

$$1. \frac{\begin{array}{c} \triangle \\ 7,4 \\ \triangle \end{array} + \begin{array}{c} \triangle \\ 8 \\ \triangle \end{array}}{\begin{array}{c} \triangle \\ 5,002 \\ \triangle \end{array} - \begin{array}{c} \triangle \\ 2,47 \\ \triangle \end{array}} = \frac{7+8}{5-2} = \frac{15}{3} = 5 \text{ olur.}$$

Cevap: B

$$2. (a \triangle 2) + (a \triangle 3) + (a \triangle 5) + (a \triangle 6) = 40$$

$$3a + 2a + 2a + 3a = 40$$

$$10a = 40$$

$$a = 4 \text{ olur.}$$

Cevap: D

$$3. 22 \odot 121 \rightarrow 24, 28, \dots, 120 \rightarrow \frac{120-24}{4} + 1 = 25$$

$$\Rightarrow (22 \odot 121) \odot 107 = 25 \odot 107$$

$$\Rightarrow 28, 32, \dots, 104 \rightarrow \frac{104-28}{4} + 1 = 20$$

O halde $25 \odot 107 = 20$ olur.

Cevap: D

$$4. \begin{array}{l} 7 \star 2019 = 8 + 9 + 10 + \dots + 2025 + 2026 \\ - 6 \star 2020 = 7 + 8 + 9 + 10 + \dots + 2025 + 2026 \\ \hline (7 \star 2019) - (6 \star 2020) = -7 \end{array}$$

Cevap: A

$$5. \cdot 4^x = 8 \Rightarrow 2^{2x} = 2^3 \text{ ve } 2x = 3$$

$$x = \frac{3}{2}$$

$$\cdot 9^y = 27 \Rightarrow 3^{2y} = 3^3 \text{ ve } 2y = 3$$

$$y = \frac{3}{2}$$

$$\Rightarrow 8 \square 27 = 2 \cdot \frac{3}{2} + 4 \cdot \frac{3}{2} = 3 + 6 = 9 \text{ olur.}$$

Cevap: C

$$6. \begin{array}{l} x \triangle y = y \triangle y \\ (x+1)^2 + (y-2)^2 = (y+1)^2 + (y-2)^2 \\ (x+1)^2 = (y+1)^2 \\ \swarrow \quad \searrow \\ x+1 = y+1 \quad x+1 = -y-1 \\ x = y \quad \boxed{x+y = -2} \\ (x \neq y \text{ olmalı}) \end{array}$$

Cevap: E

$$7. \cdot 2 \star a = 2 + a - a = 2$$

$$2 \circ a = \frac{1}{2} + a$$

$$\cdot (2 \circ a)^{2 \star a} = \frac{1}{4}$$

$$\left(\frac{2}{2} + a\right)^2 = \left(\frac{1}{2}\right)^2$$

$$(a+1)^2 = \left(\frac{1}{2}\right)^2 \Rightarrow a+1 = \frac{1}{2} \text{ ya da } a+1 = \frac{-1}{2}$$

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

O halde a'nın değerleri çarpımı $-\frac{1}{2} \cdot \frac{-3}{2} = \frac{3}{4}$

Cevap: E

$$8. (2 \square y) + (3 \square y) + (4 \square y) + \dots + (10 \square y) = 135$$

$$2 + 3y + 3 + 3y + 4 + 3y + \dots + 10 + 3y = 135$$

$$2 + 3 + \dots + 10 + \underbrace{3y + 3y + \dots + 3y}_{9 \text{ tane}} = 135$$

$$\frac{10 \cdot 11}{2} - 1 + 9 \cdot 3y = 135$$

$$54 + 27y = 135$$

$$27y = 81$$

$$y = 3 \text{ olur.}$$

Cevap: C

$$9. (2, 1) \star (3, x) = (7, y)$$

$$(2x - 1, 1 \cdot 3 - x) = (7, y)$$

$$(2x - 1, 3 - x) = (7, y)$$

$$\Rightarrow 3 - x = y$$

$$\boxed{3 = x + y}$$

Cevap: D

$$10. ((x^2)^2)^2 = ((2x + 1)^2)^2 = (2(2x + 1) + 1)^2$$

$$= (4x + 3)^2$$

$$= 2(4x + 3) + 1$$

$$= 8x + 7 \text{ olur.}$$

Cevap: B

11.

$$\triangle n = 2 \square n - 6$$

$$4n + 2 = 2(n^2 - 4) - 6$$

$$4n + 2 = 2n^2 - 14$$

$$2n^2 - 4n - 16 = 0$$

$$n^2 - 2n - 8 = 0$$

$$\wedge$$

$$-4 \cdot 2$$

$$(n - 4)(n + 2) = 0$$

$$\Rightarrow \cdot n - 4 = 0$$

$$n = 4$$

$$\cdot n + 2 = 0$$

$$n = -2$$

O halde n'nin alabileceği değerler toplamı

$$-2 + 4 = 2 \text{ olur.}$$

Cevap: A