1)

$a, b, c \in Z^+$,
$c < b < a$
$a + \frac{20}{b} + \frac{c}{3} = 24 \Rightarrow \min(a) = ?$

A)21 B)20 C)18 D)17 E) 16

2)

$$\frac{10 - \frac{5}{11} + \frac{5}{12} - \frac{5}{13}}{20 + \frac{5}{6} - \frac{10}{11} - \frac{10}{13}} = ?$$

A) 0,2 B) 0,4 C) 0,5 D) 0,6 E) 0,8

3)

a, b, c
Ardışık tek sayılar
consecutive odd numbers

$$a < b < c$$
$$\left(1 - \frac{2}{a}\right).\left(1 - \frac{2}{b}\right).\left(1 - \frac{2}{c}\right) = \frac{3}{5}$$

$$\Rightarrow a + b + c = ?$$

A)27 B) 39 C) 33 D) 45 E) 49

4)

$$\frac{1,\overline{1}}{1,\overline{2} - \frac{1}{1,\overline{3}}} . 1,\overline{8} - \frac{3,\overline{9}}{0,\overline{9}} = ?$$

A) $0,\overline{2}$ B) $0,\overline{4}$ C) $0,\overline{5}$ D) $0,\overline{6}$ E) $0,\overline{8}$

5)

$$4^x = 3 \Longrightarrow 12^{\frac{x}{x+1}} = ?$$

A) 2 B) 3 C) 4 D) 12 E) 48

6)

$$\frac{\sqrt{7}+\sqrt{6}-1}{\sqrt{6}-\sqrt{7}+1} = ?$$

A) $-\sqrt{7}$ B) $-\sqrt{6}$ C) $\sqrt{7}+\sqrt{6}$ D) $\sqrt{7}-\sqrt{6}$ E) -1

7)

$$3^{-a}+2 = 3^a-2 = b$$

$$\Longrightarrow b = ?$$

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

8)

$$x \neq 1\,, x+\frac{3}{\sqrt{x}} = 4$$

$$\Longrightarrow x^2+x+2x\sqrt{x}+\frac{x\sqrt{x}+3}{\sqrt{x}} = ?$$

A) 9 B) 10 C) 13 D) 14 E) 16

9)

$$\frac{x-a}{x^2+bx-6}=\frac{1}{x-3}$$

$$\Longrightarrow a+b=?$$

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

10)

$$\begin{cases}\dfrac{y+z}{x}=\dfrac{3}{2}\\ \dfrac{x}{z}=\dfrac{3}{4}\\ z-24=x+y\end{cases}\Longrightarrow y=?$$

A) 6 B) 9 C) 12 D) 24 E) 72

11)

$$x^2+x-3=0$$

Denkleminin köklerınden biri a' dir

One of the roots of the equation 'a

$$\Longrightarrow (a-1).a.(a+1).(a+2)=?$$

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

12)

$$2a=bc+5$$
$$2b=ac+5$$
$$a-b=6$$

$$\Longrightarrow a^2-b^2=?$$

A) 10 B) 12 C) 15 D) 18 E) 24

13)

$$2a + b + 12 = c$$
$$a + 2c + 16 = b$$
$$2b + c + 18 = a$$

$$\Longrightarrow a + b + c = ?$$

A) 35 B) 23 C) 15 D) -23 E) -46

14)

$$|x - 5| + |y + 5| = 10$$

$$x = |y + 5| + 5$$

$$\Longrightarrow x = ?$$

A) -5 B) 1 C) 3 D) 5 E) 10

15)

x , y doğal sayılardır

x , y are natural numbers

$$1 < x < 5$$
$$4 < y < 9$$
$$\max(3y - x) = ?$$

A) 25 B) 24 C) 23 D) 22 E) 21

16)

$$|x - 2| < 1 \Longrightarrow \frac{|x - 3| + |x + 1|}{|1 - x| - x} = ?$$

A) -4 B) -2 C) 4

D) $2x - 1$ E) $\frac{4}{1-2x}$

17)

$$(p' \wedge q)' \vee (r \vee p) \equiv 0$$

Olduğuna göre , aşağıdakilerden hangisi kesinlikle doğrudur?

Which of the following propositions is true?

A) $p \equiv 0, q \equiv 1, r \equiv 1$

B) $p \equiv 1, q \equiv 0, r \equiv 0$

C) $p \equiv 1, q \equiv 1, r \equiv 0$

D) $p \equiv 1, q \equiv 1, r \equiv 1$

E) $p \equiv 0, q \equiv 1, r \equiv 0$

18)

$A \triangle B = (A - B) \cup (B - A)$

şeklinde tanımlanıyor.

It is defined.

$$A = \{x;\ |x| < 4\ , x \in Z\}$$

$$B = \{x;\ -8 < x - 1 < 1\ , x \in Z\}$$

Buna göre , $A \triangle B$ kümesinin kaç alt kümesi vardır?

Accordingly , how many sub sets does the set $\boldsymbol{A \triangle B}$ =?

A) 16 B) 32 C) 64 D) 128 E) 256

19)

A , B boş olmayan iki kümedir.

$\boldsymbol{A}$, $\boldsymbol{B}$ are two non-empty sets.

$$s(A) = 3.s(B) = 4.s(A \cap B)$$

Olduğuna göre , $A \cup B$ kümesinin <u>en az</u> kaç elemanı vardır?

$\Rightarrow \mathbf{min}(\boldsymbol{n}(\boldsymbol{A} \cup \boldsymbol{B})) =?$

A) 9 B) 10 C) 12 D) 13 E) 14

20)

a ve b birden büyük pozitif tam sayılardır.

a and b are pozitive integers greater than one.

$a > b$ Olmak üzere,

$$f(a.b) = \frac{f(a)+a}{b}$$

$$f(28) = 15$$

Olduğuna göre , $f(42)$ değeri kaçtır?

A) 6 B) 10 C) 12 D) 14 E) 21

21)

f sabit fonksiyon ,

f is constant function.

g birim fonksiyondur.

g Is an identity function.

$$f(x) = \frac{(m-2)x^2 + nx + 4}{x - 2}$$

$$g(x) = (a+4)x + (b-5)$$

Olduğuna göre , $\frac{f(m+n)}{g(a+b)}$ kaçtır?

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

22)

$$(1999)^n \equiv 6\ (mod\ 11)$$

$$n \in Z$$

Olduğuna göre , min (n) ?

A) 0 B) 2 C) 3 D) 4 E) 5

23)

$f(x)$ çift ve $g(x)$ tek fonksiyondur.

$f(x)$ even and $g(x)$ odd function.

$$f(x) + g(x) = 4x^3 - 3x^2 + 2x - 7$$

Olduğuna göre , $f(3) - g(1)$ değeri kaçtır?

A) -46 B) -40 C) -34

D) -24 E) -18

24)

$$(2x^2 - \frac{1}{x^3})^6$$

Ifadesinin açılımındaki x^2 lu terimin katsayısı kaçtır?

What is the expansion coefficient of x^2?

A) 240 B) 120 C) -60

D) -120 E) -240

25)

$$P(x) = ax + b \ , a > 0$$

$$P(P(x)) = 4x - 6$$

Olduğuna göre , $P(5)$ değeri kaçtır?

$$\Longrightarrow \boldsymbol{P(5)} = ?$$

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

26)

$$P(x) = (x^2 + 1).(x^4 + 1).(x^8 + 1)$$

$$\Longrightarrow 3.P(2) = ?$$

A) $2^{16} + 2^8$ B) $2^8 + 1$ C) $2^8 - 1$

D) $2^{16} - 1$ E) $2^{16} + 1$

27)

$$P(x + 2) = 3.P(4) + x^3 - x$$

Buna göre , $P(x)$ polinomunun sabit terimi kaçtır?

What is the constants term of $P(x)$ polynomail?

A) -15 B) -12 C) -10 D) -8 E)-6

28)

$x^2 - 2x - 6 = 0$

denklemini kökleri x_1, x_2 dir.

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

$$(A - x_1)(A - x_2) = 9$$

Olduğuna göre , A' nın pozitif değeri kaçtır?

What is the positive value of A?

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

29)

$$\frac{(2-x)(x^2+6x+9)}{x-6} \geq 0$$

Eşitsizliğini sağlayan x tam sayılarının toplamı kaçtır?

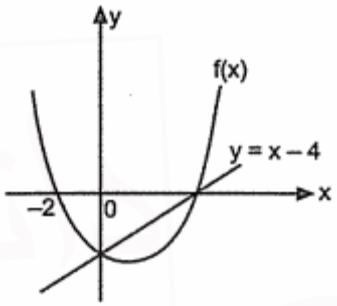
What is the sum of the integers x that satisfy in the inequality?

A) 14 B) 12 C) 11 D) 9 E)6

30)

Yanda $f(x)$ parabolü ve $y = x - 4$ doğrusu verilmiştir.

The parabola $f(x)$and the line $y = x - 4$ are given below.

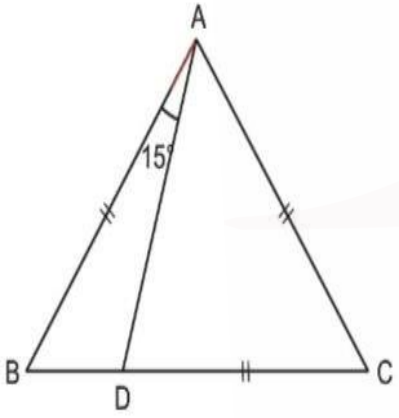


Yukarıda verilen grafiğe göre ,f(x) fonksiyonunda katsayılar toplamı kaçtır?

According to the graph given above , f(x) what is the sum of the coefficients in the function?

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

31)



ABC üçgeninde

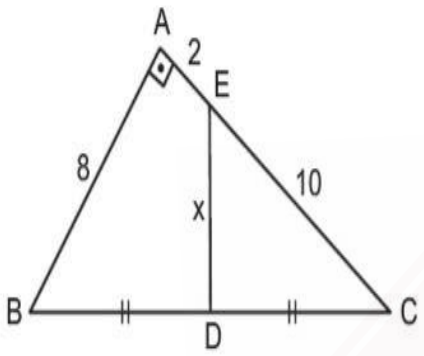
$m(\widehat{BAD}) = 15°$

$|AB| = |AC| = |DC|$

Yukarıda verilenlere göre, $m(\widehat{BAC})$ kaç derecedir?

A) 60 B) 65 C) 70 D) 75 E) 80

32)



ABC dik üçgen

$|BD| = |DC|$

$|AB| = 8$ cm

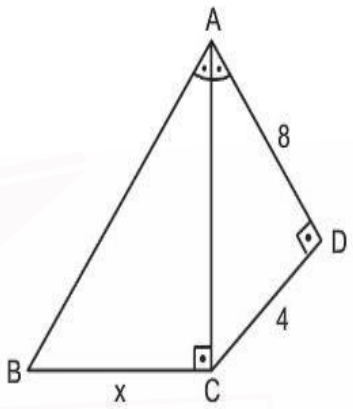
$|AE| = 2$ cm

$|EC| = 10$ cm

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

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

33)



ABCD dörtgeninde

$m(\widehat{BAC}) = m(\widehat{CAD})$

$AC \perp BC$

$CD \perp AD$

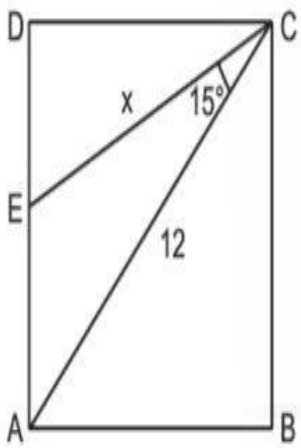
$|AD| = 8$ cm

$|CD| = 4$ cm

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

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

34)



ABCD kare

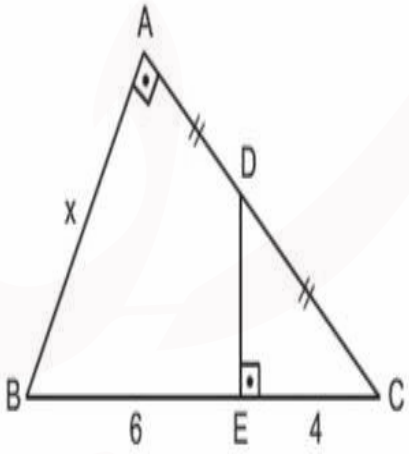
$m(\widehat{ACE}) = 15°$

$|AC| = 12$ cm

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

A) 8 B) $6\sqrt{2}$ C) $4\sqrt{5}$ D) $3\sqrt{10}$ E) $4\sqrt{6}$

35)



ABC dik üçgen

$DE \perp BC$

$|AD| = |CD|$

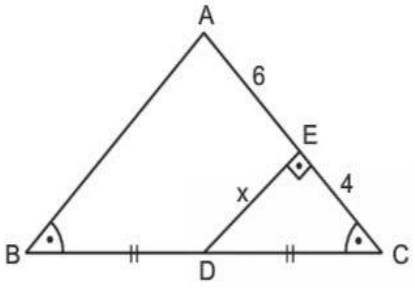
$|BE| = 6$ cm

$|EC| = 4$ cm

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

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

36)

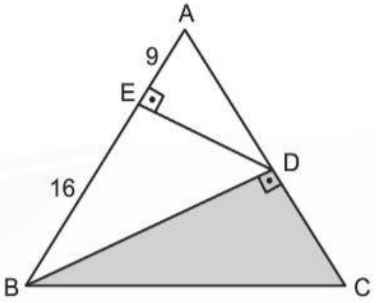


ABC üçgeninde
$m(\widehat{ABC}) = m(\widehat{ACB})$
DE ⊥ AC
|BD| = |CD|
|AE| = 6 cm
|CE| = 4 cm

Yukarıda verilenlere göre, |DE| = x kaç cm dir?

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

37)

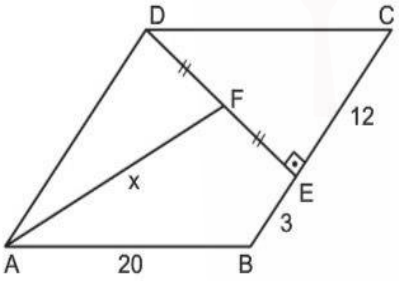


ABC üçgende
BD ⊥ AC
ED ⊥ AB
|AB| = |AC|
|AE| = 9 cm
|EB| = 16 cm

Yukarıda verilenlere göre, A(BDC) kaç cm^2 dir?

A) 90 B) 96 C) 100 D) 108 E) 120

38)

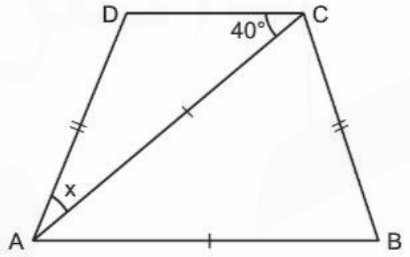


ABCD paralelkenar
DE ⊥ BC
|DF| = |EF|
|AB| = 20 cm
|EC| = 12 cm
|BE| = 3 cm

Yukarıda verilenlere göre, |AF| = x kaç cm dir?

A) 21 B) 20 C) 18 D) 17 E) 16

39)

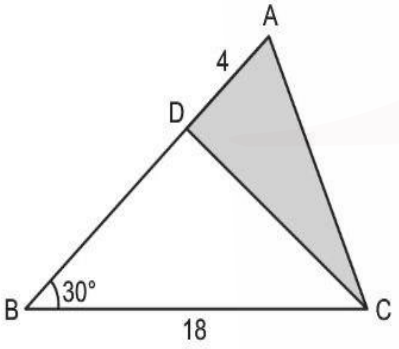


ABCD yamuk
$m(\widehat{ACD}) = 40°$
|BC| = |AD|
|AB| = |AC|

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

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

40)



ABC üçgeninde
$m(\widehat{ABC}) = 30°$
|BC| = 18 cm
|AD| = 4 cm

Yukarıda verilenlere göre, A(ADC) kaç cm^2 dir?

A) 9 B) 12 C) 15 D) 18 E) 24

41)

adcbe	10325
bceda	42013
deacb	23501
ebdac	31250
fabed	05132

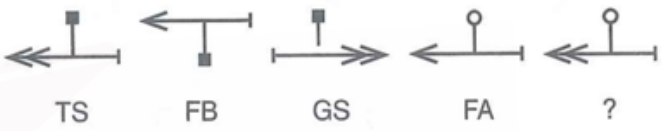
ebdac = ?

a)10325 b)42013 c)23501
d)31250 e)05132

42) 17, 33, 64, 124, 240, ?

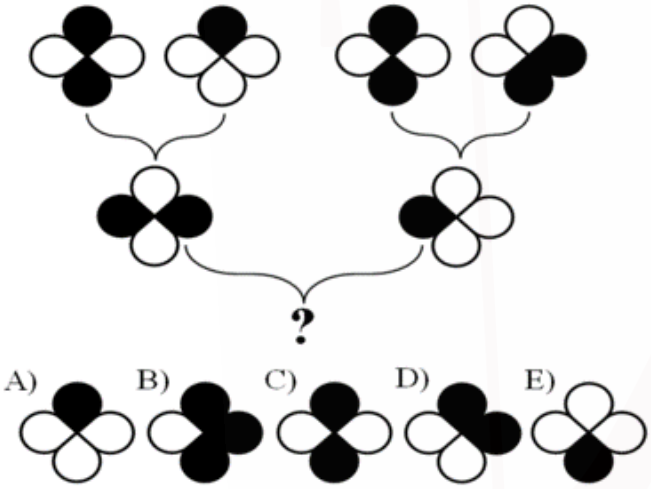
a)464
b)442
c)398
d)468
e)480

43)

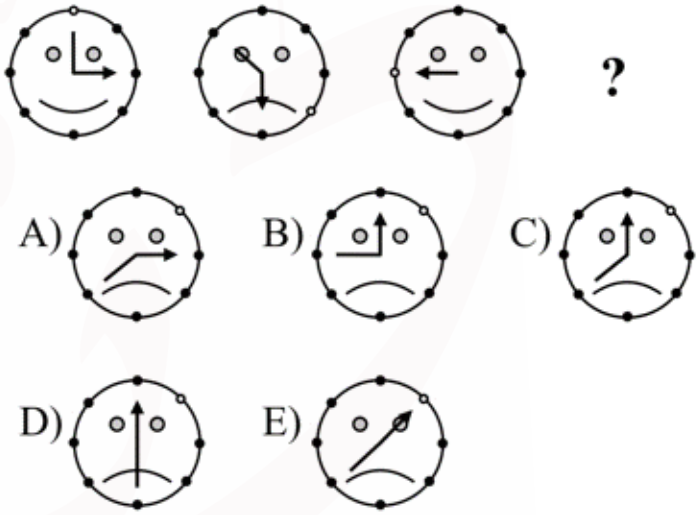


a) TB b) TA c) GA d) FA e) BF

44)



45)

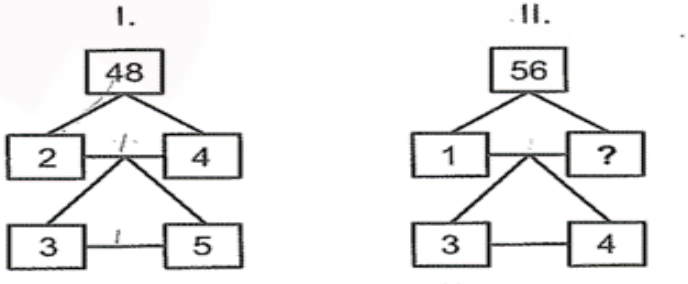


46)

6	7	3	8
2	5	9	8
?	6	7	10
7	8	3	9

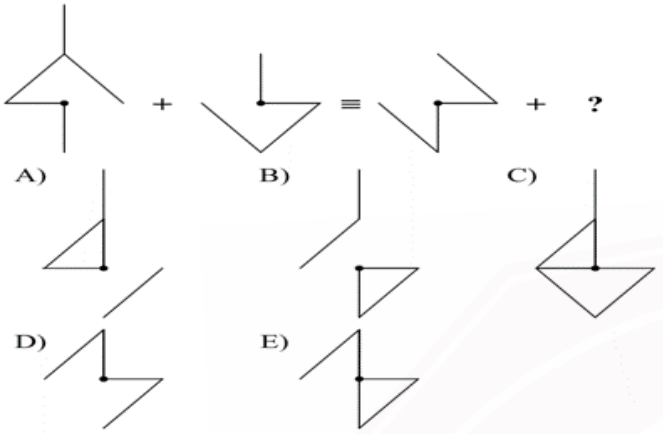
a)7 b)6 c)5 d)4 e)3

47)

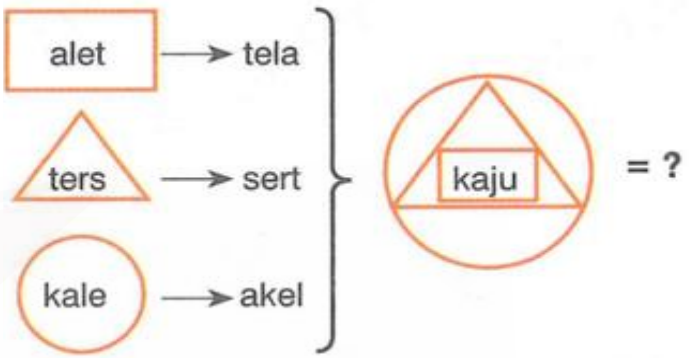


a)3 b)4 c)5 d)6 e)7

48)



49)



a)kjau b)ujak c)akuj d)ukaj e)jkua

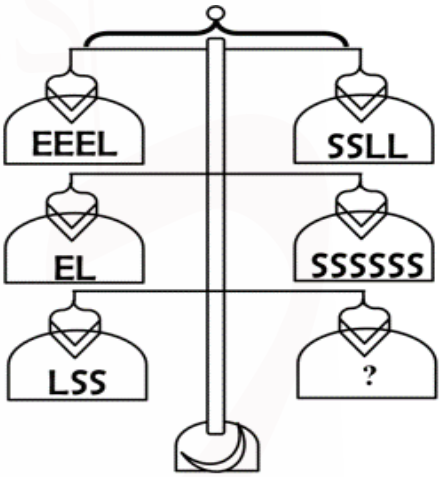
50)

		1		2	
1	A				
		6	4		3
4		3	6		
				B	4
	6		5		

A*B= ?

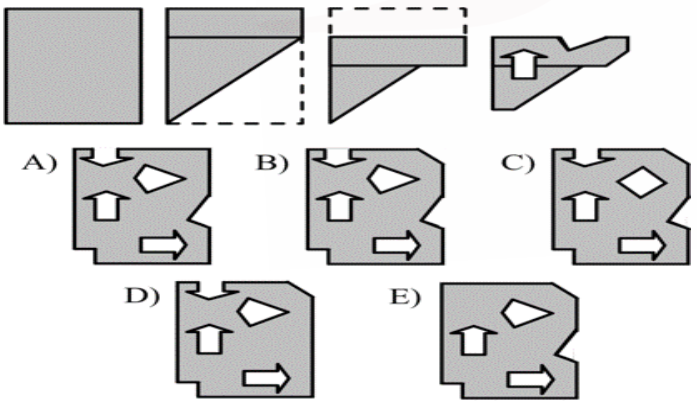
A) 12 B) 14 C) 24 D) 18 E)30

51)



A) ESSS B) EESS C) EEES
D) SSSS E) EEEESS

52)



53)

5*27=98

3*4=23

7*59=284

5*10=?

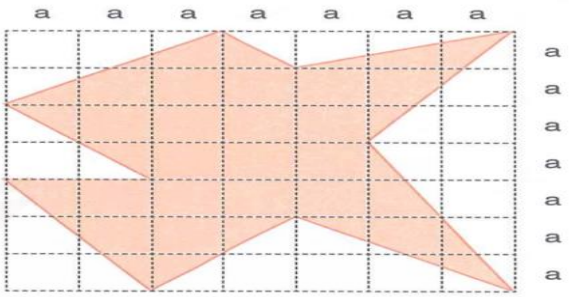
a)95 b)100 c)105 d)11 e)115

54)

$$\begin{array}{r} C58 \\ +\ 4BA \\ \hline 753 \end{array} \quad \Rightarrow A + B + C = ?$$

a)12 b)13 c)14 d)15 e)16

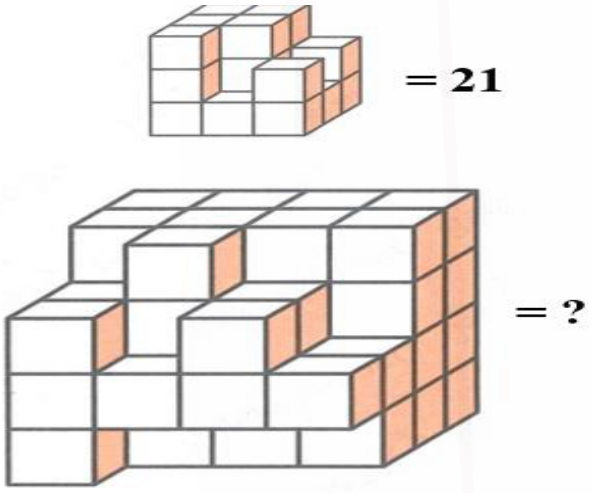
55)



Taralı alan = ? a^2

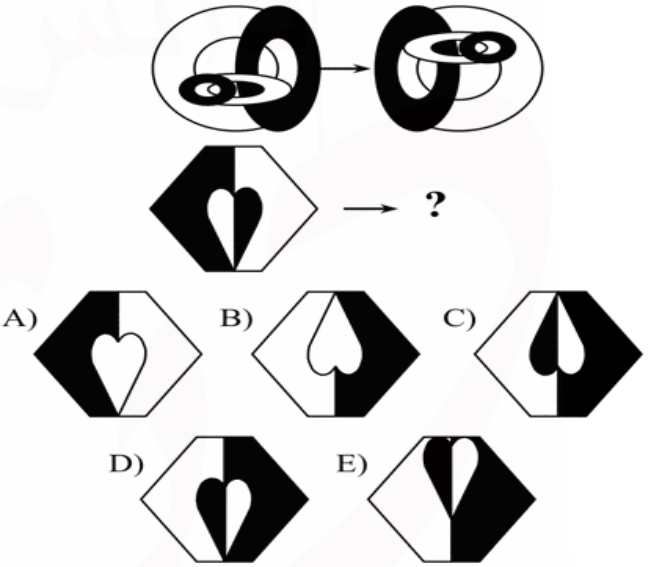
a)27 b)29 c)28 d)26 e)30

56)

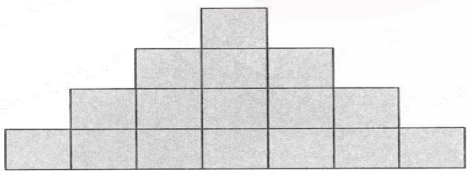


a)46 b)51 c)52 d)55 e)57

57)



58)



Her bir karenin alanı 4 br^2 ise şeklin şevresi kaç br olur?

Area of each square is 4, what is the perimeter of the figure?

a)22 b)40 c)44 d)64 e)88

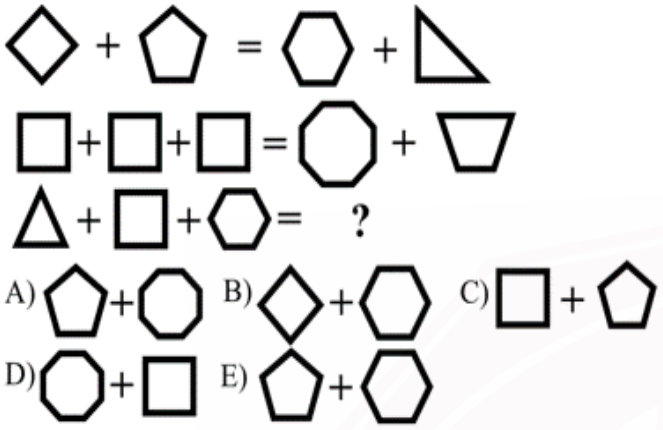
59)

$$\begin{array}{r|l} K & L \\ - & 7 \\ \hline 3 & \end{array} \qquad \begin{array}{r|l} L & M \\ - & 5 \\ \hline 1 & \end{array}$$

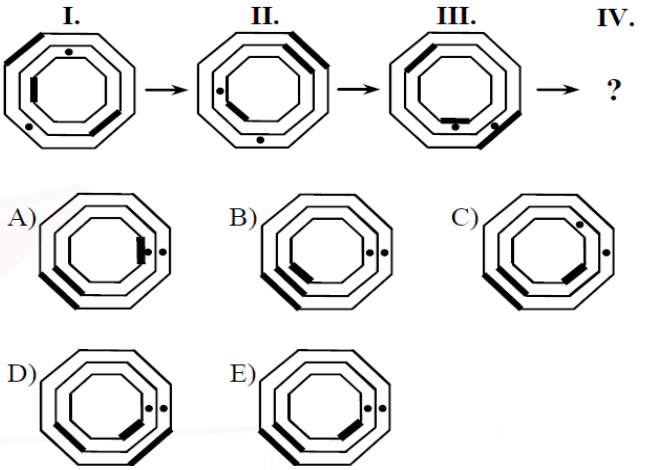
$$\Rightarrow \frac{K + 2L + 3M - 12}{6M} = ?$$

a)8 b)2 c)4 d)0 e)6

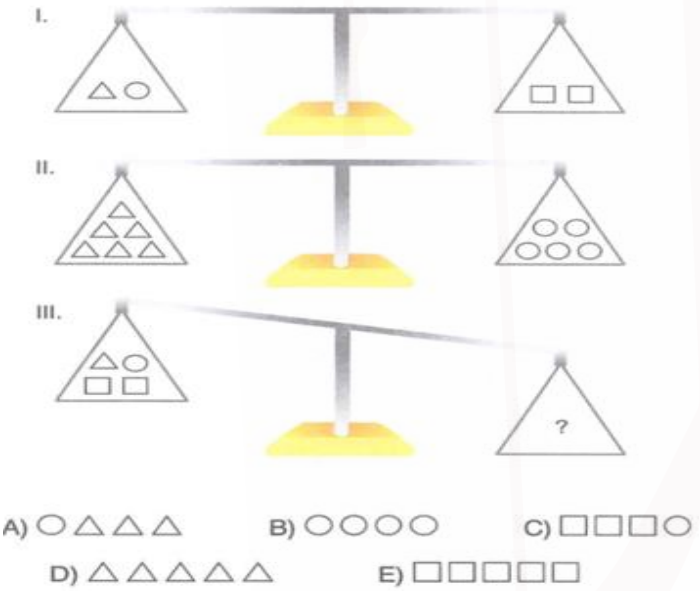
60)



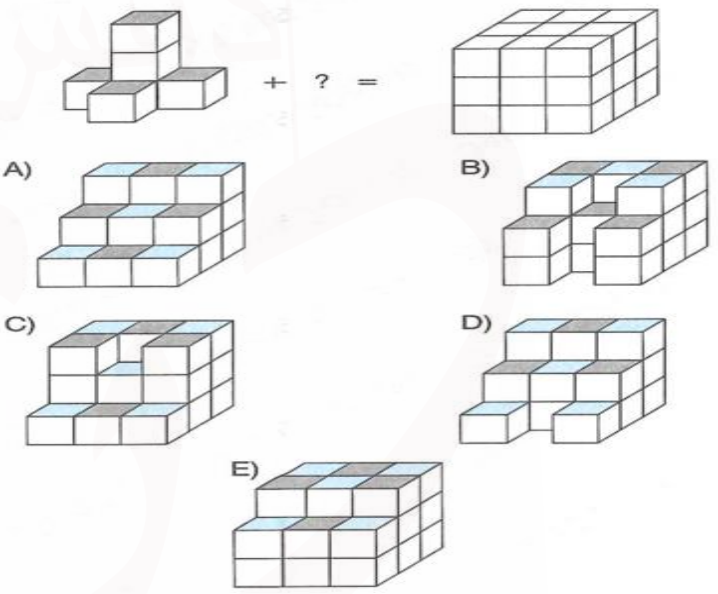
61)



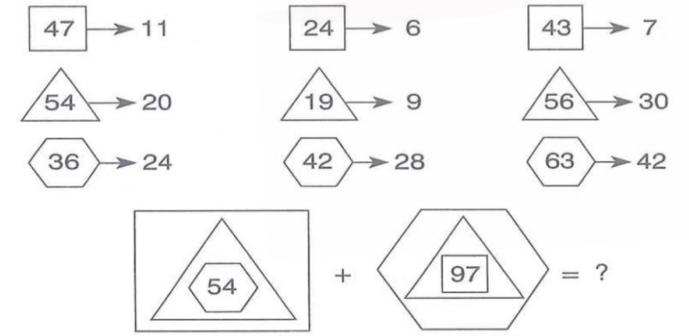
62)



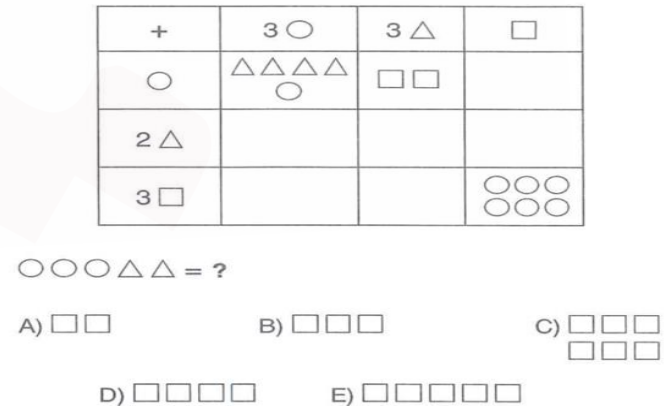
63)



64)



65)



66)

6*9=56

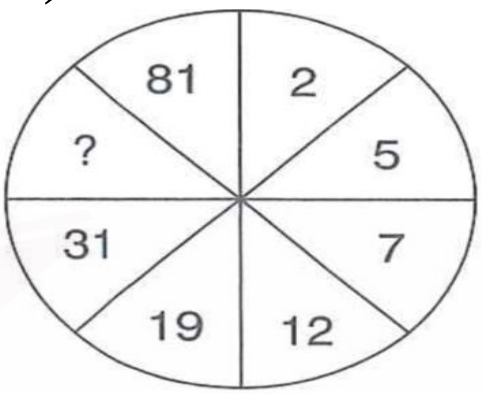
13*2=14

5*6=30

7*4=?

a)18 b)24 c)28 d)32 e)35

67)



a)41 b)45 c)47 d)50 e)54

68)

(3 ● 4) □ (8 ▲ 5) = 21

(5 □ 6) ▲ (4 □ 3) = 18

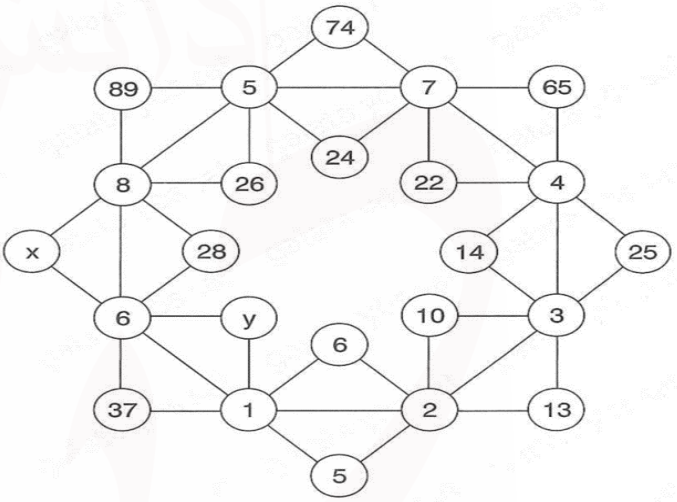
(9 ▲ 4) ● (8 ▲ 2) = 11

(6 □ 2) ● (4 ▲ 3) = 13

(5 □ 4) ● (9 ▲ 2) = ?

A) 16 B) 18 C) 21 D) 27

69)



x + y = ?

A) 57 B) 61 C) 96 D) 114 E) 120

70)

81 * 21 = 16

62 * 31 = 9

42*63=4

56*61=?

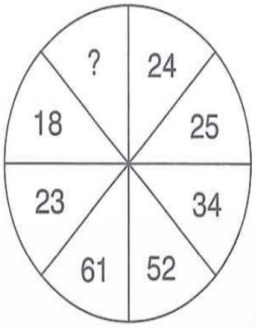
a)4 b)5 c)9 d)12 e)21

71)

$$\frac{8a - \frac{b}{2}}{2\,(a * b)} = a^2 - b^2 \qquad 9 * 8 = ?$$

a)1 b)2 c)4 d)8 e)16

72)



A) 52 B) 49 C) 42 D) 35 E) 25

73)

3, 5, 15, ?, 13, 39, 35

a)14 b)12 c)10 d)9 e)8

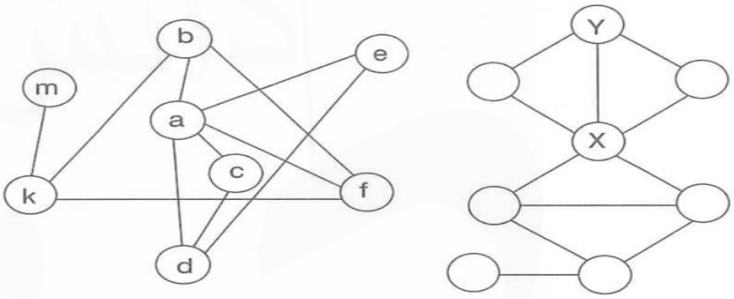
74)

+	x	y	z
x			y+3
y	2z		
z		21	

$z = ?$

a)6 b)9 c)12 d)15 e)18

75)



	X	Y
A)	a	d
B)	d	a
C)	k	d
D)	d	k
E)	f	a

76)

2, 6, 15, 40, 76, 140, ?

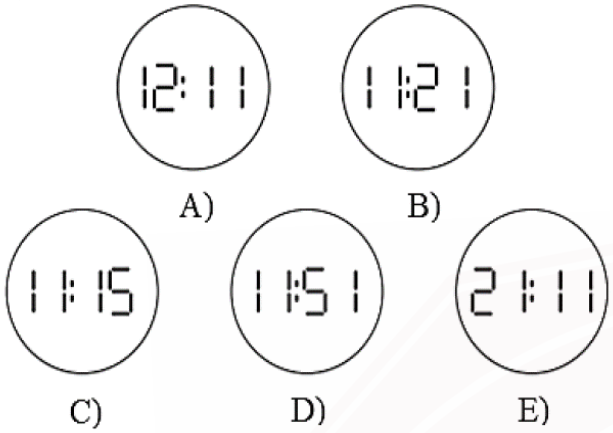
A)160 b)183 c)195 d)212 e)221

77)

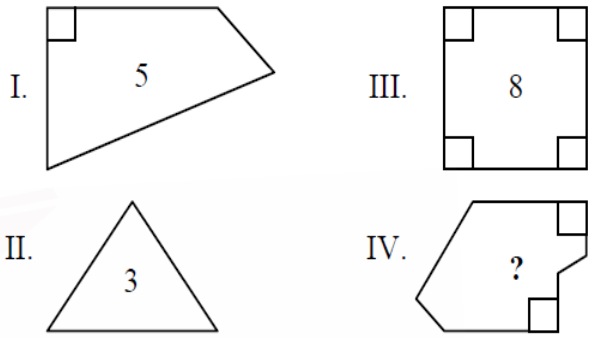
♡	6	7	4
4	14		
5		23	11
8	?		

A)30 b)31 c)32 d)33 e)34

78) which one is different?

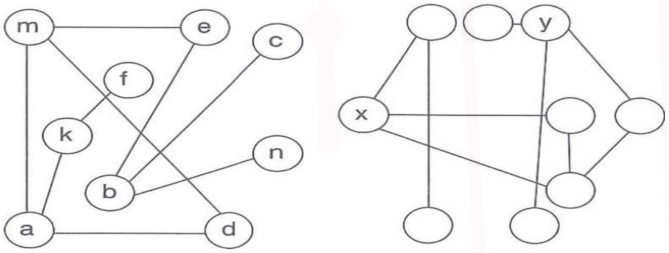


79)



A) 7 B) 8 C) 9 D) 6 E) 14

80)



	X	Y
A)	b	a
B)	b	m
C)	m	b
D)	a	b
E)	m	a

GOOD LUCK!