

۱۱,۷۵

نام و نام خانوادگی: ... فریاد ... جهان ...
پاسخنامه تشریحی تکلیف شماره ... ۱۱ ... کلاس ... دهم پسر B

۱ و ۲ و ۱۲ و ۱۵ و ۲۲ $a_n = n^2 + \frac{(n-1) \cdot n}{2}$

$a_{10} = 10^2 + \frac{10 \times 9}{2} = 100 + 45 = 145$ $a_{10} = 145$ ✓

۲

۰ و ۱ و ۳
+ ۱ + ۲
+ ۱

$a_n = \begin{cases} a = \frac{1}{2} \\ b = t_2 - t_1 - 2a = 1 - 0 - \frac{3}{2} = -\frac{1}{2} \\ c = t_1 - a - b = 0 - \frac{1}{2} + \frac{1}{2} = 0 \end{cases}$

$a_n = \frac{1}{2}n^2 - \frac{1}{2}n$ $\frac{1}{2}n^2 - \frac{1}{2}n = 55$ $n = 11$ ✓

۲

$a_n'' \rightarrow 5, 9, 13 \rightarrow a_n = 5 + (n-1) \times 4$

$a_n' \rightarrow 0, 4, 8 \rightarrow a_n = (n-1) \times 4$

۲

$a_{11}'' + a_{11}' \rightarrow 5 + (10 \times 4) + (10 \times 4) = 40 + 40 = 80$ $a_{11} = 80$

$a_n = \frac{(-1)^n}{n} \rightarrow -1, \frac{1}{2}, -\frac{1}{3}, \frac{1}{4}, -\frac{1}{5}, \frac{1}{6}$

$\frac{1}{2} - (-1) = \frac{3}{2}$ ✓

۲

$b_n = (-3)^n - 7n \rightarrow (-3)^3 - 7(3) = -27 - 21 = -48$

$-48 = (a_n) \rightarrow -48 = -5n + 22$

$-48 - 22 = -5n$ $-70 = -5n$

$n = \frac{-70}{-5} = 14$ ✓

۲

$$t_0 - t_v = 12 \quad t_4 - t_1 = ?$$

$$t_0 = a + 9d - a - 9d = 12 \quad d = 4$$

$$t_4 - t_1 = a + 4d - a = 4d = 4 \times 4 = 16$$

(2)

$$a_7 = V \quad \text{Old} \quad \frac{a_7 - a_1}{7-1} \rightarrow \frac{10 - V}{6} = 4 \quad d = 4$$

$$a_7 = 10 \quad a_7 = a + d \rightarrow V = a + 4 \quad a = 6$$

$$a_1 = 3 \quad a_7 = a + 6d \rightarrow 3 + 6 = 11$$

$$b_n = 3, 11, 19, \dots \quad b_n = \begin{cases} d = \frac{a_7 - a_1}{7-1} \rightarrow \frac{11-3}{6} = 1 \end{cases} \quad b_n = 10 - 9$$

(2)

$$\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \frac{1}{7}, \frac{1}{8}, \frac{1}{9}, \frac{1}{10}, \frac{1}{11}, \frac{1}{12}$$

$$t_n = \frac{f_{n-1}}{n+3} \sim \frac{f_{n-1}}{n+3} < \frac{3}{2}$$

$$4n + 4 > 11n - 1$$

$$n < \frac{5}{3} \rightarrow n = 1$$

(2)

$$4, 9, 9, 9, 0$$

$$+2 \quad 0 \quad -3 \quad -3$$

$$a_n = \begin{cases} a = \frac{-3}{2} \\ b = t_4 - t_1 - 3a = 9 - 9 - (3 \times \frac{-3}{2}) = \frac{9}{2} \end{cases}$$

$$3A + 4B = (3 \times -10) + (4 \times 10) = -30 + 40 = 10$$

(2)

$$t_n = (-4), -4, -4, 0 \rightarrow 2a \quad a = 1 \quad t_0 = -4 = c$$

$$a + d = 31 \rightarrow -a - d = -31 \rightarrow 2d = 31 \rightarrow d = 15.5$$

$$a + 3d = 41 \rightarrow a + 47 = 41 \rightarrow a = -6$$

$$t_1 = 1 \times 1 + b \times 1 - 4 \rightarrow -4 \rightarrow b - 3 = -4 \rightarrow b = -1 \quad t_n = n^2 - n - 4$$

(2)

$$2n + 11 = n^2 - n - 4 \rightarrow n^2 - 3n - 15 = 0 \quad \Delta = 144 \rightarrow \Delta = 12$$

$$n = \frac{3 \pm 12}{2} \rightarrow n = 7.5 \text{ or } -4.5$$

(2)