

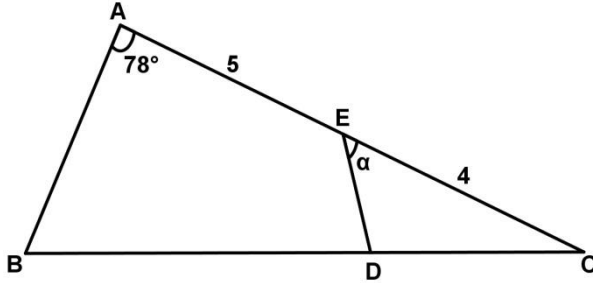
1.

Bir ikizkenar dik üçgenin köşelerinin karşısındaki kenarlara göre simetrilerinin alınmasıyla oluşan üçgenin alanı, ilk üçgenin alanının kaç katıdır?

How many times bigger is the area of the new triangle formed by taking the symmetries of the vertices of an isosceles triangle with respect to the opposite sides?

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

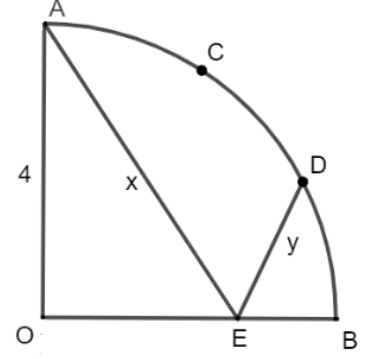
2.



$$\begin{aligned} |BD| &= 2 |DC| \\ |AE| &= 5 \\ |EC| &= 4 \\ |AB| &= 3 \\ m(\widehat{BAC}) &= 78^\circ \\ m(\widehat{DEC}) &=? \end{aligned}$$

- A)  $30^\circ$       B)  $39^\circ$       C)  $48^\circ$   
D)  $60^\circ$       E)  $78^\circ$

3.

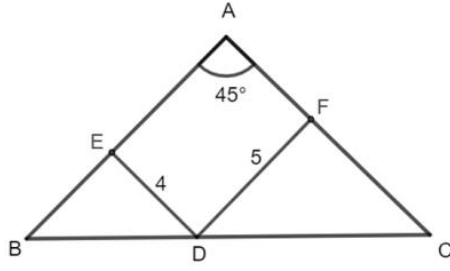


O merkez, OAB çeyrek dairedir.  $|AC|=|CD|=|DB|$ ,  $E \in [OB]$ ,  $|OA|=4$ ,  $|AE|=x$  ve  $|ED|=y$  olduğuna göre,  $x+y$ 'nin alabileceği en küçük değer kaçtır?

O is the center, OAB is a quarter circle.  $|AC|=|CD|=|DB|$ ,  $E \in [OB]$ ,  $|OA|=4$ ,  $|AE|=x$  and  $|ED|=y$ , what is the smallest value of  $x+y$ ?

- A) 4      B)  $4\sqrt{2}$       C)  $4\sqrt{3}$   
D)  $4\sqrt{5}$       E) 8

4.



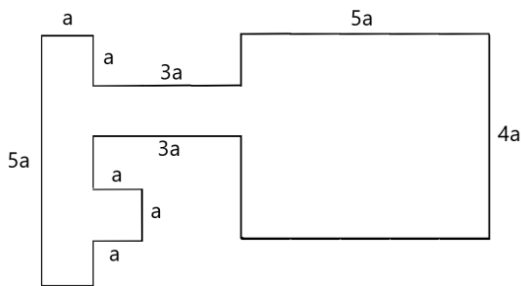
ABC ikizkenar üçgen,  $|ED| \perp |AB|$ ,  
 $|DF| \perp |AC|$ ,  $m(\widehat{BAC})=45^\circ$ ,  $|ED|=4$  ve  
 $|DF|=5$  ise,  $|AC| = ?$

ABC is a isosceles triangle, if  $|ED| \perp |AB|$ ,  
 $|DF| \perp |AC|$ ,  $m(\widehat{BAC})=45^\circ$ ,  $|ED|=4$  and  
 $|DF|=5$ ,

$|AC| = ?$

- A)  $4\sqrt{2}$     B)  $5\sqrt{2}$     C) 9  
 D)  $9\sqrt{2}$     E) 18

5.

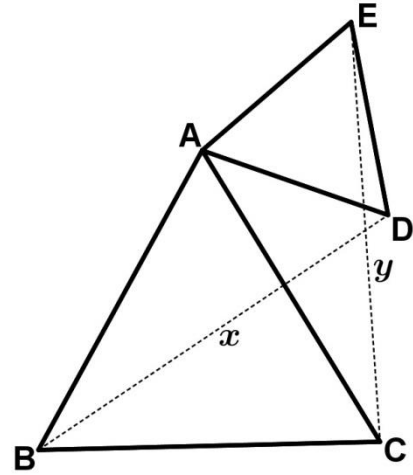


$\Rightarrow$  Çevre = ?

$\Rightarrow$  Perimeter = ?

- A) 28a    B) 30a    C) 32a  
 D) 34a    E) 36a

6.



ABC ve ADE eşkenar üçgenlerdir.

ABC and ADE are equilateral triangles.

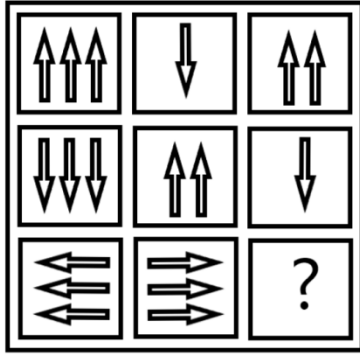
$|BD| = x$

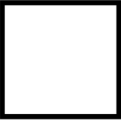


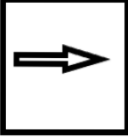
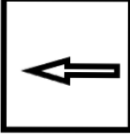
$|EC| = y$

$$\frac{x}{y} = ?$$

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

7.



- A)  B)  C) 
- D)  E) 

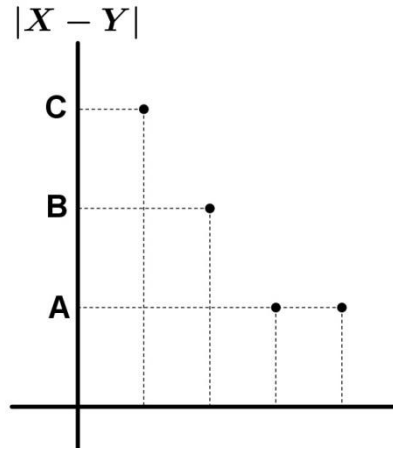
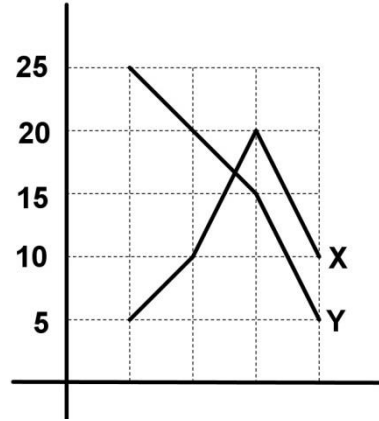
8.

+	A	B	C
A		14	
B			21
C	19		

⇒ A+B+C = ?

- A) 23      B) 25      C) 27  
 D) 29      E) 31

9.

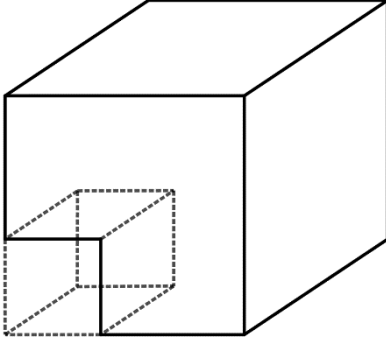


Yukarıdaki grafiklere göre, A+B+C=?

As to graphics above, A+B+C=?

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

10.

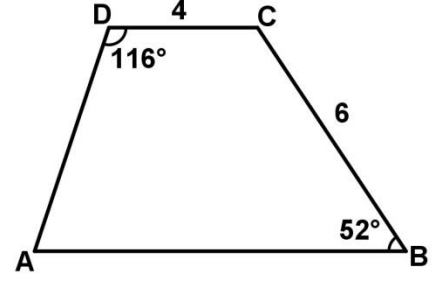


Şekildeki küpün bir köşesinden küçük bir küp çıkarılıyor. Geri kalan cismin alanı  $216br^2$ 'dir. Buna göre bu cismin hacmi kaç  $br^3$ 'tür?

A small cube is cut off at a corner of a cube as indicated in the picture. The area of the remaining solid is  $216 \text{ unit}^2$ . Thus, how many  $\text{unit}^3$  is the volume of this prism?

- A) 216      B) 300      C) 360  
D) 420      E) 540

11.



$ABCD$  bir yamuk,  
 $ABCD$  is a trapezoid,

$$[DC] \parallel [AB]$$

$$|BC| = 6$$

$$|DC| = 4$$

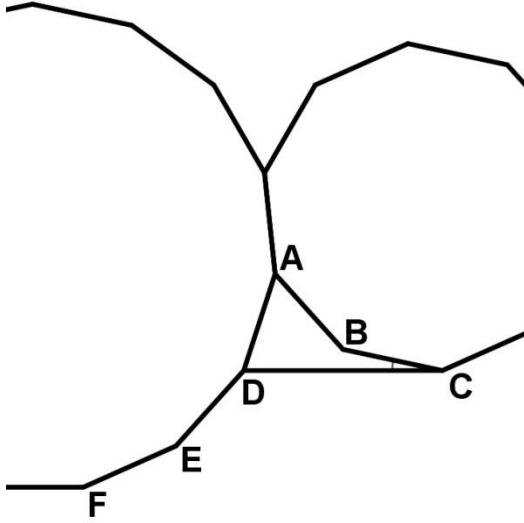
$$m(\widehat{ABC}) = 52^\circ$$

$$m(\widehat{ADC}) = 116^\circ$$

$$|AB| = ?$$

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

12.



$ABC$  ...bir düzgün ongen ( $n=10$ ) ve  $ADEF$  ... bir düzgün onbeşgen ( $n=15$ ) olduğuna göre,  $m(\widehat{BCD})$  kaç derecedir?

Let  $ABC$  ...is a regular decagon ( $n=10$ ) and  $ADEF$  ...is a regular pentadecagon ( $n=15$ ), how many degrees is  $m(\widehat{BCD}) = ?$

- A) 6                      B) 12                      C) 15  
D) 20                      E) 25

13.

$p$  ve  $q$  birbirinden farklı asal sayılardır.

$p$  and  $q$  are different prime numbers.

$$x = p^4 \cdot q^3, \quad y = p^5 \cdot q^2$$

**EBOB** ( $x,y$ )=?

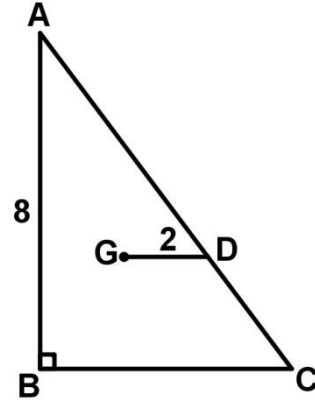
**(EBOB: En Büyük Ortak Bölen)**

**GCD** ( $x,y$ )=?

**(GCD: Greatest Common Divisor)**

- A)  $p^5q^3$                       B)  $p^5q^4$                       C)  $pq^3$   
D)  $p^4q^2$                       E)  $p^9q^5$

14.



$ABC$  bir dik üçgen,  $G$ ,  $ABC$  üçgenin ağırlık merkezi  $[GD] \parallel [BC]$ ,  $|GD| = 2$  ve  $|AB| = 8$  ise  $|AC| = ?$

$ABC$  is a right triangles and  $G$  is center of gravity of  $ABC$  triangles. If  $[GD] \parallel [BC]$ ,  $|GD| = 2$  and  $|AB| = 8$ ,  $|AC| = ?$

- A) 10                      B) 12                      C) 14  
D) 16                      E) 18

15.

$$(x - 4)^2 + (y - 3)^2 = 4$$

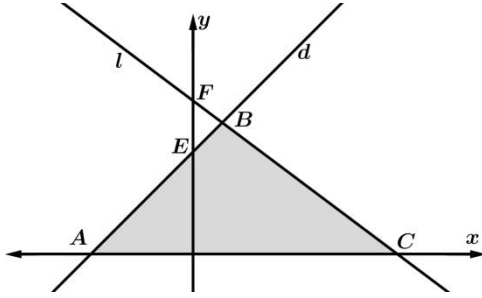
çemberinin orijine en uzak noktasının koordinatları toplamı nedir?

What is the sum of the coordinates of the farthest point of the circle

$(x - 4)^2 + (y - 3)^2 = 4$  to the origin?

- A)  $\frac{21}{5}$                       B) 10                      C)  $\frac{53}{5}$   
D)  $\frac{28}{5}$                       E)  $\frac{49}{5}$

16.



$$d \cap l = \{B\}$$

$$\begin{aligned} A(-2,0) \\ C(4,0) \\ E(0,2) \\ F(0,3) \end{aligned}$$

$d$  ve  $l$  düzlemde iki doğru olduğuna göre  $A(ABC) = ?$

Since  $d$  and  $l$  are two lines in the plane,  $A(ABC) = ?$

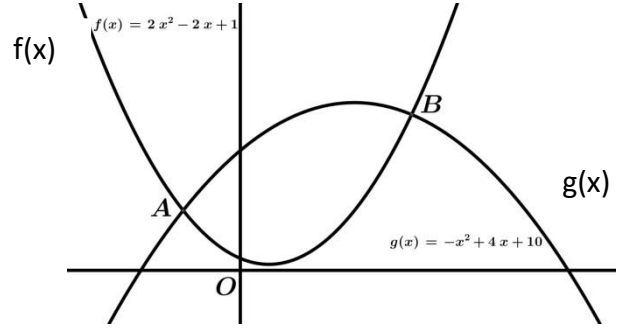
- A)  $\frac{48}{7}$       B)  $\frac{54}{7}$       C)  $\frac{58}{7}$   
D) 9              E)  $\frac{68}{7}$

17.

$$f(x) = 3x \cdot \sin(x) \Rightarrow f'\left(\frac{2\pi}{3}\right) = ?$$

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

18.



$f(x) = 2x^2 - 2x + 1$  ve  $g(x) = -x^2 + 4x + 10$  parabolleri  $A$  ve  $B$  noktalarında kesişmektedir. Buna göre  $|AB| = ?$

Parabolas  $f(x) = 2x^2 - 2x + 1$  and  $g(x) = -x^2 + 4x + 10$  intersect at points  $A$  and  $B$ . What is  $|AB| = ?$

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

19.

Anne, baba ve 3 çocuktan oluşan bir aile, yuvarlak masa etrafına çocuklar yan yana olmak koşulu ile kaç türlü oturabilirler?

How many ways can a family consisting of a mother, father and 3 children sit around a round table, provided the children are side by side?

- A) 3      B) 6      C) 9  
D) 12      E) 15

20.

$$\sum_{k=1}^{\infty} \ln\left(\frac{k+1}{k}\right) = ?$$

- A) 1                      B)  $\pi$                       C)  $\ln\frac{5}{2}$   
D) e                              E)  $\infty$

21.

$$y < 0 < x \Rightarrow \frac{|x-|y-x||}{|y-|-y||} = ?$$

- A)  $\frac{x}{2}$                       B)  $\frac{y}{2}$                       C)  $\frac{1}{2}$   
D)  $-\frac{y}{2}$                       E) 1

22.

$$-\frac{x+3}{2} + 1 \geq 4$$

$x$  bir tamsayı olmak üzere,  $x$  in en büyük değeri kaçtır?

What is the largest value of  $x$ , where  $x$  is an integer?

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

23.

$$(3 - 4x)(2x - 3) > 0$$

eşitsizliğin gerçel sayılardaki çözüm kümesi aşağıdakilerden hangisidir ?

Which of the following is the solution set of the inequality in real numbers ?

- A)  $(-\infty, \frac{3}{4})$   
B)  $(\frac{3}{4}, \frac{3}{2})$   
C)  $(\frac{3}{2}, \infty)$   
D)  $(0, \frac{3}{2})$   
E)  $(\frac{3}{4}, \infty)$

24.

$$P(x+2) + x^2P(2-x) = -5x^3 + 14x^2 + 5x + 14,$$

 $P(0) = ?$ 

- A) 4                      B) 5                      C) 6  
D) 8                      E) 10

25.

$$P(x) = 8x^3 - 12x^2 + 6x - 1 \Rightarrow$$

$$P\left(\frac{\sqrt[3]{10} + 1}{2}\right) = ?$$

- A) 5                      B) 6                      C) 8  
D) 10                      E) 12

26.

$$\frac{3 - \frac{2}{x}}{2 + \frac{1}{x}} = 2 \Rightarrow x = ?$$

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

27.

$$\left. \begin{array}{l} f(x) = x^2 + 3 \\ g(x) = 3x - 4 \end{array} \right\} \Rightarrow (g \circ f)(3) = ?$$

- A) 40                      B) 36                      C) 30  
D) 28                      E) 32



28.  $A = \{-3, -2, -1\}$

$B = \{0, 2, 4, 6\}$

$A \times B$  kartezyen çarpımından alınan herhangi bir  $(a, b)$  elemanı için  $a + b = 0$  olma olasılığı kaçtır?

What is the probability that  $a + b = 0$  for any elements  $(a, b)$  taken from the Cartesian product  $A \times B$

A)  $\frac{1}{12}$

B)  $\frac{1}{8}$

C)  $\frac{1}{8}$

D)  $\frac{1}{4}$

E)  $\frac{1}{3}$

29.

$\log_5(\log_2(2x + 4)) = 1 \Rightarrow x = ?$

A) 14      B) 16      C) 28

D) 32      E) 36

30.

$i^2 = -1 \Rightarrow \frac{(6 - 4i)(9 + 6i)}{(3 - 3i)(1 + i)} = ?$

A) 10      B) 12      C) 13

D) 14      E) 15

31.

$f(x) = \int \frac{1 + \sin(x)}{\cos(x) - x} dx \Rightarrow f\left(-\frac{\pi}{2}\right) = ?$

A)  $-\ln|\pi| + c$

B)  $-\ln\left|\frac{\pi}{2}\right| + c$

C)  $\ln\left|\frac{\pi}{2}\right| + c$

D)  $\ln|\pi| + c$

E)  $\ln|2\pi| + c$

32.

$$6.3 - 5.(-4 - (-1) + 7) = ?$$

- A) -5      B) -2      C) 0  
D) 3      E) 5

33.

$$\begin{cases} \frac{x}{y} = \frac{4}{5} \\ \frac{y}{z} = \frac{3}{7} \\ -x + y + z = 76 \end{cases} \Rightarrow z = ?$$

- A) 35      B) 45      C) 60  
D) 70      E) 85

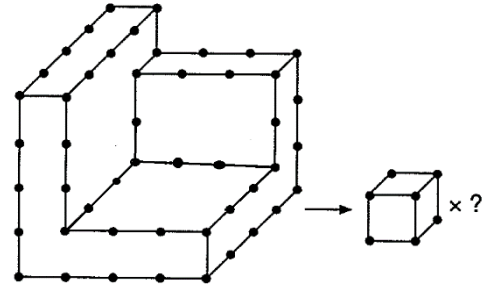
34.

İki zar atılıyor. Zarların üstüne gelen sayıların her ikisinin de asal sayı olma olasılığı nedir ?

Two dices are rolled. What is the probability that the numbers on the dices are both prime numbers?

- A)  $\frac{1}{4}$       B)  $\frac{1}{6}$       C)  $\frac{1}{9}$   
C)  $\frac{5}{36}$       D)  $\frac{7}{36}$

35.

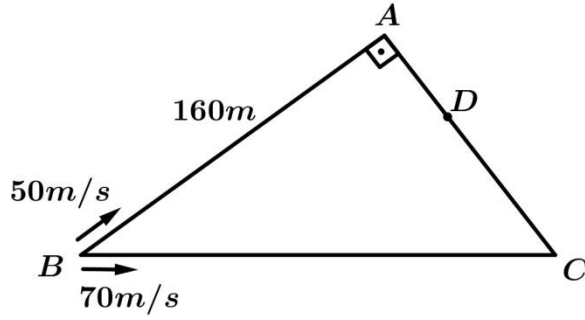


Yukardaki şekilde kaç küp vardır?

How many cubes are there given at the figure above?

- A) 30      B) 34      C) 38  
D) 40      E) 44

36.



$$|AB| = 160 \text{ m} , |AC| = 120 \text{ m}$$

$B$  noktasından aynı anda şekildeki gibi sırasıyla  $50 \text{ m/s}$  ve  $70 \text{ m/s}$  hızlarla hareket eden iki araç ilk kez  $D$  noktasında karşılaşıyorlar. Buna göre  $|CD|$  uzunluğu nedir ?

Two vehicles moving from point  $B$  at the same time as shown in the figure at  $50 \text{ m/s}$  and  $70 \text{ m/s}$  respectively, both vehicles meet at point  $D$  for the first time. Thus, what is  $|CD| = ?$

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

37.

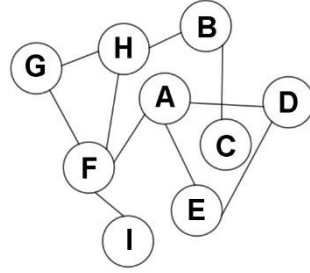
$$f: \mathbb{R} \rightarrow \mathbb{R}$$

$$f(x) - f(x - 1) = 2x,$$

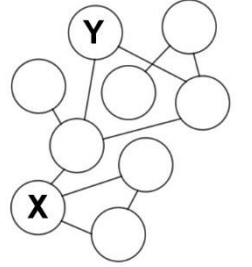
$$f(1) = 7 \Rightarrow f(5) = ?$$

- A) 32      B) 33      C) 34  
D) 35      E) 36

38.



Şekil 1  
Figure 1



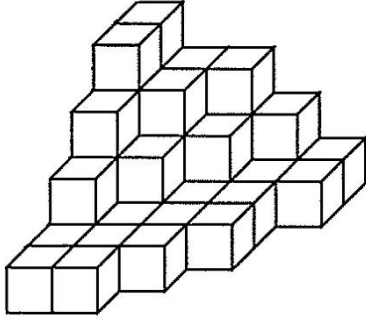
Şekil 2  
Figure 2

Şekil 2 de  $X$  ve  $Y$  yerine gelmesi gereken harfleri bulunuz.

Find the letters that correspond to  $X$  and  $Y$  in Figure 2.

- |    | <u>X</u> | <u>Y</u> |
|----|----------|----------|
| A) | E        | C        |
| B) | A        | G        |
| C) | F        | D        |
| D) | I        | H        |
| E) | H        | C        |

39.

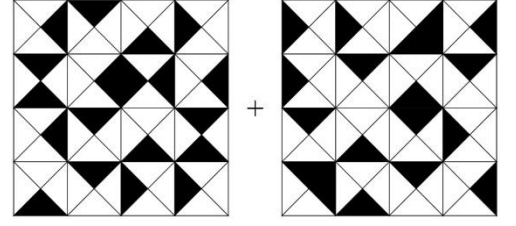


Yukardaki şekilde kaç küp vardır?

How many cubes are there at the figure above?

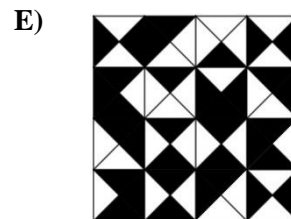
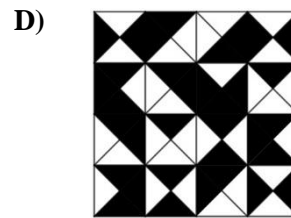
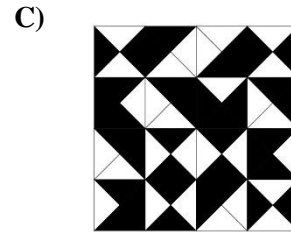
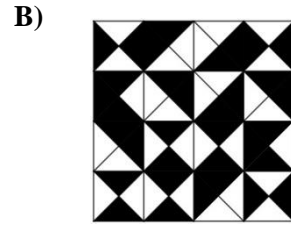
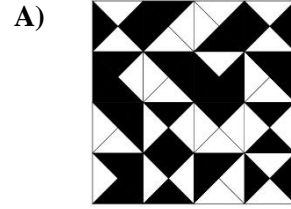
- A) 37      B) 38      C) 39  
D) 40      E) 41

40.



İki desenin birleşiminden oluşan şekil aşağıdakilerden hangisidir?

Which of the following is the combination of two patterns?



41.

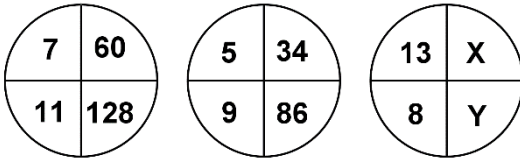
$$a, b, c, d \in \mathbb{R}$$

$$\left. \begin{array}{l} a \circledast b = ab + \frac{b}{a} \\ c \triangle d = d - c \end{array} \right\} \Rightarrow$$

$$5 \circledast (3 \triangle 2) = ?$$

- A)  $-\frac{26}{5}$       B)  $\frac{26}{5}$       C)  $\frac{7}{5}$   
 D)  $-\frac{7}{5}$       E) 7

42.



$$\Rightarrow X+Y = ?$$

- A) 249      B) 250      C) 254  
 D) 255      E) 257

43.

$$\begin{array}{l} 15 \mapsto 3 \mapsto 8 \\ 25 \mapsto 5 \mapsto 10 \\ 36 \mapsto 3 \mapsto 15 \\ 48 \mapsto ? \mapsto ? \end{array}$$

**Soru işaretli yerlere gelmesi gereken sayıları bulunuz?**

Find the numbers that should come in the places with question marks.

- A) 8;6      B) 4;16      C) 12;24  
 D) 8;5      E) 6;8

44.

**$ab$  ve  $ba$  iki basamaklı sayılardır.**

$ab$  ve  $ba$  are two-digit numbers. Then

$$C = ab + ba$$

$$D = ab - ba \quad \Rightarrow \quad a^2 - b^2 = ?$$

$$CD = 693$$

- A) 2      B) 3      C) 5  
 D) 7      E) 11

45.

		$a + d$			
$\frac{b+c}{a}$	$a$	$b$	$a + d$	$b$	$\frac{a+d}{b}$
$\frac{b+c}{a}$	$c$	$d$	$\frac{a+d}{b}$	$b$	$\frac{a+d}{b}$
		$b + c$			

Yukarıdaki tablo  $a, b, c, d$  harfleriyle gösterilen dört pozitif tamsayı içeren bazı işlemlere göre düzenlenmiştir.

The table above is organized according to various operations using four positive integers represented by letters a, b, c and d.

		15			
				3	
	$c$				
		12			

Yukarıdaki şekle göre  $c = ?$

According to the figure above, what is the value of  $c = ?$

- A) 5      B) 6      C) 7  
D) 8      E) 9

46.

$KLM$  ve  $XYZ$  üç basamaklı sayılardır

$KLM$  ve  $XYZ$  are 3-digit numbers.

$$KLM - XYZ = 167$$

$$10L + M = 45$$

$$10Y + Z = 78$$

olduğuna göre,  $K + X$  toplamı en çok kaçtır?

What is the maximum sum of  $K+X$ ?

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

47.

$$\frac{\frac{0,2}{0,5} + 11}{0,4 - \frac{0,004}{0,04}} = ?$$

- A) 18      B) 28      C) 38  
D) 98      E) 128

48.

$K, L, M$  sayıları  $K < L < M$  şartını sağlayan ardışık çift sayılardır.

$K < L < M$  and  $K, L, M$  are consecutive even numbers.

$$\begin{array}{r|l} K+M & L-K+M \\ \hline & 1 \\ \hline 6 & \end{array}$$

$$K + L + M = ?$$

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

49.

$$\frac{3^{x-1}+3^x}{3^{x+1}+3^{x+2}} = 3^{-x} \Rightarrow x = ?$$

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

50.

$a, b, c$  pozitif rasyonel sayılardır.

Let be  $a, b, c$  positive rational numbers.

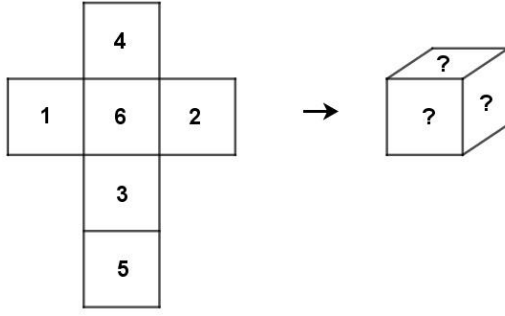
$$\frac{a}{b} = \frac{3}{2}, \quad \frac{b}{c} = \frac{4}{5}$$

olduğuna göre aşağıdaki sıralamalardan hangisi doğrudur ?

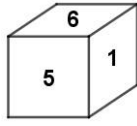
Then which of the following orders of  $a, b, c$  is correct?

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

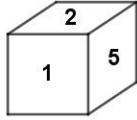
51.



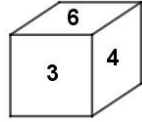
A)



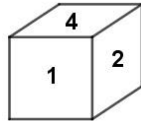
B)



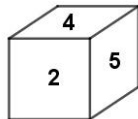
C)



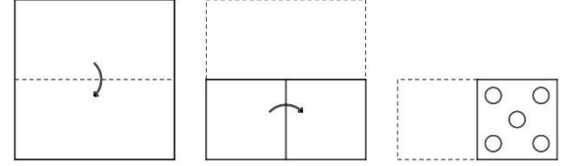
D)



E)



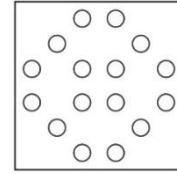
52.

Şekil 1  
Figure 1Şekil 2  
Figure 2Şekil 3  
Figure 3

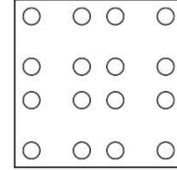
Şekil 1 deki kağıt iki kez katlanıyor ve üzerinde 5 delik açılıyor. Kağıt tekrar açıldığında görüntüsü ne olur?

The paper in Figure 1 is folded twice as shown and has 5 holes drilled on it. What will be the image when the paper is opened again?

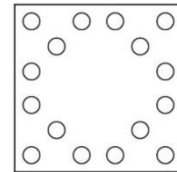
A)



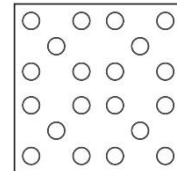
B)



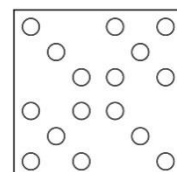
C)



D)



E)



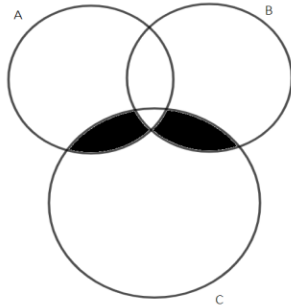


53.

$$\left. \begin{array}{l} y - \frac{5}{4x} = 3 \\ 2x - \frac{5}{2y} = 4 \end{array} \right\} \Rightarrow \frac{x+y}{y-x} = ?$$

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

54.



Taralı bölge aşağıdakilerden hangisiyle ifade edilir?

Which of the following represents the shaded area in the figure above ?

- A)  $(A \cap B) \cap C$   
B)  $(A \cup B) \setminus C$   
C)  $C \setminus (A \cap B)$   
D)  $(A \setminus C) \cup (B \setminus C)$   
E)  $[(A \cup B) \cap C] \setminus (A \cap B \cap C)$

55.

$$\frac{(\sin x + \cos x)^2}{\sin x} - 2 \cos x = ?$$

- A)  $\sec x$       B)  $\csc x$       C)  $\frac{1}{\tan x}$   
D) 1      E)  $\arcsin x$

56.

$$\lim_{a \rightarrow x} \frac{4x^2 - 4a^2}{\sin(x - a)} = ?$$

- A) 4      B) 8      C)  $4x$   
D)  $8x$       E)  $16x$

57.

$$f(x) = \frac{7x + 5}{3x^2 + 2mx + n}$$

Fonksiyonu  $\mathbb{R} - \{1, 2\}$  kümesinde sürekli olduğuna göre,  $m+n$  kaçtır?

If the given function is continuous in  $\mathbb{R} - \{1, 2\}$  set, what is  $m + n = ?$

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

58.

$$(a \oplus b) + 2(b \oplus a) = a \cdot b \Rightarrow 4 \oplus 3 = ?$$

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

59.

$$\frac{x}{x-9} + \frac{4}{x-4} < \frac{9}{x-9} + \frac{x}{x-4} + 1 \Rightarrow$$

Ç.K=?

What is the solution set of the given inequality?

- A)  $\mathbb{R}$       B)  $\emptyset$       C) (4,9)  
 D)  $(9, \infty)$       E)  $\mathbb{R} - \{4, 9\}$

60.

$$\left. \begin{array}{l} |x - 9| = 9 - x \\ |2x - 12| = 2x - 12 \end{array} \right\} \Rightarrow ? \leq x \leq ?$$

- A)  $6 \leq x \leq 9$   
 B)  $6 \leq x \leq 24$   
 C)  $3 \leq x \leq 9$   
 D)  $9 \leq x \leq 12$   
 E)  $9 \leq x \leq 24$

61.

$$a_n = \frac{2n+1}{2n+3} a_{n-1}, \quad a_1 = 13 \Rightarrow a_5 = ?$$

- A) 13      B) 11      C) 9  
D) 7      E) 5

62.

$$f(x) = |3x - 6| - |2x + 2| \Rightarrow$$

$$f(-2) - f(-1) = ?$$

- A) -2      B) -1      C) 0  
D) 1      E) 2

63.

$$z = 2 + 3i \Rightarrow z^2 - 4z + 4 = ?$$

- A) -5      B) 5      C) -9i  
D) 9i      E) -9

64.

$$z = \sqrt{-4} \cdot \sqrt[3]{64}, \quad w = \sqrt[3]{8} \cdot \sqrt{-9} \Rightarrow$$

$$z + \bar{w} = ?$$

- A) 8 - 6i      B) 8 + 6i      C) 2i  
D) -2i      E) 6 - 8i

65.

$$\left. \begin{array}{l} \log_5(x - y) = 1 \\ \log_5 x + \log_5 y = 2 \end{array} \right\} \Rightarrow \log_{\frac{1}{5}}\left(\frac{1}{y} - \frac{1}{x}\right) = ?$$

- A) -1      B)  $-\frac{1}{5}$       C)  $\frac{1}{5}$   
 D) 1      E)  $\log_5 2$

66.

$$a_n = 3^{n+1}(2n)!, \quad a_{n+1} = 168a_n \Rightarrow$$





















$$n = ?$$

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

Aşağıda I. grubun her satırındaki ifade, II. gruptaki sayıların bir tanesi ile eşleşmektedir. Verilenlere göre, 67 ve 68. soruları cevaplayınız.

Every figure in each line of the group I matches one of the numbers in the group II. Answer questions 67 and 68 according to figures.

I

II

8149	
5857	9871
5714	9754

67.

Soru işaretiyle belirtilen şekillerin hangi sayıyla gösterildiğini bulunuz?

Find the cross ponding number of the figures indicated by the ? in

$$\text{?} \quad \Delta \quad \square \quad \text{?} = ?$$

- A) 5917      B) 7459      C) 8795  
 D) 8597      E) 8579

68.

Soru işaretiyle belirtilen sayının hangi şekillerle gösterildiğini bulunuz?

Find out the correct order of the figures indicated by

$$1457 = ?$$

- A) ○ □ ☼ △  
 B) ○ △ ☼ △  
 C) △ ☼ ☼ ○  
 D) □ ○ ☼ ☼  
 E) □ ☼ ○ △

69.

6, 13, ?, 15, 8, 17 9

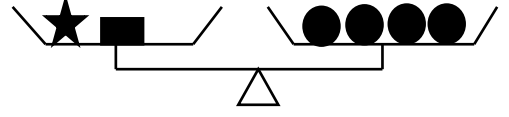
soru işareti yerine gelecek sayıyı bulunuz.

find the number that will replace the question mark.

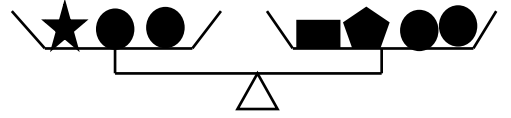
- A) 5      B) 7      C) 10  
 D) 11      E) 12

70.

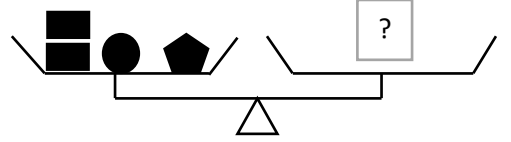
I.



II.



III.



Yukarıdaki terazilerin üçü de dengede olduğuna göre III. terazideki soru işareti aşağıdakilerden hangisini göstermektedir?

In the above figure, let all three scales be in balance. As a result of this, find out the question mark in scale III

- A) ●  
 B) ● ●  
 C) ● ● ●  
 D) ● ● ● ●  
 E) ● ● ● ● ●

71.

$$3^x = 4, 3^{2y} = 36 \Rightarrow \frac{2y-2}{x} = ?$$

- A) -1      B) -2      C) 1  
D) 0      E) 3

72.

$$x = \sqrt[4]{8,1}, y = \sqrt[3]{2,7}, z = \sqrt{0,9}$$

ise  $x, y, z$  sıralaması küçükten büyüğe nedir?

what is the order of  $x, y, z$  from smallest to largest?

- A)  $x < y < z$   
B)  $y = x < z$   
C)  $y < z < x$   
D)  $x < z = y$   
E)  $z < y < x$

73.

$$\sqrt{4 - \sqrt{12}} - \sqrt{4 + \sqrt{12}} = ?$$

- A) -1      B) -2      C)  $\sqrt{3}$   
D)  $\sqrt{5}$       E) 0

74.

$A$  ve  $B$  iki küme olsun.

Let be  $A$  and  $B$  two set.

$$s(B) = 4x$$

$$s(A \cap B) = 3x$$

$$s(A - B) = 2x - 1$$

$$s(A \cup B) = 53$$

$$s(B - A) = ?$$

- A) 23      B) 33      C) 7  
D) 17      E) 9

75.

$$\left(a - 1 + \frac{1}{a^2 + a + 1}\right) - \frac{2a^3 - 1}{a^2 + a + 1} = ?$$

- A)  $\frac{1}{1-a}$     B)  $\frac{a+1}{a}$     C)  $1 - a^2$   
 D)  $1 - a$     E)  $a + 1$

76.

$$x^2 + \frac{1}{x^2} = 6 \text{ ise } x + \frac{1}{x} = ?$$

- A) 3    B)  $2\sqrt{2}$     C)  $\sqrt{3}$   
 D)  $\sqrt{5}$     E) 0

77.

4 günde bir nöbet tutan hemşire ilk nöbetini Salı günü tutarsa, 9. nöbetini hangi gün tutar?

Let assume that a nurse is on duty in every 4 days. If the nurse holds her first shift on Tuesday, then what day does the nurse keep her 9<sup>th</sup> shift?

- A) Çarşamba ( Wednesday )  
 B) Perşembe ( Thursday )  
 C) Cuma ( Friday )  
 D) Cumartesi ( Saturday )  
 E) Pazar ( Sunday )

78.

$$\mathbb{Z}_5 \cong \mathbb{Z}/5' \text{ de, } \bar{2}x^2 + \bar{3} = \bar{1}$$

denkleminin çözüm kümesi nedir ?

In  $\mathbb{Z}_5 \cong \mathbb{Z}/5$ , What is the solution set of equation  $\bar{2}x^2 + \bar{3} = \bar{1}$  ?

- A) {0}    B) {1,3}    C) {2,3}  
 D) {1}    E) {0,2}

79.

$x^2 - 3x - m = 0$  denkleminin kökleri  $x_1, x_2$  ve  $x_1 = \frac{1}{x_2}$  ise  $m = ?$

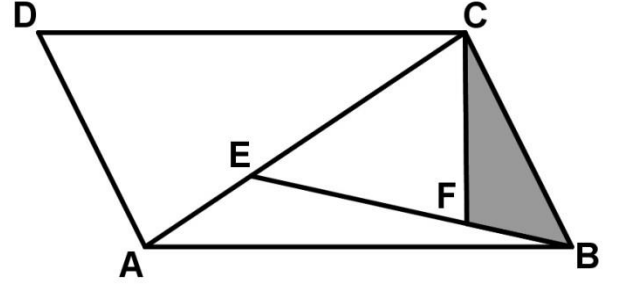
Let the roots of equation

$x^2 - 3x - m = 0$  be  $x_1, x_2$ .

If  $x_1 = \frac{1}{x_2}$  then  $m = ?$

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

80.



$ABCD$  bir paralelkenar,  
 $ABCD$  is a parallelogram,

$$3|BF| = |FE|, \quad 4|AE| = 3|EC|$$

$$A(CBF) = 4\text{cm}^2 \quad A(ABCD) = ?$$

- A)  $28\text{cm}^2$       B)  $36\text{cm}^2$       C)  $48\text{cm}^2$   
D)  $56\text{cm}^2$       E)  $64\text{cm}^2$