Bu testte cevaplayacağınız toplam soru sayısı 80'dir.

1. $\left(\dfrac{3}{10}\right)^{-1} - \dfrac{1}{\dfrac{3}{10} + \dfrac{1}{\left(\dfrac{2}{10}\right)^{-1}}} = \dfrac{10}{3} - \dfrac{1}{\dfrac{3}{10} + \dfrac{2}{10}}$

$= \dfrac{10}{3} - \dfrac{1}{\dfrac{5}{10}} = \dfrac{10}{3} - \dfrac{10}{5} = \dfrac{50-30}{15}$

$= \dfrac{20}{15} = \dfrac{4}{3}$

Cevap: D

2. $\dfrac{-a^3 \cdot -a^{-5} \cdot a^8}{a^{-2} \cdot -a^{-4} \cdot a^{-6}} = \dfrac{+a^6}{-a^{-12}} = -a^{18}$

Cevap: D

3. $\dfrac{(5\sqrt{3})^2 - (3\sqrt{5})^2}{(3\sqrt{10})^2 - (\sqrt{10})^2} = \dfrac{25 \cdot 3 - 9 \cdot 5}{9 \cdot 10 - 10}$

$= \dfrac{75-45}{90-10} = \dfrac{30}{80} = \dfrac{3}{8}$

Cevap: C

4. $\dfrac{4 \cdot 10^{-2} \cdot 10^6 - 2 \cdot 10^{-1} \cdot 10^5}{2 \cdot 10^{-1} \cdot 10^{-2}}$

$\dfrac{4 \cdot 10^4 - 2 \cdot 10^4}{2 \cdot 10^{-3}} = \dfrac{2 \cdot 10^4}{2 \cdot 10^{-3}} = 10^7$

Cevap: B

5. $2015 + \dfrac{3}{5} - 2014 - \dfrac{2}{5} + 2016 + \dfrac{4}{5}$

$2015 - 2014 + 2016 + \dfrac{3}{5} - \dfrac{2}{5} + \dfrac{4}{5}$

$2017 + \dfrac{5}{5} = 2018$

Cevap: B

6. $\sqrt{\dfrac{2(3+\sqrt{5})}{2}} - \sqrt{\dfrac{2(3-\sqrt{5})}{2}}$

$\dfrac{\sqrt{6+2\sqrt{5}}}{\sqrt{2}} - \dfrac{\sqrt{6-2\sqrt{5}}}{\sqrt{2}} = \dfrac{\sqrt{5}+1 - (\sqrt{5}-1)}{\sqrt{2}}$

$= \dfrac{\sqrt{5}+1 - \sqrt{5}+5}{\sqrt{2}}$

$= \dfrac{2}{\sqrt{2}} = \sqrt{2}$

Cevap: C

7. $a = 2k \quad b = 3k \quad c = 4k$

$\overset{2k \quad\ \ 3k \quad\ \ 4k}{3a + 25 - 4c = -12}$

$6k + 6k - 16k = -12$

$-k = -12$

$k = 3$

$\Rightarrow \dfrac{2 \cdot 2k \cdot 3k}{4k} = 3k^3 = 9$

Cevap: E

8. $\sqrt[4]{2\sqrt[3]{4\sqrt[2]{8}}} = \sqrt[24]{8 \cdot 4^2 \cdot 2^6}$

$= \sqrt[24]{2^3 \cdot 2^4 \cdot 2^6}$

$= \sqrt[24]{2^{13}}$

$= 2^{\frac{13}{24}}$

Cevap: A

9. $A + 4 = 3m - 1 + 4 = 5n + 1 + 4 = 7k + 3 + 4$

$A + 4 = 3m + 3 = 5n + 5 = 7k + 7$

Cevap: B

10. $\dfrac{a^2}{\sqrt[3]{a}} = \dfrac{2}{2^{\frac{2}{3}}}$

$\dfrac{a^2}{a^{\frac{1}{3}}} = 2^{\frac{-2}{3}} \quad \Rightarrow \quad a^{2-\frac{1}{3}} = 2^{-\frac{2}{3}}$

$a^{\frac{5}{3}} = 2^{-\frac{2}{3}}$

$a^{\frac{5}{3} \cdot \frac{3}{5}} = 2^{\frac{-2}{3} \cdot \frac{3}{5}}$

$a = 2^{-\frac{2}{5}}$

Cevap: E

11. $a + b + c = 6 \qquad (a + b = c^2)$

$a^2 + c = 6$

$c(c + 1) = 6 \quad \Rightarrow \quad c = 2$

$\Rightarrow \quad a + b = c^2$

$a + b = 2^2 = 4$

$\Rightarrow \quad (a + b)^2 = 4^2 = 16$

Cevap: E

12. $x.y = 30$

$-1.-30$

$\Rightarrow \quad \min(x + y) = (-1) + (-30) = -31$

Cevap: D

13. $\cdot \quad 2a + \dfrac{b}{17} = 13$

$\cdot \quad 5a = c \quad \Rightarrow \quad a = 1 \quad$ ve $\quad c = 5$

$\Rightarrow \quad 2.1 + \dfrac{b}{17} = 13 \quad \Rightarrow \quad \dfrac{b}{17} = 11$

$b = 17.11$

$b = 187$

$\max(c + b) = 5 + 187$

$\qquad\qquad = 192$

Cevap: E

14. $\cdot \quad 2^m = 5^n \quad \Rightarrow \quad 2^{\frac{m}{n}} = 5$

$8^{\frac{m}{n}} = 125$

$\cdot \quad 5^n = 2^m \quad \Rightarrow \quad 5^{\frac{n}{m}} = 2$

$25^{\frac{n}{m}} = 4$

$\Rightarrow \quad 8^{\frac{m}{n}} + 25^{\frac{n}{m}} = 125 + 4 = 129$

Cevap: B

15. $\begin{aligned} x + y + a &= 70 \\ - \quad c + y &= 23 \\ \hline x - c + a &= 47 \end{aligned}$

$11 + a = 47 \quad \Rightarrow \quad a = 36$

$a - b = 36 - b = 6$

$b = 30$

Cevap: C

16. $a_6 = \dfrac{13}{11}$

$a_7 = \dfrac{15}{13} \quad \Rightarrow \quad \dfrac{\cancel{13}}{11} \cdot \dfrac{\cancel{15}}{\cancel{13}} \cdot \dfrac{\cancel{17}}{\cancel{15}} \cdot \dfrac{19}{\cancel{17}} = \dfrac{19}{11}$

$a_8 = \dfrac{17}{15}$

$a_9 = \dfrac{19}{17}$

Cevap: D

17. $\dfrac{(n+2)(n+1)! - (n+1)!}{n.(n-1)!}$

$\dfrac{(n+1)!(n+2-1)}{n.(n-1)!} = \dfrac{(n+1)\cancel{(n)}\cancel{(n-1)!}.(n+1)}{\cancel{n}.\cancel{(n-1)!}}$

$= (n+1)^2$

Cevap: A

TASARI EĞİTİM YAYINLARI

18. $\dfrac{(a-1)(a^2+a+1)}{a^2+a+1} \cdot \dfrac{a(a+1)}{a(a-1)} = a+1$

Cevap: C

19.
- $f(x+1) = 2.3^{x+1+1} - 2$

  $f(x+1) = 2.3^{x+2} - 2$
- $f(x) = 2.3^{x+1} - 2$

  $f(x) + 2 = 2.3^{x+1}$
- $f(x+1) = \boxed{2.3^{x+1}}.3 - 2$

  $f(x+1) = 3.\big(f(x)+2\big) - 2$

  $\qquad\quad = 3f(x) + 4$

Cevap: B

20. $f(5) = 2.5 - 1 = 9$

$f(6) = 2.6 + 1 = 13$

$f(7) = 7^2 = 49$

$9 + 13 - 49 = -27$

Cevap: C

21. $f(x+3) = x^2 + 6x + 9 + 6$

$f(x+3) = (x+3)^2 + 6$

$f(\sqrt{5}) = (\sqrt{5})^2 + 6 = 11$

Cevap: B

22. $P(x+2) \Rightarrow p(3) = 0$

$\Rightarrow P(3) = (3+1)(3+2)(3+3)(3-4) = 0$

$\Rightarrow 3 - k = 0$

$\qquad\quad k = 3$

Cevap: D

23. $A = \{12, 15, 18, ..., 99\} \rightarrow \dfrac{99-12}{3} + 1 = 30$

$B = \{40, 44, 48, ..., 148\} \rightarrow \dfrac{148-40}{4} + 1 = 28$

$A \cap B = \{48, 60, ..., 96\} \rightarrow \dfrac{96-48}{12} + 1 = 5$

$\Rightarrow S(A \cup B) = S(A) + S(B) - S(A \cap B)$

$\qquad\qquad\quad = 30 + 28 - 5$

$\qquad\qquad\quad = 53$

Cevap: C

24. $x_1 + x_2 = -\dfrac{(-16)}{2} = 8$

$x_1 = x_2 \Rightarrow x_1 + x_1 = 8$

$2x_1 = 8 \Rightarrow x_1 = 4$

$\Rightarrow 2.4^2 - 16.4 + m = 0$

$\qquad\quad 32 - 64 + m = 0$

$\qquad\qquad\qquad m = 32$

Cevap: B

25. $5 \equiv -1 \pmod 6$

$6 \equiv 0 \pmod 6$

$7 \equiv 1 \pmod 6$

$\Rightarrow 5^{21} + 6^{60} + 7^{91} \equiv x \pmod 6$

$(-1)^{21} + 0^{60} + 1^{91} \equiv x \pmod 6$

$\qquad -1 + 0 + 1 \equiv x \pmod 6$

$\qquad\qquad\qquad x = 0$

Cevap: B

26.
- $a^2.b < 0 \Rightarrow \boxed{b < 0}$
- $a - b < 0 \Rightarrow a < b \Rightarrow \boxed{a < 0}$

  $\qquad\qquad\quad -\quad -$
- $a.c < 0 \Rightarrow \boxed{c > 0}$

  $\quad +\quad -\quad\ +$

$\Rightarrow a^2.b.c < 0$

$\quad\ +\quad -\quad +$

Cevap: B

3

Diğer Sayfaya Geçiniz.

27.

$$(156)_m = (230)_6$$

$$1 \cdot m^2 + 5 \cdot m^1 + 6 \cdot m^0 = 2 \cdot 6^2 + 3 \cdot 6^1 + 0 \cdot 6^0$$

$$m^2 + 5m + 6 = 72 + 18$$

$$m^2 + 5m - 84 = 0$$

$$(m + 12)(m - 7) = 0$$

$$m = -12 \quad m = 7$$

$m > 0$ olacağından $m = 7$ olur.

Cevap: A

28. $\quad |x - 1| + |2 - 2x| = 6$

$$|x - 1| + 2|1 - x| = 6$$

$$3|x - 1| = 6$$

$$|x - 1| = 2$$

$$x - 1 = 2 \quad \text{ve} \quad x - 1 = -2$$

$$x = 3 \qquad\qquad x = -1$$

$$\sum x = 3 - 1 = 2$$

Cevap: E

29. $\quad \dfrac{P(x + 3)}{Q(x - 1)} = 2x^2 - x - 5$

$x = 3$ yazılırsa

$$\frac{P(6)}{P(2)} = 18 - 3 - 5$$

$$\frac{P(6)}{2} = 10$$

$$P(6) = 20 \text{ bulunur.}$$

Cevap: B

30.
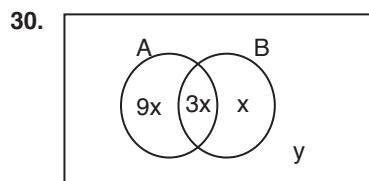
$$s(A \cap B) = 3x$$

$$s[(A \cup B)^I] = y \text{ olsun}$$

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

$$s(A) = 4 \cdot 3x = 12x$$

$$3s(B) = 4 \cdot s(A \cap B) \quad s(B) = 4x$$

$$s(A) = s(A - B) + s(A \cap B)$$

$$12x = s(A - B) + 3x$$

$$s(A - B) = 9x$$

$$s(B) = s(B - A) + s(A \cap B)$$

$$4x = s(B - A) + 3x$$

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

$$x + y = 5$$

$$\underline{9x + y = 21}$$

$$x = 2 \quad \text{ve} \quad y = 3$$

Buna göre $s(A - B) = 9x = 18$ bulunur.

Cevap: E

31. $\quad 3x + y + 2z = 9$

$$\underline{x + 2y + 3z = 7}$$

$$2x + 3y + z = 14$$

$$6x + 6y + 6z = 30$$

$$6(x + y + z) = 30$$

$$x + y + z = 5 \text{ olur.}$$

Cevap: C

32.

$\Rightarrow$　　$x + 40° = 70°$

　　　　　$x = 30°$

Cevap: D

33.
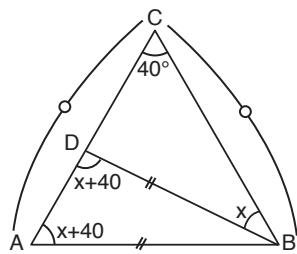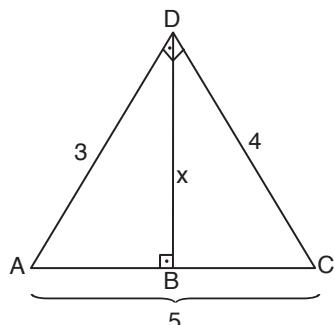
$\Rightarrow$　　$3.4 = 5.x$

　　　　$x = \dfrac{12}{5}$

Cevap: C

34.
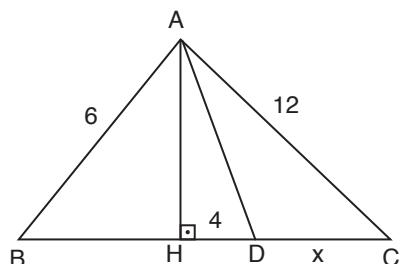
$|BD| = |DC| \Rightarrow |BC| = 2x$ olur.

$2|BC|.|HD| = |AC|^2 - |AB|^2$

　　$2.2x.2 = 12^2 - 6^2$

　　$16x = 144 - 36$

　　$16x = 108$

　　　$x = \dfrac{108}{16} = \dfrac{27}{4}$ br

Cevap: C

35.
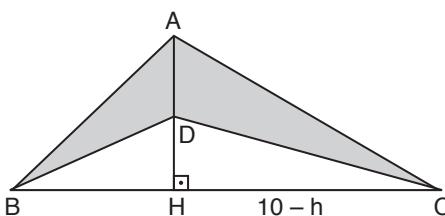
$A(ABD) = \dfrac{|AD|.|BH|}{2} = \dfrac{4.h}{2} = 2h$

$A(ADC) = \dfrac{|AD|.|HC|}{2} = \dfrac{4.(10-h)}{2} = 20 - 2h$

$A - (ABD) + A(ADC) = 2h + 20 - 2h = 20$ br^2

Cevap: E

36.
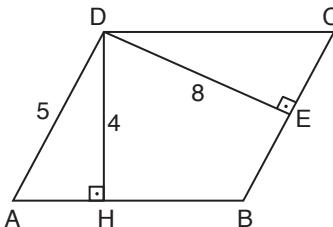
$|AD| = |BC| = 5$ cm

$A(ABCD) = |BC|.|DE| = 5.8 = 40$ cm^2

$A(ABCD) = |AB|.|DH|$

　　　$40 = |AB|.4$

　　$|AB| = 10$ cm

　　$|AB| = |CD| = 10$ cm

Cevap: A

37.

$\dfrac{2}{6} = \dfrac{8}{x}$

$2x = 48$

　$x = 24$ cm^2 bulunur.

Cevap: E

Diğer Sayfaya Geçiniz.

38.
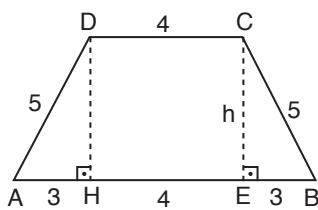
$|AH| = |BE| = \dfrac{a-c}{2} = \dfrac{10-4}{2} = 3$ br

BEC dik üçgeninde pisagordan

$5^2 = 3^2 + h^2 \implies h = 4$ br

o halde

$A(ABCD) = \left(\dfrac{10+4}{2}\right) \cdot 4 = 28$ br^2 dir.

Cevap: C

39.
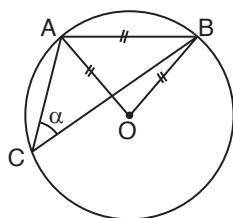
$\implies m(\widehat{AB}) = 60° \implies \alpha = \dfrac{m(\widehat{AB})}{2} = \dfrac{60°}{2} = 30°$

Cevap: D

40.
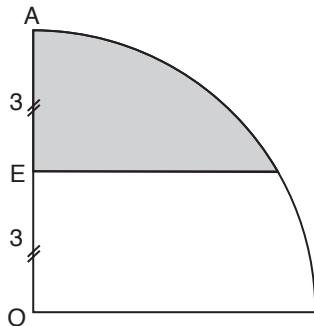
Taralı Alan = (AOF daire dilim) − A(EOF)

$= \dfrac{\pi \cdot 6^2 \cdot 60°}{360°} - \dfrac{3.3\sqrt{3}}{2}$

$= 6\pi - \dfrac{9\sqrt{3}}{2}$

Cevap: A

41.

Yukarı doğru kayıyor.

Sabit

Bir aşağı kayıyor.
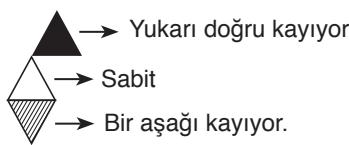
Cevap: C

42. $\dfrac{a}{3} \bigstar \dfrac{b}{4} = \dfrac{2a+b}{4}$

$2 \bigstar 3 = ?$

$\left.\begin{array}{l} \dfrac{a}{3} = 2 \implies a = 6 \\[2mm] \dfrac{b}{4} = 3 \implies b = 12 \end{array}\right\} \begin{array}{l} = \dfrac{2.6+12}{4} \\[2mm] = \dfrac{24}{4} = 6 \end{array}$

$4 \bigstar 5 =$

$\left.\begin{array}{l} \dfrac{a}{3} = 4 \implies a = 12 \\[2mm] \dfrac{b}{4} = 5 \implies b = 20 \end{array}\right\} \begin{array}{l} = \dfrac{2.12+20}{4} \\[2mm] = \dfrac{44}{4} = 11 \end{array}$

$6 \bullet 11 = ?$

$\sqrt{a} \bullet (2b+1) = a + b = 36 + 5$
$\qquad\qquad\qquad\qquad = 41$

$\begin{array}{ll} \sqrt{a} = 6 & 2b + 1 = 11 \\ a = 36 & 2b = 10 \\ & b = 5 \end{array}$

Cevap: C

43. I $\rightarrow$ □

II $\rightarrow$ ▯

III $\rightarrow$ △

IV $\rightarrow$ ◠

Cevap: B

44. Karşılıklı yüzeyler

1 $\rightarrow$ 3

2 $\rightarrow$ 5

4 $\rightarrow$ 6

Cevap: A

45. $\bigcirc \rightarrow$ içindekinin yarısı

$\bigodot \rightarrow$ içindekinin 6 katı

$\triangle \rightarrow$ içindekinin 3 katı

$\square \rightarrow$ içindekinin dörtte biri

$$\text{II} \rightarrow 3\left(\frac{\frac{16}{2}+\frac{16}{4}+3.4}{4}\right) = \left(\frac{8+4+12}{4}\right)$$

$$= 3.6 = 18$$

$$\text{III} \rightarrow 6 \cdot \left(\frac{\left(\frac{28}{4}+\frac{14}{2}+3.1+6\cdot\frac{1}{6}\right)}{\frac{2}{4}}\right)$$

$$= 6\cdot\left(\frac{7+7+3+1}{2}\right) = \overset{3}{\cancel{6}} \cdot \frac{\overset{9}{\cancel{18}}}{\underset{\underset{2}{\cancel{4}}}{\cancel{8}}} = \frac{27}{2}$$

Cevap: C

46. Tablodan

$$a.c = 12$$
$$a.b = 20$$
$$x \quad \underline{b.c = 18}$$
$$a^2.b^2.c^2 = 12.20.18$$
$$(a.b.c)^2 = 4.3.4.5.3.6$$
$$= 4.3\sqrt{30}$$
$$= 12\sqrt{30}$$

Cevap: A

47. I. tablodan   II. tablodan

$a + b = 2c$ $a.c = 60$

$\cancel{b} + c = \cancel{4b}$

$c = 3b$

$a + b = 2.3b = 6b$

$a = 5b$

$\Rightarrow a.c = 5b.3b = 60$

$$b^2 = \frac{60}{15} = 4$$

$$b = 2 \text{ olur.}$$

Cevap: B

48. Verilen şekilden

$a^3 = 8 \quad \Rightarrow \quad a = 2$

$a.c^2 = 32 \quad \Rightarrow \quad c^2 = 16$

$\qquad\qquad\qquad c = 4$

$(c + b)^2 = 49$

$c + b = 7$

$4 + b = 7 \Rightarrow b = 3$

$K = a^2 + 3c + 2b$

$K = 2^2 + 3.4 + 2.3$

$\quad = 4 + 12 + 6$

$\quad = 22$ bulunur.

Cevap: C

49. Tablodan   II

$A \rightarrow \triangle$

A	A
B	C

$\rightarrow$

$\triangle$	$\triangle$
$\star$	$\bigcirc$

Cevap: C

50. $4 \triangle 7 \rightarrow 4^2 + 7 = 23$

$5 \triangle 2 \rightarrow 5^2 + 2 = 27$

$7 \triangle 4 \rightarrow 7^2 + 4 = 53$

$8 \triangle 1 \rightarrow 8^2 + 1 = 65 = x$

Cevap: D

51. $M \rightarrow \odot$

II

$\blacksquare$	$\odot$
$\boxplus$	$\odot$

$\rightarrow$

K	M
	L	M

Cevap: E

Diğer Sayfaya Geçiniz.

52. 8 ∗ 9 ⇒ 8.7 = 72 → 7.2 = 14

7 ∗ 8 ⇒ 7.8 = 56 → 5.6 = 30

6 ∗ 7 ⇒ 6.7 = 42 → 4.2 = 8

5 ∗ 6 ⇒ 5.6 = 30 → 3.0 = 0

Cevap: B

53. NATAR → 91817

A → 1 , N → 9 , T → 8 , R → 7

AKSEL → 13254

K → 3 , S → 2 , E → 5 , L → 4

ERTAN → 57819

Cevap: D

54. Son harflerden

K → 6

KIRMAK → 607536

I → 0 , R → 7 , M → 5 , A → 3

ASERİK → 389726

S → 8 , E → 9 , İ → 2

MERİMA → 597253

TASARI 138370

A → 3 , T → 1

Cevap: C

55.

I.	II.	III.
5 − 4 = 1	4 − 6 = −2	8 − 3 = 5
1.2 = 2	(−2).3 = −6	5.1 = 5

Cevap: D

56.

12.4 = 48

5.4 = 20

4.4 = 16

10.4 = 40

9.4 = 36

x.4 = 12

x = 3
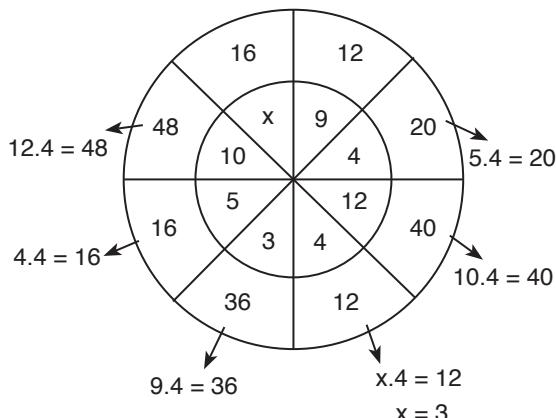
Cevap: C

57.

Cevap: D

58. 33 x 7 = 231

39 x 8 = 312

45 x 9 = 405

51 x 10 = 510

Cevap: E

59.

12+15+10=37

11+6+12=29
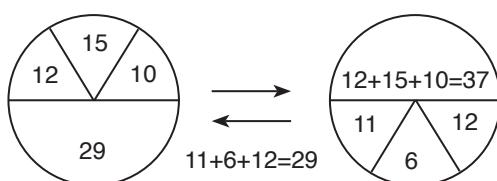
Cevap: C

60.

Cevap: C

61.

Kare → Daire

Üçgen → Kare

Daire → Üçgen olmakta

Koyu → Beyazlamakta

Beyaz → Koyulaşmakta

Cevap: D

62.

X = 5   Y = 1

Cevap: B

63.

X = D   Y = A

Cevap: E

64. $\bullet \to a$, $\square \to b$, $\triangle \to c$

I.	II.	III.
$2a = 3b$	$a + b + c = 2c$	$a + c = ?$
$\downarrow \quad \downarrow$	$a + b = c$	$\downarrow \quad \downarrow$
$3k \quad 2k$	$3k + 2k = c$	$3k + 5k = 8k$

$a = 3k$, $b = 2k$, $c = 5k$

A) $2b = 4k$

B) $3a = 9k$

C) $2a + b = 8k$

D) $2c + b = 12k$

E) $2c + a = 13k$

Cevap: C

65. $\bullet \to a$, $\blacksquare \to b$, $\blacktriangle \to c$
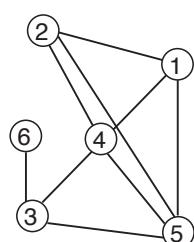
I.	II.	III.
$3a = 4b$	$a + c = 2b$	$2a = ?$
$\downarrow \quad \downarrow$	$4k + c = 6k$	$\downarrow$
$4k \quad 3k$	$c = 2k$	$= 8k$ aranıyor.

$a = 4k$, $b = 3k$

A) $3b = 9k$

B) $2c + a = 8k$

C) $3c = 6k$

D) $a + b + c = 9k$

E) $b + 2c = 7k$

Cevap: B
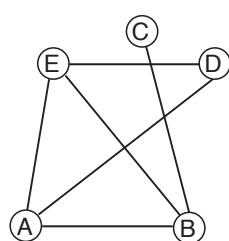
66.

1	3	4	5	2
5	2	3	4	1
4	1	⑤	2	3
2	4	1	3	5
3	5	2	1	4

x = 5

Cevap: E

Diğer Sayfaya Geçiniz.

67.

3	2	6	4
3	2	1	5
6	4	12	8
9	6	3	(15)

x2
x3
→ ?

Cevap: B

72. 4   17   8   14   12   11   (16)

−3   −3   +4   +4   +4

19   11   16   15   13   19   (10)

+4   +4   −3   −3   −3

Cevap: E

68. 14.20   Aynada

23.60
− 14.20
    9.40 Aynadaki görüntüsü

Cevap: A

73. I.

 → x 8

II.

 → x 27

Cevap: A

69.

Cevap: A

70.

Cevap: D

74.

x	y	z	x + y	y + z	x.y + x.z
3	4	6	7	10	30
a	b	c	7	14	9

$a + b = 7$ $a.b + a.c = 45$

$b + c = 9$ $a (b + c) = 45$

                 9

                 $a = 5$

$5 + b = 7 \Rightarrow b = 2$ ve $2 + c = 9$

                     $c = 7$

$a.b.c = 5.2.7 = 70$ bulunur.

Cevap: E

71. ● + ● = ○
○ + ○ = ●
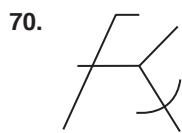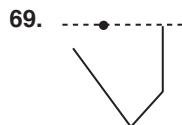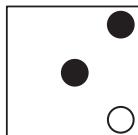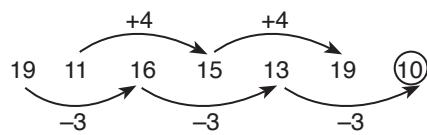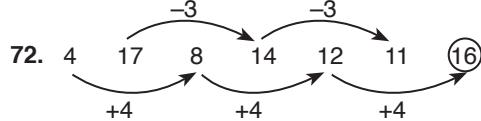
Cevap: E

TASARI EĞİTİM YAYINLARI

75. 13 , 　20 , 　34 , 　55 , 　x , 　118

　　　　+7　　+14　　+21　　+28　　+35

　　　　55 + 28 = x

　　　　　83 = x

Cevap: E

76. 2 → 4

5 → 6

3 → 1'dir.

Cevap: B

77. X → bulunduğu sütunda 1 adım aşağı inmekte

Z → bulunduğu satırda 1 adım simetri şekilde iler-
lemekte

Y → bulunduğu sütunda 1 adım yukarı yönde si-
metri şekilde ilerlemekte
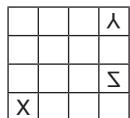
Cevap: A

78.

Saat yönü takip etmekte bu şıklardan C seçeneği
farklıdır.
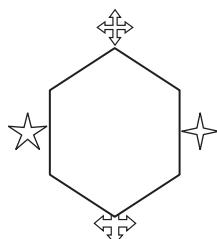
Cevap: C

**79.** Aynı basamaktaki harfin karşılığı 3 farklı harflerin
karşılığı 0

Cevap: D

80.
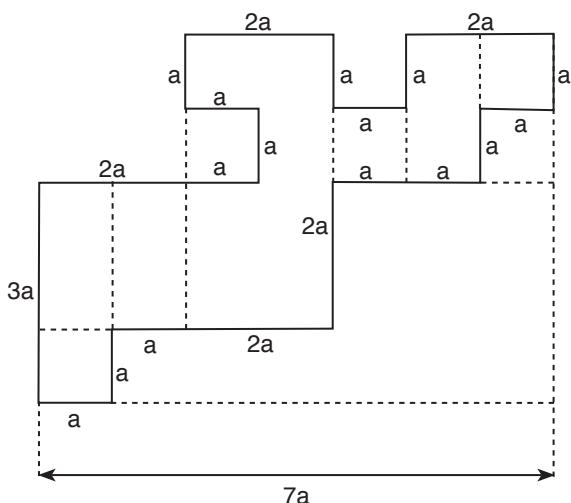
Çevre = 3a + 3a + a + a + a + 2a + a + a + a + 2a +
　　　　a + a + a + 2a + 2a + 3a + a + a

　　　= 28a

Cevap: C