

ÜNİTE21

Unit 21

Çemberde Uzunluk

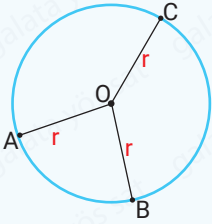
Circle Length



Çemberde Uzunluk / Circle Length

» Düzlemde sabit bir noktaya eşit uzaklıktaki noktalar kümesine çember denir.

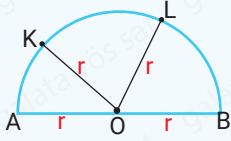
(A set of points equidistant from a fixed point in the plane is called a circle.)



O: çemberin merkezi
(center of the circle)

$r = \text{yarıçap}$ (radius)

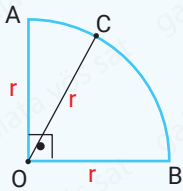
$|OA| = |OB| = |OC| = r$



O merkezli yarım çember
(centered semicircle)

$|AB| = 2r = \text{çemberin çapı}$
(diameter of the circle)

$|KO| = |LO| = |AO| = |BO| = r$



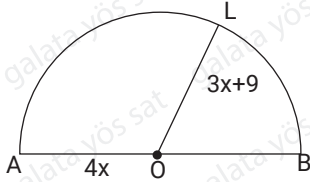
O merkezli çeyrek çember
(centered quarter circle)

$|OA| = |OB| = |OC| = r$

Tam, yarım, ya da çeyrek çember kuralı değişmez. Çember üzerindeki bir noktayı merkezle birleştirdiğimizde uzunluk daima yarıçapa eşittir.

(The full, half, or quarter circle rule does not change. When we connect a point on the circle with the center, the length is always equal to the radius.)

1)

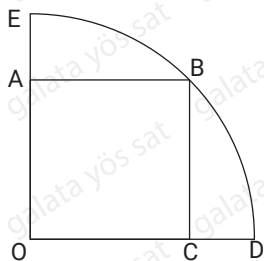


O, yarım çemberin merkezi
(center of the semicircle)

$r = ?$

36

2)



O, çeyrek çemberin merkezi
(center of the quarter circle)

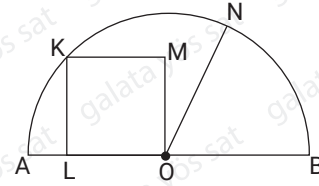
AOCB kare

Alan(AOCB) = 100 br^2

$|CD| = ?$

$10\sqrt{2} - 10$

3)



O, yarım çemberin merkezi
(center of the semicircle)

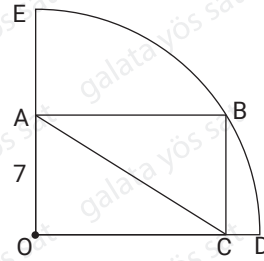
KLOM kare

$|ON| = 8\sqrt{2} \text{ br}$

$|AL| = ?$

$8\sqrt{2} - 8$

4)



O, çeyrek çemberin merkezi
(center of the quarter circle)

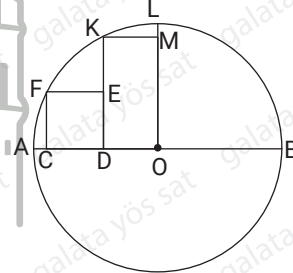
AOCB dikdörtgen (rectangle)

$|AC| = 25 \text{ br}$

$|CD| = ?$

1

5)



O, çemberin merkezi
(center of circle)

CDEF kare (square)

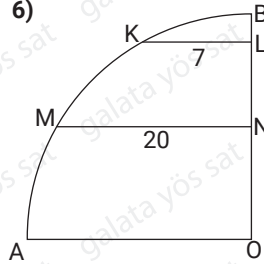
DOMK dikdörtgen
(rectangle)

$|CF| = |KE| = 3 \text{ cm}$

$|OB| = ?$

$3\sqrt{5}$

6)



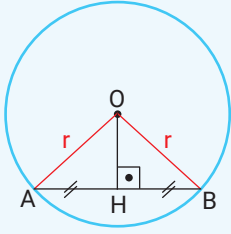
O, çeyrek çemberin merkezi
(center of the quarter circle)

$|KL| \parallel |MN| \parallel |AO|$

$\frac{|LN|}{|LB|} = ?$

9

A. Çemberde Kiriş Özellikleri
(Circle Chord Properties)



O: çemberin merkezi
(center of the circle)

|AB|: kiriş (chord)

[OH] ⊥ [AB]

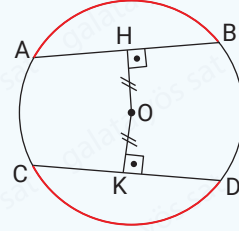
⇒|AH| = |HB|

» Çemberde merkezden kirişe indirilen dikme kirişi iki eşit parçaya böler.

(The strut, which is lowered from the center to the beam on the circle, divides it into two equal parts.)

! Oluşan AOB ikizkenar üçgenini farket!

(Notice the AOB isosceles triangle formed!)



O: çemberin merkezi
(center of the circle)

a. |AB| = |CD| ⇒ |OH| = |OK|

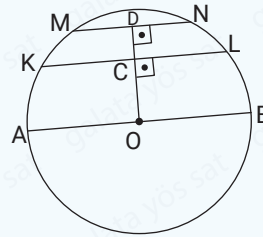
b. |AB| = |CD| ⇒ |AB̂| = |CD̂|

a. Kirişlerin uzunlukları eşitse merkeze uzaklıkları da eşittir.

(If the lengths of the beams are equal, their distances to the center are also equal.)

b. Eşit kirişlerin yay uzunlukları da eşittir.

(The arc lengths of equal beams are also equal.)



O: çemberin merkezi
(center of the circle)

|AB| = çap

|KL| > |MN|

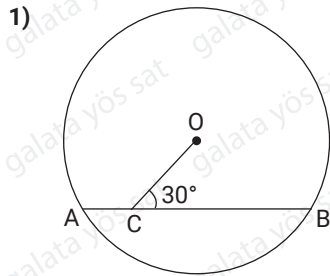
|OC| < |OD|

» Merkeze yakın kiriş daha uzundur. En uzun kiriş çap'tır.

(The beam closer to the center is longer. The longest beam is diameter.)

» Kirişin merkeze uzaklığı ile uzunluğu arasında ters orantı vardır.

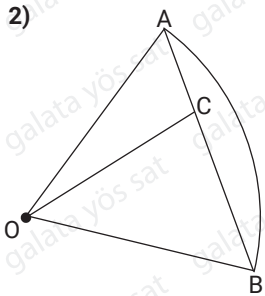
(There is an inverse proportion between the distance to the center of the beam and its length.)



O, çemberin merkezi

|BC| = 4|AC| = $16\sqrt{3}$ br

|OC| = ?



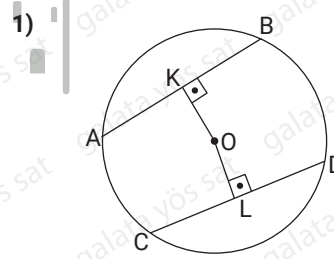
O, merkezli AB yaylı çemberde
(O in the centered arc circle AB)

|AC| = 5 br

|BC| = 11 br

|OC| = $3\sqrt{5}$ br

|OB| = ?



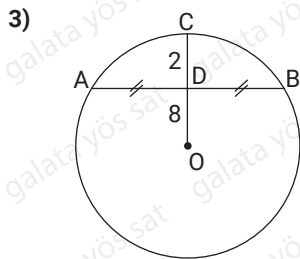
O, çemberin merkezi

|AB| = |CD|

|OK| = $3x + 13$

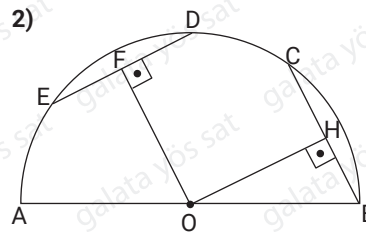
|OL| = $2x + 18$

x = ?



O, merkezli çemberde
(O: on the center circle)

|AB| = ?



O, yarım çemberin merkezi

|OH| = |OF|

|FD| = 3 br

|BC| = ?

10

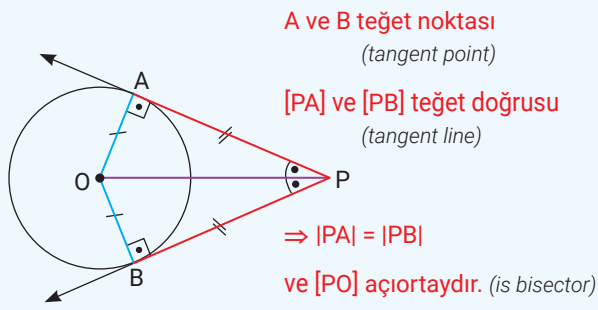
5

12

6

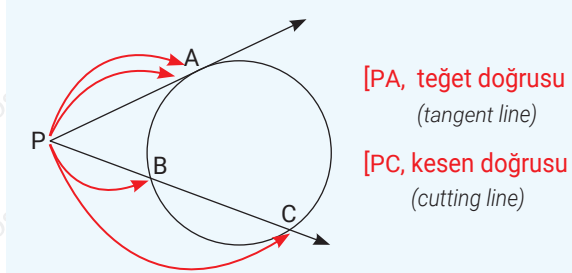
B. Çemberde Teğet Özellikleri

(Tangent Properties of Circle)



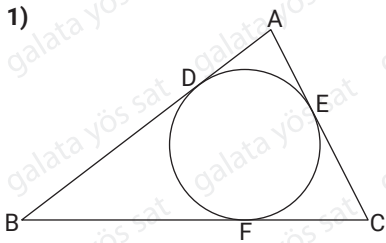
» Bir çembere dışındaki bir P noktasından çizilen teğet parçalarının uzunlukları birbirine eşittir.
(Tangent segments drawn from a point P other than a circle are equal in length.)

! Merkezi teğet noktası ile birleştirdiğimizde 90° olduğunu hatırla. (Remember that 90° when we connect the center with the tangent point)



» Bir kesenle bir teğetin oluşturduğu kuvvettir.
(It is the force created by an intersector and a tangent.)

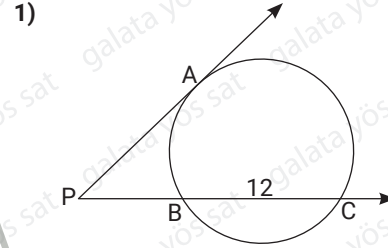
$|PA|^2 = |PB| \cdot |PC|$



D, E, F teğet noktası
(tangent point)

$|AD| = 4 \text{ br}$
 $|EC| = 3 \text{ br}$
 $|BD| = 8 \text{ br}$

$\angle(ABC) = ?$

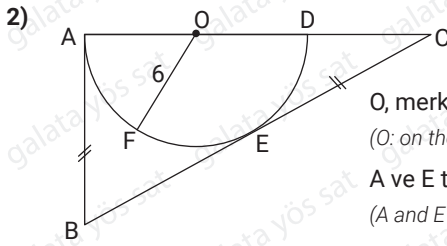


A teğet noktası
(tangent point)

$|PA| = 8 \text{ br}$
 $|BC| = 12 \text{ br}$

$|PB| = ?$

4



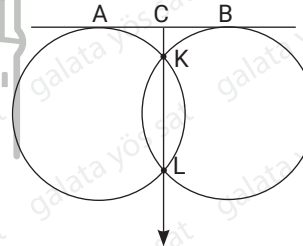
O, merkezli çemberde
(O: on the center circle)

A ve E teğet noktası
(A and E tangent point)

$|AB| = |EC|$
 $|OF| = 6 \text{ br}$

$|AC| = ?$

18

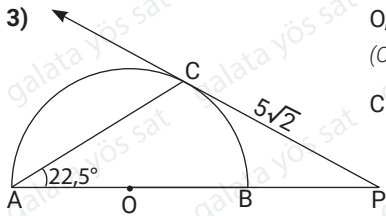


A ve B teğet noktası
(tangent point)

$|BC| = 4 \text{ br}$
 $|CK| = 2 \text{ br}$

$|KL| - |AC| = ?$

2



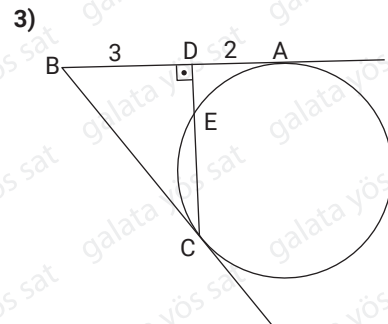
O, merkezli çemberde
(O: on the center circle)

C teğet noktası
(tangent point)

$|PC| = 5\sqrt{2} \text{ br}$

$|AP| = ?$

$10 + 5\sqrt{2}$



A ve C teğet noktası
(tangent point)

$|DE| = ?$

1

[PC, kesen doğrusu
(cutting line)
[PD, kesen doğrusu
(cutting line)
|PA| · |PC| = |PB| · |PD|

» İki kesenin oluşturduğu kuvettir.
(It is the force of two pouches.)
! P noktasının başlangıç noktası olduğuna dikkat et.
(Notice that point P is the starting point.)

|PA| · |PB| = |DP| · |PC|

» Kesişen iki kirişin oluşturduğu kuvettir.
(It is the force created by two intersecting beams.)
! Kiriş çemberin üzerindeki iki noktayı birleştiren doğru parçasıdır dikkat et.
(Notice the line segment connecting the two points on the beam circle.)

1) |AB| = 2|PA|
|AB| = ?

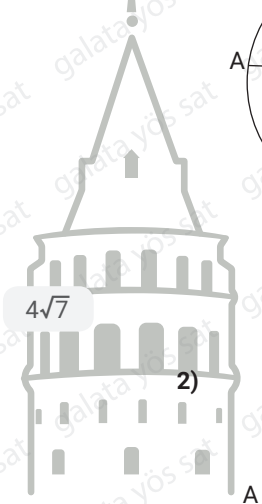
1) |AE| = 4|EB| = 4√2
|EC| = x = ?

2) |CD| = ?

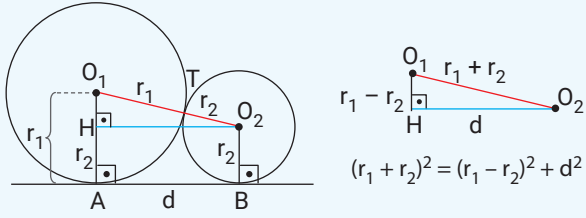
2) A çemberin teğet noktası
(A is the tangent point of the circle)
x + y = ?

3) |CD| = x
|EF| = y
x - y = ?

3) |EB| = 20 br
|KB| = ?

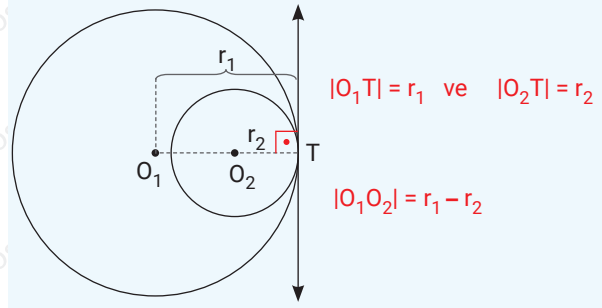


C. Dıştan Teğet Çemberler
(Outwardly Tangent Circles)



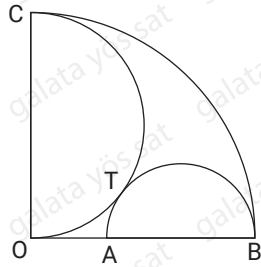
- » O_1 ve O_2 merkezli çemberler T noktasında dıştan teğettir.
(Circles centered O_1 and O_2 are outwardly tangent at point T.)
- » Merkezden A ve B teğet noktalarına dikler indirilerek soruya göre pisagor uygulanır.
(Pythagoras are applied according to the question by descending perpendiculars to the tangent points A and B from the center.)

D. İçten Teğet Çemberler
(Internal Tangent Circles)



- » O_1 ve O_2 merkezli çemberler T noktasında içten teğettir.
(Circles centered O_1 and O_2 are internal tangent at point T.)
- » Merkezler teğet noktasıyla doğrusal birleştirilir.
(The centers are joined linearly with the tangent point.)

- 1) O merkezli çeyrek çemberde [AB] ve [OC] çaplı çemberler T noktasında teğettir. (In a quarter circle with center O, circles of diameter [AB] and [OC] are tangent at point T.)

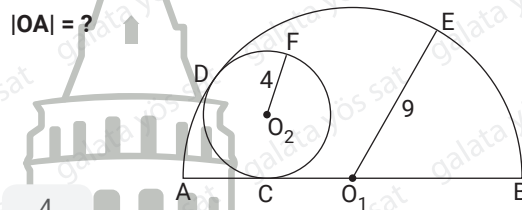


$|OB| = 12$ br

$|OA| = ?$

- 1) O_1 merkezli yarım çember, O_2 merkezli çembere C ve D noktalarında teğettir.

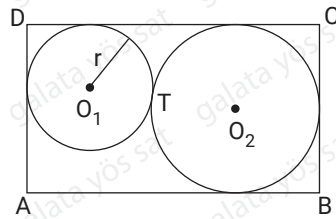
(The semicircle with center O_1 is tangent to the circle centered O_2 at points C and D.)



$|AC| = ?$

6

- 2) ABCD dikdörtgen (rectangular) O_1 ve O_2 merkezli çemberler T noktasında teğettir. (Circles ABCD rectangular centers O_1 and O_2 are tangent at point T)



$|AD| = 24$ br

$|AB| = 27$ br

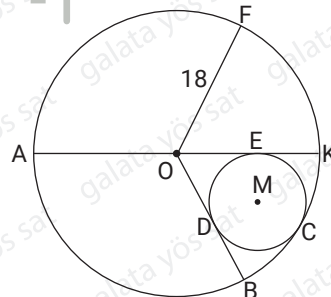
$r = ?$

- 2) O ve M merkezli çemberler, C, D ve E noktalarında teğettir. (Circles with center O and M are tangent at points C, D and E.)

$m(\widehat{AC}) = 120^\circ$

$|OF| = 18$ br

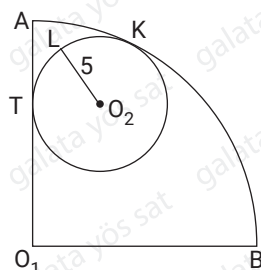
$|EK| = ?$



$18 - 6\sqrt{3}$

3

- 3) O_1 merkezli çeyrek çemberde T ve K, O_2 merkezli çemberin teğet noktasıdır. (In the quarter circle centered O_1 , T and K are the tangent point of the circle centered O_2 .)



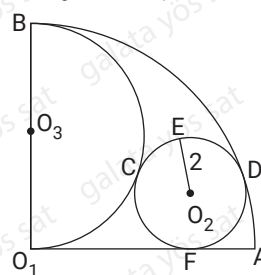
$|O_1B| = 18$ br

$|O_2L| = 5$ br

$|AT| = ?$

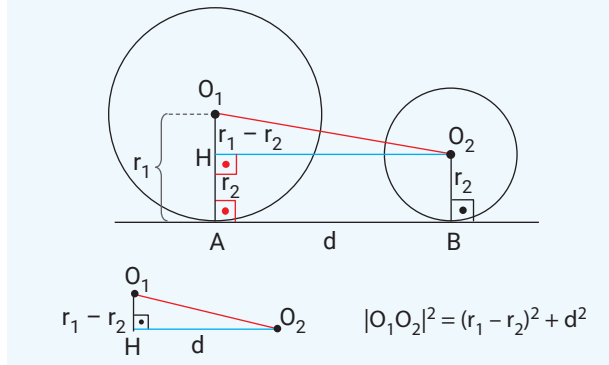
6

- 3) O_1 merkezli çeyrek çember ve O_3 çaplı çember O_2 merkezli çember C, D ve F noktalarında teğettir. (The circle centered O_1 and the circle diameter O_3 are tangent at the points C, D and F, the circle centered O_2 .)



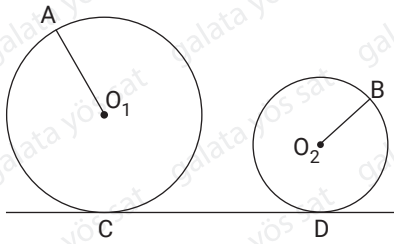
$|O_1A| = ?$

8



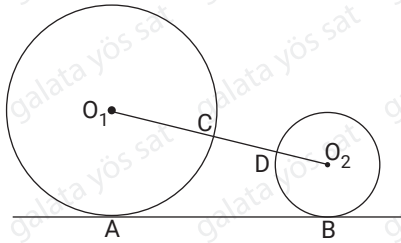
» O_1 ve O_2 merkezli çemberlerde A ve B teğet noktalarına dik indirilerek oluşan üçgende pisagor uygulanır. (Pythagoras is applied in the triangle formed by lowering the tangent points of A and B perpendicular to the circles with O_1 and O_2 center.)

- 1) O_1 ve O_2 merkezli çemberlerin C ve D teğet noktasıdır. (C and D are the tangent points of the circles O_1 and O_2 .)



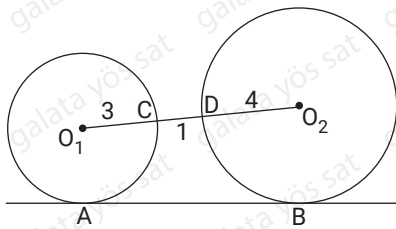
$|AO_1| = 19$ br
 $|BO_2| = 4$ br
 $|CD| = 20$ br
 $|O_1O_2| = ?$

- 2) O_1 ve O_2 merkezli çemberlerin yarıçapları (The radii of the circles with center O_1 and O_2)

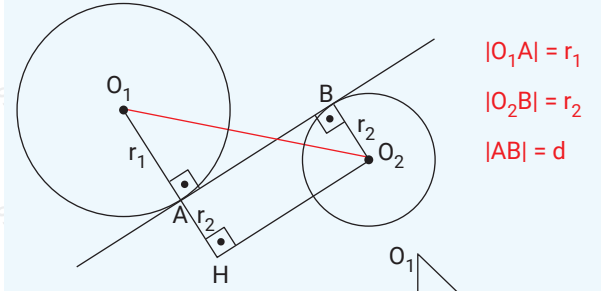


$r_1 = 10$ br
 $r_2 = 1$ br
 $|AB| = 12$ br
 $|CD| = ?$

- 3) O_1 ve O_2 merkezli çemberlerde (In O_1 and O_2 centered circles)



$|O_1C| = 3$ br
 $|O_2D| = 4$ br
 $|CD| = 1$ br
 $|AB| = ?$

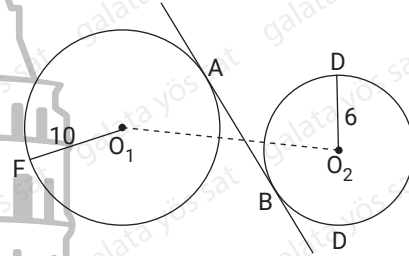


$|O_1A| = r_1$
 $|O_2B| = r_2$
 $|AB| = d$

» O_1 ve O_2 merkezli çemberlerden A ve B teğet noktalarına dik indirilerek merkezler arası uzaklığı bulmak için oluşan üçgende pisagor uygulanır.

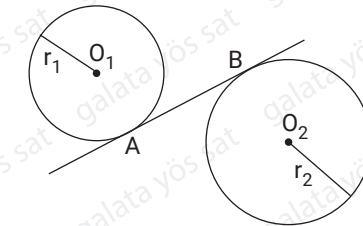
(Pythagoras is applied to the triangle formed to find the distance between the centers by lowering the perpendiculars to the tangent points of A and B from the circles with O_1 and O_2 center.)

- 1) O_1 ve O_2 merkez (Center of circles)
 A ve B teğet noktası (A and B tangent point)



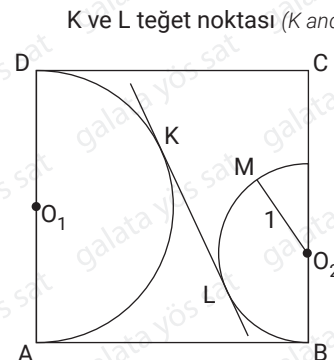
$|O_1O_2| = 20$ cm
 $|AB| = ?$

- 2) O_1 ve O_2 merkez (Center of circles)
 A ve B teğet noktası (A and B tangent point)



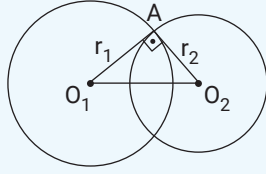
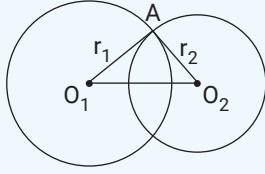
$r_1 = 4$ cm
 $r_2 = 11$ cm
 $|AB| = 20$ cm
 $|O_1O_2| = ?$

- 3) ABCD kare (square)
 O_1 ve O_2 çemberlerin merkezi (Center of circles)



$A(ABCD) = 256$ br²
 $|KL| = 12$ br
 $|O_1O_2| = ?$

E. Kesişen Çemberler (Intersecting Circles)



» O_1 ve O_2 merkezli çemberler

(O_1 and O_2 centered circles)

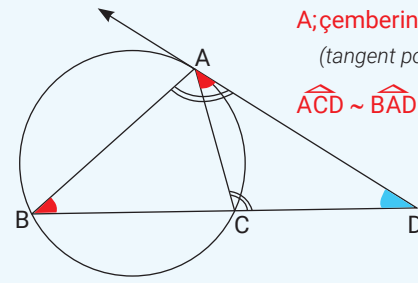
$$|O_1A| = r_1 \text{ ve } |O_2A| = r_2$$

$$|r_1 - r_2| < |O_1O_2| < r_1 + r_2$$

» O_1 ve O_2 merkezli çemberler A noktasında dik kesişiyorsa,

(O_1 and O_2 centered circles are perpendicular to point A intersect.)

$$|O_1O_2|^2 = r_1^2 + r_2^2$$



A; çemberin teğet noktası
(tangent point of the circle)

$$\widehat{ACD} \sim \widehat{BAD}$$

» [DA, teğet doğrusu] (tangent line)

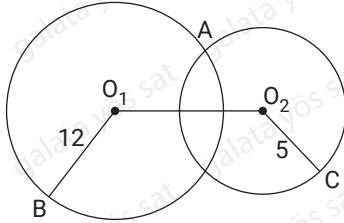
» Bir teğet ve bir kesen doğrusunun oluşturduğu dış kuvveti uygularsak |AD|, |BC| ve |CD| uzunlukları bulunur.

(If we apply the tooth force created by a tangent and an intersecting line, we get |AD|, |BC| and |CD| available in lengths.)

» Ama |AB| ve |AC| soruluyorsa benzerlik düşünmeliyiz.
(But |AB| and |AC| If asked, we should consider a similarity.)

1) O_1 ve O_2 merkezli çemberler A noktasında dik kesişiyor.

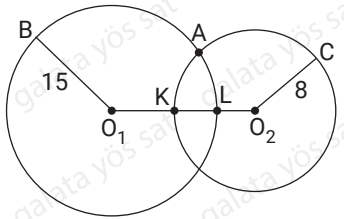
(Circles centered O_1 and O_2 intersect at point A perpendicularly.)



$$|O_1O_2| = ?$$

2) O_1 ve O_2 merkezli çemberler A noktasında dik kesişiyor.

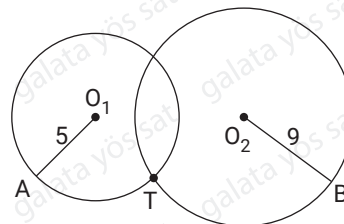
(Circles centered O_1 and O_2 intersect at point A perpendicularly.)



$$|KL| = ?$$

3) O_1 ve O_2 merkezli çemberler T noktasında kesişiyor.

(Circles centered O_1 and O_2 intersect at point T.)

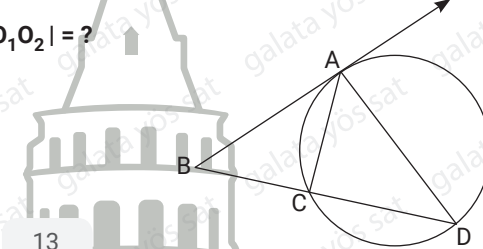


$$|O_1O_2|_{\max} = ?$$

(tamsayı değeri)
(integer value)

1) A çemberin teğet noktası

(A is the tangent point of the circle)



$$3|BC| = 2|AB|$$

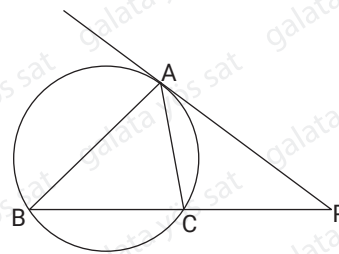
$$|AD| = 9\sqrt{2} \text{ br}$$

$$|AC| = ?$$

$$6\sqrt{2}$$

2) A, teğet noktası

(A is the tangent point of the circle)



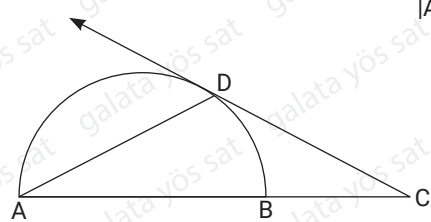
$$3|AB| = 5|AC|$$

$$\sqrt{\frac{|BC|}{|CP|}} = ?$$

$$\frac{4}{3}$$

3) AB çaplı çemberde D teğet noktası

(Tangent point D on the circle of diameter AB)



$$|AD| = |DC| = 15 \text{ br}$$

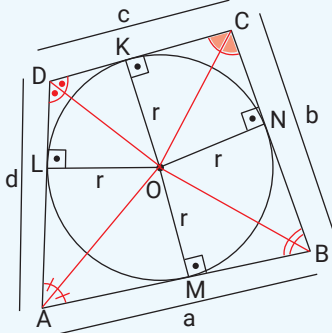
$$r = ?$$

$$5\sqrt{3}$$

$$13$$

F. Teğetler Dörtgeni (Tangent Square)

O, iç teğet çemberinin merkezi
(O is the center of the inner tangent circle)



K, L, M, N teğet noktası
(tangent point)

» Dört teğetin oluşturduğu dörtgendir.
(It is a rectangle formed by four tangents.)

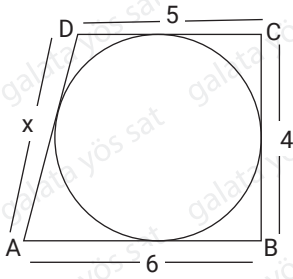
» $a + c = b + d$

$$A(ABCD) = \frac{a \cdot r}{2} + \frac{b \cdot r}{2} + \frac{c \cdot r}{2} + \frac{d \cdot r}{2}$$

$$A(ABCD) = \frac{(a + b + c + d) \cdot r}{2}$$

$$A(ABCD) = u \cdot r$$

1)

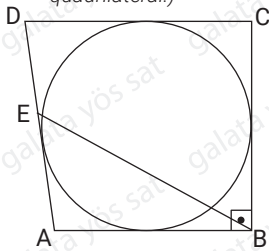


ABCD teğetler dörtgeni
(tangent quadrilateral)

$|AD| = x = ?$

2)

ABCD dik yamuğu teğetler dörtgenidir.
(The trapezoid perpendicular to ABCD is the tangent quadrilateral.)



$|AE| = |DE|$
 $|BE| = 13 \text{ br}$
 $|BC| = 10 \text{ br}$

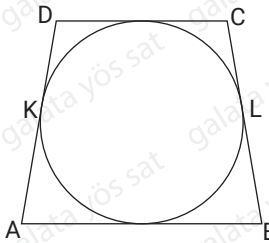
$|AD| = ?$

14

3)

ABCD ikizkenar yamuk
(isosceles trapezoid)

K ve L teğet noktası
(tangent point)

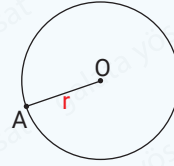


$|AD| = |BC|$
 $|DC| = 6 \text{ br}$
 $|AB| = 10 \text{ br}$

$A(ABCD) = ?$

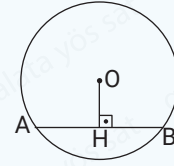
$16\sqrt{15}$

Neler Öğrendik? / What Have We Learned?



O, merkez (center)

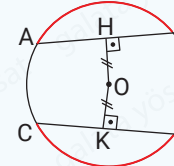
$|OA| = r = \text{yarıçap (radius)}$



O, merkez (center)

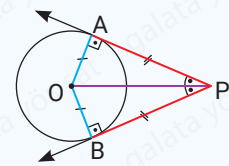
$|AB| = \text{kirış (chord)}$

$|OH| \perp |AB| \Rightarrow |AH| = |HB|$



$|AB| = |CD| \Rightarrow |OK| = |OL|$

ve $|AB| = |CD|$

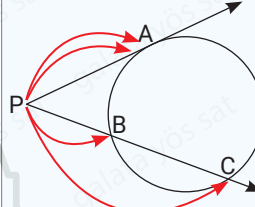


O, merkez (center)

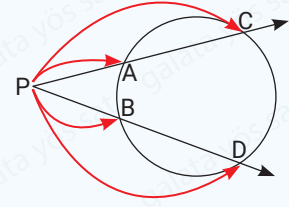
$[PA]$ ve $[PB]$ teğet (tangent)

$|PA| = |PB|$

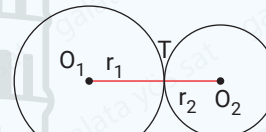
$\Rightarrow [PO]$ açıortay (bisector)



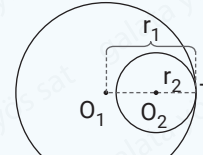
$|PA|^2 = |PB| \cdot |PC|$



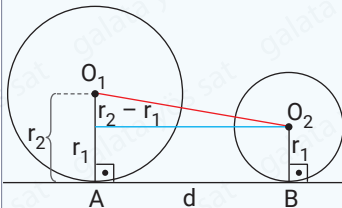
$|PA| \cdot |PC| = |PB| \cdot |PD|$



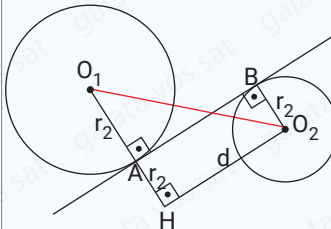
$|O_1O_2| = r_1 + r_2$



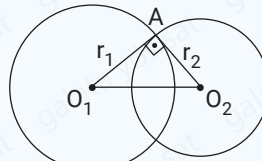
$|O_1O_2| = r_1 - r_2$



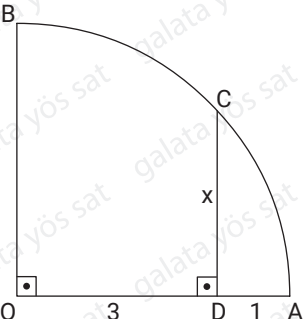
$|O_1O_2|^2 = (r_2 - r_1)^2 + d^2$



$|O_1O_2|^2 = (r_1 + r_2)^2 + d^2$



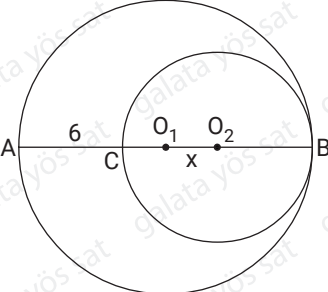
$[O_1A] \perp [O_2A]$
 $|O_1O_2|^2 = r_1^2 + r_2^2$

1. 

O, çeyrek çemberin merkezi
(Center of the quarter circle)
[CD] \perp [OA]
|OD| = 3 cm
|AD| = 1 cm
|CD| = x

Yukarıdaki verilere göre, x kaç cm'dir?
(Based on the above data, how many cm is x?)

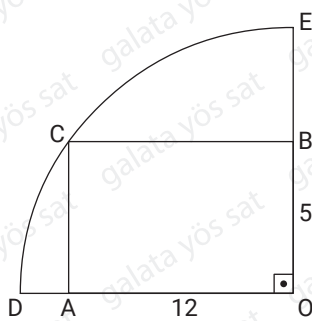
A) $\sqrt{6}$ B) $\sqrt{7}$ C) $2\sqrt{3}$ D) $\sqrt{15}$ E) 5

2. 

O₁, [AB] çaplı çemberin merkezi (diameter circle center)
O₂, [BC] çaplı çemberin merkezi (diameter circle center)
|AC| = 6 cm, |O₁O₂| = x

Yukarıdaki verilere göre, x kaç cm'dir?
(Based on the above data, how many cm is x?)

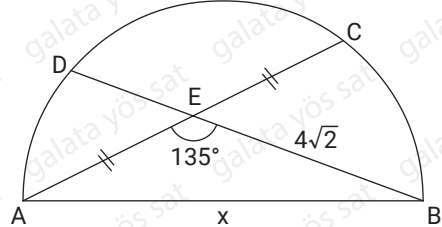
A) 3 B) 4 C) 6 D) 8 E) 12

3. 

O, çeyrek çemberin merkezi
(Center of the quarter circle)
AOBC dikdörtgen
(Rectangle)
|OB| = 5 cm
|AO| = 12 cm

Yukarıdaki verilere göre, |AD| + |BE| toplamı kaçtır?
(Based on the above data, what is the sum |AD| + |BE|?)

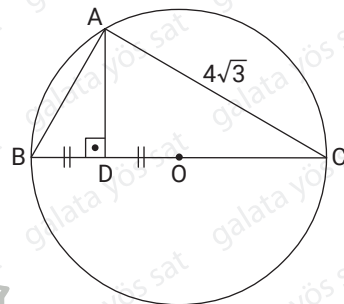
A) 11 B) 10 C) 7 D) 8 E) 9

4. 

[AB] yarım çemberin çapı (Diameter of the semicircle)
|AE| = |EC|, $m(\widehat{AEB}) = 135^\circ$, |EB| = $4\sqrt{2}$ cm, |AB| = x

Yukarıdaki verilere göre, x kaç cm'dir?
(Based on the above data, how many cm is x?)

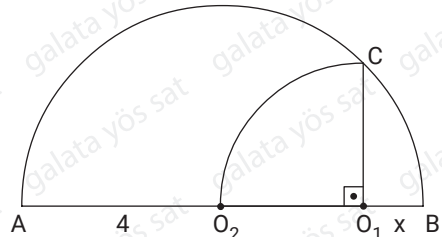
A) 8 B) $3\sqrt{5}$ C) $4\sqrt{5}$ D) 9 E) 10

5. 

O, çemberin merkezi
(Center of the circle)
[AD] \perp [BC]
|BD| = |OD| = x
|AC| = $4\sqrt{3}$ cm

Yukarıdaki verilere göre, x kaç cm'dir?
(Based on the above data, how many cm is x?)

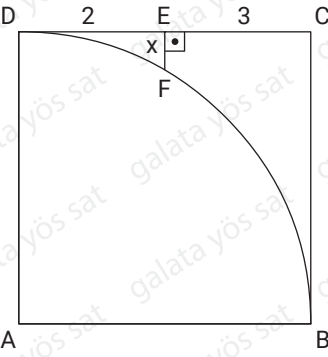
A) 1 B) 2 C) $\sqrt{3}$ D) 3 E) $2\sqrt{2}$

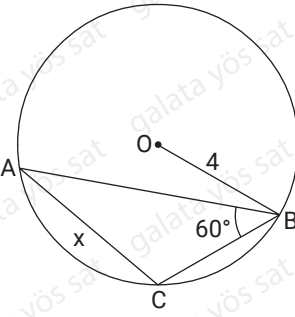
6. 

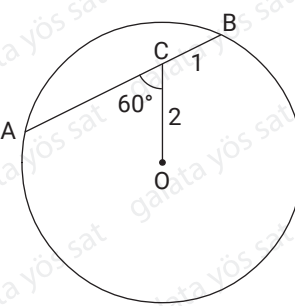
O₂, yarım çemberin merkezi (Center of the semicircle)
O₁, çeyrek çemberin merkezi (Center of the quarter circle)
|AO₂| = 4 cm, |O₁B| = x

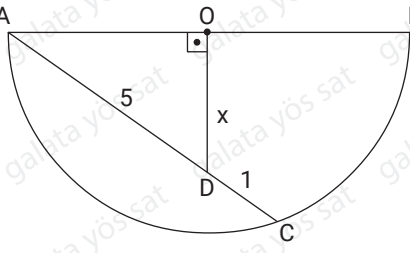
Yukarıdaki verilere göre, x kaç cm'dir?
(Based on the above data, how many cm is x?)

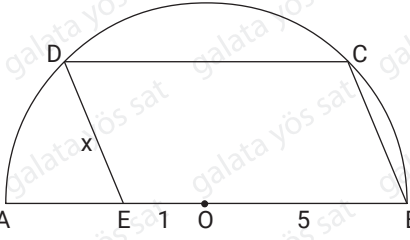
A) $3 + \sqrt{2}$ B) $4 - \sqrt{2}$ C) $4 - 2\sqrt{2}$
D) $4\sqrt{2} - 4$ E) $4 - 2\sqrt{3}$

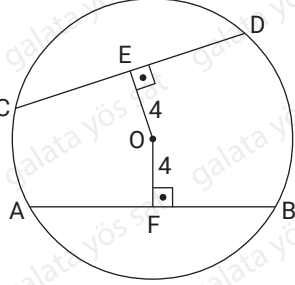
7.  ABCD kare
(Square)
A; çeyrek çemberin merkezi
(Center of the quarter circle)
[EF] ⊥ [DC], |DE| = 2 cm, |EC| = 3 cm, |EF| = x
Yukarıdaki verilere göre, x kaç cm'dir?
(Based on the above data, how many cm is x?)
A) $5 - 2\sqrt{5}$ B) $5 - \sqrt{21}$ C) $5 - 3\sqrt{2}$
D) 1 E) $5 - 2\sqrt{6}$

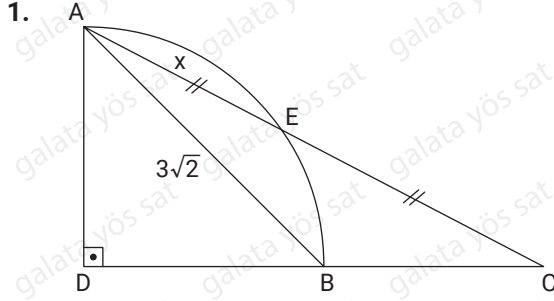
8.  O, çemberin merkezi
(Center of the circle)
|OB| = 4 cm
 $m(\widehat{ABC}) = 60^\circ$
|AC| = x
Yukarıdaki verilere göre, x kaç cm'dir?
(Based on the above data, how many cm is x?)
A) $2\sqrt{3}$ B) 4 C) $6\sqrt{3}$ D) $4\sqrt{3}$ E) $5\sqrt{2}$

9.  O, çemberin merkezi
(Center of the circle)
 $m(\widehat{ACO}) = 60^\circ$
|BC| = 1 cm
|OC| = 2 cm
Yukarıdaki verilere göre, çemberin yarıçapı kaç cm'dir?
(Based on above data, what is the radius of the circle in cm?)
A) $\sqrt{7}$ B) $2\sqrt{3}$ C) 3 D) $\sqrt{10}$ E) $2\sqrt{3}$

10.  O, yarım çemberin merkezi
(Center of the semicircle)
[DO] ⊥ [AB], |AD| = 5 cm, |DC| = 1 cm, |OD| = x
Yukarıdaki verilere göre, x kaç cm'dir?
(Based on the above data, how many cm is x?)
A) 3 B) $\sqrt{10}$ C) $\sqrt{11}$ D) $2\sqrt{3}$ E) 4

11.  O, çemberin merkezi
(Center of the circle)
EBCD paralelkenar
(Parallelogram)
|OE| = 1 cm, |OB| = 5 cm, |DE| = x
Yukarıdaki verilere göre, x kaç cm'dir?
(Based on the above data, how many cm is x?)
A) $3\sqrt{2}$ B) $2\sqrt{5}$ C) $2\sqrt{3}$ D) 4 E) 3

12.  O, çemberin merkezi
(Center of the circle)
[OE] ⊥ [CD]
[OF] ⊥ [AB]
|OE| = |OF| = 4 cm
|ED| = 2x - 3
|AF| = x + 3
Yukarıdaki verilere göre, çemberin yarıçapı kaç cm'dir?
(Based on above data, what is the radius of the circle in cm?)
A) $3\sqrt{6}$ B) $4\sqrt{6}$ C) $\sqrt{97}$ D) 10 E) $7\sqrt{2}$



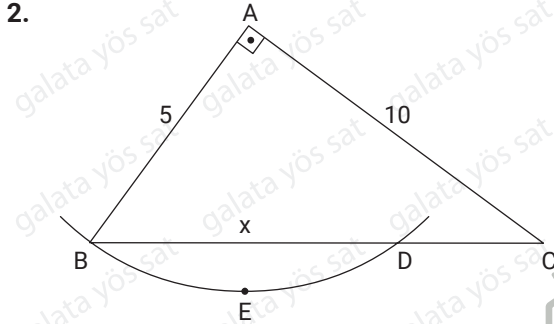
D, çeyrek çemberin merkezi (Center of the quarter circle)

$|AE| = |EC| = x$, $|AB| = 3\sqrt{2}$ cm

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) 3 B) $2\sqrt{3}$ C) $\sqrt{15}$ D) 4 E) 5



ABC bir üçgen (Triangle)

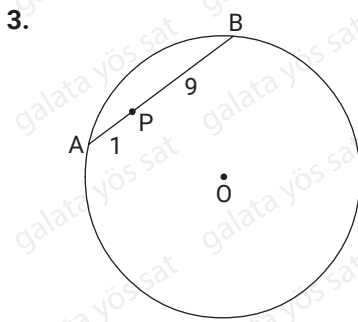
A; \widehat{BED} yaylı çemberin merkezi (Center of \widehat{BED} arc's circle)

$[BA] \perp [AC]$, $|AB| = 5$ cm, $|AC| = 10$ cm, $|BD| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $\sqrt{5}$ B) 3 C) 4 D) $2\sqrt{5}$ E) 5



O, çemberin merkezi (Center of the circle)

$[AB]$ kiriş (Chord)

$P \in [AB]$

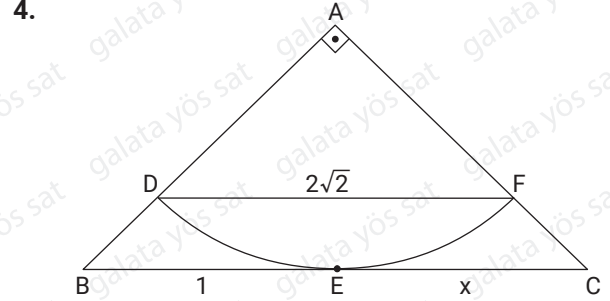
$|AP| = 1$ cm

$|PB| = 9$ cm

Yukarıdaki verilere göre, P noktasından geçen en kısa kirişin uzunluğu kaç cm'dir?

(Based on the data above, what is the length of the shortest chord passing through point P?)

- A) 4 B) 5 C) 6 D) 8 E) 12



ABC bir dik üçgen (Right Triangle)

A; \widehat{DEF} yaylı çemberin merkezi (Center of \widehat{DEF} arc's circle)

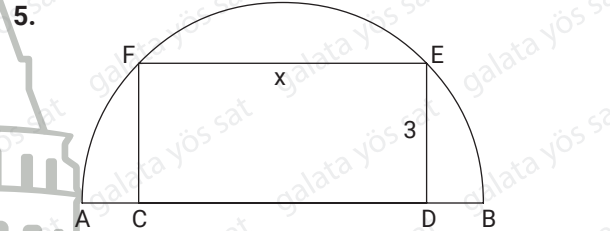
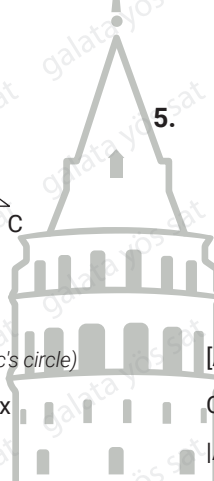
E, teğet noktası (Tangent point), $[BA] \perp [AC]$

$|DF| = 2\sqrt{2}$ cm, $|BE| = 1$ cm, $|EC| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $2\sqrt{3}$ B) 3 C) 4 D) $3\sqrt{2}$ E) 5



$[AB]$, yarım çemberin çapı (Diameter of the semicircle)

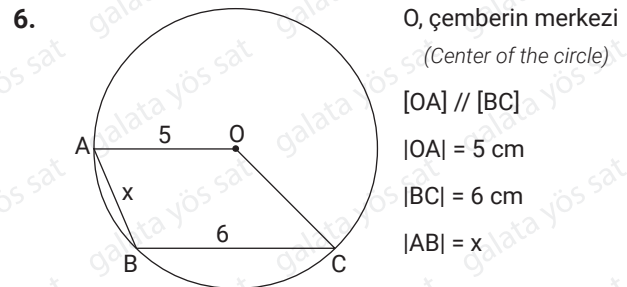
CDEF dikdörtgen (Rectangle)

$|AB| = 8$ cm, $|ED| = 3$ cm, $|EF| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $2\sqrt{5}$ B) $2\sqrt{6}$ C) 5 D) $3\sqrt{3}$ E) $2\sqrt{7}$



O, çemberin merkezi (Center of the circle)

$[OA] \parallel [BC]$

$|OA| = 5$ cm

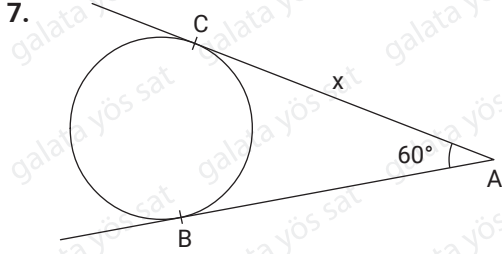
$|BC| = 6$ cm

$|AB| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $\sqrt{5}$ B) 3 C) $3\sqrt{2}$ D) $2\sqrt{5}$ E) 4



B ve C, teğet noktaları (Tangent points)

$m(\widehat{BAC}) = 60^\circ$, $|AC| = x$

A noktasının çembere en yakın uzaklığı 4 cm olduğuna göre, x kaç cm'dir?

(The closest distance of point A to the circle is 4 cm, how many cm is x?)

- A) 4 B) $4\sqrt{2}$ C) $4\sqrt{3}$ D) 8 E) $3\sqrt{3}$

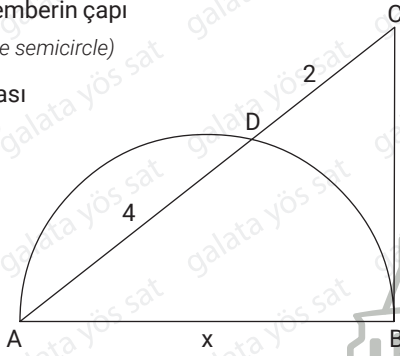
8. [AB], yarım çemberin çapı (Diameter of the semicircle)

B, teğet noktası (Tangent point)

$|AD| = 4$ cm

$|DC| = 2$ cm

$|AB| = x$

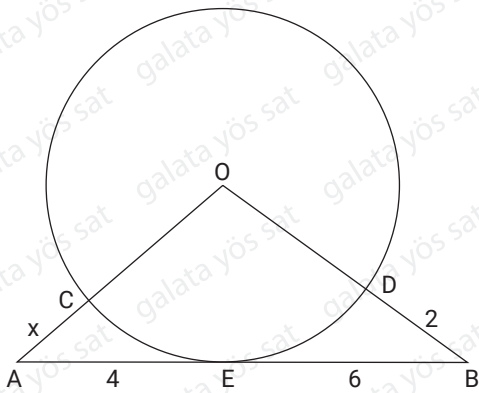


Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $2\sqrt{6}$ B) 5 C) $3\sqrt{3}$ D) $2\sqrt{7}$ E) $4\sqrt{2}$

9.



O, çemberin merkezi (Center of the circle)

E, teğet noktası (Tangent point)

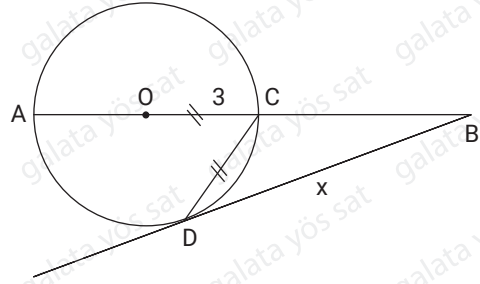
$|BD| = 2$ cm, $|EB| = 6$ cm, $|AE| = 4$ cm, $|AC| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $3\sqrt{5} - 4$ B) $8\sqrt{5} - 4$ C) $4\sqrt{5} - 4$
D) $8\sqrt{5} - 8$ E) $4\sqrt{5} - 8$

10.



O, çemberin merkezi (Center of the circle)

A, B, C doğrusal (linear), D, teğet noktası (Tangent point)

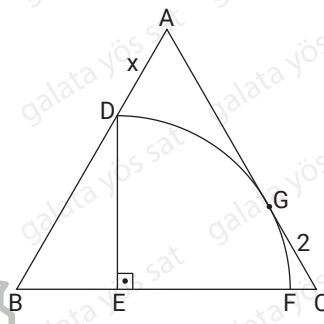
$|OC| = |CD| = 3$ cm, $|BD| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $3\sqrt{3}$ B) 6 C) $3\sqrt{2}$ D) $6\sqrt{3}$ E) $4\sqrt{3}$

11.



ABC eşkenar üçgen (Equilateral triangle)

E, çeyrek çemberin merkezi (Center of the quarter circle)

G, teğet noktası (Tangent point)

$|GC| = 2$ cm

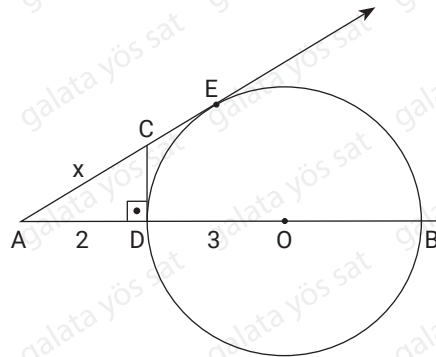
$|AD| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) 1 B) 2 C) $\sqrt{3}$ D) $2\sqrt{3}$ E) 3

12.



O, çemberin merkezi (Center of the circle), A, D, B doğrusal (linear), E ve D teğet noktaları (Tangent points)

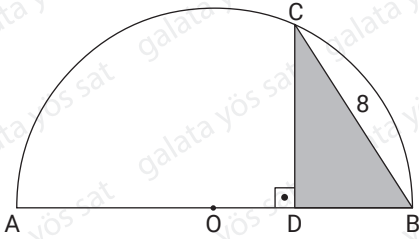
$[CD] \perp [AB]$, $|AD| = 2$ cm, $|OD| = 3$ cm, $|AC| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $\frac{7}{2}$ B) $\frac{5}{2}$ C) 3 D) $\frac{7}{2}$ E) $\frac{11}{3}$

1.



O, çemberin merkezi (Center of the circle)

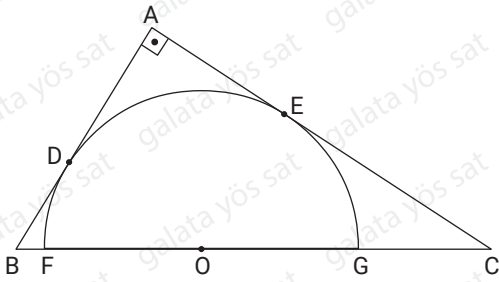
$[CD] \perp [AB]$, $m(\widehat{BC}) = 30^\circ$, $|BC| = 8$ cm

Yukarıdaki verilere göre, taralı bölgenin alanı kaç cm^2 dir?

(Based on the above data, how many cm^2 is the shaded area?)

- A) 6 B) 7 C) 8 D) 12 E) 16

2.



ABC bir dik üçgen (Right triangle)

O, yarım çemberin merkezi (Center of the semicircle)

D ve E teğet noktaları (Tangent points)

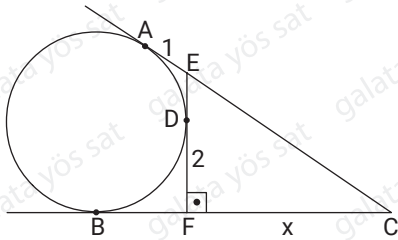
$[AB] \perp [AC]$, $|AB| = 3$ cm, $|AC| = 6$ cm

Yukarıdaki verilere göre, çemberin yarıçapı kaç cm 'dir?

(Based on above data, what is the radius of the circle in cm ?)

- A) 2 B) $\sqrt{5}$ C) $\sqrt{6}$ D) $2\sqrt{3}$ E) $\frac{5}{2}$

3.



A, B, D teğet noktaları (Tangent points)

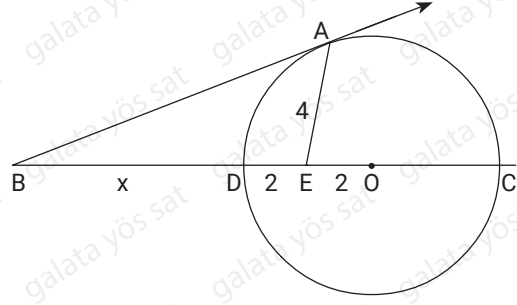
$[EF] \perp [BC]$, $|AE| = 1$ cm, $|DF| = 2$ cm, $|FC| = x$

Yukarıdaki verilere göre, x kaç cm 'dir?

(Based on the above data, how many cm is x ?)

- A) 3 B) 4 C) 5 D) $\frac{10}{3}$ E) $\frac{8}{3}$

4.



O, çemberin merkezi (Center of the circle)

A, teğet noktası (Tangent point)

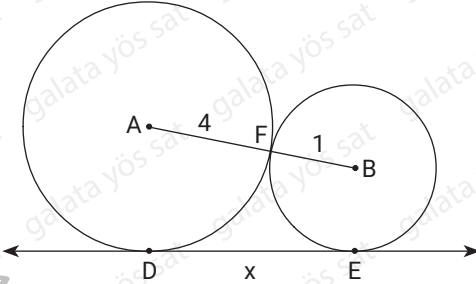
$|DE| = |EO| = 2$ cm, $|AE| = 4$ cm, $|BD| = x$

Yukarıdaki verilere göre, x kaç cm 'dir?

(Based on the above data, how many cm is x ?)

- A) 12 B) 11 C) 10 D) 9 E) 8

5.



A ve B çemberin merkezi (Center of the circle)

D, E ve F teğet noktaları (Tangent points)

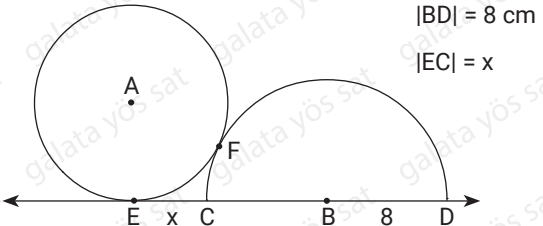
$|AF| = 4$ cm, $|BF| = 1$ cm, $|DE| = x$

Yukarıdaki verilere göre, x kaç cm 'dir?

(Based on the above data, how many cm is x ?)

- A) 3 B) 4 C) $3\sqrt{2}$ D) $4\sqrt{2}$ E) 5

6.



A ve B merkezli çemberler F noktasında birbirine teğet, A merkezli çember $[ED]$ 'ye E noktasında teğet

(Circles with center A and B are tangent to each other at point F, circle with center A is tangent to $[ED]$ at point E.)

A merkezli çemberin yarıçapı 5 cm olduğuna göre, x kaç cm 'dir?

(The radius of the circle centered A is 5 cm , how many cm is x ?)

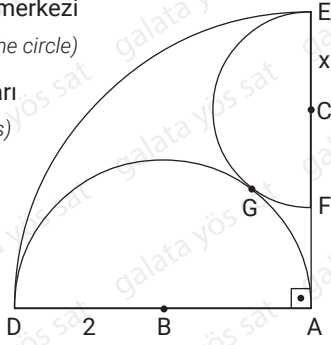
- A) 1 B) 2 C) 3 D) 4 E) $\frac{9}{2}$

7. A, B ve C çemberin merkezi
(Center of the circle)

A, D, G teğet noktaları
(Tangent points)

$|BD| = 2$ cm

$|EC| = x$

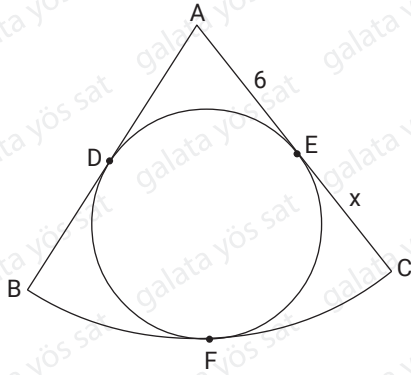


Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $\frac{3}{2}$ B) $\frac{2}{3}$ C) $\frac{4}{3}$ D) $\frac{5}{3}$ E) 2

8.



A, \widehat{BFC} yaylı çemberin merkezi ; D, E, F teğet noktaları

(A, Center of \widehat{BFC} arc's circle; Tangent points D, E, F)

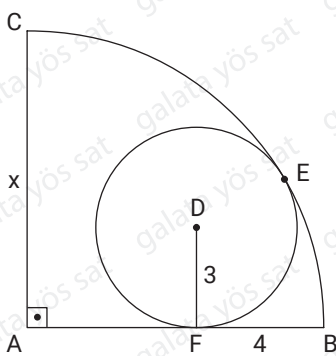
$|AE| = 6$ cm, $|EC| = x$, $m(\widehat{BAC}) = 60^\circ$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $3\sqrt{3} - 2$ B) $4\sqrt{3} - 4$ C) $4\sqrt{3} - 6$
D) $6\sqrt{3} - 6$ E) $6\sqrt{3} - 4$

9.

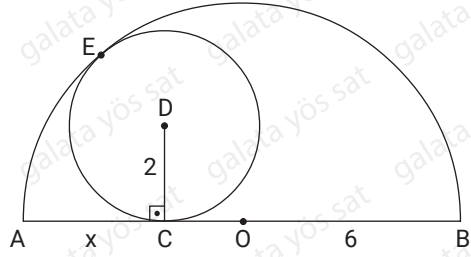


A ve D çemberlerin merkezi olduğuna göre, x kaç cm'dir?

(A and D are the centers of the circles, how many cm is x?)

- A) 8 B) 9 C) 10 D) 11 E) 12

10.



O ve D merkezli çemberler birbirine teğettir (Circles with center O and D are tangent to each other)

E, C teğet noktaları (Tangent points)

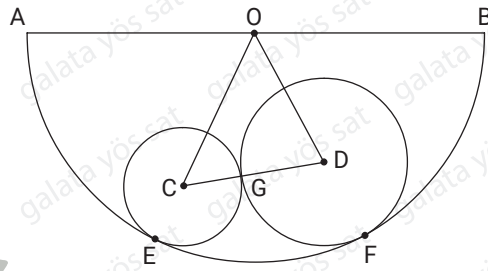
$|OB| = 6$ cm, $|DC| = 2$ cm, $|AC| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $6 - 2\sqrt{3}$ B) $6 - 3\sqrt{3}$ C) $4 - 2\sqrt{3}$
D) $6 - 3\sqrt{2}$ E) $6 - 4\sqrt{2}$

11.



O, yarım çemberin merkezi ; C, D merkezli çemberler O merkezli çembere E ve F noktasında teğet

(It is the center of the semicircle; Circles centered C, D are tangent to the circle with center O at point E and F)

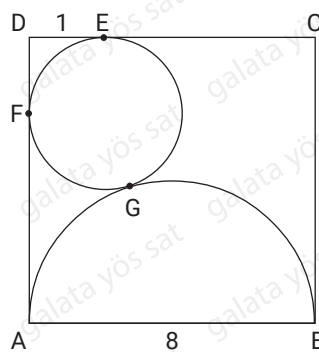
$|AB| = 24$ cm

Yukarıdaki verilere göre, Çevre(OCD) kaç cm'dir?

Based on the above data, how many cm is Circumference (OCD)?

- A) 28 B) 26 C) 24 D) 18 E) 12

12.



ABCD dikdörtgen
(Rectangle)

E, F, G teğet noktaları
(Tangent points)

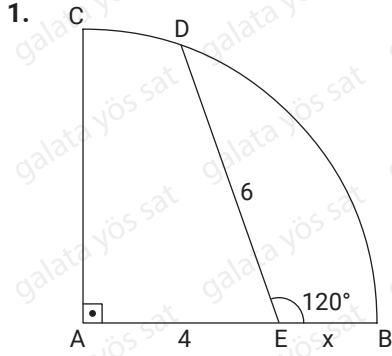
$|DE| = 1$ cm

$|AB| = 8$ cm

Yukarıdaki verilere göre, Alan(ABCD) kaç cm^2 'dir?

(Based on the above data, how many cm^2 is the area (ABCD)?)

- A) 35 B) 40 C) 32 D) 48 E) 64



A, çeyrek çemberin merkezi
(Center of the quarter circle)
 $m(\widehat{DEB}) = 120^\circ$
 $|DE| = 6$ cm
 $|AE| = 4$ cm
 $|EB| = x$

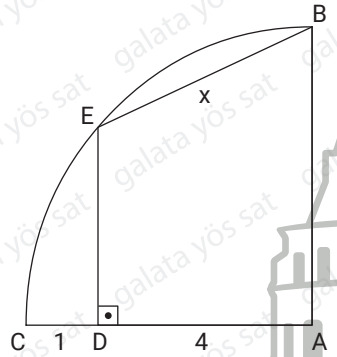
Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) 1 B) $3\sqrt{3} - 4$ C) $2\sqrt{7} - 4$
D) $2\sqrt{5} - 3$ E) $\sqrt{5}$

2. A, çeyrek çemberin merkezi
(Center of the quarter circle)

$[ED] \perp [AC]$
 $|CD| = 1$ cm
 $|AD| = 4$ cm
 $|EB| = x$



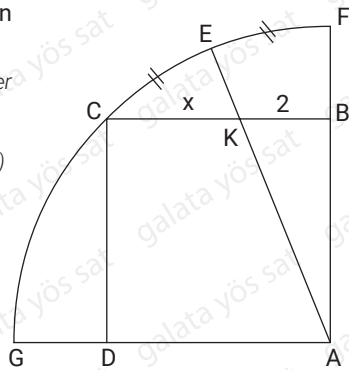
Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) 4 B) $2\sqrt{5}$ C) $3\sqrt{2}$ D) 5 E) $2\sqrt{6}$

3. A, çeyrek çemberin merkezi
(Center of the quarter circle)

DABC kare (Square)
 $m(\widehat{CE}) = m(\widehat{EF})$
 $|KB| = 2$ cm
 $|CK| = x$

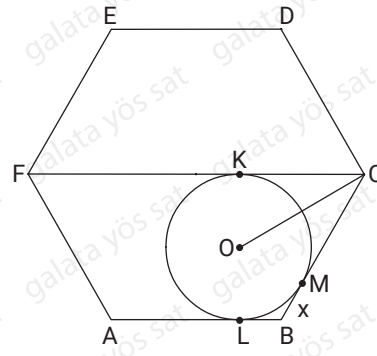


Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $2\sqrt{3}$ B) $\sqrt{2}$ C) 4 D) $2\sqrt{2}$ E) 3

4.



ABCDEF düzgün altıgen (regular hexagon)

O, çemberin merkezi (Center of the circle)

K, L, M teğet noktaları (Tangent points)

$|OC| = 6$ cm, $|MB| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $\sqrt{3}$ B) $2\sqrt{3}$ C) 3 D) 2 E) 1

5.

Yarıçapı 4 cm olan iki eş çember. ABCD dikdörtgeninin içine yerleştiriliyor.

(Two identical circles with a radius of 4 cm. It is placed inside the ABCD rectangle.)

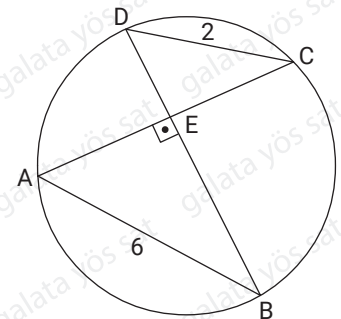
Çemberler birbirine ve dikdörtgenin kenarlarına teğet olduğuna göre, Alan(ABCD) kaç cm^2 'dir?

(The circles are tangent to each other and to the sides of the rectangle, how many cm^2 is the Area (ABCD)?)

- A) 64 B) 72 C) 144 D) 124 E) 128

6.

$[AC] \perp [BD]$
 $|DC| = 2$ cm
 $|AB| = 6$ cm

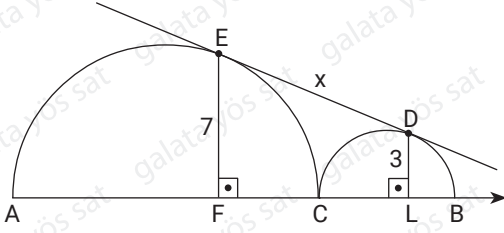


Yukarıdaki verilere göre, çemberin yarıçapı kaç cm'dir?

(Based on above data, what is the radius of the circle in cm?)

- A) $\sqrt{10}$ B) 3 C) $2\sqrt{5}$ D) $2\sqrt{10}$ E) 5

7.



Yarım çemberler birbirine C noktasında teğet

(Semicircles are tangent to each other at point C)

E ve D teğet noktaları (Tangent points), $[EF] \perp [AB]$

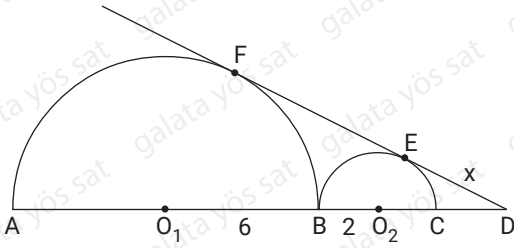
$[DL] \perp [AB]$, $|EF| = 7$ cm, $|DL| = 3$ cm, $|ED| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) 7 B) 8 C) 9 D) 10 E) 12

8.



O_1 ve O_2 çemberin merkezi (Center of the circle)

F ve E teğet noktaları (Tangent points)

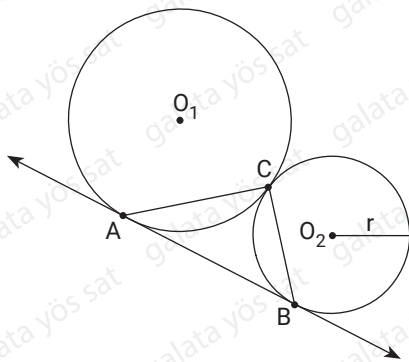
$|BO_1| = 6$ cm, $|BO_2| = 2$ cm, $|ED| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $\sqrt{10}$ B) $2\sqrt{3}$ C) 3 D) 4 E) 2

9.



O_1 ve O_2 çemberin merkezi (Center of the circle)

A, B ve C teğet noktasıdır (Tangent points)

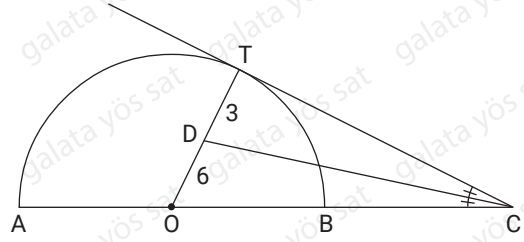
$|BC| = 12$ br, $|AC| = 16$ br

Yukarıdaki verilere göre, r kaç birim dir?

(Based on the above data, how many units is r?)

- A) 5 B) 6 C) $\frac{15}{2}$ D) 8 E) $\frac{19}{2}$

10.



O; çemberin merkezi (Center of the circle)

T teğet noktası (Tangent point)

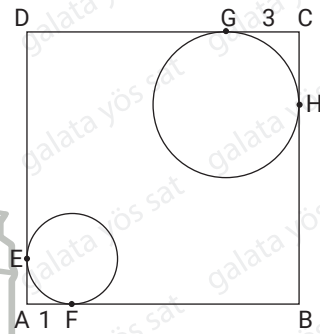
$[CD]$; açıortay (Bisector), $|DT| = 3$ br, $|DO| = 6$ br

Yukarıdaki verilere göre, $|CD|$ kaç birim dir?

(Based on the above data, $|CD|$ how many units is it?)

- A) 5 B) 6 C) 8 D) 9 E) 10

11.



ABCD kare

(Square)

E, F, G, H teğet noktaları

(Tangent points)

$|GC| = 3$ cm

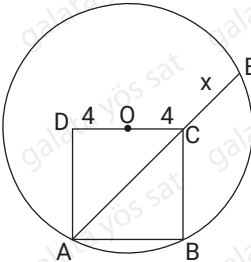
$|AF| = 1$ cm

Çemberlerin merkezleri arası uzaklık $9\sqrt{2}$ cm olduğuna göre, karenin alanı kaç cm^2 'dir?

(The distance between the centers of the circles is $9\sqrt{2}$ cm, what is the area of the square in cm^2 ?)

- A) 196 B) 100 C) 121 D) 144 E) 169

12.



O, çemberin merkezi (Center of the circle)

ABCD kare (Square)

$|OD| = |OC| = 4$ cm

A, C, E doğrusal (linear)

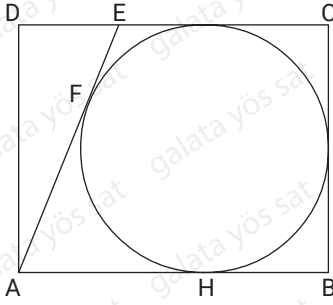
$|CE| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $2\sqrt{2}$ B) $3\sqrt{2}$ C) $4\sqrt{2}$ D) $5\sqrt{2}$ E) 4

1.



- AB // CD
AD // BC
AD \perp DC
|AD| = |AH|
|EF| = 3 cm

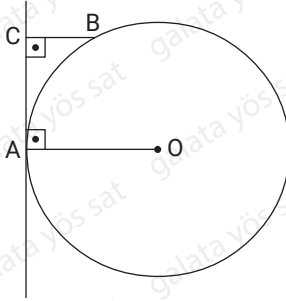
Yukarıdaki verilere göre, $\square(ABCD)$ kaçtır?

(Based on the above data, Perimeter (ABCD) what is?)

- A) 46 B) 42 C) 54 D) 58 E) 60

2015

2.



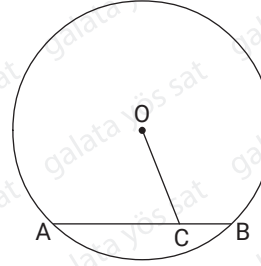
Yukarıdaki verilere göre, |AO| = r kaçtır?

(Based on the above data, |AO| = r?)

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

2013

3.



- O, merkez
(Center)
|OC| = 9 cm
|AC| = 9 cm
|BC| = 7 cm

O merkezli çemberin yarıçapı nedir?

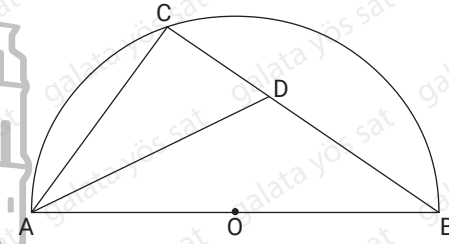
(What is the radius of the circle centered O?)

- A) 8 B) 10 C) 12 D) 14 E) 16

2013

4.

- O, merkez
(Center)
[CA] \perp [OA]
[BC] \perp [CA]
|CB| = 2 cm
|CA| = 6 cm
|AO| = r



O, merkezli yarım çemberde (Center of the semicircle)

$3|AC| = 4|BC|$, $|BD| = 2|DC|$, $m(\widehat{BAD}) = \alpha$

$m(\widehat{BAD}) = \alpha$ olduğuna göre, $\cot \alpha$ kaçtır?

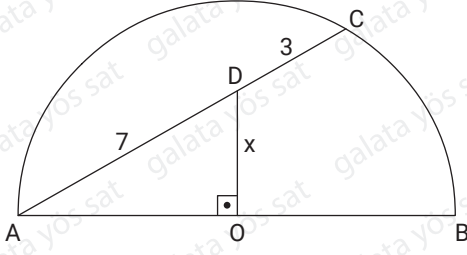
($m(\widehat{BAD}) = \alpha$, what is the $\cot \alpha$?)

- A) $\frac{5}{2}$ B) $\frac{19}{8}$ C) $\frac{19}{11}$ D) $\frac{9}{5}$ E) $\frac{9}{2}$

2012



5.



O, yarım çemberin merkezi (Center of the semicircle)

$[DO] \perp [AD]$, $|AD| = 7$ cm, $|DC| = 3$ cm, $|OD| = x$

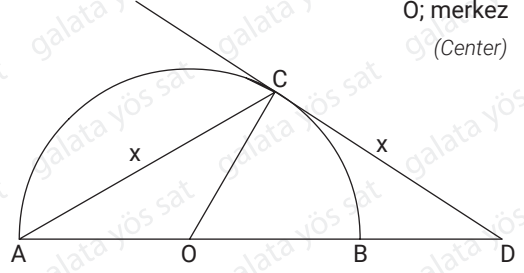
Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) $2\sqrt{3}$ B) $\sqrt{14}$ C) $\sqrt{15}$ D) 4 E) 5

2017

7.



O; merkez
(Center)

$|AO| = |OB| = |OC| = 2$ cm, $|AC| = |CD| = x$

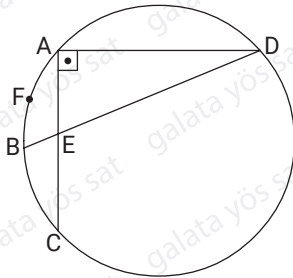
Yukarıdaki verilere göre, x kaç cm'dir?

(Based on the above data, how many cm is x?)

- A) 2 B) $2\sqrt{2}$ C) 3 D) $2\sqrt{3}$ E) 4

2016

6.



Yukarıdaki verilere göre, $|AD|$ kaç cm'dir?

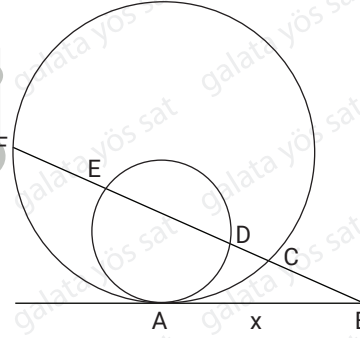
(Based on the above data, how many cm is $|AD|$?)

- A) 5 B) 6 C) $4\sqrt{3}$ D) $5\sqrt{3}$ E) $6\sqrt{3}$

2014

8.

$m(\widehat{AFB}) = 60^\circ$
 $m(\widehat{CAD}) = 90^\circ$
 $|EC| = 12$ cm
 $|AC| = |BD|$



$|CB| = 4$ cm, $|DC| = 2$ cm, $|FE| = |ED|$, $|AB| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

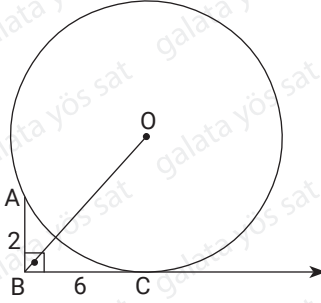
(Based on the above data, how many cm is x?)

- A) $4\sqrt{5}$ B) $6\sqrt{2}$ C) 8 D) $2\sqrt{15}$ E) $2\sqrt{14}$

2017



1.



O; çemberin merkezi
(Center of the circle)

C; teğet noktası
(Tangent point)

$[AB] \perp [BC]$

$|BC| = 6$ br

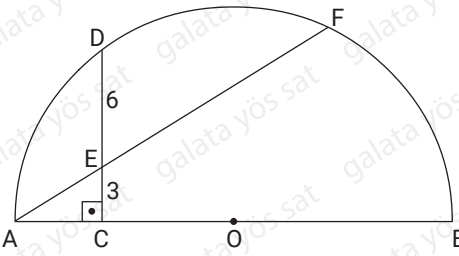
$|AB| = 2$ br

Yukarıdaki verilere göre, $|OB|$ kaç birim dir?

(Based on the above data, how many units is $|OB|$?)

- A) $\sqrt{34}$ B) $\sqrt{35}$ C) 6 D) $2\sqrt{34}$ E) $2\sqrt{35}$

2.



O; merkezli yarı çember (Center of the semicircle)

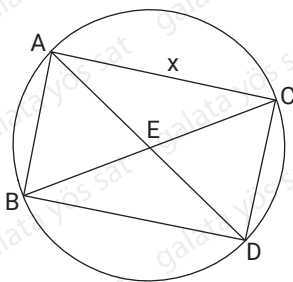
$[DC] \perp [AB]$, $|DE| = 2|EC| = 6$ br

Yukarıdaki verilere göre, $|AF|$ kaç birim dir?

(Based on the above data, how many units is $|AF|$?)

- A) 16 B) 18 C) 20 D) 24 E) 36

3.



$m(\widehat{CD}) = 60^\circ$

$m(\widehat{ADC}) = 45^\circ$

$|BC| = |BD|$

$|AB| = 2\sqrt{3}$ br

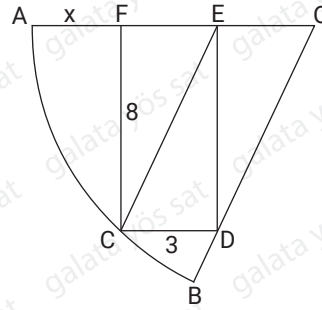
$|AC| = x$

Yukarıdaki verilere göre, x kaç birim dir?

(Based on the above data, how many units is x ?)

- A) $2\sqrt{3}$ B) $2\sqrt{6}$ C) $3\sqrt{3}$ D) $3\sqrt{6}$ E) $4\sqrt{5}$

4.



O; \widehat{AB} yaylı çemberin merkezi

(A, Center of \widehat{EF} arc's circle)

CDEF dikdörtgen
(Rectangle)

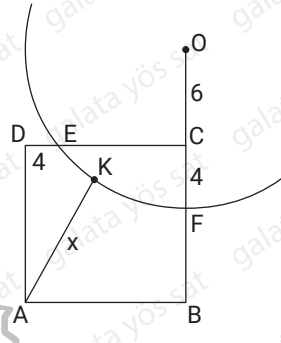
$[BO] \parallel [CE]$, $|CF| = 8$ br, $|CD| = 3$ br, $|AF| = x$

Yukarıdaki verilere göre, x kaç birim dir?

(Based on the above data, how many units is x ?)

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

5.



O; merkezli \widehat{EF} yaylı çemberde

(A, Center of \widehat{EF} arc's circle)

ABCD kare (Square)

K; çemberin üzerinde bir nokta
(K; a point on the circle)

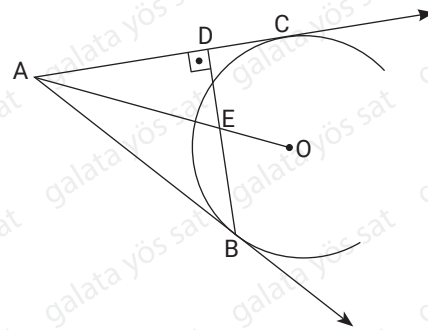
$|AK| = x$

Yukarıdaki verilere göre, x min değeri kaçtır?

(Based on the above data, what is the minimum value of x ?)

- A) $6\sqrt{13}$ B) $6\sqrt{13} - 3$ C) $6\sqrt{13} - 10$
D) $6\sqrt{13} - 5$ E) $6\sqrt{13} - 12$

6.



O; çemberin merkezi (Center of the circle)

B ve C teğet noktası (Tangent points)

$[BD] \perp [AC]$, $|BD| = 15$ br, $|AB| = 2|AD|$

Yukarıdaki verilere göre, $|CD|$ kaç birim dir?

(Based on the above data, how many units is $|CD|$?)

- A) 5 B) 10 C) $5\sqrt{3}$ D) 12 E) 15



7. O merkezli bir çemberin A noktasının çembere en yakın uzaklığı 4 cm, en uzak mesafesi 16 cm dir.

(The nearest point A of a circle with an O center is 4 cm and the furthest distance is 16 cm.)

Buna göre, A noktasından çembere çizilen teğetin uzunluğu kaç cm'dir?

(What is the length of the tangent drawn from point A to the circle?)

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

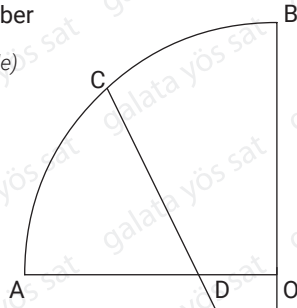
8. O; merkezli çeyrekçember

(Center of the quarter circle)

C, D, E doğrusal (linear)

$$|\widehat{AC}| = |\widehat{BC}|$$

$$\frac{|DO|}{|OE|} = \frac{1}{4}$$



Yukarıdaki verilere göre, $\frac{|DE|}{|DC|}$ kaçtır?

(Based on the above data, what is $\frac{|DE|}{|DC|}$ ratio?)

- A) $\frac{3}{4}$ B) 1 C) 2 D) 3

9. ABCD kare (Square)

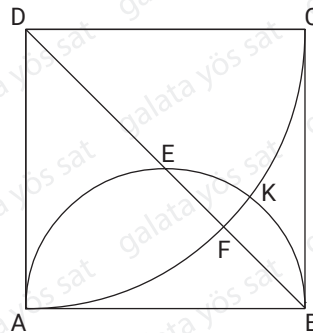
[AB]; çaplı çember

(Diameter of the circle)

D; çeyrek çemberin merkezi

(Center of the quarter circle)

$$A(ABCD) = 36 \text{ br}^2$$

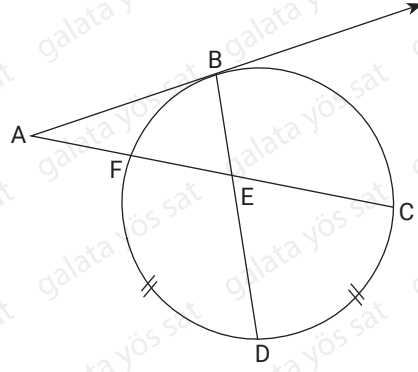


Yukarıdaki verilere göre, |EF| kaç birim dir?

(Based on the above data, how many units is |EF|?)

- A) $6 - \sqrt{2}$ B) $6 - 2\sqrt{2}$ C) $6 - 3\sqrt{2}$
D) $3\sqrt{2}$ E) 3

- 10.



[AB; B noktasında çembere teğet (\overline{AB} ; Tangent to the circle at point B)

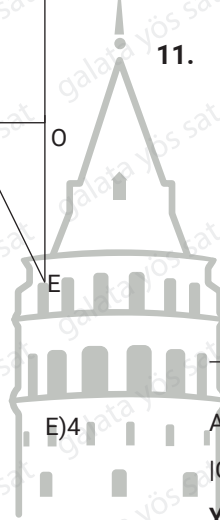
$$|\widehat{DF}| = |\widehat{CD}|, |AF| = 3 \text{ br}, |EF| = 6 \text{ br}, |AB| = x$$

Yukarıdaki verilere göre, x kaç birim dir?

(Based on the above data, how many units is x?)

- A) 3 B) 4 C) 6 D) 8 E) 9

- 11.



A, B, C, D teğet noktasıdır (Tangent points)

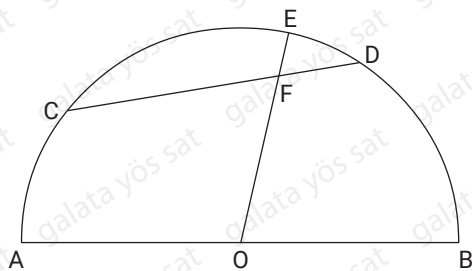
$$|CD| = 5\sqrt{2} \text{ br}, |AF| = 5 \text{ br}, |BE| = x$$

Yukarıdaki verilere göre, x kaç birim dir?

(Based on the above data, how many units is x?)

- A) 5 B) 6 C) 8 D) 10 E) $10\sqrt{2}$

- 12.



O; yarım çemberin merkezi (Center of the semicircle)

$$|EF| = 2 \text{ br}, |DF| = 3 \text{ br}, |CF| = 8 \text{ br}$$

Yukarıdaki verilere göre, |AB| kaç birim dir?

(Based on the above data, how many units is |AB|?)

- A) 14 B) 12 C) 10 D) 18 E) 5