

1.

a_1	a_2	a_3	...	a_n
$\frac{x^2}{y^2}$	$\frac{x^4}{y^4}$	$\frac{x^6}{y^6}$...	$\frac{x^{2n}}{y^{2n}}$

$$x = 0, y \neq 0, \frac{x}{y} - \frac{y}{x} = 0$$

$$\Rightarrow a^{1911} - a^{2019} = ?$$

$$\frac{x}{y} - \frac{y}{x} = 0 \Rightarrow \frac{x}{y} = \frac{y}{x}$$

$$x^2 = y^2$$

$$a^{1911} = \frac{x^{3822}}{y^{3822}} = \left(\frac{x^2}{y^2}\right)^{1911} = 1$$

$$a^{2019} = \frac{x^{4038}}{y^{4038}} = \left(\frac{x^2}{y^2}\right)^{2019} = 1$$

$$a^{1911} - a^{2019} = 1 - 1 = 0$$

2.

53	27	65	75	58
↓	↓	↓	↓	↓
61	36	76	87	x

• (içindeki sayı) + (sayının rakamları toplam)

$$53 + (5 + 3) = 61$$

$$27 + (2 + 7) = 36$$

$$65 + (6 + 5) = 76$$

$$75 + (7 + 5) = 87$$

$$58 + (5 + 8) = 71 = x \text{ olur.}$$

Cevap: A

$$3. a_1 = 2, a_2 = 3, a_3 = 2 \quad n \geq 4$$

$$a_n = a_{n-1} - a_{n-2} + a_{n-3}$$

n = 4 için

$$a_4 = a_3 - a_2 + a_1$$

$$a_4 = 2 - 3 + 2 = 1$$

n = 5 için

$$a_5 = a_4 - a_3 + a_2$$

$$a_5 = 1 - 2 + 3 = 2$$

n = 6 için

$$a_6 = a_5 - a_4 + a_3$$

$$a_6 = 2 - 1 + 2 = 3$$

O halde

$$a_4 + a_5 + a_6 = 1 + 2 + 3 = 6 \text{ bulunur.}$$

Cevap: D

Cevap: C

$$4. a_{24} + a_{25} + a_{26} + a_{27} = ?$$

Bir önceki sorunun çözümünden

$$a_1 = 2, a_2 = 3, a_3 = 2, a_4 = 1, a_5 = 2, a_6 = 3$$

$$a_7 = a_6 - a_5 + a_4$$

$$a_7 = 3 - 2 + 1 = 2$$

$$a_8 = a_7 - a_6 + a_5$$

$$a_8 = 2 - 3 + 2 = 1$$

$$a_9 = a_8 - a_7 + a_6$$

$$a_9 = 1 - 2 + 3 = 2$$

$$a_{10} = a_9 - a_8 + a_7$$

$$a_{10} = 2 - 1 + 2 = 3$$

$$a_1 a_2 a_3 a_4 a_5 a_6 a_7 a_8 a_9 a_{10}$$

a_1	a_2	a_3	a_4	a_5	a_6	a_7	a_8	a_9	a_{10}
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
2	3	2	1	2	3	2	1	2	3

Tek sayılarda sonuç $\rightarrow 2$ Çift sayılardan 2, 6, 10, 14, 18, 22, 26 $\rightarrow 3$ Çift sayılardan 4, 8, 12, 16, 20, 24 $\rightarrow 1$

O halde

$$a_{24} + a_{25} + a_{26} + a_{27} = ?$$

$$\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$$

$$1 + 2 + 3 + 2 = 8 \text{ bulunur.}$$

Cevap: C

$$5. \quad \begin{array}{ccccccccc} 2 & 6 & 7 & 21 & 22 & X & Y \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\ .3 & +1 & .3 & +1 & .3 & +1 & \end{array}$$

$$X = 22 \cdot 3 = 66$$

$$Y = 66 + 1 = 67$$

$$X + Y = 66 + 67 = 133 \text{ bulunur.}$$

Cevap: E

$$6. \quad \begin{array}{ccccccccc} & & +2 & & +2 & & +2 & & \\ & \underbrace{\quad} & & \underbrace{\quad} & & \underbrace{\quad} & & & \\ 5 & 10 & 7 & 12 & 9 & 14 & 11 & \dots & X \\ & \underbrace{\quad} & & \underbrace{\quad} & & \underbrace{\quad} & & & \\ & +2 & & +2 & & +2 & & & \end{array}$$

$$\frac{2.}{10}, \frac{4.}{12}, \frac{6.}{14}, \frac{8.}{16}, \dots, \frac{18.}{x}$$

$$\text{Terime 8 ekle o halde } 18 + 8 = 26 = x$$

Cevap: E

$$7. \quad \begin{array}{ccccccccc} & & +3 & & +3 & & +3 & & \\ & \underbrace{\quad} & & \underbrace{\quad} & & \underbrace{\quad} & & & \\ 8 & 4 & 11 & 7 & 14 & 10 & X & Y \\ & \underbrace{\quad} & & \underbrace{\quad} & & \underbrace{\quad} & & & \\ & +3 & & +3 & & +3 & & & \end{array}$$

$$X = 14 + 3 = 17$$

$$Y = 10 + 3 = 13$$

$$X - Y = 17 - 13 = 4$$

Cevap: B

$$8. \quad \begin{array}{ccccccccc} & & -2 & & -4 & & -6 & & \\ & \underbrace{\quad} & & \underbrace{\quad} & & \underbrace{\quad} & & & \\ 1 & 2 & -1 & -2 & -5 & -10 & x & y \\ & \underbrace{\quad} & & \underbrace{\quad} & & \underbrace{\quad} & & & \\ & -4 & & -8 & & -12 & & & \end{array}$$

$$x = -5 - 6 = -11$$

$$y = -10 - 12 = -22$$

$$x - y = -11 - (-22) = -11 + 22 = 11$$

Cevap: D

9. Örnek:

$$3 \xrightarrow{\times 4} 12 \xrightarrow{+6} 18 \xrightarrow{+3} 6 \xrightarrow{-3} 3$$

$$A \xrightarrow{+K} 9 \xrightarrow{\times K} B \xrightarrow{-K} 16$$

A = 7 olursa k = 2 alınır.

$$7 \xrightarrow{+2} 9 \xrightarrow{\times 2} 18 \xrightarrow{-2} 16$$

Cevap: E

$$10. \quad 8 \xrightarrow{+6} 14 \xrightarrow{+6} 20 \xrightarrow{\times 6} 120 \xrightarrow{\times 6} 720$$

Cevap: C

$$11. \quad \begin{array}{ccccccccc} 5 & 8 & 16 & 19 & 38 & 41 & ? \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\ +3 & .2 & +3 & .2 & +3 & .2 & \end{array}$$

$$x = 41 \cdot 2 = 82 \text{ bulunur.}$$

Cevap: D

12. $12, 8.5, 5, 1.5, ?$
 $-3.5 \quad -3.5 \quad -3.5 \quad -3.5$
 $X = 1.5 - 3.5 = -2$ bulunur.

Cevap: A

13. $(10), (9.75), (9.25), (8.5), (7.5), (6.25), (?)$
 $-0.25 \quad -0.50 \quad -0.75 \quad -1 \quad -1.25 \quad -1.5$
 $x = 6.25 - 1.5 = 4.75$

Cevap: D

14. $342178 \rightarrow 871432 \rightarrow 234781 \rightarrow 187324$
 $\rightarrow 423817$

Cevap: A

15. $2 \quad 4 \quad 10 \quad ? \quad 82 \quad 244$

Cevap: A

16. $9 \quad 6 \quad 10 \quad 7 \quad 15 \quad 12 \quad ? \quad 21 \quad 37$
 $-3 \quad +4 \quad -3 \quad +8 \quad -3 \quad +12 \quad -3 \quad +16$
 $x = 12 + 12 = 24$

Cevap: E

17. $458330, 677, 26, 5, ?$

Sağdan sola karesinin bir fazlası

$$5^2 + 1 = 26$$

$$26^2 + 1 = 677$$

$$677^2 + 1 = 458330$$

O halde $x = a^2 + 1 = 5$

$$a^2 = 5 - 1 = 4$$

$$a = 2$$

Cevap: C

18.

$$\begin{array}{cccccccc} & & +1 & & +1 & & +1 & & \\ & & \frown & & \frown & & \frown & & \\ 9 & 6 & 10 & 7 & 11 & x & 12 & 9 \\ & & \smile & & \smile & & \smile & & \\ & & +1 & & +1 & & +1 & & +1 \end{array}$$

$$x = 7 + 1 = 8$$

Cevap: E

19. $2 \quad 4 \quad 7 \quad 14 \quad 17 \quad x$
 $.2 \quad +3 \quad .2 \quad +3 \quad .2$
 $x = 17.2 = 34$

Cevap: D

20.

$$\begin{array}{ccccccccc} & & .3 & & .3 & & & & \\ & & \frown & & \frown & & & & \\ 3 & 23 & 7 & 69 & 11 & X & Y \\ & & \smile & & \smile & & \smile & & \\ & & +4 & & +4 & & +4 & & \end{array}$$

$$X = 69.3 = 207$$

$$Y = 11 + 4 = 15$$

Cevap: C