}{3}$ D) 28 E) $\frac{24\sqrt{7}}{3}$

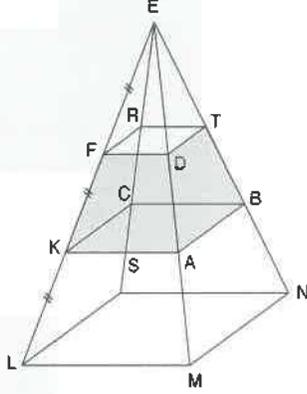
10.  $|EB| = 5 \text{ br}$
 $|BC| = 6 \text{ br}$
 Şekildeki kare dik piramitin yüzey alanı kaç br^2 'dir?
 How many unit^2 is the surface area of square right pyramid in the figure?
 A) 48 B) 60 C) 84 D) 90 E) 96

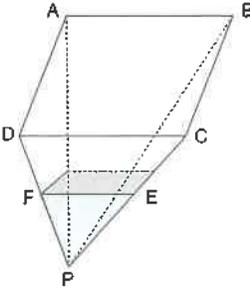
11.  $|DE| = 13 \text{ br}$
 $|DB| = 10 \text{ br}$
 Şekildeki kare dik piramitin hacmi kaç br^3 'tür?
 How many unit^3 is the volume of square right pyramid in the figure?
 A) 650 B) 600 C) 480 D) 400 E) 200

12.  $|EF| \perp |BC|$
 $|EF| = 13 \text{ br}$
 $\text{Ç}(ABCD) = 40 \text{ br}$
 Şekildeki kare dik piramitin hacmi kaç br^3 'tür?
 How many unit^3 is the volume of square right pyramid in the figure?
 A) 1300 B) 1200 C) $\frac{1300}{3}$ D) 400 E) 260

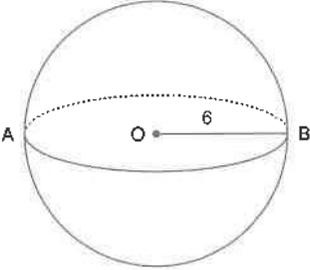
13.  $|AB| = 6 \text{ br}$
 $|BC| = 8 \text{ br}$
 $|EB| = 13 \text{ br}$
 Dikdörtgen prizmanın içine yerleştirilen piramidin hacmi kaç br^3 'tür?
 How many unit^3 is the volume of a pyramid placed in a rectangular prism?
 A) 192 B) 128 C) 92 D) 84 E) 64

14.  ABCD kare
 ABCD square
 $|KB| = 10 \text{ br}$
 $|DC| = 16 \text{ br}$
 $|BF| = |FC|$
 $|DE| = |EC|$
 $\Rightarrow A(KEF) = ?$
 A) $32\sqrt{2}$ B) $20\sqrt{2}$ C) $16\sqrt{2}$ D) $8\sqrt{2}$ E) $6\sqrt{2}$

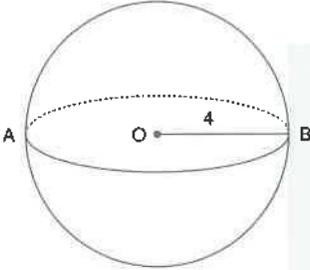
15.  $|EF| = |FK| = |KL|$
 Şekilde taralı kesik piramidin hacmi 35 br^3 'tür.
 The volume of the shaded truncated pyramid in figure is 35 unit^3 .
 $\Rightarrow V(KABC, LMST) = ?$
 A) 105 B) 95 C) 90 D) 80 E) 75

16.  Şekildeki yarıya kadar su dolu dik piramidin dolması için 49 br^3 daha suya ihtiyaç vardır. Buna göre piramidin hacmi kaç br^3 'tür?
 In order to fill the right pyramid completely that is half-full as shown in figure requires 49 unit^3 of water more. Thus, how many unit^3 is the volume of this pyramid?
 A) 98 B) 70 C) 63 D) 56 E) 52

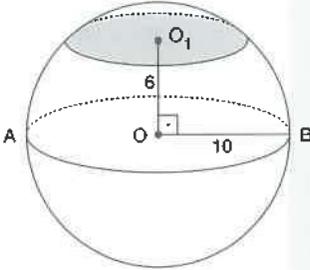
PUZAYINILARI

1.  $|OB| = 6$ br
Şekildeki kürenin hacmi kaç br^3 'tür? ($\pi = 3$)
How many unit³ is the volume of sphere in the figure? ($\pi = 3$)

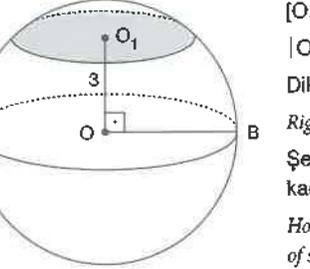
A) 1152 B) 952 C) 864 D) 642 E) 384

2.  $|OB| = 4$ br
Şekildeki kürenin yüzey alanı kaç br^2 'dir?
How many unit² is the surface area of the sphere in figure?

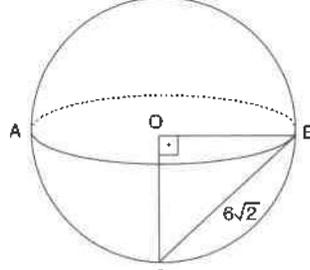
A) 128 π B) 96 π C) 72 π D) 64 π E) 56 π

3.  $[O_1O] \perp [OB]$
 $|O_1O| = 6$ br
 $|OB| = 10$ br
Şekildeki taralı kesit alan kaç br^2 'dir?
How many unit² is the shaded surface area in the figure?

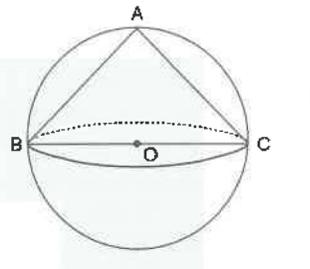
A) 16 π B) 25 π C) 36 π D) 49 π E) 64 π

4.  $[O_1O] \perp [OB]$
 $|O_1O| = 3$ br
Dik kesit alanı 9 π dir.
Right cross sectional area is 9 π .
Şekildeki kürenin hacmi kaç br^3 'tür?
How many unit³ is the volume of sphere in figure?

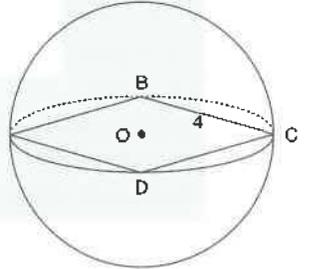
A) 72 $\sqrt{2}\pi$ B) 64 $\sqrt{2}\pi$ C) 56 $\sqrt{2}\pi$
D) 48 $\sqrt{2}\pi$ E) 36 $\sqrt{2}\pi$

5.  $[BO] \perp [OC]$
 $|BC| = 6\sqrt{2}$ br
O merkezli kürenin alanı kaç br^2 dir?
How many unit² is the surface area of a sphere with a center O?

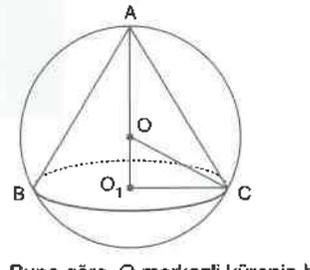
A) 36 π B) 48 π C) 64 π D) 72 π E) 144 π

6.  O merkezli koninin hacmi $3\sqrt{3} br^3$ olduğuna göre şekildeki kürenin hacmi kaç br^3 tür?
In case the volume of a cone with a bottom center O is $3\sqrt{3}$ unit³, how many unit³ is the volume of a sphere indicated as in figure?

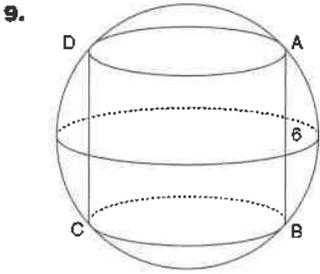
A) 4 $\sqrt{3}$ B) 6 C) 6 $\sqrt{3}$ D) 12 E) 12 $\sqrt{3}$

7.  ABCD kare
ABCD square
 $|BC| = 4$ br
Şekildeki kürenin yüzey alanı kaç br^2 'dir?
How many unit² is the surface area of the sphere in figure?

A) 24 π B) 26 π C) 28 π D) 30 π E) 32 π

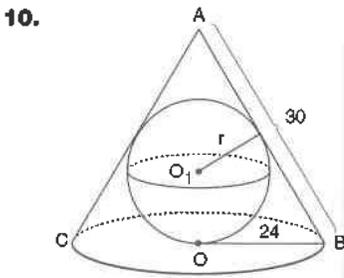
8.  O merkezli küre ile O1 merkezli çember şekildedeki gibidir.
A sphere with a center O and a circle with a center O1 are as in the figure.
 $|O_1C| = 3$ br
 $|AO_1| = 9$ br
Buna göre, O merkezli kürenin hacmi kaç br^3 tür?
Accordingly how many unit³ is the volume of the sphere with a center O?

A) $\frac{250\pi}{3}$ B) 150 π C) $\frac{500\pi}{3}$
D) 250 π E) 1500 π



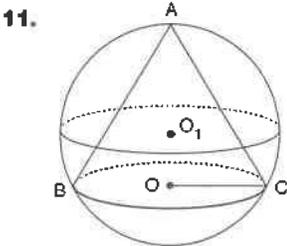
9. $|AB| = 6$ br
 Alanı 100π olan kürenin içine yerleştirilmiş silindirin alanı kaç br^2 'dir?
 How many $unit^2$ is the surface area of a cylinder placed in a sphere having a surface area of 100π ?

- A) 32π B) 48π C) 60π D) 72π E) 80π



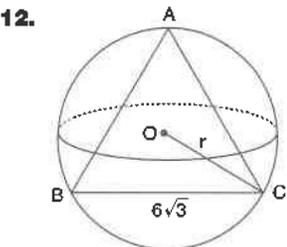
10. O_1 merkezli küre
 A sphere with a center of O_1
 O merkezli silindir
 A cylinder with a center of O
 $|AB| = 30$ br
 $|OB| = 24$ br
 $\Rightarrow r = ?$

- A) 14 B) $\frac{72}{7}$ C) 10 D) 8 E) 6



11. ABC eşkenar üçgen
 ABC is an equilateral triangle
 $\angle(ABC) = 18$ br
 \Rightarrow Kürenin hacmi = ?
 Koninin hacmi = ?
 $\frac{\text{Volume of the sphere}}{\text{Volume of the cone}} = ?$

- A) $\frac{24}{9}$ B) $\frac{28}{9}$ C) $\frac{29}{9}$ D) $\frac{10}{3}$ E) $\frac{32}{9}$



12. O merkezli kürenin içine yerleştirilmiş eşkenar üçgen şeklindeki gibidir.
 An equilateral triangle placed in a sphere with a center O is as in figure.
 $|BC| = 6\sqrt{3}$ br
 $\Rightarrow |OC| = r = ?$

- A) 3 B) $3\sqrt{3}$ C) 6 D) $6\sqrt{3}$ E) 12

13. Bir ayrıtının uzunluğu 6 br olan düzgün dörtyüzlünün hacmi kaç br^3 'tür?
 How many $unit^3$ is the volume of a regular tetrahedron having an edge of 6 units?

- A) 18 B) $18\sqrt{2}$ C) 27 D) $18\sqrt{3}$ E) $24\sqrt{2}$

14. Tüm alanı $36\sqrt{3}$ br^2 olan düzgün dörtyüzlünün yüksekliği kaç br'dir?
 How many unit is the height of a regular tetrahedron having a total surface area of $36\sqrt{3}$ $unit^2$?

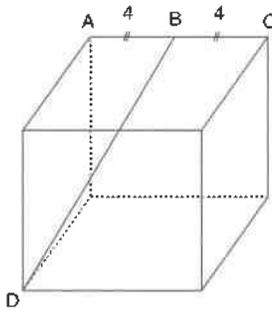
- A) $2\sqrt{6}$ B) 6 C) $3\sqrt{6}$ D) $6\sqrt{2}$ E) 12

15. Bir ayrıtı 3 br olan düzgün sekizyüzlünün hacmi kaç br^3 'tür?
 How many $unit^3$ is the volume of a regular tetrahedron having an edge of 3 units?

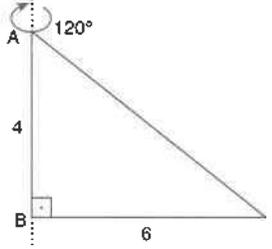
- A) $6\sqrt{2}$ B) $9\sqrt{2}$ C) $9\sqrt{3}$ D) 18 E) $18\sqrt{2}$

16. Tüm alanı $8\sqrt{3}$ br^2 olan düzgün sekizyüzlünün bir ayrıtının uzunluğu kaç br'dir?
 How many unit is the length of the edge regular octahedron having a total surface area of $8\sqrt{3}$ $unit^2$?

- A) 2 B) $2\sqrt{2}$ C) 3 D) $2\sqrt{3}$ E) 4

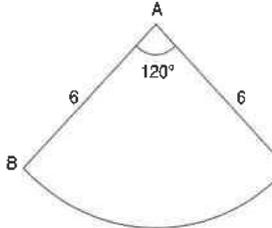
1.  Bir ayrıtı 8 br olan küp şekildedeki gibi verilmiştir. A cube with an edge of 8 units is as in figure
 $|AB| = |BC| = 4$ br
 $\Rightarrow |DB| = x = ?$

A) 13 B) 12 C) $7\sqrt{2}$ D) 10 E) $2\sqrt{13}$

2.  $[AB] \perp [BC]$
 $|AB| = 4$ br
 $|BC| = 6$ br
 Şekildeki dik üçgenin $[AB]$ doğru parçası etrafında 120° döndürülmesi ile oluşan şeklin hacmi kaç br^3 'tür?

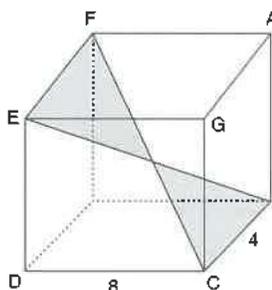
As a result of a 120° revolving of the right triangle adjoining around the $[AB]$ line segment, how many $unit^3$ is the volume of the solid formed?

A) 32π B) 16π C) $\frac{32\pi}{3}$ D) 8π E) $\frac{8\pi}{3}$

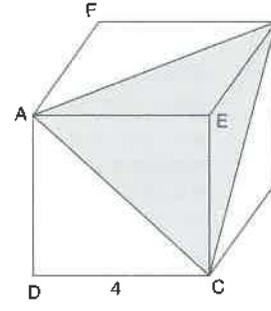
3.  $|AB| = |BC| = 6$ br
 $m(\widehat{BAC}) = 120^\circ$
 Şekildeki daire dilimi kıvrılarak bir dik koni oluşturuluyor. Oluşturulan bu koninin hacmi kaç br^3 'tür? ($\pi = 3$)

A slice of circle in figure is curled and formed a right cone. How many $unit^3$ is the volume of this cone formed? ($\pi = 3$)

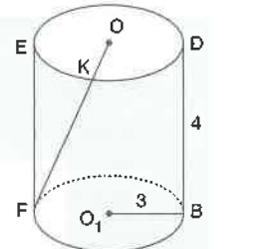
A) $16\sqrt{3}$ B) $16\sqrt{2}$ C) 16 D) $8\sqrt{3}$ E) $8\sqrt{2}$

4.  Dikdörtgen prizma
 Rectangular prism
 $|AB| = 6$ br
 $|BC| = 4$ br
 $|DC| = 8$ br
 Şekildeki taralı bölgenin alanı kaç br^2 'dir?
 How many $unit^2$ is the surface area of the shaded sector in figure?

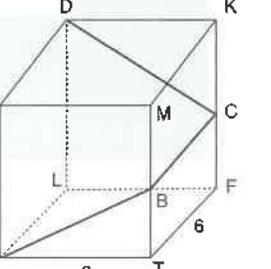
A) 40 B) 32 C) 30 D) 20 E) 15

5.  Bir ayrıtı 4 br olan küp A cube with an edge of 4 unit
 $|DC| = 4$ br
 $\Rightarrow V(E, ABC) = ?$

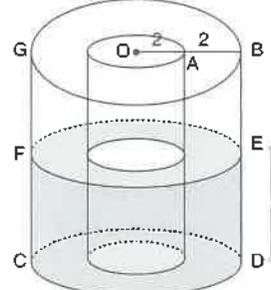
A) 64 B) $\frac{32}{3}$ C) $\frac{16}{3}$ D) 4 E) 8

6.  $|O_1B| = 3$ br
 $|DB| = 4$ br
 $\Rightarrow \min\{|FK| + |KO|\} = ?$

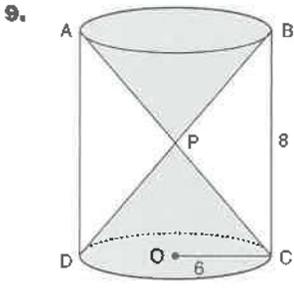
A) 7 B) 9 C) $4 + 6\pi$ D) $4 + 12\pi$ E) 16π

7.  $|EA| = 7$ br
 $|AT| = 9$ br
 $|TF| = 6$ br
 $\Rightarrow \min(|AB| + |BC| + |CD|) = ?$

A) 25 B) 23 C) 22 D) 18 E) 17

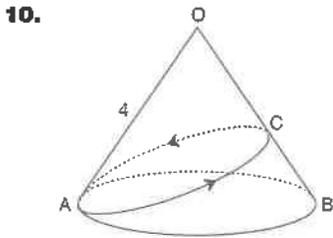
8.  $|OA| = |AB| = 2$ br
 $|DE| = 4$ br
 İki silindirin arasındaki yüksekliği 4 br olan suyun hacmi kaç br^3 'tür?
 How many $unit^3$ is the volume of the water having a height of 4 units between two cylinders?

A) 48π B) 32π C) 30π D) 16π E) 8π



$|BC| = 8 \text{ br}$
 $|OC| = 6 \text{ br}$
 Silindirin içinde P noktasını tepe noktası kabul eden konilerin hacimleri toplamı kaç br^3 'tür?
 How many unit^3 is the total of the volumes of cones that assume P point as their peak/top points in cylinder?

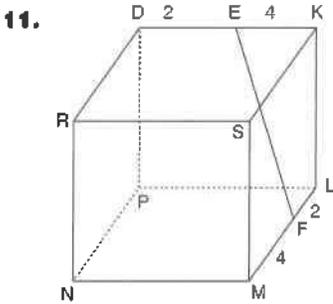
- A) 108π B) 96π C) 72π D) 64π E) 50π



$|OA| = |OB| = 4 \text{ br}$
 Dik koninin taban çevresi 2π ,
 A'dan başlayıp koninin etrafını dolaşarak A'da biten en kısa ipin uzunluğu kaç br'dir?

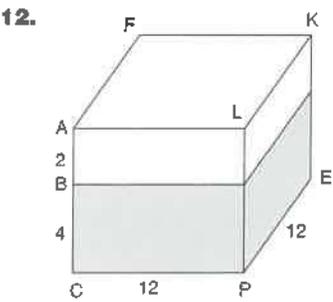
The bottom perimeter of a right cone is 2π units, how many unit is the length of the shortest thread starts from A, and then goes around the cone and finishes at A?

- A) 2 B) $2\sqrt{2}$ C) 4 D) $4\sqrt{2}$ E) 8



Bir ayrıntının uzunluğu 6 br olan küp
 A cube with an edge of 6 units is given
 $|DE| = |FL| = 2 \text{ br}$
 $|EK| = |FM| = 4 \text{ br}$
 $\Rightarrow |EF| = ?$

- A) $2\sqrt{13}$ B) $2\sqrt{14}$ C) $2\sqrt{15}$ D) $2\sqrt{17}$ E) $2\sqrt{19}$



$2|AB| = |BC| = 4 \text{ br}$
 $|CP| = |PE| = 12 \text{ br}$
 Şekildeki kare prizma EKLP yüzeyi üzerine oturduğunda suyun yüksekliği kaç br olur?
 When a square prism as in figure is situated at an EKLP surface plane, how many unit will be the height of water?

- A) 4 B) 6 C) 8 D) 9 E) 10

13. Bir kürenin yarıçapı % 20 artırılırsa hacmi yüzde kaç artar?

In case the radius of a sphere is increased 20%, how many per cent of its volume will increase?

- A) 20 B) 40 C) 44 D) 56,2 E) 72,8

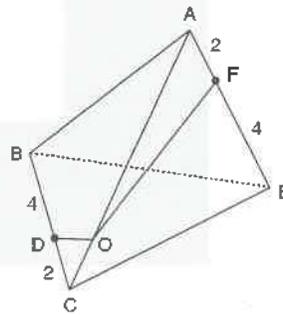
14. Ayrıtları a, b, c olan dikdörtgenler prizmasının hacmi 48 br^3 , alanı 88 br^2

The volume of a rectangular prism with the dimensions/edges a, b, c is 48 unit^3 and its surface is 88 unit^2

$$\Rightarrow \frac{1}{a} + \frac{1}{b} + \frac{1}{c} = ?$$

- A) $\frac{11}{12}$ B) $\frac{3}{4}$ C) $\frac{7}{12}$ D) $\frac{4}{7}$ E) $\frac{1}{2}$

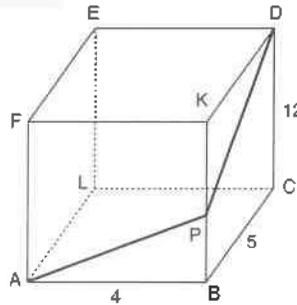
15.



Düzensiz dörtyüzlü
 Regular tetrahedron
 $|AF| = |DC| = 2 \text{ br}$
 $|FE| = |BD| = 4 \text{ br}$
 $O \in |AC|$
 $\Rightarrow \min(|DO| + |OF|) = ?$

- A) 12 B) 6 C) $2\sqrt{7}$ D) 5 E) 4

16.



Dikdörtgen prizma
 Rectangle prism
 $|AB| = 4 \text{ br}$
 $|BC| = 5 \text{ br}$
 $|DC| = 12 \text{ br}$
 $\Rightarrow \min(|AP| + |PD|) = ?$

- A) 15 B) 13 C) 12 D) 10 E) 8

PUZAYVANIARI



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	E	E	A	B	E	D	C	B	A	A	A	C	B	C

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	D	A	C	A	B	C	A	D	D	C	B	E	E	A

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	E	A	B	D	C	D	E	E	A	D	D	D	A	E	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	A	D	C	C	D	B	E	E	B	C	B	C	D	E	

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	E	E	E	C	D	C	C	C	E	D	A	D	B	D

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	E	A	E	E	E	C	E	D	E	C	B	A	B	A

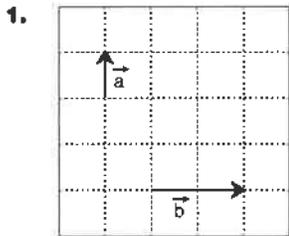
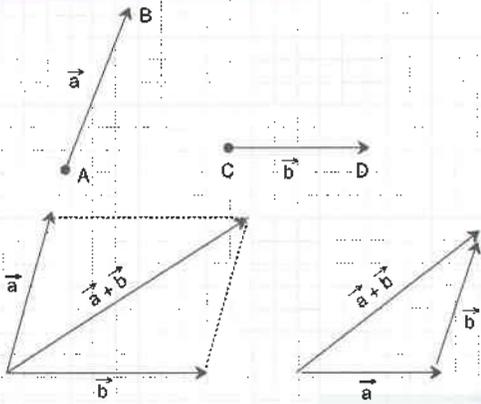
TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	B	D	B	A	A	A	B	D	B	C	E	A	C	A

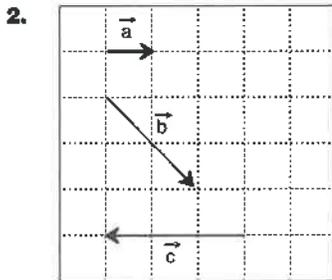


VEKTÖRLER
VECTORS

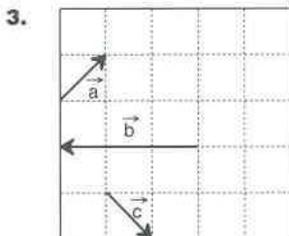
ÖZELLİK|Property 1



$$\Rightarrow \vec{a} + \vec{b} = ?$$

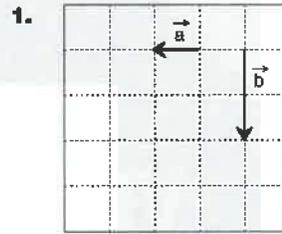
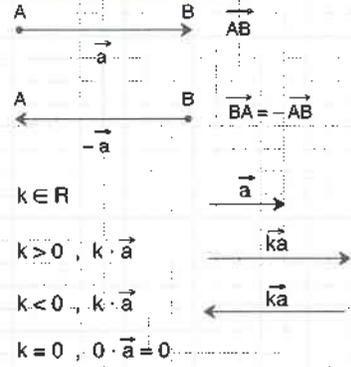


$$\Rightarrow \vec{a} + \vec{b} + \vec{c} = ?$$

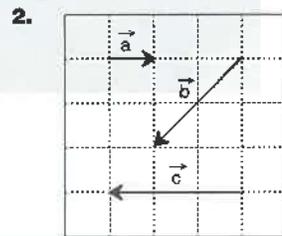


$$\Rightarrow \vec{a} + \vec{b} + \vec{c} = ?$$

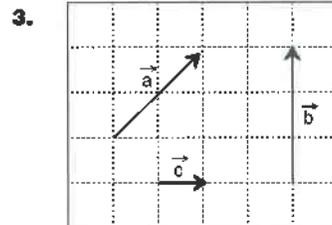
ÖZELLİK|Property 2



$$\Rightarrow 2\vec{a} - \vec{b} = ?$$

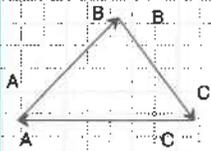


$$\Rightarrow 3\vec{a} + \frac{1}{2}\vec{b} - \frac{1}{3}\vec{c} = ?$$



$$\Rightarrow \frac{1}{2}\vec{a} - \frac{1}{3}\vec{b} + \vec{c} = ?$$

ÖZELLİK|Property 3



$$\vec{AB} + \vec{BC} + \vec{CA} = \vec{AA} = \vec{0}$$

$$\vec{AB} + \vec{BC} + \vec{CD} = \vec{AC} + \vec{CD} = \vec{AD}$$

$$\vec{AB} + \vec{BA} = \vec{AA} = \vec{0}$$

ÖZELLİK|Property 4



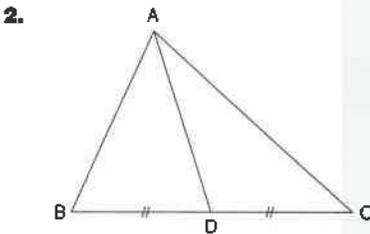
$$\vec{AB} = \vec{B} - \vec{A} = (x_2 - x_1, y_2 - y_1)$$

- $\vec{GA} + \vec{AD} + \vec{DC} = ?$
 $\vec{AB} - \vec{CB} = ?$
 $\vec{AB} - \vec{AD} = ?$
 $\vec{BE} + \vec{EB} = ?$
 $\vec{AB} + \vec{BC} - \vec{DC} = ?$

- $A(4, 2) \quad B(3, -1) \Rightarrow \vec{AB} = ?$
 $A(3, -2) \quad B(4, 1) \Rightarrow \vec{AB} = ?$

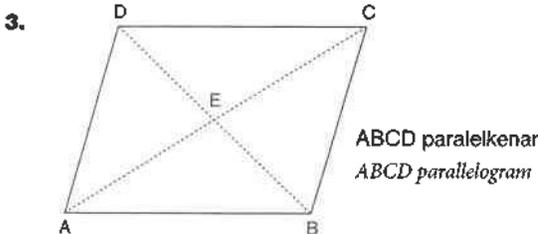
PUZAYYANILARI

$(-1, -3), (1, 3)$



- $\vec{AB}(4, -2) \quad A(3, -1) \Rightarrow B(x, y) = ?$
 $\vec{AB}(-4, -6) \quad A(2, -2) \Rightarrow B(x, y) = ?$

$(7, -3), (-2, -8)$



- $\vec{AB}(-6, 3) \quad B(2, -3) \Rightarrow A(x, y) = ?$
 $\vec{AB}(-4, 3) \quad B(1, 4) \Rightarrow A(x, y) = ?$

$(8, -6), (5, 1)$

- $$\vec{AB} - \vec{AD} = ? \quad \vec{AE} + \vec{DE} = ?$$
- $$\vec{BA} - \vec{BC} = ? \quad \vec{BD} + \vec{AC} = ?$$

VEKTÖRLER

ÖZELLİK|Property 5

$$\left. \begin{array}{l} \vec{A}(x_1, y_1) \\ \vec{B}(x_2, y_2) \end{array} \right\} \vec{A} = \vec{B} \Rightarrow x_1 = x_2, \text{ ve } y_1 = y_2$$

1. $\vec{A}(3, x)$ $\vec{B}(2x, -5y)$ $\vec{A} = \vec{B} \Rightarrow y = ?$

$$\boxed{-\frac{3}{10}}$$

2. $A(1, -2)$ $B(-2, 3)$ $C(4, 1)$ $D(x, y)$
 $\vec{AB} = \vec{CD} \Rightarrow x + y = ?$

$$\boxed{7}$$

3. $A(-5, 1)$ $B(3, 4)$ $\vec{C}(x, y)$ $\vec{AB} = \vec{C}$
 $\Rightarrow (x, y) = ?$

$$\boxed{(8, 3)}$$

ÖZELLİK|Property 6

$$\left. \begin{array}{l} \vec{A}(x_1, y_1) \\ \vec{B}(x_2, y_2) \end{array} \right\} \begin{array}{l} \vec{A} + \vec{B} = (x_1 + x_2, y_1 + y_2) \\ \vec{A} - \vec{B} = (x_1 - x_2, y_1 - y_2) \end{array}$$

1. $\vec{A}(8, 4)$ $\vec{B}(2, -7)$ $\Rightarrow \vec{A} + \vec{B} = ?$
 $\Rightarrow \vec{A} - \vec{B} = ?$

$$\boxed{(10, -3), (6, 11)}$$

2. $A(1, 2)$ $B(3, -2)$ $C(4, 1)$ $D(-2, 1)$
 $\Rightarrow \vec{AC} + \vec{BD} = ?$
 $\Rightarrow \vec{AC} - \vec{BD} = ?$

$$\boxed{(-2, 2), (8, -4)}$$

3. $\vec{AB}(3, -1)$ $B(3, -2)$ $C(5, 1)$
 $\Rightarrow \vec{AC} + \vec{BC} = ?$
 $\Rightarrow \vec{AC} - \vec{BC} = ?$

$$\boxed{(7, 5), (3, -1)}$$

ÖZELLİK|Property 7

$$\vec{A}(x, y) \left\{ \begin{array}{l} k(x, y) = (kx, ky) \\ -k(x, y) = (-kx, -ky) \\ k = 0 \quad k \cdot (x, y) = 0(x, y) \\ \quad \quad \quad = (0, 0) \end{array} \right.$$

1. $\vec{A}(-1, 2)$ $\vec{B}(-3, -2)$ $= 2\vec{A} + 3\vec{B} = ?$

$$\boxed{(-11, -2)}$$

2. $A(3, 2)$ $B(-1, 5)$ $\vec{C}(-2, 1)$
 $\Rightarrow 2\vec{AB} + \vec{C} = ?$

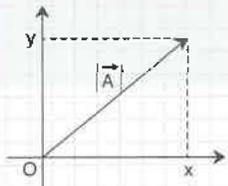
$$\boxed{(-10, 7)}$$

3. $A(-1, 3)$ $B(-3, 4)$ $C(x, y)$ $2(\vec{AC}) = 3(\vec{AB})$
 $\Rightarrow C(x, y) = ?$

$$\boxed{(-4, 9/2)}$$

PUZAYYANILARI

ÖZELLİK|Property 8



$$|\vec{A}(x, y)| = |\vec{A}| = \|\vec{A}\| = \sqrt{x^2 + y^2}$$

1. $\vec{A}(3, -4)$ $\Rightarrow \|\vec{A}\| = ?$

$$\boxed{5}$$

2. $\|\vec{A}\| = 10$ $\vec{A}(x, -6)$
 $= \sum x = ?$

$$\boxed{0}$$

3. $A(-4, -5)$ $B(-9, -10)$
 $= \|\vec{AB}\| = ?$

$$\boxed{5\sqrt{2}}$$

ÖZELLİK|Property 9

$$|\vec{A}(x,y)| = \|\vec{A}\| = \sqrt{x^2 + y^2}$$

\vec{A} vektörünün aynı yönlü birim vektörü
unit vector with the same direction of \vec{A}

$$I_A = \frac{\vec{A}}{\|\vec{A}\|}$$

\vec{A} vektörünün zıt yönlü birim vektörü
unit vector with the opposite direction of \vec{A}

$$-I_A = \frac{-\vec{A}}{\|\vec{A}\|}$$

1. $\vec{A}(-2, 4)$ vektörüyle aynı yönlü birim vektörü nedir?
What is unit vector with the same direction to vector $\vec{A}(-2, 4)$?

$$\left(\frac{-1}{\sqrt{5}}, \frac{2}{\sqrt{5}} \right)$$

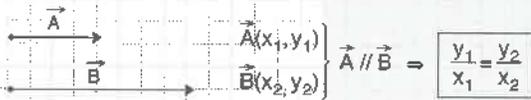
2. $\vec{A}(-3, 4)$ vektörüyle zıt yönlü birim vektörü nedir?
What is unit vector with the opposite direction to vector $\vec{A}(-3, 4)$?

$$\left(\frac{3}{5}, -\frac{4}{5} \right)$$

3. $A(3, -2), B(3, 1)$ \vec{AB} vektörüyle aynı yönlü birim vektörü nedir?
What is unit vector with the same direction to vector \vec{AB} ?

$$(0, 1)$$

ÖZELLİK|Property 10



$$\vec{A} \parallel \vec{B} \Rightarrow \frac{y_1}{x_1} = \frac{y_2}{x_2}$$

1. $\vec{A}(3, 4)$ $\vec{B}(-6, x)$ $\vec{A} \parallel \vec{B} \Rightarrow x = ?$

$$-8$$

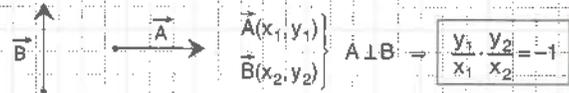
2. $A(1, -3)$ $B(2, 6)$ $C(3, -x)$ $\vec{AB} \parallel \vec{AC} \Rightarrow x = ?$

$$-15$$

3. $\vec{A}(x-1, 3)$ $\vec{B}(5, x+1)$ $\vec{A} \parallel \vec{B} \Rightarrow \sum x = ?$

$$0$$

ÖZELLİK|Property 11



$$\vec{A} \perp \vec{B} \Rightarrow \frac{y_1}{x_1} \cdot \frac{y_2}{x_2} = -1$$

1. $\vec{A}(3, -2)$ $\vec{B}(2, x)$ $\vec{A} \perp \vec{B} \Rightarrow x = ?$

$$3$$

2. $A(3, 1)$ $B(2, x)$ $\vec{C}(-5, 7)$ $\vec{AB} \perp \vec{C} \Rightarrow x = ?$

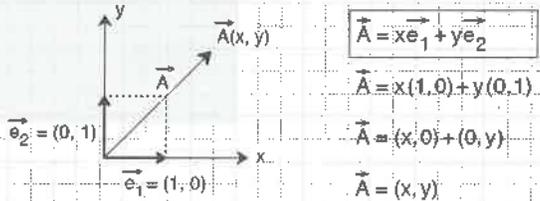
$$\frac{2}{7}$$

3. $\vec{AB}(-1, 3)$ $A(3, 1)$ $C(x, 2)$ $\vec{BC} \perp \vec{AC} \Rightarrow \sum x = ?$

$$5$$

PUZAYYINLARI

ÖZELLİK|Property 12



$$\vec{A} = x\vec{e}_1 + y\vec{e}_2$$

$$\vec{A} = x(1, 0) + y(0, 1)$$

$$\vec{A} = (x, 0) + (0, y)$$

$$\vec{A} = (x, y)$$

1. $\vec{A}(1, -2) \Rightarrow \vec{A} = x\vec{e}_1 + y\vec{e}_2 = ?$

$$\vec{e}_1 - 2\vec{e}_2$$

2. $\vec{A} = 2\vec{e}_1 - 4\vec{e}_2 \Rightarrow \vec{A} = ?$

$$(2, -4)$$

3. $\vec{A}(4, -2)$ $\vec{B}(-5, 3)$ $\vec{C}(8, 1)$ $k\vec{A} + m\vec{B} = \vec{C} \Rightarrow k + m = ?$

$$\frac{49}{2}$$

ÖZELLİK|Property 13

$$\vec{A}(x_1, y_1)$$

$$\vec{B}(x_2, y_2)$$

$$\vec{A} \cdot \vec{B} = \langle \vec{A}, \vec{B} \rangle = x_1 \cdot x_2 + y_1 \cdot y_2$$

1. $\vec{A}(3,1)$ $\vec{B}(-2,4)$

$= \vec{A} \cdot \vec{B} = ?$

-2

2. $\vec{A}(4,5)$ $\vec{B}(x,-4)$

$\langle \vec{A}, \vec{B} \rangle = 4 \Rightarrow x = ?$

6

3. $A(x, 2)$ $B(4, 2)$

$\vec{C}(-1, 1)$ $\langle \vec{AB}, \vec{C} \rangle = 4 \Rightarrow x = ?$

8

ÖZELLİK|Property 14



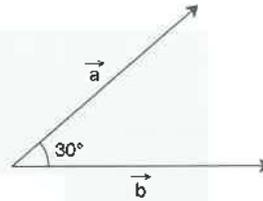
$$\vec{A} \cdot \vec{B} = \langle \vec{A}, \vec{B} \rangle = |\vec{A}| \cdot |\vec{B}| \cdot \cos \alpha$$

• $\vec{A} \perp \vec{B}$ $\cos 90^\circ = 0 \Rightarrow \langle \vec{A}, \vec{B} \rangle = 0$

• \vec{A} and \vec{B} in opposite directions $\cos 180^\circ = -1 \Rightarrow \langle \vec{A}, \vec{B} \rangle = -|\vec{A}| \cdot |\vec{B}|$

• \vec{A} and \vec{B} in same direction $\cos 0^\circ = 1 \Rightarrow \langle \vec{A}, \vec{B} \rangle = |\vec{A}| \cdot |\vec{B}|$

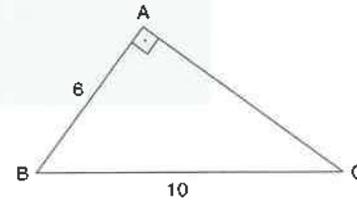
1.



$$\begin{aligned} |\vec{a}| &= 4br \\ |\vec{b}| &= 6br \\ \Rightarrow \vec{a} \cdot \vec{b} &= ? \end{aligned}$$

$12\sqrt{3}$

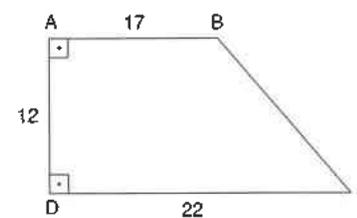
2.



$= \langle \vec{AB}, \vec{AC} \rangle = ?$

0

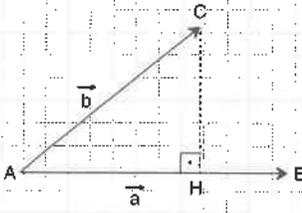
3.



$= \langle \vec{DC}, \vec{CB} \rangle = ?$

-110

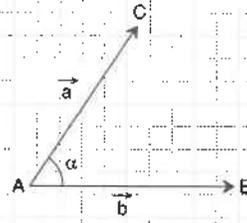
ÖZELLİK|Property 15



$$\vec{AH} = \frac{\langle \vec{a}, \vec{b} \rangle}{|\vec{a}|^2} \vec{a}$$

$$|\vec{AH}| = \frac{|\langle \vec{a}, \vec{b} \rangle|}{|\vec{a}|}$$

ÖZELLİK|Property 16



$$|\vec{a} + \vec{b}|^2 = |\vec{a}|^2 + |\vec{b}|^2 + 2|\vec{a}||\vec{b}|\cos\alpha$$

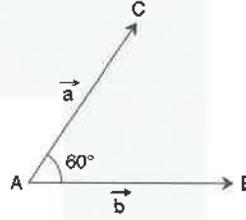
$$|\vec{a} - \vec{b}|^2 = |\vec{a}|^2 + |\vec{b}|^2 - 2|\vec{a}||\vec{b}|\cos\alpha$$

1. $\vec{A}(-8, 6)$ vektörünün $\vec{B}(-7, 24)$ vektörü üzerindeki dik izdüşüm vektörü nedir?

What is the orthogonal projection vector over the $\vec{B}(-7, 24)$ vector of $\vec{A}(-8, 6)$ vector?

$$\left(\frac{56}{25}, \frac{192}{25} \right)$$

1.



$$\begin{aligned} |\vec{a}| &= 5br \\ |\vec{b}| &= 3br \\ \Rightarrow |\vec{a} + \vec{b}| &=? \end{aligned}$$

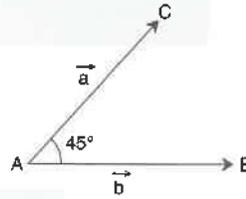
7

2. $\vec{A}(4, -1)$ vektörünün $\vec{B}(3, 4)$ vektörü üzerindeki dik izdüşüm vektörünün uzunluğu nedir?

What is the orthogonal projection length over the $\vec{B}(3, 4)$ vector of $\vec{A}(4, -1)$ vector?

$$\frac{8}{5}$$

2.



$$\begin{aligned} |\vec{a}| &= 4\sqrt{2}br \\ |\vec{b}| &= 6br \\ \Rightarrow |\vec{a} - \vec{b}| &=? \end{aligned}$$

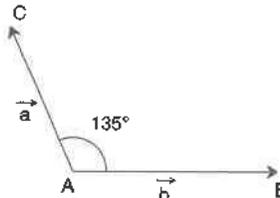
$2\sqrt{5}$

3. $\vec{A}(6, 1)$ vektörünün $y = 2x$ doğrusu üzerine dik izdüşüm vektörünün uzunluğu nedir?

What is the orthogonal projection length over the $y=2x$ line of $\vec{A}(6, 1)$ vector?

$$\frac{6\sqrt{5}}{5}$$

3.



$$\begin{aligned} |\vec{a}| &= 4br \\ |\vec{b}| &= 6\sqrt{2}br \\ \Rightarrow |\vec{a} - \vec{b}| &=? \end{aligned}$$

$2\sqrt{34}$

1. $A(2, -1)$ $B(4, -3)$ $\Rightarrow \vec{AB} = ?$

- A) $(2, -4)$ B) $(2, -2)$ C) $(6, -2)$
 D) $(2, 2)$ E) $(-6, 2)$

5. $\vec{A}(4, -3)$ $\vec{B}(-6, 7)$ $\Rightarrow \vec{A} + \vec{B} = ?$

- A) $(-2, 5)$ B) $(2, 4)$ C) $(10, 10)$
 D) $(-10, -10)$ E) $(-2, 4)$

2. $A(4, -5)$ $B(-2, -4)$ $\Rightarrow \vec{BA} = ?$

- A) $(6, -1)$ B) $(6, 1)$ C) $(2, 9)$
 D) $(-6, 1)$ E) $(2, 1)$

6. $\vec{A}(-11, 5)$ $\vec{B}(x, 2y - 1)$ $\vec{A} - \vec{B} = (-8, 2)$
 $\Rightarrow x + y = ?$

- A) -2 B) -1 C) 2 D) 3 E) 5

3. $\vec{AB}(-7, 5)$ $A(3, 2)$ $B(x, y)$ $\Rightarrow B(x, y) = ?$

- A) $(-10, 3)$ B) $(4, 3)$ C) $(10, -3)$
 D) $(-4, 7)$ E) $(4, -7)$

7. $A(5, -2)$ $B(3, -7)$ $C(-2, 3)$ $\Rightarrow \vec{AB} + \vec{AC} = ?$

- A) $(5, 10)$ B) $(-7, 5)$ C) $(5, 6)$
 D) $(0, -9)$ E) $(-9, 0)$

4. $\vec{BA}(-4, 6)$ $A(-2, 3)$ $B(x, y)$ $\Rightarrow B(x, y) = ?$

- A) $(-2, -9)$ B) $(3, -2)$ C) $(2, -3)$
 D) $(-2, 9)$ E) $(-2, -3)$

8. $\vec{AB}(3, -2)$ $A(-1, 3)$ $C(1, -2)$ $\Rightarrow \vec{AC} - \vec{BC} = ?$

- A) $(3, -1)$ B) $(3, -2)$ C) $(1, -2)$
 D) $(1, -8)$ E) $(3, -8)$

9. $\vec{A}(2, -1)$ $\vec{B}(7, -2)$ $\Rightarrow 2\vec{A} + 3\vec{B} = ?$

- A) (13, -2) B) (5, -3) C) (-6, 8)
D) (25, -4) E) (25, -8)

10. $A(-3, 7)$ $B(2, 4)$ $C(-1, 5)$ $\Rightarrow 3\vec{AB} - 5\vec{BC} = ?$

- A) (0, -14) B) (-30, 4) C) (30, -4)
D) (30, -14) E) (0, -4)

11. $\vec{A}(-2, 1)$ $\Rightarrow |\vec{A}| = ?$

- A) $\sqrt{2}$ B) $\sqrt{5}$ C) 3 D) $2\sqrt{3}$ E) $2\sqrt{5}$

12. $A(4, 1)$ $B(1, -3)$ $\Rightarrow |\vec{AB}| = ?$

- A) 3 B) 4 C) 5 D) $4\sqrt{2}$ E) $4\sqrt{3}$

13. $A(-1, 3)$ $B(5, -5)$ $\Rightarrow |\vec{AB}| = ?$

- A) $5\sqrt{2}$ B) 10 C) $10\sqrt{2}$ D) $10\sqrt{3}$ E) 15

14. $\vec{A}(x, y)$ $|\vec{A}| = 1$

\vec{A} vektörü aşağıdakilerden hangisi olabilir?

Which of the following can be vector of \vec{A} ?

- A) (2, 4) B) (-1, 1) C) (1, 1)
D) (0, -1) E) (3, 4)

15. $\vec{A}(4, -5)$ $\vec{B}(3, -3)$ $\Rightarrow |\vec{A} - \vec{B}| = ?$

- A) $\sqrt{3}$ B) $\sqrt{5}$ C) 3 D) 5 E) 12

16. $\vec{A}(x, \frac{4}{5})$ $|\vec{A}| = 1$ $\Rightarrow \sum x = ?$

- A) $-\frac{3}{5}$ B) 0 C) $\frac{3}{5}$ D) 1 E) $\frac{4}{5}$

1. $\vec{A}(2x-1, 2y-6)$ $\vec{B}(7, 2x)$ $\vec{A} = \vec{B}$ $\Rightarrow x+y=?$

- A) 3 B) 7 C) 9 D) 11 E) 13

2. $A(7, 6)$ $B(12, 1)$ $\vec{C}(x, y)$ $\vec{AB} = \vec{C}$
 $\Rightarrow x+y=?$

- A) -10 B) -5 C) 0 D) 5 E) 10

3. $A(0, 4)$ $B(1, 2)$ $C(4, x)$ $D(y, 4)$
 $\vec{AC} = \vec{DB}$ $\Rightarrow x \cdot y = ?$

- A) -1 B) -2 C) -3 D) -4 E) -6

4. $A(2, 3)$ $B(0, 4)$ $C(x, y)$
 $\vec{AB} = 3(\vec{BC})$ $\Rightarrow \frac{x}{y} = ?$

- A) -1 B) $-\frac{2}{13}$ C) $\frac{1}{3}$ D) $\frac{3}{7}$ E) 1

5. $\vec{A}(-2, -6)$ $\vec{B}(3, x-1)$ $\vec{A} \parallel \vec{B}$ $\Rightarrow x=?$

- A) -10 B) -8 C) 8 D) 10 E) 12

6. $A(-2, 1)$ $B(-6, 3)$ $C(4, 1)$ $D(8, y)$
 $\vec{AB} \parallel \vec{CD}$ $\Rightarrow y = ?$

- A) -2 B) -1 C) 0 D) 1 E) 2

7. $\vec{A}(-2, 4)$ $\vec{B}(x, -8)$ $\vec{A} \perp \vec{B}$ $\Rightarrow x=?$

- A) -16 B) -4 C) 1 D) 4 E) 16

8. $A(3, -1)$ $B(x, 3)$ $C(7, 1)$ $D(3, y)$
 $\vec{AB} \perp \vec{CD}$ $x = ay + b$ $\Rightarrow a + b = ?$

- A) -2 B) 1 C) 2 D) 3 E) 5

9. $\vec{A} = 3\vec{e}_1 - 2\vec{e}_2 \quad \Rightarrow A = ?$

- A) (3, 2) B) (-3, 2) C) (0, 5)
D) (1, 0) E) (3, -2)

13. $\vec{A}(-1, 3) \quad \vec{B}(1, 2) \quad \vec{C}(-2, 1) \quad \vec{C} = x\vec{A} + y\vec{B} \quad \Rightarrow x + y = ?$

- A) -3 B) -2 C) -1 D) 0 E) 1

10. $\vec{A} = (-2, 5) \quad \vec{B} = 4\vec{e}_1 + 2\vec{e}_2 \quad \vec{C} = 2\vec{A} + \vec{B}$
 $\Rightarrow \vec{C} = ?$

- A) (2, 3) B) (2, 7) C) (0, 7)
D) (0, 8) E) (0, 12)

14. $k > 0$

$\vec{A} = \frac{3}{5}\vec{e}_1 - k\vec{e}_2 \quad |\vec{A}| = 1$
 $\vec{B} = 5\vec{A} \quad \Rightarrow \vec{B} = ?$

- A) (-3, -2) B) (-3, 4) C) (3, -5)
D) (3, 4) E) (3, -4)

PUZAYAVINILARI

11. $2\vec{A} + 3\vec{B} + \vec{C} = 7\vec{e}_1 - 5\vec{e}_2$
 $2\vec{A} + \vec{B} + 3\vec{C} = 5\vec{e}_1 - 3\vec{e}_2 \quad \Rightarrow \vec{A} + \vec{B} + \vec{C} = ?$

- A) (3, -2) B) (5, 2) C) (4, -2)
D) (3, -1) E) (2, -1)

15. $\vec{AB}(2, 3) \quad \vec{BC}(4, -3) \quad \vec{DE}(6, -1) \quad \vec{EA}(0, 4) \quad \Rightarrow \vec{DC} = ?$

- A) (7, -1) B) (12, 3) C) (6, 4)
D) (5, -3) E) (8, -3)

12. $\vec{K}(2, 4) \quad \vec{U}(1, 2) \quad \vec{V}(0, 1) \quad \vec{K} = a\vec{U} + b\vec{V} \quad \Rightarrow a + b = ?$

- A) -2 B) -1 C) 0 D) 1 E) 2

16. $\vec{AB} = -3\vec{e}_1 + 5\vec{e}_2$
 $\vec{AC} = \vec{e}_1 + 2\vec{e}_2 \quad \Rightarrow |\vec{BC}| = ?$

- A) 5 B) $5\sqrt{2}$ C) $5\sqrt{3}$ D) 10 E) 12

1. $\vec{A}(-1,2)$ $\vec{B}(3,7)$ $\Rightarrow \vec{A} \cdot \vec{B} = ?$

- A) 11 B) 9 C) 7 D) 6 E) 4

2. $\vec{A}(x, -5)$ $\vec{B}(-2,3)$ $\vec{A} \cdot \vec{B} = -9$ $\Rightarrow x = ?$

- A) -3 B) -2 C) 1 D) 2 E) 3

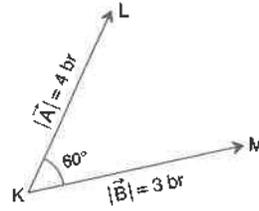
3. $\vec{A} = (x-2)\vec{e}_1 + (x+3)\vec{e}_2$
 $\vec{B} = (x+2)\vec{e}_1 + (3-x)\vec{e}_2$ $\Rightarrow \vec{A} \cdot \vec{B} = ?$

- A) $2x^2$ B) $2x^2 + 5$ C) 5
 D) 9 E) $2x + 3$

4. $\vec{AB}(1,2)$ $\vec{BC}(-2,3)$ $\vec{DE}(-2,3)$ $\vec{EA}(3,1)$
 $\Rightarrow \vec{AC} \cdot \vec{DA} = ?$

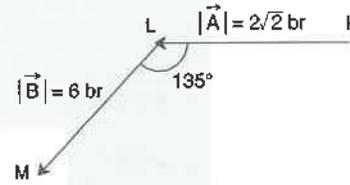
- A) 19 B) 15 C) 11 D) 8 E) 7

5. $\Rightarrow \vec{A} \cdot \vec{B} = ?$



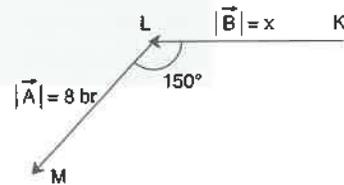
- A) 3 B) 6 C) $3\sqrt{3}$ D) $6\sqrt{3}$ E) 12

6. $\Rightarrow \vec{A} \cdot \vec{B} = ?$



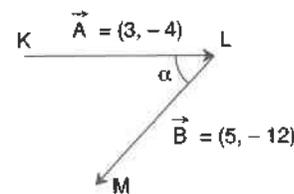
- A) 12 B) $6\sqrt{2}$ C) 6 D) $-6\sqrt{2}$ E) -12

7. $\vec{A} \cdot \vec{B} = +20\sqrt{3}$ br
 $\Rightarrow x = ?$



- A) 3 B) 4 C) 5 D) 6 E) 8

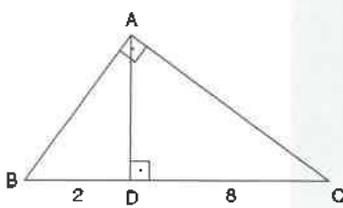
8. $\Rightarrow \cos \alpha = ?$

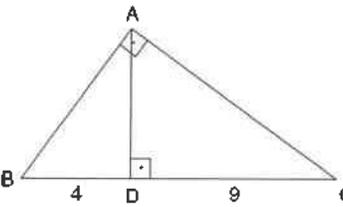


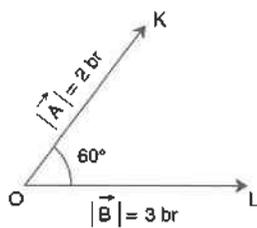
- A) $-\frac{63}{65}$ B) $-\frac{5}{12}$ C) $\frac{33}{65}$ D) $\frac{63}{65}$ E) 1

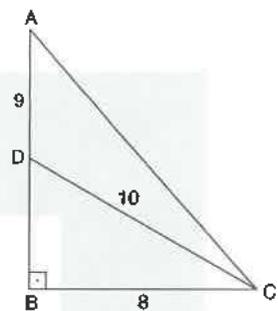
9. $|\vec{U}|=4br$ $|\vec{V}|=6br$ $\vec{U} \perp \vec{V}$
 $= (\vec{U} + \vec{V}) \cdot (\vec{U} + 2\vec{V}) = ?$
 A) 160 B) 112 C) 88 D) 78 E) 56

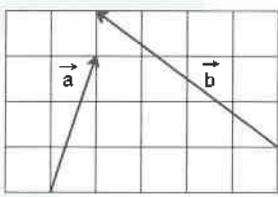
10. $|\vec{A}|=2br$ $|\vec{B}|=4br$ $\vec{A} \perp \vec{B}$
 $= (2\vec{A} - \vec{B}) \cdot (\vec{A} + \vec{B}) = ?$
 A) -16 B) -8 C) 0 D) 4 E) 16

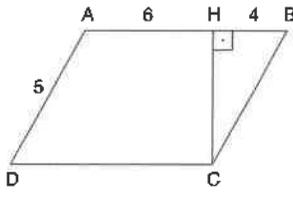
11. 
 $[AB] \perp [AC]$
 $[AD] \perp [BC]$
 $|BD| = 2br$
 $|DC| = 8br$
 $\Rightarrow \vec{BA} \cdot (\vec{BD} + \vec{AC}) = ?$
 A) 2 B) 4 C) $2\sqrt{5}$ D) -4 E) -2

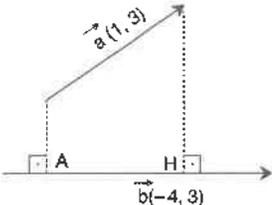
12. 
 $[AB] \perp [AC]$
 $[AD] \perp [BC]$
 $|BD| = 4br$
 $|DC| = 9br$
 $\Rightarrow \vec{BA} \cdot (\vec{AD} + \vec{DC}) = ?$
 A) -36 B) -2 C) 0 D) 13 E) 36

13. 
 $\Rightarrow 2\vec{A} \cdot 3\vec{B} = ?$
 A) 18 B) 15 C) 12 D) 10 E) 8

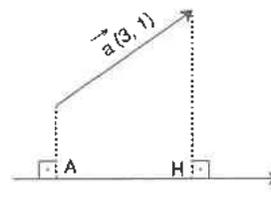
14. 
 $[AB] \perp [BC]$
 $|AD| = 9br$
 $|DC| = 10br$
 $|BC| = 8br$
 $\Rightarrow \vec{CA} \cdot \vec{BD} = ?$
 A) -255 B) -90 C) 55 D) 90 E) 255

15. 
 $\Rightarrow \vec{a} \cdot \vec{b} = ?$
 A) 5 B) 6 C) 7 D) 8 E) 9

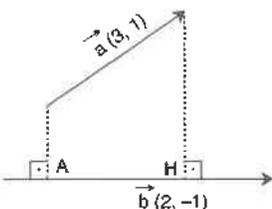
16. 
 ABCD paralelkenar
 ABCD parallelogram
 $[AB] \perp [HC]$
 $\Rightarrow \vec{BA} \cdot (\vec{DA} + \vec{HC}) = ?$
 A) -60 B) -40 C) -24 D) -12 E) -10

1.  $\Rightarrow |\vec{AH}| = ?$

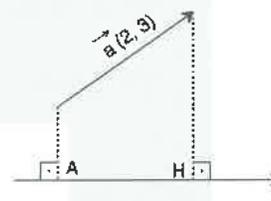
A) 1 B) 2 C) 3 D) 4 E) 5

5.  $\Rightarrow |\vec{AH}| = ?$

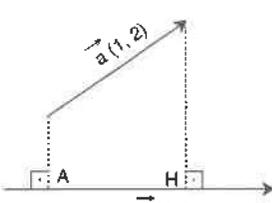
A) 2 B) $\sqrt{5}$ C) $\sqrt{6}$ D) $\sqrt{7}$ E) $2\sqrt{2}$

2.  $\Rightarrow |\vec{AH}| = ?$

A) 2 B) $\sqrt{5}$ C) $\sqrt{6}$ D) $\sqrt{7}$ E) $2\sqrt{2}$

6.  $\Rightarrow |\vec{AH}| = ?$

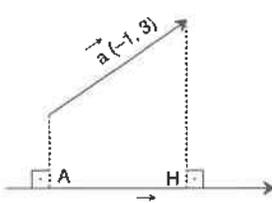
A) 1 B) $\sqrt{5}$ C) $\sqrt{7}$ D) $\frac{5\sqrt{2}}{2}$ E) $7\sqrt{5}$

3.  $\Rightarrow \vec{AH} = ?$

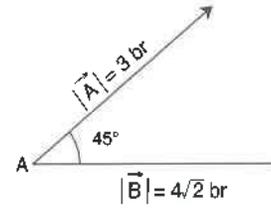
A) $(-\frac{4}{5}, \frac{3}{5})$ B) $(\frac{8}{5}, \frac{6}{5})$ C) $(\frac{4}{5}, \frac{3}{5})$
 D) $(\frac{7}{5}, \frac{4}{5})$ E) $(\frac{2}{5}, -\frac{4}{5})$

7. $|\vec{a}| = 4br$ $|\vec{b}| = 2br$ $\vec{a} \perp \vec{b}$
 $\Rightarrow |\vec{a} - \vec{b}| = ?$

A) $\sqrt{5}$ B) $2\sqrt{5}$ C) 4 D) 5 E) 6

4.  $\Rightarrow \vec{AH} = ?$

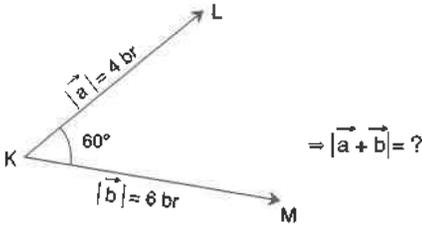
A) $(-\frac{9}{5}, \frac{12}{5})$ B) $(\frac{3}{5}, \frac{4}{5})$ C) $(\frac{1}{5}, \frac{4}{5})$
 D) $(-\frac{1}{3}, \frac{3}{5})$ E) (-3, 4)

8.  $\Rightarrow |\vec{A} - \vec{B}| = ?$

A) $2\sqrt{2}$ B) 4 C) 5 D) $\sqrt{17}$ E) $\sqrt{35}$

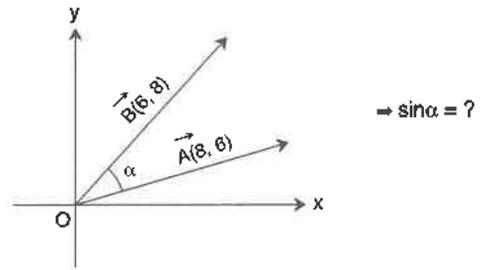
PUZAYAYINLARI

9.



- A) $3\sqrt{6}$ B) 8 C) $\sqrt{65}$ D) $2\sqrt{19}$ E) $6\sqrt{2}$

13.

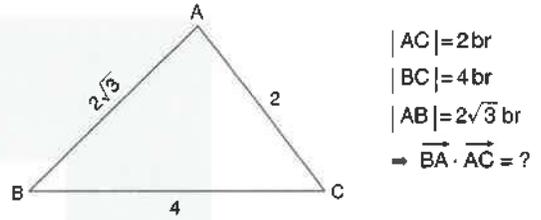


- A) $\frac{1}{5}$ B) $\frac{5}{24}$ C) $\frac{7}{24}$ D) $\frac{7}{25}$ E) $\frac{24}{25}$

10. $|\vec{a}| = 8br$ $|\vec{b}| = 6br$ $|\vec{a} - \vec{b}| = 8br$
 $\Rightarrow \vec{a} \cdot \vec{b} = ?$

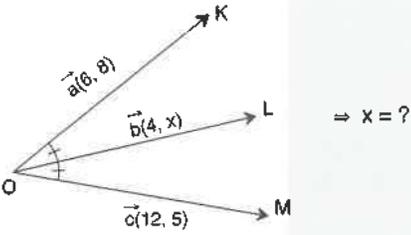
- A) 12 B) 18 C) 24 D) 36 E) 48

14.



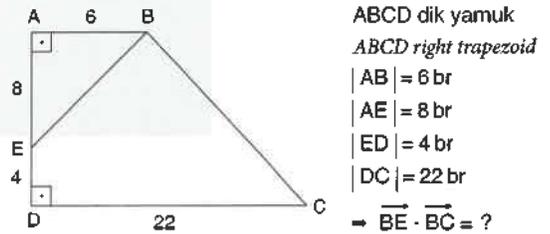
- A) $-2\sqrt{3}$ B) -2 C) 0 D) 1 E) $2\sqrt{3}$

11.



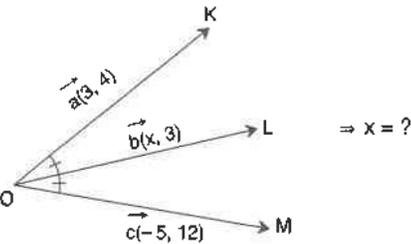
- A) $\frac{28}{9}$ B) $\frac{11}{13}$ C) $\frac{9}{11}$ D) $\frac{7}{9}$ E) $\frac{5}{7}$

15.



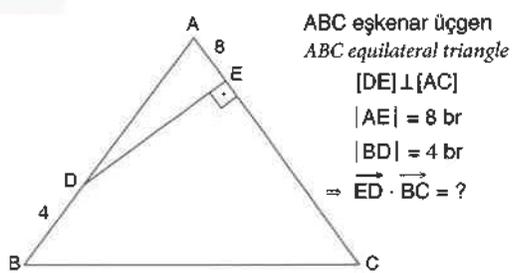
- A) -200 B) -100 C) 0 D) 100 E) 200

12.



- A) $\frac{1}{4}$ B) $\frac{3}{8}$ C) $\frac{5}{8}$ D) 3 E) 4

16.



- A) -240 B) -120 C) 120 D) 200 E) 240

1. $\vec{A}(6, m)$ $\vec{B}(n, 7)$ $\vec{AB}(0, 2)$
 $\Rightarrow m+n=?$
- A) 11 B) 10 C) 9 D) 8 E) 7

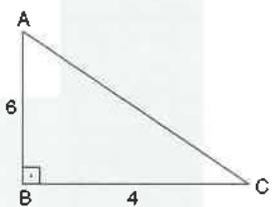
2. A(2, 3) B(-4, p) C(k, 3) D(6, 1)
 $\vec{AB} = \vec{CD}$
 $\Rightarrow k+p=?$
- A) 15 B) 13 C) 10 D) 8 E) 7

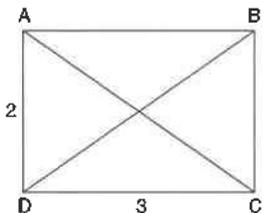
3. $\vec{A}(2-x, 4)$ $\vec{B}(2, 8)$ $\vec{A} \parallel \vec{B}$
 $\Rightarrow x=?$
- A) -1 B) 1 C) 2 D) 3 E) 4

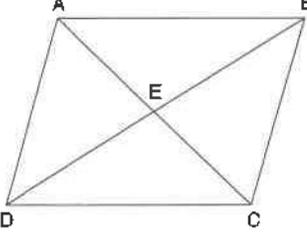
4. $\vec{A}(x, 2)$ $\vec{B}(3, -5)$
 $|\vec{A} + \vec{B}| = |\vec{A} - \vec{B}|$ $\Rightarrow x=?$
- A) -2 B) -1 C) $\frac{1}{2}$ D) $\frac{1}{4}$ E) $\frac{10}{3}$

5. $\vec{A}(1, 3)$ $\vec{B}(a, -2)$ $\vec{A} \cdot \vec{B} = 2$
 $\Rightarrow a=?$
- A) 4 B) 5 C) 6 D) 7 E) 8

6. $\vec{A}(3, 1)$ $\vec{B}(-1, 2)$ $\vec{C}(2, 10)$ $x\vec{A} + y\vec{B} = \vec{C}$
 $\Rightarrow x+y=?$
- A) 5 B) 6 C) 7 D) 8 E) 9

7. 
- $[AB] \perp [BC]$
 $|AB| = 6 \text{ br}$
 $|BC| = 4 \text{ br}$
 $\Rightarrow \vec{AB} \cdot \vec{AC} = ?$
- A) 6 B) 12 C) 24 D) 36 E) 72

8. 
- ABCD dikdörtgen
 ABCD rectangle
 $|AD| = 2 \text{ br}$
 $|DC| = 3 \text{ br}$
 $\Rightarrow \vec{DB} \cdot \vec{AC} = ?$
- A) -5 B) -4 C) 4 D) 5 E) 13

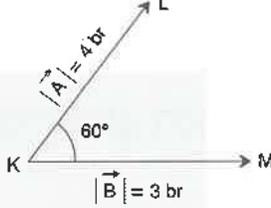
9.  ABCD eşkenar dörtgen
ABCD rhombus
 $|AC| = 8 \text{ br}$
 $|BD| = 6 \text{ br}$
 $\Rightarrow \vec{EC} \cdot (\vec{AB} + \vec{BE}) = ?$
- A) 9 B) 12 C) 15 D) 16 E) 20

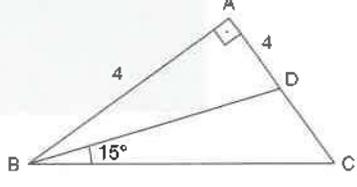
10. $\vec{x} = (a-1)\vec{e}_1 + a\vec{e}_2$
 $\vec{y} = (a+2)\vec{e}_1 - a\vec{e}_2$
 $\vec{x} \perp \vec{y}$
 $\Rightarrow a = ?$
- A) -2 B) -1 C) 0 D) 1 E) 2

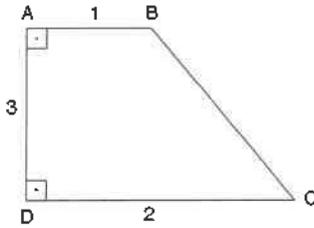
11. $\vec{2x} - \vec{y} = (-1, 3)$
 $\vec{x} + 2\vec{y} = (7, 4)$
 $\Rightarrow \vec{x} \cdot \vec{y} = ?$
- A) -2 B) -4 C) 3 D) 5 E) 7

12. A(5, -4) B(2, 3) C(9, x)
 $\vec{AB} \perp \vec{BC}$
 $\Rightarrow x = ?$
- A) 2 B) 3 C) 4 D) 5 E) 6

13. $\vec{A} + \vec{B} = (5, 2)$ $|\vec{A}|^2 + |\vec{B}|^2 = 13$
 $\Rightarrow \langle \vec{A}, \vec{B} \rangle = ?$
- A) 2 B) 3 C) 5 D) 7 E) 8

14.  $\Rightarrow 4\vec{A} \cdot 3\vec{B} = ?$
- A) 144 B) 72 C) 36 D) 18 E) 9

15.  $[AB] \perp [AC]$
 $|AB| = |AD| = 4 \text{ br}$
 $m(\angle DBC) = 15^\circ$
 $\Rightarrow \vec{AB} \cdot (\vec{BD} + \vec{BC}) = ?$
- A) -2 B) -4 C) -8 D) -16 E) -32

16.  ABCD dik yamuk
ABCD right trapezoid
 $|AB| = 1 \text{ br}$
 $|AD| = 3 \text{ br}$
 $|DC| = 2 \text{ br}$
 $\Rightarrow \langle \vec{DC}, \vec{BC} \rangle = ?$
- A) -2 B) -1 C) 1 D) 2 E) 4



YANIT ANAHTARI | ANSWER KEY

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	A	D	C	E	B	E	B	E	D	B	C	B	D	B	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	E	B	D	B	A	D	E	E	A	E	D	E	B	A

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	A	C	A	B	A	C	A	C	B	B	C	A	D	A	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	B	B	A	E	D	B	D	D	B	A	B	D	C	C	A

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	B	B	E	E	B	D	D	D	E	D	E	E	B	E	D