

ÇALIŞKAN



بازار از یادروای
مرکز ارج بخت ختبی
و انجمنه زوکی

مؤسسه آموزش و مشاوره تحصیل آلفا

Alfa Eğitim Enstitüsü

دفترچه سوالات آزمون مجتبی یوس
YÖS SORU KİTAPÇIĞI

AlfaYös آلفایوس

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Simetri
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Kati.Cisim
Vektörler

IQ Intelligence Quotient

MATEMATİK

GEOMETRİ

1. $\left. \begin{array}{l} ax - bx - by + ay = 12 \\ (a-b)x + y(a-b) \Rightarrow a-b = ? \\ x+y=8 \end{array} \right\}$

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

$(x+y)(a-b) = 12$
 $8 \cdot \frac{3}{2} = 12$

2. $A = \{a, b, c, d\}$ $B = \{a, e, f, g\}$
 $C = \{d, e, f, h\}$
 $\Rightarrow n((A \cup B) \setminus (A \cap (C \setminus B))) = ?$
 A) 1 B) 2 C) 4 D) 6 E) 7

3. $\frac{16}{0.2+0.05} - \frac{25}{0.5+0.02} = ?$
 A) $\frac{25}{100}$ B) 1 C) $\frac{52}{100}$ D) -9 E) -11

4. $3*(2x-1) - 2(2x-4) = 15$ $x = ?$
 A) 1 B) 2 C) 3 D) 4 E) 5

$6x - 3 - 4x + 8 = 15$
 $x = 5$

5. $[(1 + \frac{1}{3}) : (\frac{0.04}{0.3})] - 2 = ?$

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

$\frac{4}{3} \div \frac{4}{30} - 2 = 8$

6. $\left[\frac{2}{1 - \frac{2}{3}} - \left(\frac{3}{\frac{2}{3}} \right) \right] \cdot 6 = ?$ $\frac{11}{3} \cdot 6$

- A) 1 B) 6 C) 11 D) 18 E) 22

7. Rakamları farklı iki basamaklı dört sayının toplamı 129'dur. Bu sayılardan en büyüğü en çok kaçtır?
 The sum of the four numbers with two different digits is 129. What is the largest number?

- A) 99 B) 98 C) 97 D) 94 E) 93

94 7/4/5/6
 10 7456
 12
 13

8. $\left. \begin{array}{l} x > 0 \\ x = y - 1 = z - 2 \\ x \cdot y \cdot z = 21(x + y + z) \end{array} \right\} \Rightarrow x \cdot z = ?$

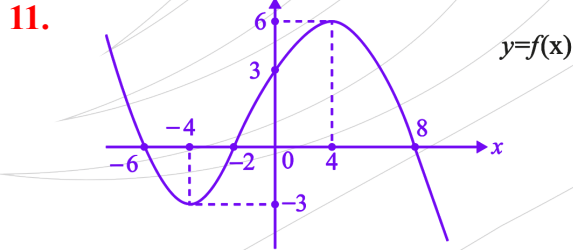
- A) 48 B) 54 C) 60 D) 63 E) 72

$x(x+1)(x+2) = 21(3x+3)$
 $x = 6$

9. $P(2x-1) - P(x) = ax^2 - x - 5$
 $P(3) - P(2) = ?$ $\rightarrow x=3-2=1$
 A) 21 B) 18 C) 17 D) 11 E) 10

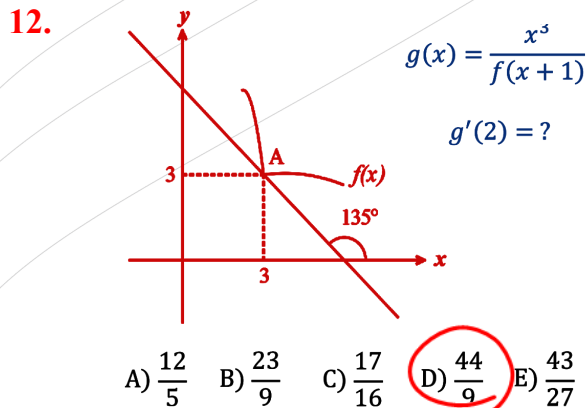
$P(1) - P(1) = a - 1 - 5$
 $a = 6$

10. "Işık Yılı" aşağıdaki büyüklüklerden hangisinin birimidir?
 Which of the following quantities' unit is light year?
 A) Time B) Distance C) Velocity
 D) Acceleration E) Intensity of the light



$g(x-1) = 2f(x-4) - (x+1)f(x+4)$
 $\Rightarrow g(-1) = ?$ $\rightarrow -12$
 A) -12 B) -9 C) -6 D) 0 E) 2

$g(-1) = 2f(-4) - 2(4)$



A) $\frac{12}{5}$ B) $\frac{23}{9}$ C) $\frac{17}{16}$ D) $\frac{44}{9}$ E) $\frac{43}{27}$

13. $\sum_{m=3}^{43} \left(\prod_{n=2}^{27} n \right) = A \cdot 5^x \Rightarrow \max(x) = ?$
 A) 4 B) 5 C) 6 D) 7 E) 8

$27! / 2! = 27! / 2 = 13.5 \times 10^9$

14. $\sqrt{-1} = i$
 $\Rightarrow (1+i)^3(1+i^3) - (1-i)^2(1-i^2) = ?$
 A) 8i B) 4i C) 4-2i D) 0 E) -2i

$(1+i-3-i)(1-i) - (-2i)(1)$

15. $\tan(\cot^{-1}(\sqrt{3})) = ?$
 A) $\sqrt{3}$ B) $\frac{1}{\sqrt{3}}$ C) $\frac{1}{2}$ D) 1 E) 0

16. Dört basamaklı 1AB3 sayısı 5 ile çarpıldığında dört basamaklı B86A sayısı elde ediliyor. Buna göre B rakamı kaçtır?

When the four-digit 1AB3 number is multiplied by 5, the four-digit B86A number is obtained. According to this, what is the number B?

- A) 1 B) 3 C) 5 D) 7 E) 9

$1AB3 \times 5 = B86A$

$12 \times 2 = 24$

17. $x^4 + x^3 - ax^2 + 2b = (x^2 + 3x + 2)Q(x) + 2x + 1$

$\Rightarrow b = ?$

A) $\frac{7}{6}$

B) $\frac{5}{3}$

C) $\frac{11}{6}$

D) $\frac{7}{3}$

E) $\frac{10}{3}$

21.

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

$a = ?$

A) 0

B) 1

C) 2

D) 3

E) 4

22.

$a \neq b$

$\frac{a}{b} = \frac{bx+4}{ax+4}$

$\Rightarrow x = ?$

A) $4ab$

B) $\frac{a-b}{4}$

C) $-\frac{4}{a+b}$

D) $\frac{4}{a+b}$

E) $\frac{4}{a-b}$

23.

$\left(\frac{1}{\tan x} + \frac{\sin x}{1 + \cos x} \right) \cdot \cos x = ?$

A) $\sin x$

B) $\cos x$

C) $\sec x$

D) $\tan x$

E) $\cot x$

24.

$\lim_{x \rightarrow 2} \frac{x^2 + 3x - 5}{x^2 - 3x + 2} = ?$

A) 2

B) 3

C) 4

D) 5

E) 7

18.

$\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = 9$

$c = ?$

$\frac{1}{a} + \frac{1}{c} = -2$

$\frac{1}{b} + \frac{1}{c} = 7$

A) $-\frac{1}{4}$

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

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

D) $\frac{1}{2}$

E) $\frac{3}{4}$

19.

$\int_0^{\pi} \sin^2 x dx = ?$

A) 1

B) π

C) $\frac{\pi}{4}$

D) $\frac{\pi}{3}$

E) $\frac{\pi}{2}$

20.

$\left. \begin{aligned} (f \circ g)(x) &= x^2 + x + 8 \\ f(x-1) &= x-6 \end{aligned} \right\} \Rightarrow g(0) = ?$

A) 13

B) 12

C) 8

D) 2

E) -1

25. $\log_3(6-3x) + \log_3(9x^2) = \frac{5}{2} \Rightarrow x = ?$

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

$\sqrt{4-2x} \cdot 9x^2 = 3 \frac{5}{2}$

26. $x \begin{bmatrix} 2 \\ 1 \end{bmatrix} - y \begin{bmatrix} -3 \\ 4 \end{bmatrix} = \begin{bmatrix} 7 \\ -13 \end{bmatrix} \Rightarrow y - x = ?$

- A) 4 B) 3 C) 0 D) -3 E) -4

$\begin{cases} x + 2y = 6 \\ x - 2y = -10 \end{cases} \rightarrow y = 2$
 $x = -2$

27. $\frac{9}{8 + \frac{9}{8 + \frac{9}{\ddots}}} - \frac{8}{16 - \frac{64}{16 - \frac{64}{\ddots}}} = ?$

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

$1 - 1 = 0$

$A = 1 + \frac{9}{A} \Rightarrow A^2 - A - 9 = 0$
 $9(A-9)(A+1) = 0$

28. $\begin{array}{r|l} A & 12 \\ \hline 0 & \end{array} \quad \begin{array}{r|l} A & 18 \\ \hline 0 & \end{array} \quad \begin{array}{r|l} A & 20 \\ \hline 0 & \end{array} \Rightarrow \min(A) = ?$

- A) 120 B) 160 C) 180 D) 240 E) 360

$A : 5 \text{ p.p.}$

EKO K

29. $\frac{a}{2} = \frac{b}{7} = \frac{c}{3} \quad 2a - b + 3c = 24 \Rightarrow b = ?$

- A) 6 B) 28 C) 12 D) 24 E) 8

$7k = 24 \rightarrow k = 4$

30. A sayısının % 40'ı ile B sayısının % 30'unun toplamı 6'dır. A sayısının % 25'i ile B sayısının % 15'inin toplamı 5'tir. Buna göre A kaçtır?

The sum of 40 % of number A and 30 % of number B is 6. The sum of 25 % of number A and 15 % of number B is 5. Accordingly, what is the value of A ?

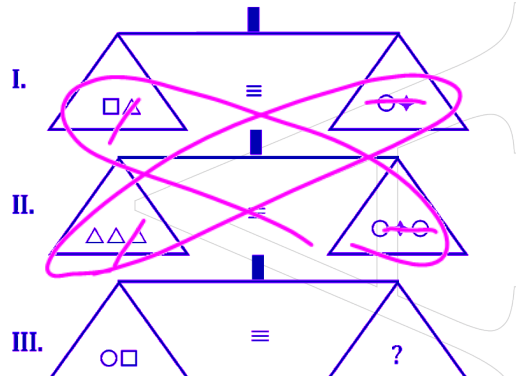
- A) 20 B) 30 C) 40 D) 45 E) 50

$\begin{cases} \frac{40}{100}A + \frac{30}{100}B = 6 \\ \frac{25}{100}A + \frac{15}{100}B = 5 \end{cases} \rightarrow A = 20$

31. I AYNA → SKOS
KISA → NAIS

- A) KSNOAISN B) KSNIOASN C) KSANOISN
D) KSNAOISN E) KSNAIOSN

32.

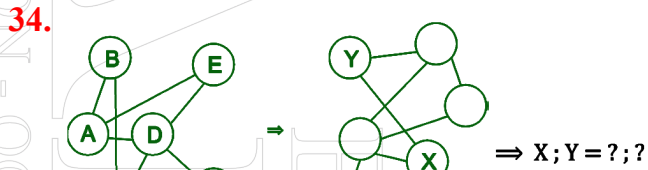


- A) $\triangle$ B) $\triangle\triangle$ C) $\triangle\triangle\triangle$
D) $\triangle\triangle\triangle\triangle$ E) $\triangle\triangle\triangle\triangle\triangle$

$0\triangle = \triangle\triangle$

33. KÜTAHYA = 6543913 ⇒ KAHVALTI = ?

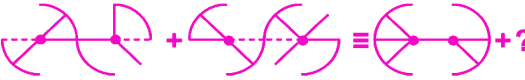
- A) 63983742 B) 63953741 C) 63973745
D) 63913742 E) 63953742



- A) E; B B) A; E C) B; F D) C; E E) A; B

35. $\angle$ TENEKE = NEKTEE
TAHTA⊙ = ATHAT ⇒ $\angle$ SANDAL⊙ = ?
 $\angle$ ELBİSE⊙ = ELESİB

- A) LADNAS B) LASADN C) NDASAL
D) DNALAS E) SALAND

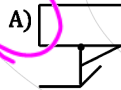
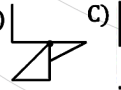
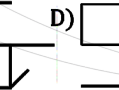
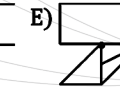
36. 

- A)  B)  C) 
D)  E) 

37. $\begin{matrix} \text{I} \\ \text{TRKML} \\ \text{RMSTK} \\ \text{LKMRT} \\ \text{KL TSM} \\ \text{MTLKS} \end{matrix} \Rightarrow \begin{matrix} \text{II} \\ 60714 \\ 71630 \\ 03167 \\ 17046 \\ 36401 \end{matrix} \Rightarrow \text{RMSTK} = ?$

- A) 60714 B) 71630 C) 03167
D) 17046 E) 36401

38. 

- A)  B)  C)  D)  E) 

39. 

- A) 53 B) 54 C) 55 D) 56 E) 57

40.

41. I. $7 \ominus 5 \boxminus 2 \triangle 4 = 4$
 II. $6 \boxminus 4 \triangle 2 \ominus 5 = 3$
 III. $4 \triangle 3 \boxminus 2 \ominus 7 = 17$
 IV. $4 \ominus 8 \triangle 3 \boxminus 9 = ?$

A) 15 B) 16 C) 17 D) 18 E) 19

42. 
- A)  B)  C)  D) 

- 43.
- | ⊗ | a | b | c | d | e |
|---|---|---|---|---|---|
| a | a | b | c | d | e |
| b | b | c | d | e | a |
| c | c | d | e | a | b |
| d | d | e | a | b | c |
| e | e | a | b | c | d |

A) a

B) b

C)c

D)d

E)e

$$(c \otimes d) \otimes (e \otimes a) = ?$$

- 44.
- I. II. III. IV.
- A) B) C)
- D) E)
-

45. $7 \square 4 = 5$
 $1 \square 1 = 2$
 $3 \square 2 = 5$
 $4 \square 3 = ?$

A) 1

B) 2

C) 3

D) 4

E) 5

- 46.
- I.
-
- II.
-
- III.
-
- IV.
-
- A)
-
- B)
-
- C)
-
- D)
-
- E)
-

- 47.
- | | | |
|---|----|---|
| x | a | b |
| a | 2a | |
| c | | |
- $a, b, c > 0$
- $\Rightarrow b = ?$
- | | | |
|---|---|----|
| + | a | b |
| a | | 4c |
| c | | 18 |
- A) 15 B) 14 C) 13 D) 12 E) 11

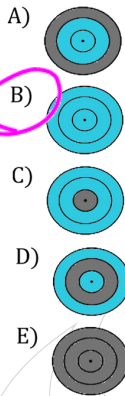
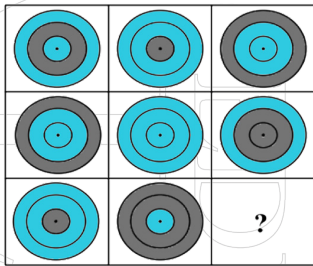
- 48.
-
- The puzzle consists of a 5x5 grid of sub-grids. Each sub-grid is 5x5 cells. The patterns in the sub-grids are as follows:
- Top-left: Blue lines forming a diagonal from (1,1) to (5,5) and a horizontal line at row 3. Red dots at (2,1), (3,4), and (5,5).
 - Top-middle: Blue lines forming a diagonal from (1,4) to (5,1) and a horizontal line at row 3. Red dots at (3,2) and (4,4).
 - Top-right: Blue lines forming a diagonal from (1,1) to (5,5) and a horizontal line at row 3. Red dots at (1,5) and (3,3).
 - Middle-left: Blue lines forming a diagonal from (1,2) to (5,4) and a horizontal line at row 3. Red dots at (2,1) and (3,2).
 - Middle-middle: Blue lines forming a diagonal from (1,1) to (5,5) and a horizontal line at row 3. Red dots at (3,4) and (4,3).
 - Middle-right: Blue lines forming a diagonal from (1,1) to (5,5) and a horizontal line at row 3. Red dots at (3,4) and (4,3).
 - Bottom-left: Blue lines forming a diagonal from (1,1) to (5,5) and a horizontal line at row 3. Red dots at (3,2) and (5,4).
 - Bottom-middle: Blue lines forming a diagonal from (1,1) to (5,5) and a horizontal line at row 3. Red dots at (3,2) and (5,4).
 - Bottom-right: Missing, marked with a question mark.
- Options A, B, C, D, and E are shown to the right of the grid. Option C is circled in pink.
- Option A: Blue lines forming a diagonal from (1,1) to (5,5) and a horizontal line at row 3. Red dots at (2,1), (3,4), and (5,5).
- Option B: Blue lines forming a diagonal from (1,4) to (5,1) and a horizontal line at row 3. Red dots at (3,2) and (4,4).
- Option C: Blue lines forming a diagonal from (1,1) to (5,5) and a horizontal line at row 3. Red dots at (1,5) and (3,3).
- Option D: Blue lines forming a diagonal from (1,1) to (5,5) and a horizontal line at row 3. Red dots at (1,5) and (3,3).
- Option E: Blue lines forming a diagonal from (1,1) to (5,5) and a horizontal line at row 3. Red dots at (1,5) and (3,3).

49. 1 3 10 41 ? 1237

A) 202 B) 206 C) 204 D) 200 E) 208

$$x2+1 \quad x3+1 \quad x4+1 \quad \dots$$

50.



51.

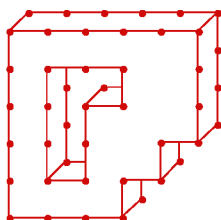
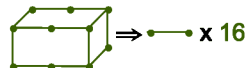
+	a	b	c
a		2c-7	
b			15
c	2b+8		

$$\Rightarrow a = ?$$

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

52.

Örnek / Example



A) 71 B) 72 C) 73 D) 74 E) 75

53.

$$\begin{array}{rcl} 7 & 2 & 4 \\ 6 & 2 & 1 \\ 8 & 5 & 3 \\ 2 & 8 & 4 \end{array} \begin{array}{rcl} 9 & 6 \\ 3 & 4 \\ 1 & 6 \\ 3 & 9 \end{array} \equiv \begin{array}{l} 1315 \\ 97 \\ 167 \\ ? \end{array}$$

A) 1513 B) 9797 C) 1412 D) 1567 E) 1439

54.

$$(4 \times 7) - (3 \times 6) = 10$$

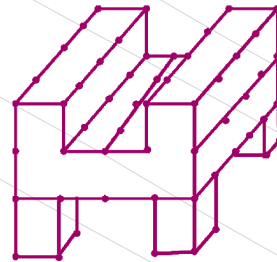
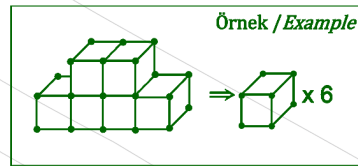
$$(5 \times 3) - (4 \times 6) = 9$$

$$(7 \times 8) - (5 \times 9) = ?$$

A) 7 B) 8 C) 11 D) 12 E) 13

$$56 - 45 = 11$$

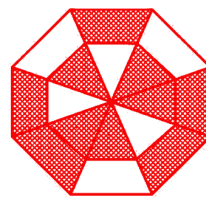
55.



$$\Rightarrow \boxed{x} = ?$$

A) 28 B) 40 C) 32 D) 34 E) 46

56.

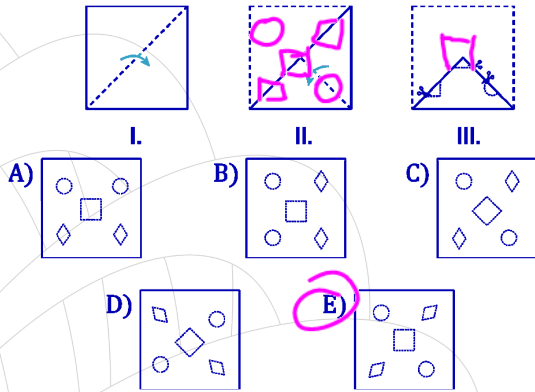


Şeklin yüzde kaç gölgelidir?

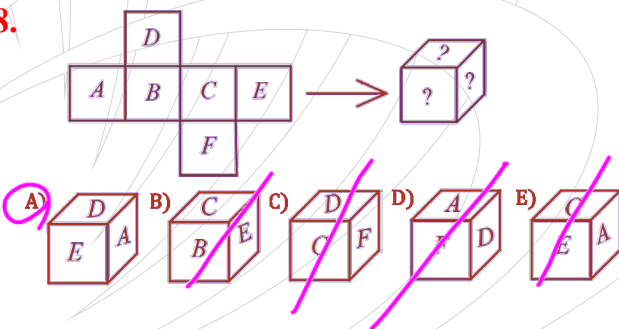
What percentage of the figure is shaded?

A) $\frac{5}{9}$ B) $\frac{8}{5}$ C) $\frac{5}{8}$ D) $\frac{9}{8}$ E) $\frac{9}{5}$

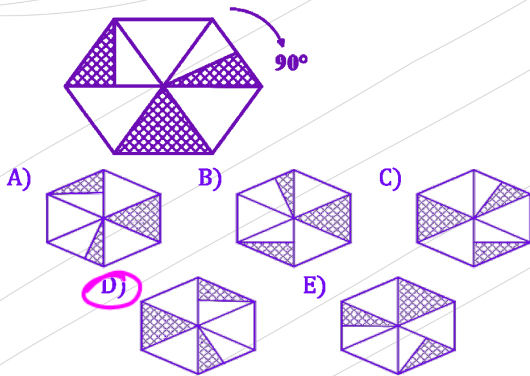
57.



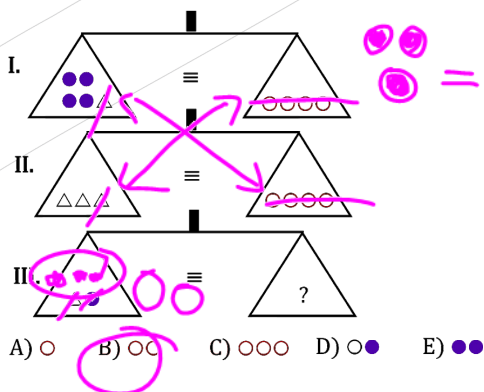
58.



59.



60.



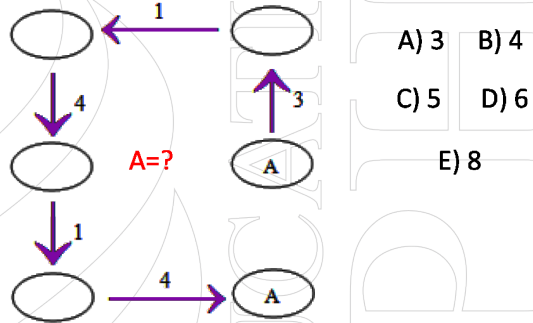
61.

$$\begin{aligned} 18 \ominus 21 &= 9 & A) 12 & B) 25 \\ 45 \ominus 90 &= 0 & C) 32 & D) 36 \\ 16 \ominus 12 &= 4 & E) 40 & \\ 67 \ominus 12 &= ? & & \end{aligned}$$

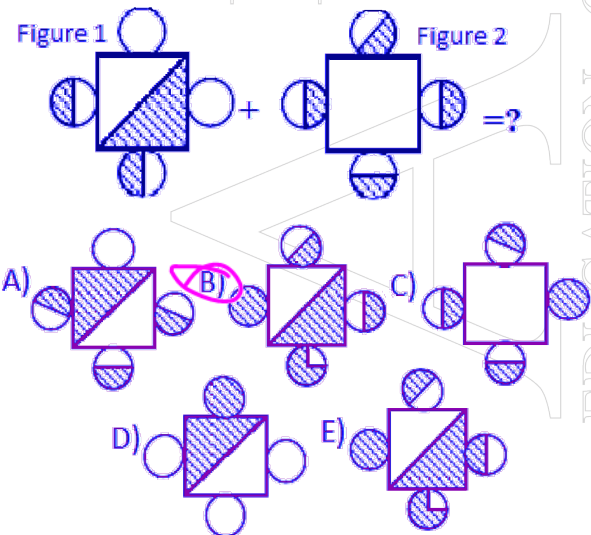
62.

I.	II.		
İLKEİ	= 97417	A) 89147	B) 49316
HARBİ	= 63529	C) 81497	
BİTKİ	= 29849	D) 81495	E) 87914
KOBRA	= 40253		
TEKİL	= ?		

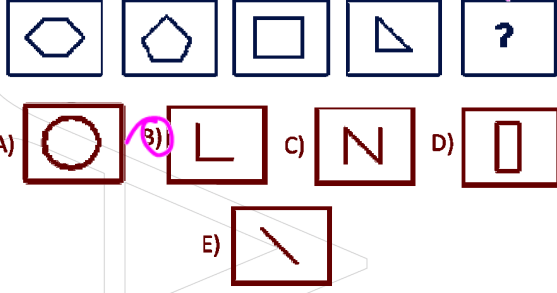
63.



64.



65.



67.

Handwritten notes for Question 67:

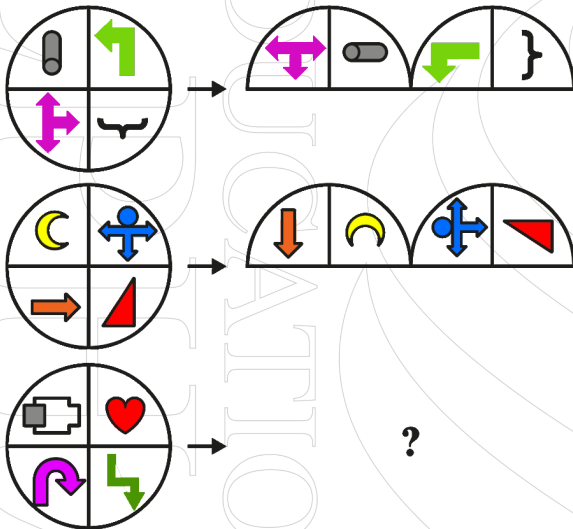
$$x + y + z = 100$$

$$x + z + w = 150$$

$$x + z = ?$$

Options: A) 80, B) 70, C) 60, D) 50, E) 40

66.



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

68.

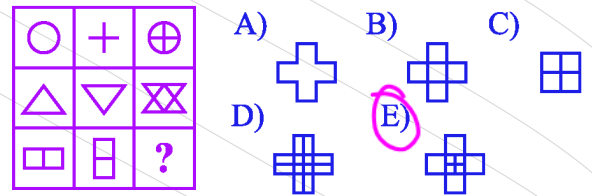
Handwritten notes for Question 68:

$$a = \Delta$$

$$e = \bigcirc$$

Options: A) {b, f}, B) {e, c}, C) {f, e}, D) {d, g}, E) {e, d}

69.



70.

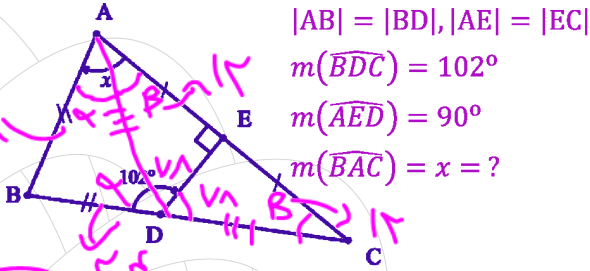
Aşağıdaki sayı dizisi belli bir kurala göre yazılmıştır. Buna göre x kaçtır?

The number series below is written according to a rule. Accordingly, what is the value of x ?

5 8 13 21 34 55 x

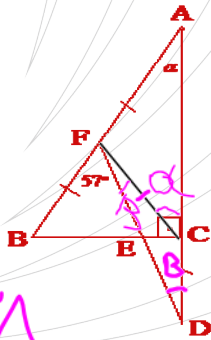
- A) 66 B) 69 C) 72 D) 89 E) 95

71.



A) 36 B) 42 C) 48 D) 54 E) 63

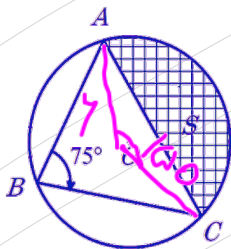
72.



$$\begin{aligned} |AF| &= |FB| = |CD|, \\ m(\widehat{BFD}) &= 57^\circ, \\ m(\widehat{BAD}) &= \alpha = ? \end{aligned}$$

A) 17 B) 27 C) 29 D) 35 E) 38

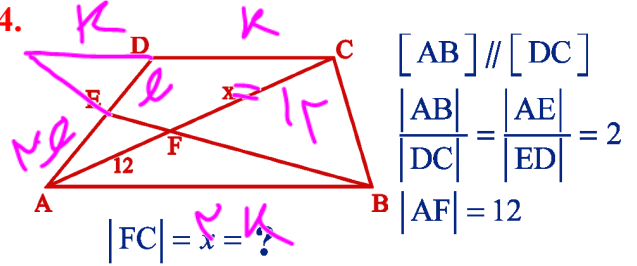
~~73.~~



$$m(\widehat{ABC}) = 75^\circ$$
$$|AO| = 6$$
$$\Rightarrow S = ?$$

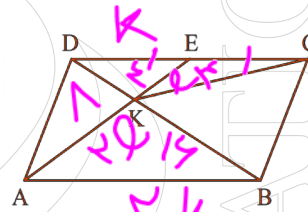
A) $10\pi - 6$ B) $10\pi + 6$ C) $15\pi - 6$
D) $15\pi - 12$ E) $15\pi - 9$

74.



A) 10 B) 12 C) 15 D) 16 E) 18

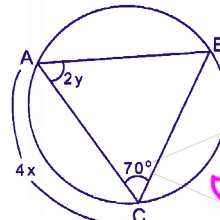
75.



$[AB] \parallel [DC]$
 $[AD] \parallel [BC]$
 $|DE| = |EC|$
 $A(ABCD) = 48 \text{ br}^2$
 $\Rightarrow A(KCB) = ? \text{ br}^2$

A) 8 B) 9 C) 12 **D) 16** E) 24

76.

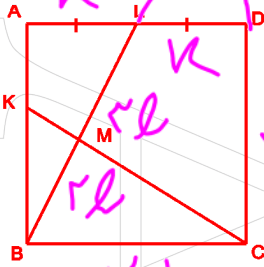


$$\begin{aligned} m(\hat{ACB}) &= 70^\circ \\ m(\hat{CAB}) &= 2y \quad x + y = ? \\ m(\widehat{AC}) &= 4x \end{aligned}$$

A) 55° B) 110° C) 165° D) 220° E) 265°

77.

(ABCD) Kare / Square / Квадрат / ساحة



$$[BL] \cap [CK] = \{M\}$$

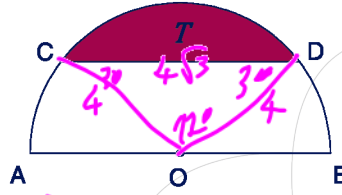
$$|AL| = |LD|$$

$$2. |LM| = 3. |BM|$$

$$\Rightarrow \frac{|MC|}{|KM|} = ?$$

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

79.



مرکز الدائرة "O"

$$|AO| = |OB|$$

$$|AB| = 8 \text{ br}$$

$$|CD| = 4\sqrt{3} \text{ br}$$

$$\Rightarrow T = ? \text{ br}^2$$

"O" Çemberin merkezi

"O" The center of the circle

"O" Центр круга

$$\frac{16\pi}{3} - 4\sqrt{3}$$

$$B) \frac{20\pi}{3} - 8\sqrt{3}$$

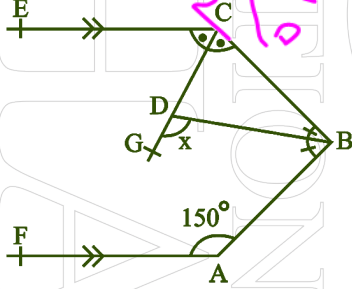
$$C) 16\pi - 8\sqrt{3}$$

$$D) \frac{40\pi}{3} - 4\sqrt{3}$$

$$E) 8\pi - 4\sqrt{3}$$

$$\frac{1}{2} \cdot 4 \cdot 4 \cdot \frac{\sqrt{3}}{2} = 4\sqrt{3}$$

78.



FA // EC

$$m(\widehat{ECG}) = m(\widehat{BCG})$$

$$m(\widehat{CBD}) = m(\widehat{DBA})$$

$$m(\widehat{FAB}) = 150^\circ$$

$$m(\widehat{GDB}) = x = ?$$

- A) 90° B) 100° C) 105° D) 110° E) 120°

80.

En uzun kenar hangisidir?
Which is the longest margin?

- A) a B) b C) c

- D) d E) e

