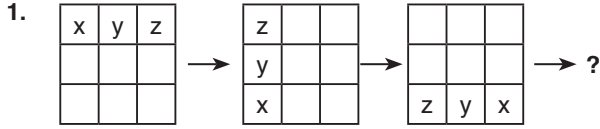


## ÇÖZÜMLER



		x
		y
		z

x iki kare ilerlemekte, (saat yönü tersi)

y çapraz kare ilerlemekte

z soldan iki kare ilerlemekte (saat yönü tersi)

Cevap: B

2.  $1 \Delta 2 = 1 \rightarrow 1^2 = 1$   
 $2 \Delta 4 = 16 \rightarrow 2^4 = 16$   
 $3 \Delta 3 = 27 \rightarrow 3^3 = 27$   
 $5 \Delta 2 = ? \rightarrow 5^2 = 25$  bulunur.

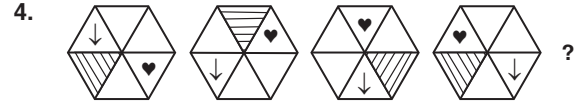
Cevap: A

3.

A2K	C3M	B1L
B3L	A1K	C2M
C1M	B2L	?

- \* B1L, B2L, B3L
- \* C1M, C2M, C3M
- \* A1K, A2K, A3K olur.

Cevap: D



$\uparrow \rightarrow$  Soldan bir dilim ilerlemekte

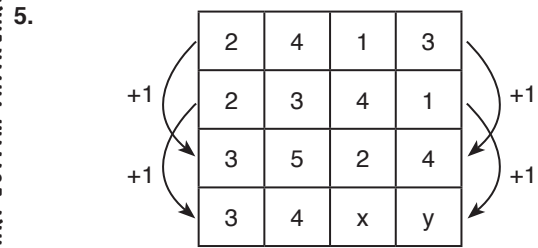
$\nabla \rightarrow$  Sağdan iki dilim ilerlemekte

$\heartsuit \rightarrow$  Sola doğru bir dilim ilerlemekte



Cevap: C

TASARI EĞİTİM YAYINLARI



I. satır III. satırın bir fazlası

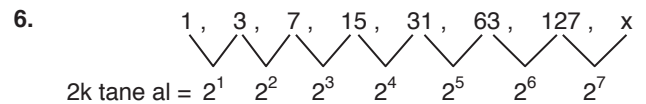
II. satır IV satırın bir fazlası

$$x = 4 + 1 = 5$$

$$y = 1 + 1 = 2$$

$$x + y = 5 + 2 = 7$$
 bulunur.

Cevap: C

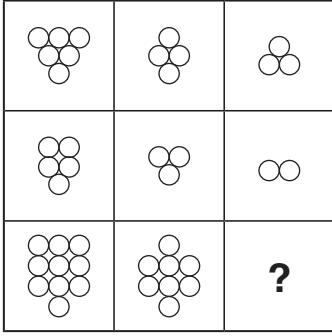


$$x = 127 + 2^7 = 127 + 128$$

$$= 255$$
 bulunur.

Cevap: B

7.



I. adım üstten 2 daire alınıyor.

II. adım alttan 1 daire alınıyor.



Cevap: A

8.

1  
1 1 1  
1 2 3 2 1  
1 2 3 6 3 2 1  
1 2 3 6 12 6 3 2 1  
1 2 3 6 12 24 12 6 3 2 1

Soldan veya sağdan toplanarak ilerliyor.

$1 + 2 + 3 + 6 + 12 = 24$ ,  $1 + 2 + 3 = 6$

Cevap: D

9. I.  $\square \cdot \square + * = 17$

II.  $\nabla \div * = \nabla$

III.  $\square - \nabla = *$

IV.  $\square + \nabla + * = ?$

$\square \rightarrow 4$

$\nabla \rightarrow 3$

$* \rightarrow 1$ 'i temsil etmekte

$\square + \nabla + * = 4 + 3 + 1 = 8$

Cevap: E

10.  $f(AB) = A.B + A + B$ 'dir.

$AB = 94$  ve  $AB = 49$  olmalı

$= 9.4 + 9 + 4$

$= 36 + 13$

$= 49$  olur.

$A.B = 9.4 = 36$  bulunur.

Cevap: E

11.

2	+	A	X	B	→ 14
X	+	+	+	+	
5	X	6	+	C	→ 38
+	-	-	÷	÷	
E	-	7	÷	D	→ 2
↓		↓		↓	
19		3		11	

A = 4

B = 3

C = 8

D = 1

E = 9

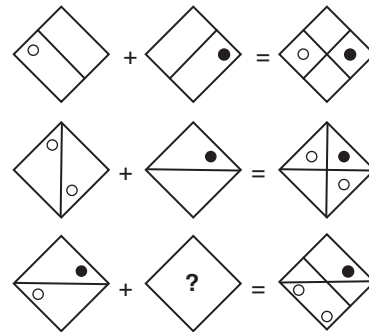
B = 3 bulunur.

Cevap: B

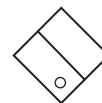
12.  $\frac{C.B}{A} - E + D = \frac{8.3}{4} - 9 + 1 = -2$

Cevap: A

13.

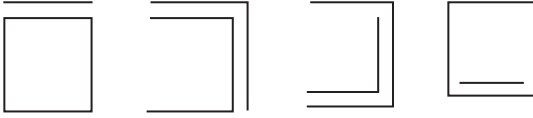


İki şekil üst üste konulmakta



Cevap: B

14. İçteki karenin bir kenarı alınıp dışarıya eklenmekte



Cevap: A

15. Kelimelerin sonundaki I iki tane sayılarda bu I = 5 olur.  
Kelimelerin başlangıcında A iki tane sayılarda bu A = 2 olur.

ISKA → 5312                      S = 3    ve    K = 1  
SALI → 3265                      L = 6  
KALE → 1264                      E = 4  
ASKI → 2315  
AKIL → 2156 bulunur.

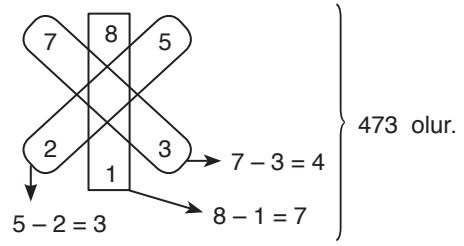
Cevap: C

16. Kelimelerin sonundaki i harfinden İ = 1 olduğunu görüyoruz.

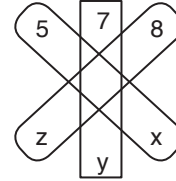
İZBE → 1234                      Z = 2,    B = 3    ve    E = 7  
ZEKİ → 2781                      K = 8  
ERİK → 7918                      R = 9  
RİZE → 9127  
BERK → 3798

Cevap: E

17.



O halde



$$5 - x = 4 \Rightarrow x = 1$$

$$7 - y = 5 \Rightarrow y = 2$$

$$8 - z = 7 \Rightarrow z = 1$$

? = 121 bulunur.

Cevap: A

18.

$$a \odot b = 2a \cdot b - 2 \cdot (a \odot b) + 1$$

$$3(a \odot b) = 2a \cdot b + 1$$

$$a \odot b = \frac{2ab + 1}{3}$$

$$5 \odot 2 = \frac{2 \cdot 5 \cdot 2 + 1}{3} = \frac{21}{3} = 7 \text{ bulunur.}$$

Cevap: D

19.

$$a \star b = \begin{cases} a - 3b & a < b \\ 2ab - 1 & b \leq a \end{cases}$$

$$[(-1) \star (1)] \star (-5) = ?$$

$$(-1) \star 1 = a - 3b = -1 - 3 \cdot 1 = -4$$

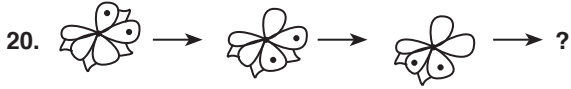
$$a < b$$

$$(-4) \star (-5) = 2ab - 1 = 2 \cdot (-4) \cdot (-5) - 1$$

$$b < a \qquad \qquad \qquad = 40 - 1$$

$$= 39$$

Cevap: A

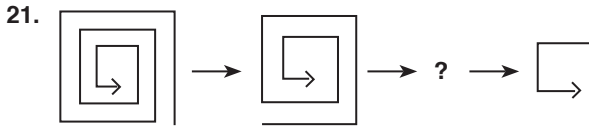


Noktalar saat yönünde bir adım ilerliyor.

Yan küçük yapraklar her adımda bir eksiliyor.



Cevap: C



Her adımda 3 kenar siliniyor.



Cevap: B

22. 1. satır + 3. satır = 17 + 43 = 60

2. satır + 4. satır = 25 + 35 = 60

19 + 4 = 60

27 + 33 = 60

O halde

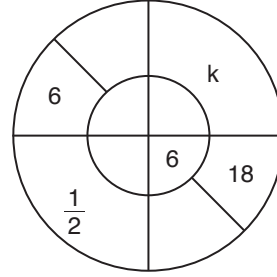
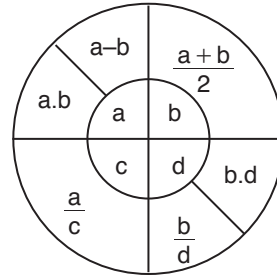
37 + 23 = 60

44 + K = 60 ⇒ K = 60 - 44

K = 16 bulunur.

Cevap: B

23.



$a.b = 6$   $\frac{a+b}{2}$

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

$d = 6$

$b.d = 18 \Rightarrow b = 3$  olur.

$a.3 = 6 \Rightarrow a = 2$

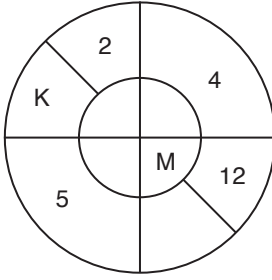
$\frac{2}{c} = \frac{1}{2} \Rightarrow c = 4$

O halde  $\frac{a+b}{2} = k$

$\frac{2+3}{2} = \frac{5}{2}$  bulunur.

Cevap: E

24.



$$\frac{a}{c} = 5$$

$$a - b = 2$$

$$\frac{a+b}{2} = 4$$

$$b \cdot d = 12$$

$$a - b = 2$$

$$a + b = 8$$


---


$$2a = 10$$

$$a = 5 \text{ olur.}$$

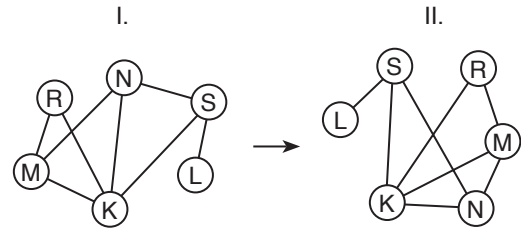
$$b = 3 \text{ bulunur.}$$

$$K = a \cdot b = 5 \cdot 3 = 15, \quad M = d = 4$$

$$K + M = 15 + 4 = 19 \text{ bulunur.}$$

Cevap: D

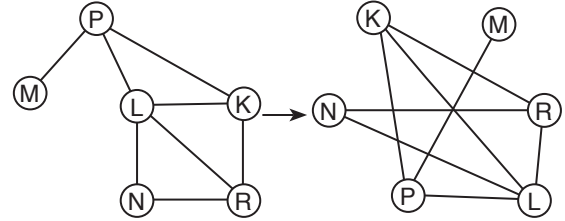
26.



$$x \rightarrow K \quad y \rightarrow M$$

Cevap: B

27.



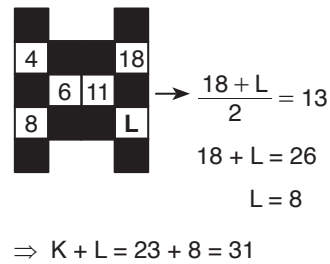
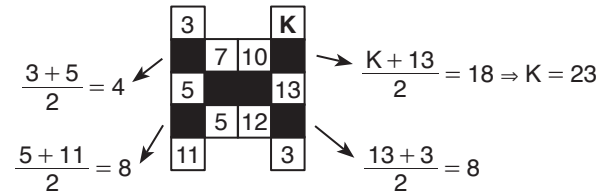
$$x \rightarrow P \quad y \rightarrow K$$

Cevap: B

25. •  $1^2 + 3^2 + 5^2$   
 $1 + 9 + 25 + \textcircled{9} = 44$   
 •  $4^2 + 2^2 + 7^2$   
 $16 + 4 + 49 + 11 = 80$   
 •  $8^2 + 6^2 + 0^2$   
 $64 + 36 + 0 + 13 = 113$   
 •  $9^2 + 2^2 + 5^2$   
 $81 + 4 + 25 + 15 = 125$

Cevap: C

28.



Cevap: D

29. I. II.

$$\left. \begin{array}{l} \oplus \heartsuit \heartsuit \\ \blacksquare \oplus \heartsuit \\ \heartsuit \blacksquare \nabla \\ \heartsuit \heartsuit \blacksquare \\ \oplus \nabla \oplus \end{array} \right\} \Rightarrow \left\{ \begin{array}{lll} 579 & 742 & 494 \\ & 527 & 452 \end{array} \right.$$

Sağdaki iki şekil aynı  $\heartsuit$ , soldaki farklı şekil  $\blacksquare$

$\heartsuit \rightarrow 2$

$\blacksquare \rightarrow 7$  buradan

$\oplus \heartsuit \heartsuit \rightarrow 742$

$\oplus \rightarrow 4$

$\oplus \nabla \oplus \rightarrow 494$

$\nabla \rightarrow 9$

$\heartsuit \heartsuit \blacksquare \rightarrow 527$

$\heartsuit \rightarrow 5$

O halde

$\heartsuit \blacksquare \nabla \rightarrow 579$

Cevap: C

31.

+	a	b	c
a			23
b	5c		
c		33	

$a + c = 23$

$b + a = 5c$

$c + b = 33$  ifadelerinden

$$\begin{array}{r} a + c = 23 \\ + \quad c + b = 33 \\ \hline a + b + 2c = 56 \\ \underline{5c} \end{array}$$

$7c = 56$

$c = 8$

$a + 8 = 23$

$a = 15$  bulunur.

Cevap: D

30. I. II.

$$\left. \begin{array}{l} \heartsuit \odot \heartsuit \uparrow \\ \blacksquare \odot \heartsuit \heartsuit \\ \heartsuit \odot \odot \blacksquare \\ \uparrow \heartsuit \odot \heartsuit \\ \odot \odot \blacksquare \uparrow \\ \odot \odot \blacksquare \uparrow \end{array} \right\} \Rightarrow \left\{ \begin{array}{lll} 2347 & 7532 & 5329 \\ & 9734 & 4579 \end{array} \right.$$

Solda  $\uparrow$  iki tane

$\uparrow \rightarrow 9$  buradan

$\uparrow \heartsuit \odot \heartsuit \rightarrow 9734$

$\heartsuit \rightarrow 7, \odot \rightarrow 3, \heartsuit \rightarrow 4$

$\heartsuit \odot \heartsuit \uparrow \rightarrow 4579$

$\odot \rightarrow 5$

$\odot \odot \blacksquare \uparrow \rightarrow 5329$

$\blacksquare \rightarrow 2$

$\heartsuit \odot \odot \blacksquare \rightarrow 7532$

Cevap: D

32.

x	a	b
a	2b+1	
b		b+12

$a, b \in \mathbb{Z}^+$

$a \cdot a = 2b + 1$

ve

$b \cdot b = b + 12$

$a^2 = 2b + 1$

$b^2 = b + 12$

$b^2 - b - 12 = 0$

$(b - 4)(b + 3) = 0$

$b = 4 \quad b = -3$

O halde

$a^2 = 2 \cdot 4 + 1$

$a^2 = 9$

$a = 3$

Cevap: C

33.

+	a	b	c
a			
b			2a
c			

x	a	b	c
a		143	
b			
c		117	

$$b + c = 2a$$

$$b + c = 2a = 2 \cdot 11 = 22$$

$$a \cdot b = 143 = 11 \cdot 13$$

$$c \cdot b = 117 = 9 \cdot 13$$

$$b = 13, a = 11 \text{ ve } c = 9$$

$$b - c = 13 - 9 = 4 \text{ olur.}$$

Cevap: B

34.  $\square = a$   $\triangle = b$   $\circ = c$   $\hexagon = d$   $2d = ?$

$$a + b + c = d \Rightarrow a = d - b - c$$

$$d + a = 5b$$

$$d + d - b - c = 5b$$

$$2d = 6b + c$$

$\triangle \triangle \triangle \triangle \triangle \triangle \circ$

Cevap: B

35.

3	5
8	

 $\rightarrow 5^{3 \cdot 8}$ 

6	3
4	

 $\rightarrow 3^{6 \cdot 4}$ 

x	15
12	

 $\rightarrow 15^{x \cdot 12}$

$$5^{24} \cdot 3^{24} = 15^{x \cdot 12}$$

$$15^{24} = 15^{x \cdot 12} \Rightarrow 12 \cdot x = 24$$

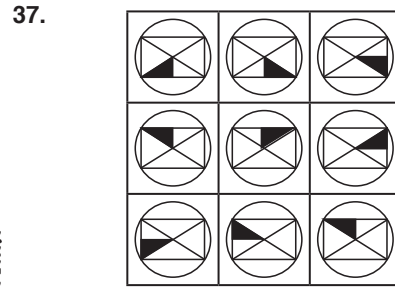
$$x = 2 \text{ bulunur.}$$

Cevap: B

36.

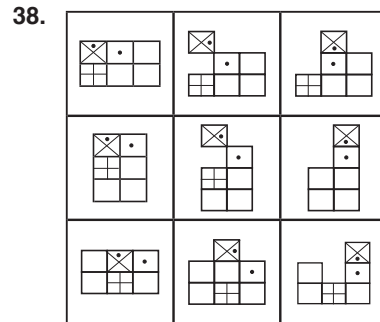
- $(9 + 5) \cdot (9 - 5)$   
= 14.4  
= 56
- $(21 + 19) \cdot (21 - 19)$   
= 40.2  
= 80
- $(16 + 11) \cdot (16 - 5)$   
= 27.11  
= 294
- $(25 + 22) \cdot (25 - 22)$   
= 47.3  
= 141 bulunur.

Cevap: D



Siyah üçgen sağa doğru bir adım ilerlemekte.

Cevap: B

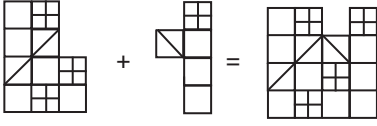


Cevap: E

39. A seçeneği azalan bir fonksiyon  
Diğer seçenekler artan fonksiyon

Cevap: A

40. İki şekil birleştiriliyor.



Cevap: A

$$41. \frac{\frac{1}{6} - \left(\frac{1}{2} - \frac{1}{9}\right)}{\frac{(3)}{-8} - \frac{(2)}{3}} = \frac{3-9+2}{-8-3} = -\frac{4}{18} \cdot \frac{3}{-8} = \frac{1}{12}$$

Cevap: A

$$42. \begin{array}{r} 444 \\ \times 23 \\ \hline 1332 \\ + 888 \\ \hline 10212 \end{array}$$

→ A + B + C = 4 + 2 + 3 = 9

Cevap: C

$$43. \sqrt{7 - \frac{3}{4}} - \sqrt{12 + \frac{1}{4}}$$

$$= \sqrt{\frac{25}{4}} - \sqrt{\frac{49}{4}}$$

$$= \frac{5}{2} - \frac{7}{2}$$

$$= \frac{5-7}{2} = \frac{-2}{2} = -1$$

Cevap: B

44.  $a \neq b$

$$2^a = 3^b$$

$$8^{\frac{a+b}{b}} + 9^{\frac{a+b}{a}} = 8^{\frac{a}{b}} \cdot 8^{\frac{b}{b}} + 9^{\frac{a}{a}} \cdot 9^{\frac{b}{a}}$$

$$= \left(2^{\frac{a}{b}}\right)^3 \cdot 8 + 9 \cdot \left(3^{\frac{b}{a}}\right)^2$$

$$\text{I. } 2^{\frac{a}{a}} = 3^{\frac{b}{b}}$$

$$\text{II. } 2^{\frac{a}{b}} = 3^{\frac{b}{a}}$$

$$\frac{a}{2^b} = 3$$

$$= (3)^3 \cdot 8 + 9 \cdot (2)^2$$

$$= 27 \cdot 8 + 9 \cdot 4$$

$$= 216 + 36$$

$$= 252$$

Cevap: E

TASARI EĞİTİM YAYINLARI

$$45. \cdot \frac{81 \cdot 16^x + 4}{9 \cdot 4^x} = \frac{81 \cdot 16^x}{9 \cdot 4^x} + \frac{4}{9 \cdot 4^x}$$

$$= 9 \cdot 2^{2x} + \frac{4}{9 \cdot 2^{2x}}$$

$$\cdot \left(3 \cdot 2^x - \frac{2}{3 \cdot 2^x}\right)^2 = (6)^2$$

$$9 \cdot 2^{2x} + \frac{4}{9 \cdot 2^{2x}} - 4 = 36$$

$$9 \cdot 2^{2x} + \frac{4}{9 \cdot 2^{2x}} = 40 \text{ bulunur.}$$

Cevap: D

$$46. \quad 2x - y + z = 15$$

$$x - y - z = 0$$

$$+ \quad x + 2y = 13$$

$$4x = 28$$

$$x = 7$$

Cevap: B



47.  $f(x) = x^2 + 4x + 4 - 4$

$f(x) = (x + 2)^2 - 4$

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

$\sqrt{y + 4} = x + 2$

$\sqrt{y + 4} - 2 = x$

$f^{-1}(x) = \sqrt{x + 4} - 2$

$\Rightarrow (f^{-1}(x) + 2)^2 = (\sqrt{x + 4} - 2 + 2)^2$   
 $= x + 4$

Cevap: C

48.  $3x^2 - 9x + 5 = 0$

$\frac{1}{x_1} + \frac{1}{x_2} = \frac{x_2 + x_1}{x_1 \cdot x_2} = \frac{-b}{\frac{c}{a}} = \frac{-b}{c}$

$a = 3 \quad b = -9 \quad c = 5$

O halde  $\frac{-b}{c} = \frac{-(-9)}{5} = \frac{9}{5}$  bulunur.

Cevap: D

49.  $\frac{a^3 - b^3}{a^2 - b^2} \cdot \frac{a^2 + ab + b^2}{\frac{1}{a} + \frac{1}{b}}$

$\frac{(a - b) \cdot (a^2 + ab + b^2)}{(a - b)(a + b)} \cdot \frac{a^2 + ab + b^2}{\frac{a + b}{a \cdot b}}$

$\frac{\cancel{(a - b)} \cdot \cancel{(a^2 + ab + b^2)}}{\cancel{(a - b)}(a + b)} \cdot \frac{(a + b)}{a \cdot b \cancel{(a^2 + ab + b^2)}}$

$= \frac{1}{a \cdot b}$  bulunur.

Cevap: D

50.  $Q(x) = k \Rightarrow P(k) = 9$  olur.

$P(k) + Q(k) = 2k^2 + 3$

$9 + k = 2k^2 + 3$

$2k^2 - k - 6 = 0$

$(2k + 3)(k - 2) = 0$

$2k + 3 = 0$  ve  $k - 2 = 0$

$k = \frac{-3}{2} \quad k = 2$

bunların toplamı  $\sum k$

$\frac{-3}{2} + 2 = \frac{1}{2}$  bulunur.

Cevap: D

51.  $6 < x < 10 \Rightarrow 28 < x \cdot y < 36$

$\downarrow \qquad \qquad \downarrow \downarrow$   
 $7 \qquad \qquad 7 \cdot 5$

$\Rightarrow x + y = 7 + 5 = 12$

Cevap: E

52.  $A = \{x \mid x < 99, \quad x = 3k, \quad k \in \mathbb{N}\}$

$A = \{3, 6, 9, \dots, 96\}$

$B = \{y \mid 17 < y < 107, \quad y = 4k, \quad k \in \mathbb{N}\}$

$B = \{20, 24, 28, \dots, 104\}$

$s(A \cap B) = \{24, 36, 48, \dots, 96\}$

$T.S = \frac{96 - 24}{12} + 1 = \frac{72}{12} + 1$

$= 6 + 1$

$= 7$

Cevap: E

TASARI EĞİTİM YAYINLARI

53. 
$$\frac{15! + 14!}{(n+7)} = \frac{(n+6)!}{15}$$

$$\frac{14!(15+1)}{(n+7)} = \frac{(n+6)!}{15}$$

$$15 \cdot 14! \cdot 16 = (n+7)(n+6)!$$

$$16! = (n+7)!$$

$$n+7 = 16$$

$$n = 9 \text{ bulunur.}$$

Cevap: D

54. 
$$x = \sqrt{14 + 6\sqrt{5}}$$

$$\quad \quad \quad \wedge$$

$$\quad \quad \quad 3.2$$

$$x = \sqrt{14 + 2\sqrt{45}}$$

$$\quad \quad \quad \wedge$$

$$\quad \quad \quad 9.5$$

$$x = \sqrt{9} + \sqrt{5} = 3 + \sqrt{5}$$

- $y = 6 - 2\sqrt{5} = 2(3 - \sqrt{5})$

$$x \cdot y = 2 \cdot (3 + \sqrt{5})(3 - \sqrt{5})$$

$$= 2 \cdot (9 - 5)$$

$$= 8 \text{ bulunur.}$$

Cevap: A

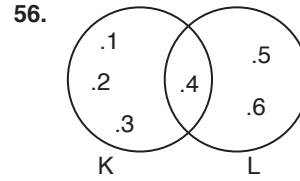
55. 
$$(2x + 1)^4 = Ax^4 + Bx^3 + Cx^2 + Dx + E$$

$$= (2x)^4 + 4 \cdot (2x)^3 + 6 \cdot (2x)^2 + 4(2x)^1 + 1$$

$$= 16x^4 + 32x^3 + 24x^2 + 8x + 1$$

$A = 16, \quad B = 32, \quad C = 24, \quad D = 8, \quad E = 1$   
 $A + C + E = 16 + 24 + 1 = 41$

Cevap: A



$(K \setminus L) \cup (K \cap L)$   
 $\downarrow$   
 $\{1, 2, 3\} \cup \{4\} = \{1, 2, 3, 4\} = K$

Cevap: B

57. 

	<u>Ahmet</u>	<u>Bekir</u>	<u>Cabbar</u>
Bugünkü:	A	B	C

$A + B + C = 44$   
 4 yıl önce:  $A - 4 \quad B - 4 \quad C - 4$

$A - 4 = B - 4 + C - 4$   
 $A - 4 = B + C - 8$   
 $A - B - C = -4 \text{ olur.}$

$A + B + C = 44$   
 $+ \quad A - B - C = -4$ 

---

 $2A = 40$   
 $A = 20 \text{ bulunur.}$

Cevap: B

58. Alınacak hediyein fiyatı A TL, öğrenci sayısı da x olsun.

- her biri 30 TL verdiğinde 150 TL eksik  
 $A = 30 \cdot x + 150$
- her biri 50 TL verdiğinde ise 150 TL fazla  
 $A = 50x - 150 \text{ olur.}$   
 $50x - 150 = 30x + 150$   
 $20x = 300$   
 $x = 15 \text{ öğrenci vardır bu grupta.}$

Cevap: E

TASARI EĞİTİM YAYINLARI

59. i)  $1000A + 100B + 10C + D - 100C - 10B - D = 3180$   
 $1000A + 90B - 90C = 3180$

ii)  $1000A + 100B + 10 + D - 10B - D = 3370$   
 $1000A + 90B = 3360$

i ve ii'den

$$3360 - 90C = 3180$$

$$180 = 90C$$

$$2 = C \text{ bulunur.}$$

Cevap: B

60.  $0 < x < 1 \Rightarrow x = \frac{1}{2}$  olabilir.

$$a = {}^{21}\sqrt{x^{5.21}} \quad b = {}^{14.3}\sqrt{x^{7.14}} \quad c = {}^{6.7}\sqrt{x^{15.6}}$$

$$a = {}^{42}\sqrt{x^{105}} \quad b = {}^{42}\sqrt{x^{98}} \quad c = {}^{42}\sqrt{x^{90}}$$

Pozitif basit kesirli ifadelerde kuvvet büyüdükçe ifade küçülür. O halde.

$$a < b < c \text{ bulunur.}$$

Cevap: A

61.  $\sum_{k=1}^{63} \log_2 \left(1 + \frac{1}{k}\right)$

$$= \log_2 \left(1 + \frac{1}{1}\right) + \log_2 \left(1 + \frac{1}{2}\right) + \log_2 \left(1 + \frac{1}{3}\right) + \dots + \log_2 \left(1 + \frac{1}{63}\right)$$

$$= \log_2 \left(1 + \frac{1}{2}\right) \cdot \left(1 + \frac{1}{3}\right) \cdot \dots \cdot \left(1 + \frac{1}{63}\right)$$

$$= \log_2 \frac{3}{2} \cdot \frac{4}{3} \cdot \frac{5}{4} \cdot \dots \cdot \frac{64}{63}$$

$$= \log_2 64 = \log_2 2^6 = 6 \log_2 2 = 6$$

Cevap: D

62.  $\left(\frac{10^9 - 10^8}{3 \cdot 10^4}\right) \cdot \left(\frac{10^{-14} + 10^{-15}}{(1,1) \cdot 10^{-19}}\right)$

$$= \frac{10^8(10 - 1)}{3 \cdot 10^4} \cdot \frac{10^{-15}(10 + 1)}{11 \cdot 10^{-20}}$$

$$= 3 \cdot 10^4 \cdot \frac{1}{10^{-5}} = 3 \cdot 10^4 \cdot 10^5$$

$$= 3 \cdot 10^9 \text{ bulunur.}$$

Cevap: C

63.  $A = 4 + 5 + B$

$$A - B = 9 \text{ olur.}$$

$$A + B = 89$$

$$+ \quad A - B = 9$$

$$2A = 98$$

$$A = 49 \Rightarrow B = 40 \text{ bulunur.}$$

$$\underbrace{(1+2+3) + 4 + 5 + 6 + \dots + n}_{A} = 49 + (1+2+3)$$

$$\frac{n \cdot (n+1)}{2} = 55$$

$$n \cdot (n+1) = 110$$

$$n = 10 \text{ bulunur.}$$

Cevap: B

64.  $6ab = 15bc = 4ac$

$$6a \cancel{b} = 15 \cancel{b} c$$

$$15b \cancel{c} = 4a \cancel{c}$$

$$\frac{a}{c} = \frac{15k}{6k}$$

$$\frac{b}{a} = \frac{4k}{15k}$$

k = 1 için

$$M.(a \cdot b \cdot c) = 15 \cdot 4 \cdot 6 = 360 \text{ bulunur.}$$

Cevap: D

$$\begin{array}{r}
 65. \quad ab + c = 63 \\
 + \quad a + bc = 41 \\
 \hline
 a + c + b(a + c) = 104 \\
 \underbrace{(a + c)}_8 (1 + b) = 104 \\
 1 + b = 13 \\
 b = 12 \text{ bulunur.}
 \end{array}$$

Cevap: D

$$\begin{array}{l}
 66. \quad f(x) = x^2 + a \\
 g(x) = \frac{x}{2a} \\
 (g \circ f)(3) = g(f(3)) \\
 f(3) = 3^2 + a = 9 + a \\
 g(9 + a) = \frac{9 + a}{2a} = 2 \\
 4a = 9 + a \\
 3a = 9 \\
 a = 3
 \end{array}$$

Cevap: C

$$\begin{array}{l}
 67. \quad x + x \cdot y = 18 \\
 x(1 + y) = 18 \\
 \begin{array}{l}
 \downarrow \quad \downarrow \\
 1 \quad 18 \quad (\text{sağlamaz ikinci denklemde}) \\
 2 \quad 9 \quad (\text{sağlamaz ikinci denklemde}) \\
 3 \quad 6
 \end{array} \\
 x = 3 \text{ ve } 1 + y = 6 \Rightarrow y = 5 \\
 x + 3z = 36 \\
 3 + 3z = 36 \\
 3z = 33 \Rightarrow z = 11 \\
 \text{O halde} \\
 x + y + z = 3 + 5 + 11 = 19 \text{ bulunur.}
 \end{array}$$

Cevap: D

$$\begin{array}{l}
 68. \quad \frac{\sqrt{x+5}}{\sqrt{x-\sqrt{2}}} \neq \frac{\sqrt{x+\sqrt{2}}}{\sqrt{x-5}} \\
 \sqrt{(x+5)(x-5)} = (\sqrt{x-\sqrt{2}})(\sqrt{x+\sqrt{2}}) \\
 \sqrt{x^2-25} = x-2
 \end{array}$$

her iki tarafın parantez karesi alınır.

$$\begin{array}{l}
 x^2 - 25 = (x-2)^2 = x^2 - 4x + 4 \\
 -25 = -4x + 4 \\
 -29 = -4x \\
 \frac{29}{4} = x
 \end{array}$$

Cevap: B

$$\begin{array}{l}
 69. \quad \frac{3x-1}{2} = \frac{y+1}{3} = \frac{z+3}{4} = k \\
 2/3x - 1 = 2k, \quad 2/y + 1 = 3k, \quad z + 3 = 4k \\
 6x - 2 = 4k, \quad 2y + 2 = 6k, \quad -z = -4k + 3 \\
 6x = 4k + 2 \quad 2y = 6k - 2
 \end{array}$$

$$\begin{array}{l}
 6x + 2y - z = 15 \text{ ise} \\
 4k + 2 + 6k - 2 - 4k + 3 = 15 \\
 6k + 3 = 15 \\
 6k = 12 \\
 k = 2 \text{ olur.}
 \end{array}$$

- $y + 1 = 3k$
- $y + 1 = 6 \Rightarrow y = 5$
- $z + 3 = 4k$
- $z + 3 = 8 \Rightarrow z = 5$

O halde

$$y + z = 5 + 5 = 10 \text{ bulunur.}$$

Cevap: E

70.  $3^x = a \Rightarrow a = 3^3$  olmalı

$x = 3$

$f(3^3) = \frac{4^3 + 1}{5} = \frac{64 + 1}{5} = 13$

O halde

$f\left(\frac{a}{81}\right) = f\left(\frac{27}{81}\right) = f\left(\frac{1}{3}\right) = f(3^{-1})$

$f(3^{-1}) = \frac{4^{-1} + 1}{5} = \frac{\frac{1}{4} + 1}{5} = \frac{\frac{5}{4}}{5} = \frac{1}{4}$  bulunur.

Cevap: A

71.  $x^2 - 2x - 1 = 0 \Rightarrow x^2 = 2x + 1$

$x^2$  gördüğünüz her yere  $2x + 1$  yazarak kalanı bulabiliriz.

$P(x) = x^4 + 3x^3 + x^2 + 5x + a - 3$

$= (x^2)^2 + 3x^2 \cdot x + x^2 + 5x + a - 3$

$= (2x + 1)^2 + 3(2x + 1) \cdot x + x^2 + 5x + a - 3$

$= 4x^2 + 4x + 1 + 6x^2 + 3x + 2x + 1 + 5x + a - 3$

$= 10x^2 + 14x + a - 1$

$= 20x + 10 + 14x + a - 1$

$= 34x + a + 9$

$bx + 14 = 34x + a + 9$  ise  $a + 9 = 14 \Rightarrow a = 5$

$b = 34$

$b - a = 34 - 5 = 29$  bulunur.

Cevap: A

72.  $\frac{3x + 5}{x^2} - 1 = \frac{A}{x - 1} + \frac{B}{x + 1}$

$\frac{3x + 5}{x^2 - 1} = \frac{Ax + A + Bx - B}{x^2 - 1}$

$3x + 5 = (A + B)x + A - B$

$A + B = 3$

$A - B = 5$

$2A = 8 \Rightarrow A = 4$

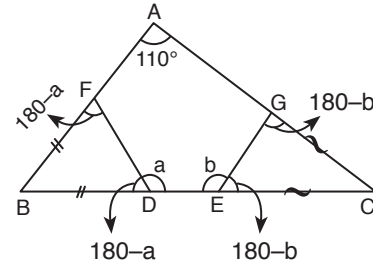
$A + B = 3 \Rightarrow B = -1$ 'dir.

$4$

$A \cdot B = 4 \cdot (-1) = -4$  bulunur.

Cevap: B

73.



$\Rightarrow s(\hat{B}) = 180^\circ - (180 - a + 180 - a)$

$s(\hat{B}) = 180^\circ - (360 - 2a)$   
 $= 2a - 180^\circ$

$\Rightarrow s(\hat{C}) = 180^\circ - (180^\circ - b + 180^\circ - b)$

$= 180^\circ - (360^\circ - 2b)$   
 $= 2b - 180^\circ$

$\rightarrow$  ABC üçgeninin iç açıları toplamından

$110^\circ + 2b - 180^\circ + 2a - 180^\circ = 180^\circ$

$2a + 2b - 250 = 180$

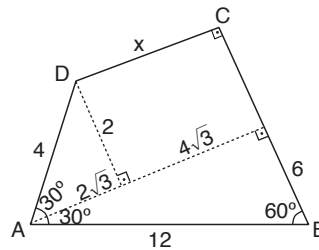
$2a + 2b = 430$

$a + b = 215^\circ$  olur.

Cevap: C

TASARI EĞİTİM YAYINLARI

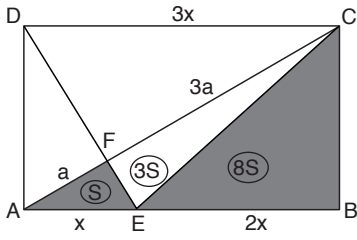
74.



$x = 4\sqrt{3}$

Cevap: B

75.

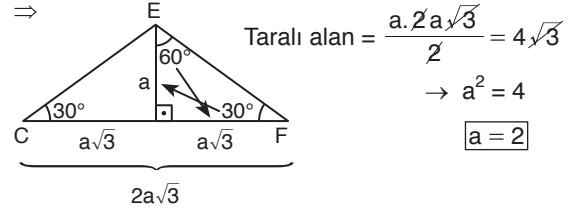
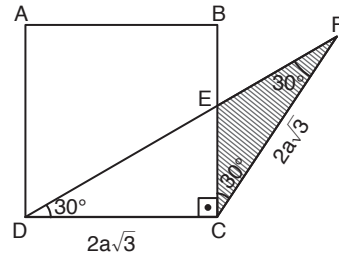


$$24S = 32 \rightarrow S = \frac{32}{24} = \frac{4}{3}$$

$$\text{Taralı alanların toplamı} = 9S = 9 \cdot \frac{4}{3} = 12$$

Cevap: E

77.



O halde karenin bir kenarı

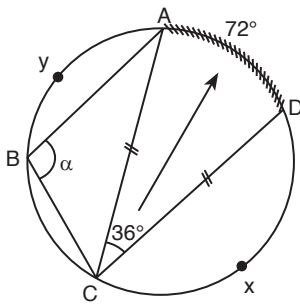
$$2a\sqrt{3} = 2 \cdot 2\sqrt{3} = 4\sqrt{3} \text{ br'dir.}$$

Karenin alanı  $(4\sqrt{3})^2 = 16 \cdot 3 = 48 \text{ br}^2$  dir.

Cevap: C

TASARI EĞİTİM YAYINLARI

76.



$$|AC| = |CD| \Rightarrow m(\widehat{AyC}) = m(\widehat{CxD}) = m$$

$$\Rightarrow m + m + 72^\circ = 360^\circ$$

$$2m = 288^\circ$$

$$m = 144^\circ \text{ olur.}$$

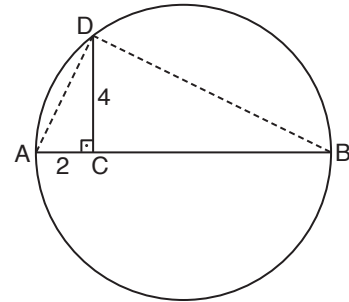
$$\Rightarrow 2\alpha = 72 + 144$$

$$2\alpha = 216$$

$$\alpha = 108$$

Cevap: D

78.



AD ve DB yardımcı doğru parçaları çizilirse, çapı gören çevre açısı  $90^\circ$  olduğundan ADB dik üçgeni elde edilir.

ADB dik üçgeninde Öklid yükseklik bağıntısı ile

$$4^2 = 2 \cdot |CB|$$

$$16 = 2 \cdot |CB|$$

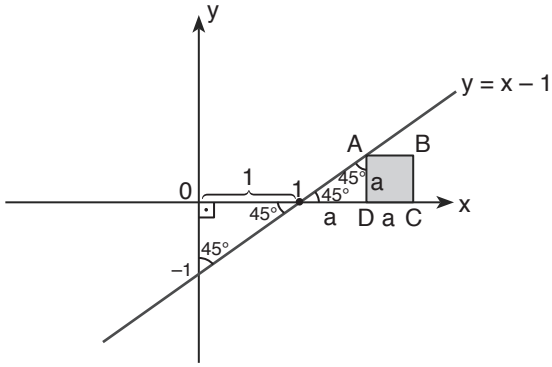
$$|CB| = 8 \text{ bulunur.}$$

Böylece  $|AB| = 10 \text{ cm}$  olur.  $r = 5 \text{ cm}$

Dairenin alanı  $\pi r^2 = \pi \cdot 5^2 = 25\pi \text{ cm}^2$  bulunur.

Cevap: C

79.

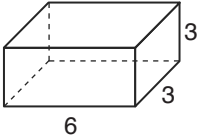


- $|OC| = 5 = 1 + a + a$   
 $2a + 1 = 5$   
 $2a = 4$   
 $a = 2$  br
- O halde karenin alanı  $a^2 = 2^2 = 4$  br<sup>2</sup>'dir.

Cevap: B

TASARI EĞİTİM YAYINLARI

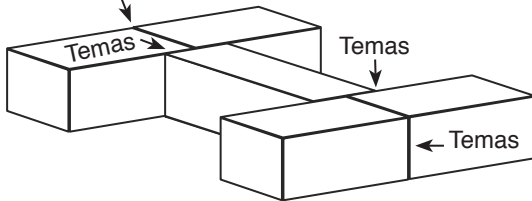
80.



$$\Rightarrow \text{Yüzey alanı} = 2(3 \cdot 3 + 6 \cdot 3 + 6 \cdot 3)$$

$$= 90 \text{ br}^2$$

Temas yüzeylerinde 2 tane  
 $3 \cdot 3 = 9 \text{ br}^2$  kayıp



5 tane eş şeklin toplam yüzey alanı  $5 \cdot 90 = 450 \text{ br}^2$ . Temas yüzeylerinde 2'şer tane  $3 \cdot 3 = 9 \text{ br}^2$  kayıp o halde şeklin yüzey alanı  $= 450 - 8 \cdot 9 = 378 \text{ br}^2$  olur.

Cevap: A