

2024/2 |

FraktalAkademi



پوزا ایران

TR-YÖS

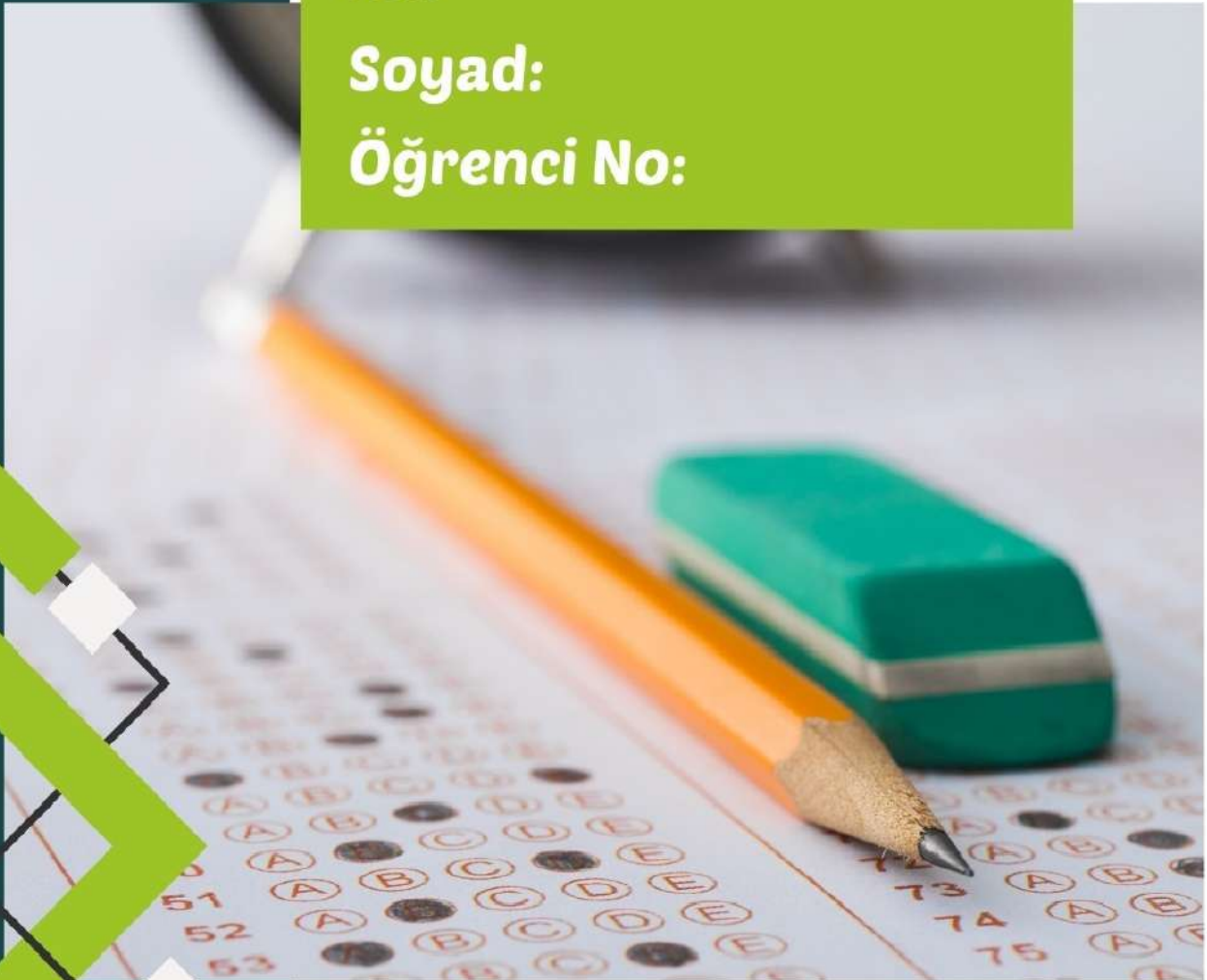
DENEME SINAVI

2

Ad:

Soyad:

Öğrenci No:



Bu sınav kitabçığında 80 soru bulunmaktadır. Süreniz 100 dakikadır.

- 1)
$$\begin{array}{r} \text{M N L} \\ \times \quad 7 \text{ A} \\ \hline \bullet \bullet \bullet \bullet \Rightarrow \text{N+A=?} \\ + \quad 4 \ 3 \ 6 \ 8 \\ \hline 4 \ 5 \ 5 \ 5 \ 2 \end{array}$$
- A) 5 B) 6 C) 7 D) 8 E) 9

- 2)

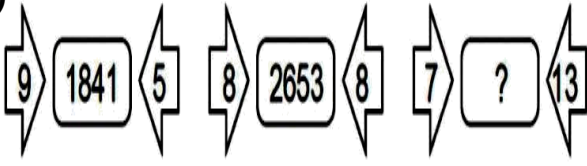
+	x	y	z
x		z+1	
y			
z		x+3	
- A) 1 B) 2 C) 3 D) 4 E) 5

IQ

- 3) FENERBAHÇE = 46
GALATASARAY = 56
BEŞİKTAŞ = ?
A) 66 B) 65 C) 54 D) 56 E) 35
- 4) 92, 108, 27, 36, 12, 16, ?
A) 2 B) 4 C) 6 D) 8 E) 10

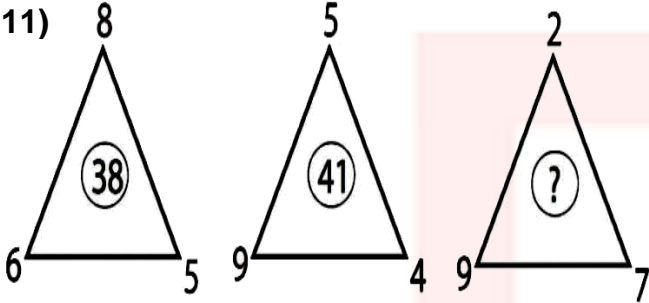
IQ

10)



- A) 1576 B) 7013 C) 6291
D) 4394 E) 6141

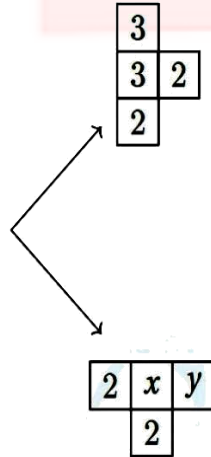
11)



- A) 83 B) 75 C) 55 D) 65 E) 44

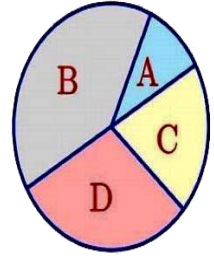
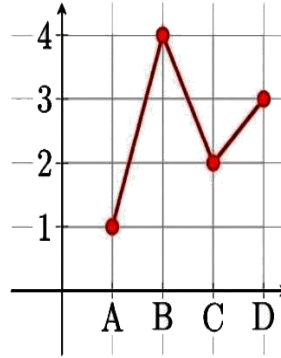
12)

0	1	3	2	3	1	4
1	2	3	0	2	1	3
4	3	1	2	3	3	0
3	1	2	3	1	0	4
0	2	1	3	1	2	3
2	3	4	3	2	1	0
0	1	3	2	0	2	4


 $\Rightarrow (x, y) = ?$

- A) (4,1) B) (1,4) C) (0,4) D) (1,0) E) (0,1)

13)


 $\Rightarrow B + D = ?$

- A) 180 B) 225 C) 245 D) 252 E) 27

14)

$\frac{a}{c}$	$a \cdot b$	d^b
	a	b
	c	d
c^a	$c \cdot d$	$\frac{b}{d}$

Yukarıdaki şekilde a, b, c ve d birer pozitif tamsayıyı göstermektedir. Aşağıdaki verilen şekle göre $B - A = ?$

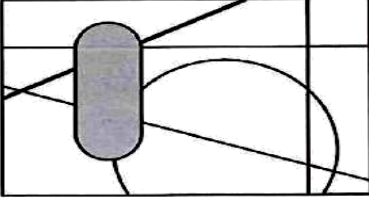
a, b, c and d denote a positive integer in the above figure. According to the following figure $B - A = ?$

	A	
	6	
	6	
36	B	$\frac{3}{4}$

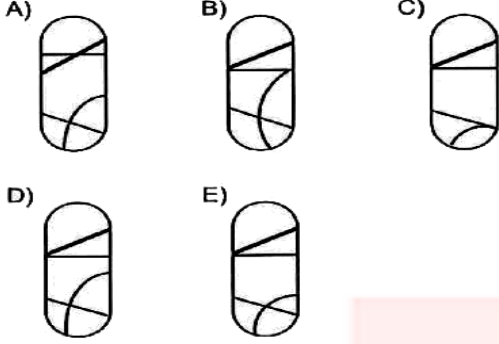
- A) 30 B) 36 C) -12 D) 15 E) -9

IQ

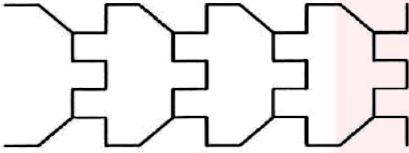
15)



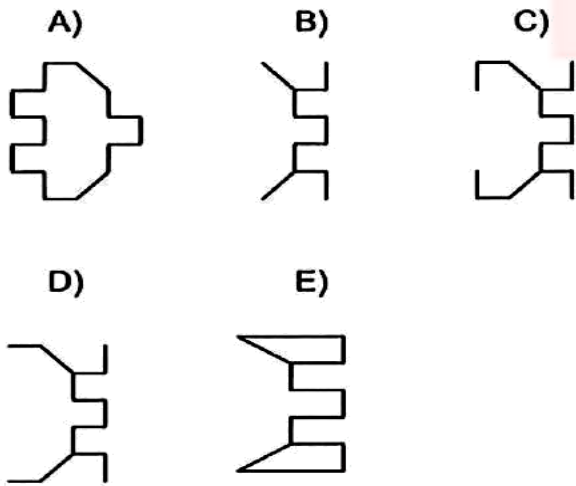
Yukarıdaki şekilde dolu olarak gösterilen parçanın aslı aşağıdakilerden hangisidir?



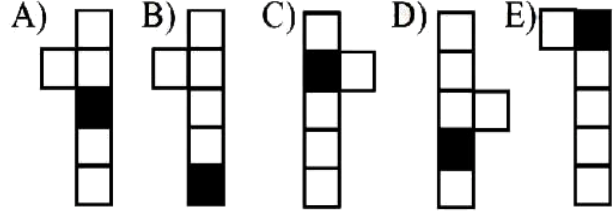
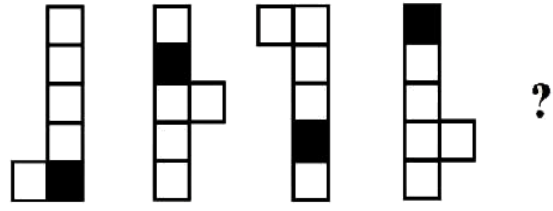
16)



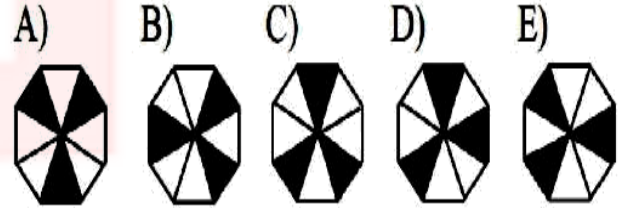
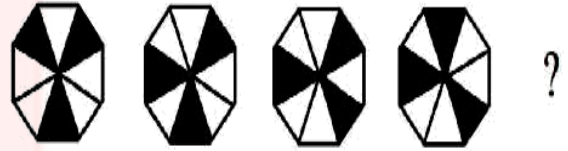
Yukarıdaki süslemenin yapı birimi aşağıdakilerden hangisidir?



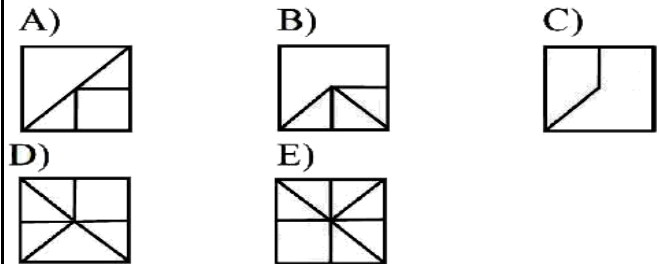
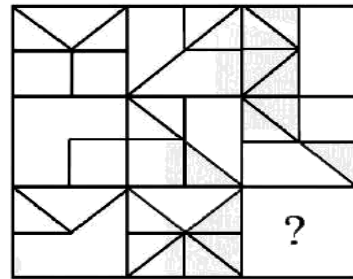
17)



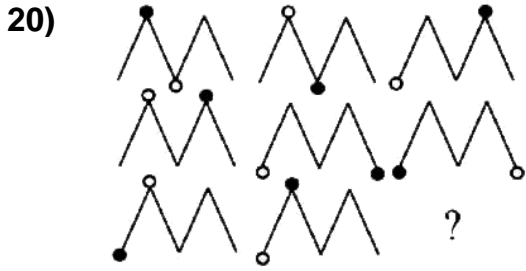
18)

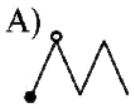
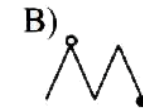

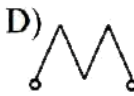
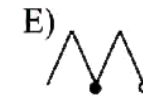


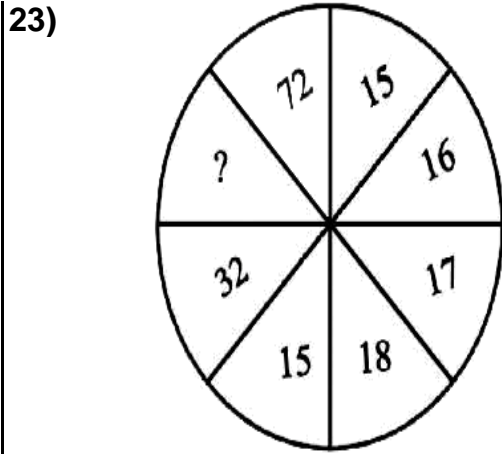
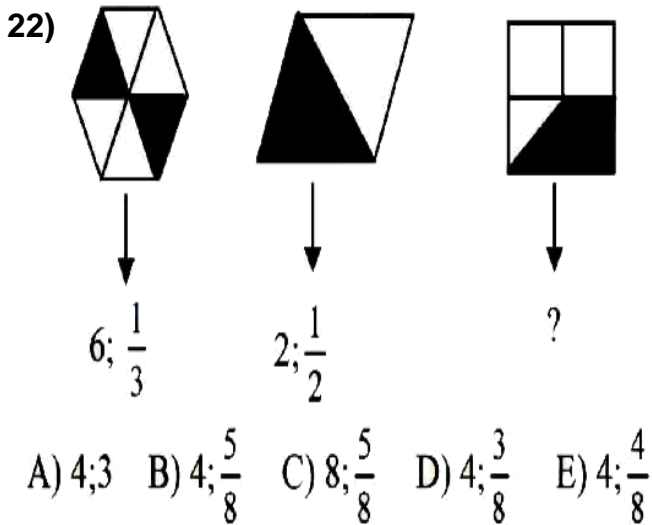
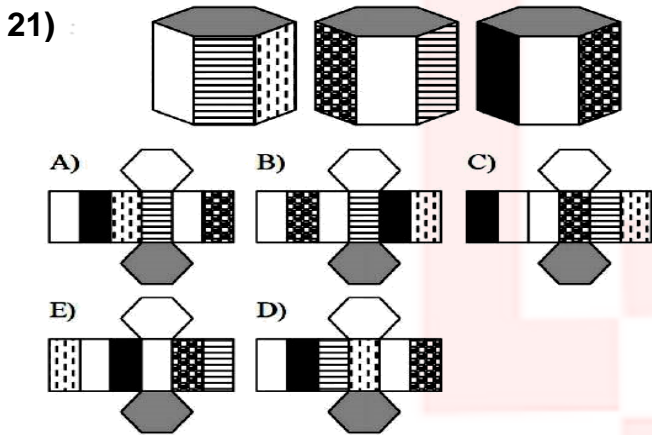
19)



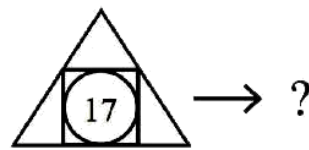
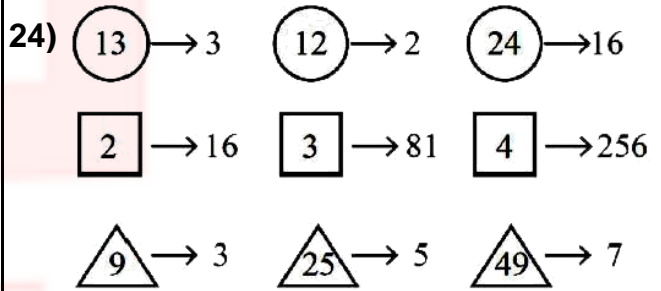
IQ



- A)  B)  C) 
 D)  E) 



- A) 49 B) 51 C) 59 D) 61 E) 69



- A) 100 B) 81 C) 49
 D) 56 E) 25

IQ

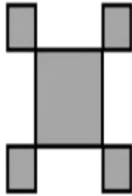
25) Aşağıda ilk 3 adımı verilen şeklin V. adımındaki karelerin (■) toplamı kaçtır?

I. Adım
I. Step



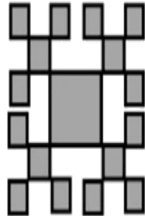
1

II. Adım
II. Step



5

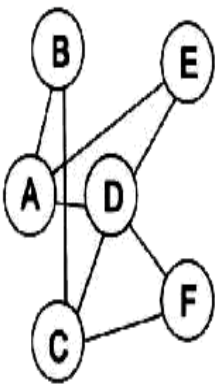
III. Adım
III. Step



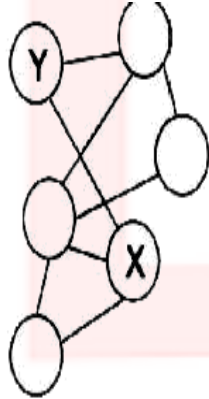
17

A) 273 B) 161 C) 156 D) 137 E) 121

26)



→



⇒ X; Y = ?; ?

A) E; B

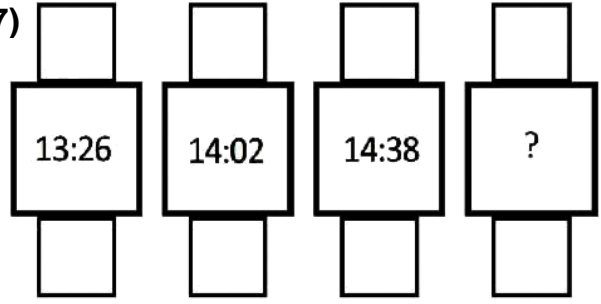
B) A; E

C) B; F

D) C; E

E) A; B

27)



A) 14:14

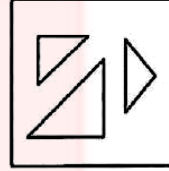
B) 14:02

C) 15:02

D) 15:14

E) 15:12

28)



Yukarıdaki parçalar birleştirildiğinde, aşağıdaki şekillerden hangisi elde edilir?

A)

B)

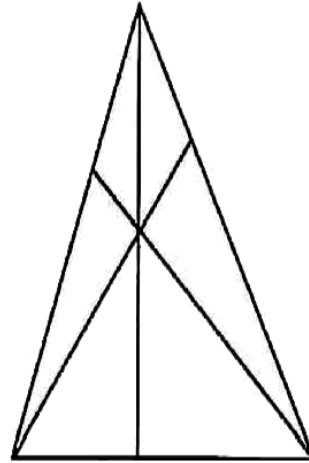
C)

D)

E)



29)



Yukarıdaki şekilde, en çok kaç tane üçgen vardır?

A) 12

B) 13

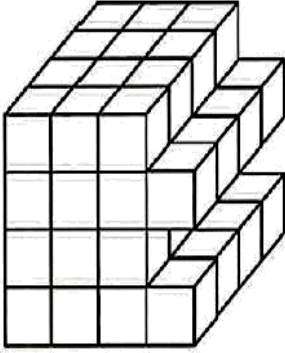
C) 15

D) 16

E) 18

IQ

30)



Yukarıdaki şekil 1 x 1 x 1 bir küplerin birleştirilmesiyle oluşturulmuştur.

Bütün yüzeyleri beyaz olan şekil mavi bir boyayla boyanıyor.

4 yüzü boyalı kaç küp vardır?

- A) 4 B) 6 C) 8 D) 10 E) 12

31)



Yukarıdaki saat 5 dakika sonra hangi zamanı gösterir?

A)



B)



C)



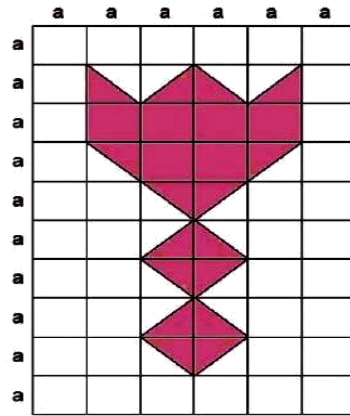
D)



E)



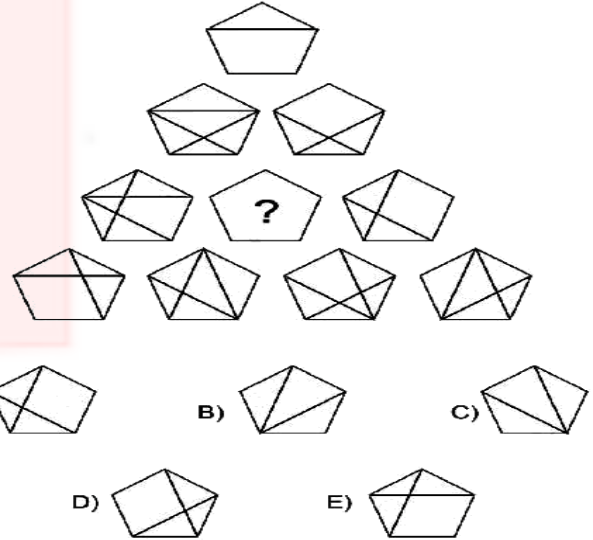
32)



Taralı Alan (shaded Area) = ? a^2

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

33)



34)

$$\boxed{24} = 20$$

$$\diamond 15 = 21$$

$$\boxed{81} = 65$$

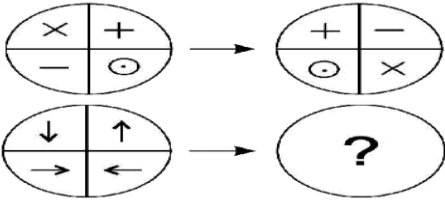
$$\diamond 27 = 36$$

$$\diamond 25 = ?$$

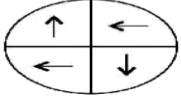
- A) 13 B) 15 C) 18 D) 21 E) 24

IQ

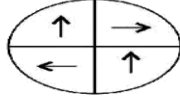
35)



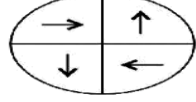
A)



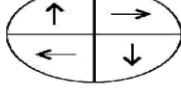
B)



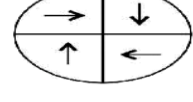
C)



D)



E)

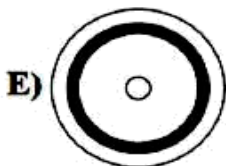
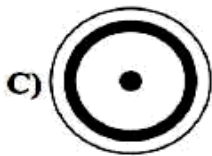
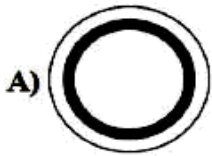


36)

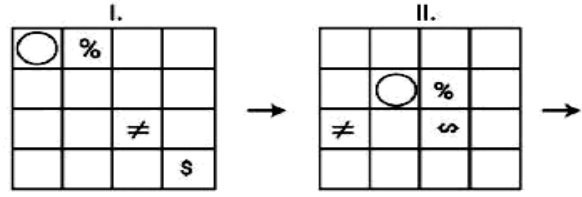


silindir parçalarından oluşan şeklin üstten görünümü aşağıdakilerden hangisidir?

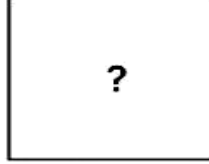
Which of the following is the top view of the figure made up of cylindrical parts?



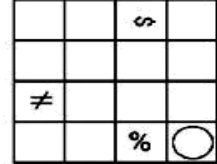
37)



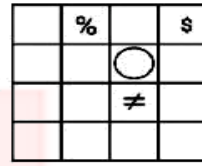
III.



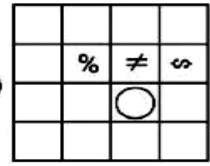
IV.



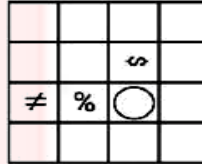
A)



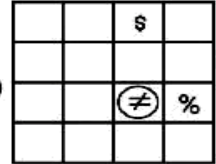
B)



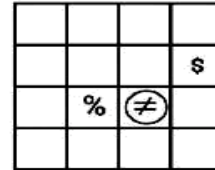
C)



D)

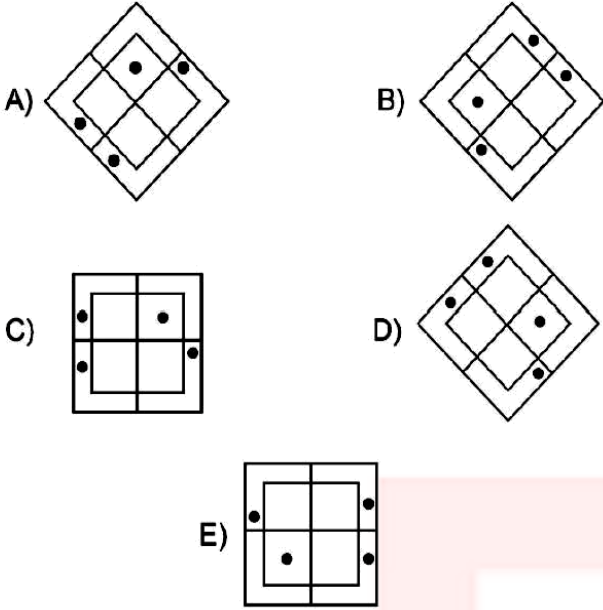


E)

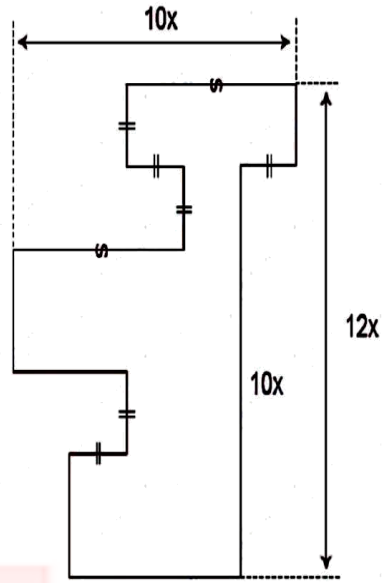


IQ

38) Aşağıdakilerden hangisi diğerlerinden farklıdır?

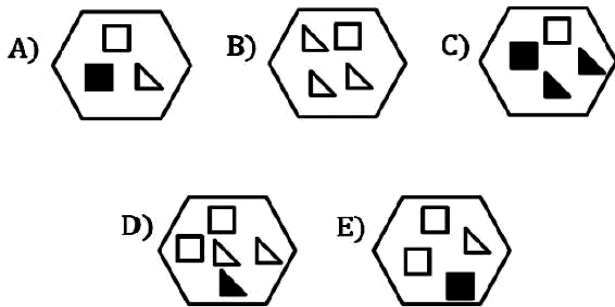
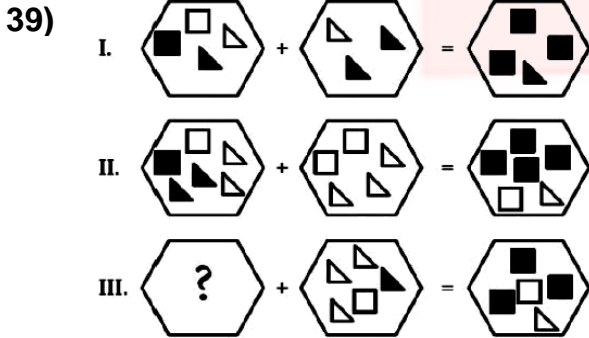


40)



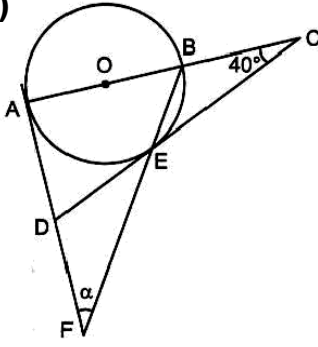
Çevre = ? x

- A) 56 B) 53 C) 52 D) 50 E) 49



GEO

41)

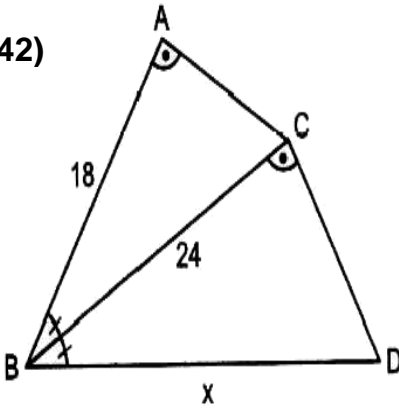


O merkezli çemberde
 CD ve AF sırasıyla
 E ve A noktalarında
 çembere teğet
 $m(\widehat{ACD}) = 40^\circ$

Yukarıda verilenlere göre, $m(\widehat{AFB}) = \alpha$ kaç derecedir?

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

42)

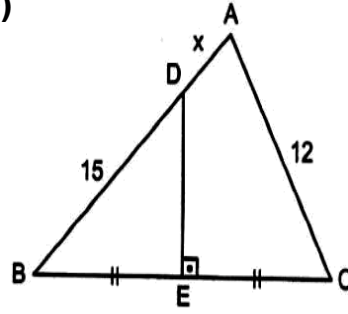


$m(\widehat{ABC}) = m(\widehat{CBD})$
 $m(\widehat{BAC}) = m(\widehat{BCD})$
 $|AB| = 18 \text{ cm}$
 $|BC| = 24 \text{ cm}$

Yukarıda verilenlere göre, $|BD| = x$ kaç cm dir?

- A) 26 B) 28 C) 30 D) 32 E) 36

43)

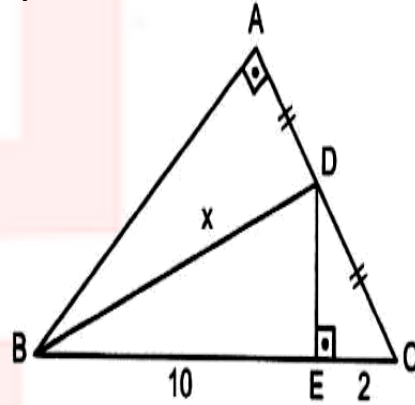


ABC üçgeninde
 $DE \perp BC$
 $|EB| = |EC|$
 $|AC| = 12 \text{ cm}$
 $|BD| = 15 \text{ cm}$

Yukarıda verilenlere göre, $|AD| = x$ in en küçük tam sayı değeri kaç cm dir?

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

44)



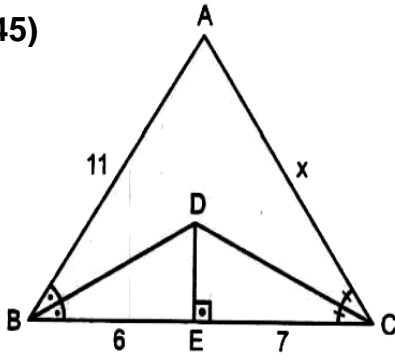
ABC dik üçgen
 $DE \perp BC$
 $|AD| = |CD|$
 $|BE| = 10 \text{ br}$
 $|EC| = 2 \text{ br}$

Yukarıda verilenlere göre, $|BD| = x$ kaç br dir?

- A) $6\sqrt{3}$ B) $4\sqrt{7}$ C) $2\sqrt{30}$ D) $8\sqrt{2}$ E) 12

GEO

45)

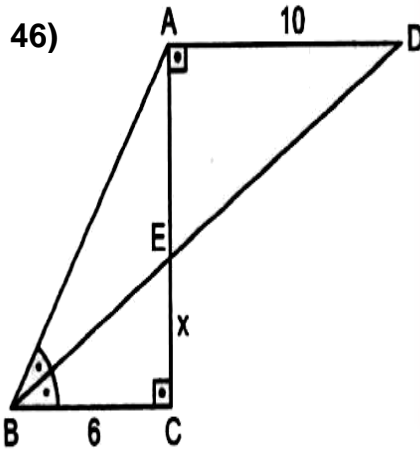


ABC üçgeninde
 BD ve CD açıortay
 $DE \perp BC$
 $|AB| = 11$ cm
 $|BE| = 6$ cm
 $|EC| = 7$ cm

Yukarıda verilenlere göre, $|AC| = x$ kaç cm dir?

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

46)

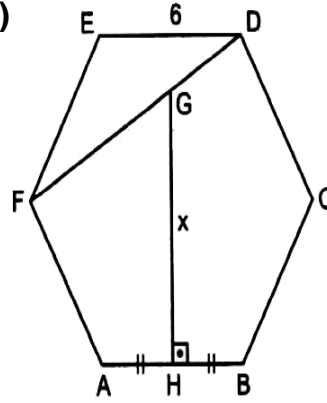


$AC \perp BC$
 $AC \perp AD$
 $m(\widehat{ABD}) = m(\widehat{CBD})$
 $|AD| = 10$ cm
 $|BC| = 6$ cm

Yukarıda verilenlere göre, $|EC| = x$ kaç cm dir?

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

47)

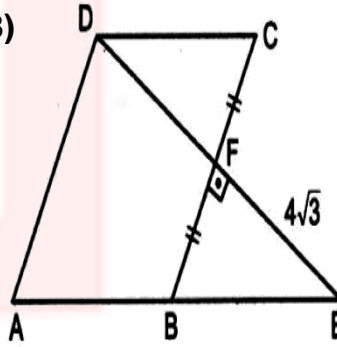


ABCDEF düzgün altı-
 gen
 F, G, D doğrusal
 $GH \perp AB$
 $|AH| = |BH|$
 $|ED| = 6$ cm

Yukarıda verilenlere göre, $|GH| = x$ kaç cm dir?

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

48)



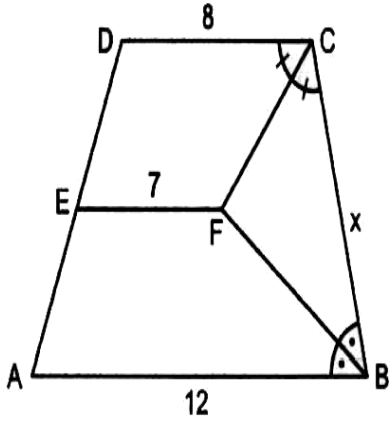
ABCD eşkenar dört-
 gen
 $DE \perp BC$
 A, B, E doğrusal
 $|BF| = |CF|$
 $|EF| = 4\sqrt{3}$ cm

Yukarıda verilenlere göre, Çevre(ABCD) kaç cm dir?

- A) 32 B) $32\sqrt{3}$ C) 48 D) $48\sqrt{3}$ E) 60

GEO

49)

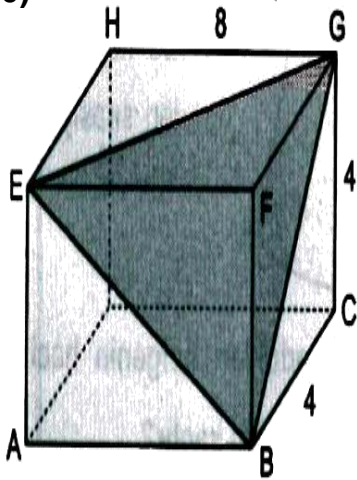


ABCD yamuk

 $AB \parallel CD \parallel EF$ $|AB| = 12 \text{ cm}$ $|DC| = 8 \text{ cm}$ $|EF| = 7 \text{ cm}$ CF ve BF açıortay olduğuna göre, $|BC| = x$ kaç cm dir?

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

50)

Şekildeki dikdört-
genler prizmasında $|BC| = |GC| = 4 \text{ cm}$ $|HG| = 8 \text{ cm}$ Yukarıda verilenlere göre, $A(EBG)$ kaç cm^2 dir?

- A) 18 B) $18\sqrt{2}$ C) 20 D) $20\sqrt{2}$ E) 24

MATEMATİK

51) $a, b, c \in \mathbb{Z}^+$ ve $\frac{18}{a} = \frac{b}{4} = \frac{c}{3}$ olduğuna göre,

$a + b + c$ toplamının en küçük değeri kaçtır?

- A) 45 B) 27 C) 25 D) 23 E) 18

52) x ve y pozitif tam sayılardır.

$$\frac{x^3}{240} = (y+2)^2$$

eşitliğini sağlayan en küçük x sayısının 8 ile bölümünden kalan kaçtır?

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

53) a tam sayısı tek sayı ise $2a + 3$ sayısından sonra gelen ilk iki ardışık tek sayının toplamı aşağıdakilerden hangisine eşittir?

- A) $4a + 12$ B) $4a + 10$ C) $4a + 8$
D) $4a + 6$ E) $4a + 4$

54) n bir doğal sayı,

$\frac{(8!)^3}{2^n}$ sayısı tek sayı ise, n değeri kaçtır?

- A) 18 B) 19 C) 20 D) 21 E) 22

55) x ve y birbirinden farklı pozitif tam sayılar olmak üzere,

$\frac{4+x}{y+2}$ ifadesi bileşik bir kesir olduğuna göre,

$x + y$ nin en küçük değeri kaçtır?

- A) 2 B) 3 C) 4 D) 7 E) 8

MATEMATİK

56) $(m - 2)x + 3y + n - 3 = 0$
 $4x + 2y + n + 1 = 0$

denklemler sisteminde

- I. $m = 8$ ve $n = -9$ ise çözüm kümesi sonsuz elemanlıdır.
 II. $m = 8$ ve $n \neq -9$ ise çözüm kümesi boş kümedir.
 III. $m \neq 8$ ise çözüm kümesi tek elemanlıdır.

ifadelerinden hangileri doğrudur?

- A) Yalnız I B) Yalnız II C) I ve III
 D) I ve II E) I, II ve III

57) $||x - 1| - 7| = 4$ denklemini sağlayan x değerlerinin toplamı kaçtır?

- A) -24 B) -10 C) 2 D) 4 E) 8

58) a ve b tam sayı,

$$-4 < a < 5 \text{ ve } -2 \leq b < 8 \text{ dir.}$$

$2a^2 + a + b$ sayısının en küçük değeri aşağıdakilerden hangisidir?

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

59) $x, y, z \in \mathbb{R}$ için,

$$z < 0 < x < y \text{ olmak üzere,}$$

aşağıdakilerden hangisi daima doğrudur?

A) $z - x < 0$ B) $x - y > 0$ C) $(y - x) \cdot z > 0$

D) $z - y > 0$ E) $\frac{x \cdot y}{z} > 0$

MATEMATİK

60) $12^{2x+1} = 6^{2x}$ olduğuna göre,

4^x in değeri kaçtır?

- A) $\frac{1}{6}$ B) $\frac{1}{12}$ C) 2 D) 6 E) 12

61) $f(x) = x + 3$

$$g(x) = 2x + 8$$

$$(f^{-1} \circ g)(a + 2) = 15$$

olduğuna göre, a kaçtır?

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

62) a ve b sayma sayılarıdır.

$$\text{EKOK}(a, b) = 120,$$

$$\text{EBOB}(a, b) = 5 \text{ ise,}$$

$a + b$ toplamı en çok kaçtır?

- A) 85 B) 90 C) 100
D) 125 E) 130

63) f ve g birebir ve örten fonksiyonlardır.

$$f(a - 2) = a$$

$$g(a + 3) = a^3$$

olduğuna göre, $(f \circ g^{-1})^{-1}(1)$ değeri kaçtır?

- A) 64 B) 32 C) 1 D) -32 E) -64

64) x ve y birbirinden farklı rakamlardır.

$$\frac{\overline{x, 0x} - \overline{y, 0y}}{\overline{x, \bar{x}} - \overline{y, \bar{y}}}$$

işleminin sonucu aşağıdakilerden hangisine eşittir?

- A) $\frac{10}{9}$ B) $\frac{10}{11}$ C) $\frac{10}{99}$ D) 0,01 E) 0,11

MATEMATİK

65)

$$\left(\frac{0,020}{0,004}\right)^{m+1} = (125)^{3-m}$$

olduğuna göre m değeri kaçtır?

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

$$66) \quad 8^{81} + 7^{243} \equiv x \pmod{5}$$

$$\Rightarrow x = ?$$

- A) 6 B) 4 C) 3 D) 2 E) 1

$$67) \quad f(x^2 + x + 1) = \frac{x+4}{x+1}$$

$$\Rightarrow f\left(\frac{3}{4}\right) = ?$$

- A) 3 B) 5 C) 7 D) 9 E) 10

68) A, B, C U,

$$n(A) = 10$$

$$n(A' \cap B') = 3$$

$$\Rightarrow n(B \cap A') = ?$$

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

$$69) \quad x + \frac{m+n}{2y} = 11$$

$$2y + \frac{m+n}{x} = 9$$

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

- A) $\frac{9}{22}$ B) $\frac{6}{11}$ C) 1 D) $\frac{19}{9}$ E) $\frac{22}{9}$

$$70) \quad ax = 4by = 5cz = 18$$

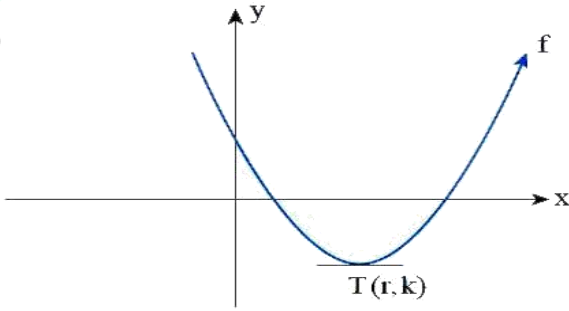
$$x + y + z = 2$$

$$\Rightarrow \frac{1}{a} + \frac{1}{4b} + \frac{1}{5c} = ?$$

- A) 18 B) 9 C) 2 D) $\frac{1}{2}$ E) $\frac{1}{9}$

MATEMATİK

71)



$f(x) = ax^2 + bx + c$ parabolü için aşağıdaki-
lerden hangisi yanlıştır?

- A) $a > 0$
 B) $a^3 \cdot b^2 \cdot c > 0$
 C) $a \cdot b \cdot c < 0$
 D) $\frac{a+c}{b \cdot k} > 0$
 E) $\frac{a \cdot r \cdot c}{b \cdot k} < 0$

72) $(1, \bar{5})_7 = (?)_{10}$

- A) $\frac{11}{6}$ B) 2 C) $\frac{13}{6}$ D) $\frac{17}{6}$ E) 3

73) $A = \sqrt{2 + \sqrt{42 + \sqrt{42 + \dots}}}$

$$B = \sqrt{30 - \sqrt{30 - \sqrt{30 - \dots}}}$$

olduğuna göre, $(B - A)^2$ nin değeri kaçtır?

- A) 1 B) 2 C) 4 D) 9 E) 16

74) A ve B, E evrensel kümesinin iki alt KÜMESİ

$$s(A) = 4 \cdot s(B)$$

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

$$s(A \cup A') = 50$$

olduğuna göre, $s(B)$ ' kaçtır?

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

75) $x < y < 0$

$$z = \frac{2x + y}{y}$$

$$\Rightarrow ? < z < ?$$

- A) $(3, \infty)$ B) $(-\infty, 3)$ C) $(-3, 3)$
 D) $(\infty, -3)$ E) $(3, 5)$

MATEMATİK

$$76) \frac{x-y}{x\sqrt{y}-y\sqrt{x}} = \frac{4}{\sqrt{y}}$$

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

- A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{1}{9}$ D) $\frac{1}{12}$ E) $\frac{1}{16}$

$$77) \frac{3^{5x}-3^x}{3^{2x}+1} = 2 \cdot 3^x$$

$$\Rightarrow x = ?$$

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

$$78) a - b^2 = 24$$

$$\sqrt{a} + b = 4$$

olduğuna göre, a değeri kaçtır?

- A) 24 B) 25 C) 30 D) 56 E) 96

$$79) x^2 + kx + 54 = 0$$

$$S. S. = \{x_1, x_2\}$$

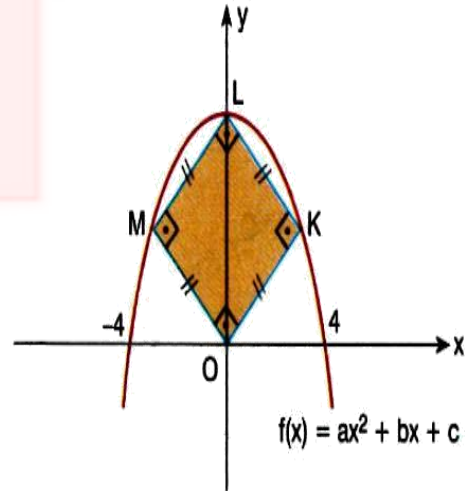
$$x_1, x_2 \in \mathbb{Z}$$

Buna göre, k kaç farklı değer alır?

If $x_1, x_2 \in \mathbb{Z}$ how many different values could "k" take?

- A) 2 B) 4 C) 8 D) 10 E) 12

80)



$$\Rightarrow A(OKLM) = ?$$

- A) 10 B) 16 C) 25 D) 36 E) 49



موسسه تحصیل در ترکیه پوزا ایران

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