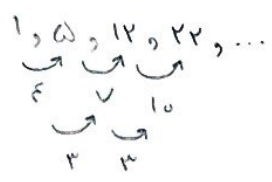


نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره ... ۱۱... کلاس دهم دبیرستان

$$t_n = n^2 + \frac{n(n-1)}{2} \rightarrow t_n = 10^2 + \frac{10(10-1)}{2} = 100 + (5 \times 9) = 100 + 45 = 145$$



$$\begin{aligned} 2a &= 3 \rightarrow a = \frac{3}{2} \\ 3a + b &= 4 \rightarrow b = 4 - \frac{9}{2} = -\frac{1}{2} \\ a + b + c &= 1 \rightarrow c = 0 \end{aligned}$$

$$t_n = \frac{3}{2}n^2 - \frac{1}{2}n = \frac{3}{2}(10)^2 - \left(\frac{1}{2} \times 10\right) = \frac{300}{2} - 5 = 150 - 5 = 145$$

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سطح یازدهم $\rightarrow$ $\frac{n(n-1)}{2} \rightarrow \frac{n(n-1)}{2} = 55 \rightarrow n(n-1) = 110 \rightarrow n = 11 \checkmark$
 غیر قابل قبول $n = -10$

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$$0, 4, 8, \dots \rightarrow t_n = (n-1)4 \rightarrow t_{11} = (11-1)4 = 40$$

الگوی سهره های سفید

$$5, 9, 13, \dots \rightarrow t_n = 4n + 1 \rightarrow t_{11} = (11 \times 4) + 1 = 45$$

الگوی سهره های زردی

$$\text{تعداد کل} = 40 + 45 = 85$$

115

$$135 = 40 + 85$$

$$a_1 = \frac{(-1)^1}{1} = -1 \rightarrow \text{کوچک ترین جمله}$$

$$a_2 = \frac{(-1)^2}{2} = \frac{1}{2} \rightarrow \text{بزرگ ترین جمله}$$

$$a_2 - a_1 = \frac{1}{2} - (-1) = \frac{1}{2} + 1 = \frac{3}{2}$$

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$$b_n = (-3)^n - 212 - 27 - 212 - 48$$

۳

$$a_k = -5k + 22$$

$$-5k + 22 = -48 \rightarrow -5k = -48 - 22 = -70 \rightarrow k = \frac{70}{5} = 14$$

$$d_1 = \frac{t_{10} - t_v}{10 - v} = \frac{14}{3} = \varepsilon$$

(P)

$$t_9 - t_1 = t_{1+\omega d} - t_1 = \omega d = \omega \varepsilon = 2 \neq 0$$

6

$$d_1 = \frac{a_\varepsilon - a_r}{\varepsilon - r} = \frac{1\omega - v}{3} = \frac{1}{3} = \varepsilon$$

$$a_r = a_1 + d = v \rightarrow a_1 = v - \varepsilon = 2$$

$$a_r = a_1 + d = v + \varepsilon = 11$$

$$b_n = 2, 11, \dots \rightarrow b_n = 9n - 8$$

(P)

7

$$2, 4, 10, 18, \dots \rightarrow t_n = \varepsilon n - 2$$

$$\omega, 7, 9, 11, \dots \rightarrow t_n = 2n + 3$$

الگوی صورت
الگوی خارج

$$\frac{\varepsilon n - 2}{2n + 3} < \frac{1}{3} \rightarrow 3n - 6 < 2n + 9 \rightarrow 2n < 15 \rightarrow n < \frac{15}{2}$$

$n \geq 1, 2, 3, \dots$

$\rightarrow$ 2 عدد

(P)

8

$$4, 9, 9, 4, 0, \dots$$

$$rA + \omega B = -\frac{r}{3}(r) + \omega\left(\frac{1\omega}{3}\right) = -\frac{9}{3} + \frac{1\omega}{3}$$

$$= \frac{44}{3} = 14\frac{2}{3}$$

$$\begin{array}{ccc} 4 & 9 & 9 \\ \swarrow & \searrow & \swarrow \\ 3 & 0 & -3 \\ \swarrow & \searrow & \swarrow \\ -3 & -3 & -3 \end{array}$$

$$ra = -3 \rightarrow a = -\frac{r}{3}$$

$$ra + b = 3 \rightarrow b = 3 + \frac{9}{3} = \frac{1\omega}{3}$$

$$a + b + c = 4 \rightarrow c = 0$$

$$t_n = An^2 + Bn = -\frac{r}{3}n^2 + \frac{1\omega}{3}n$$

(P)

9

$$-4, -9, -9, 0, \dots$$

$$d = \frac{a_\varepsilon - a_r}{\varepsilon - r} = \frac{\varepsilon 1 - r 1}{3} = \frac{10}{3} = \omega \rightarrow t_n = \omega n + r 1$$

$$n^2 - n - 4 = \omega n + r 1 \rightarrow n^2 - n - \omega n - 4 - r 1 = 0$$

$$n^2 - 4n - 14 = 0 \rightarrow (n - 9)(n + 5) = 0 \rightarrow \begin{cases} n = 9 \\ n = -5 \end{cases}$$

غیر قابل قبول

در $t_9 = 44$ برابرند

(P)

10

$$ra = 2 \rightarrow a = 1$$

$$ra + b = 3 \rightarrow b = 3 - r = -1$$

$$a + b + c = -4 \rightarrow c = -9$$

$$t_n = n^2 - n - 9$$