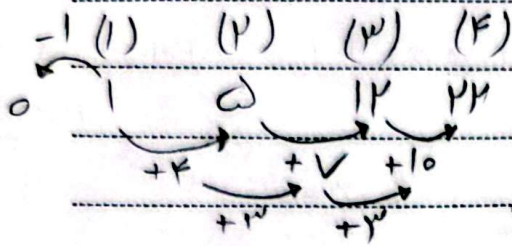


(1)

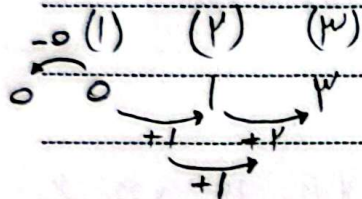


$$2a = 3 \rightarrow a = \frac{3}{2}$$

$$C = 0, 1 = a + b + C = \frac{3}{2} + b \Rightarrow b = -\frac{1}{2}$$

$$t_n = \frac{3}{2}n^2 - \frac{1}{2}n \rightarrow t_{10} = \frac{3}{2} \times 100 - \frac{1}{2} \times 10 = \boxed{295}$$

(2)

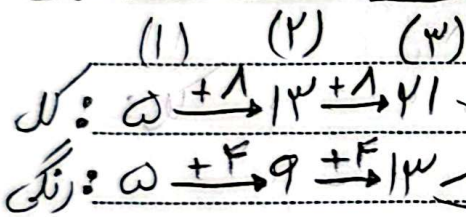


$$2a = 1 \rightarrow a = \frac{1}{2}, C = 0$$

$$10 = a + b + C = \frac{1}{2} + b \rightarrow b = -\frac{1}{2} \rightarrow t_n = \frac{1}{2}n^2 - \frac{1}{2}n$$

$$55 = \frac{1}{2}n^2 - \frac{1}{2}n = \frac{n}{2}(n-1) \rightarrow 110 = n(n-1) \rightarrow n = \boxed{11}$$

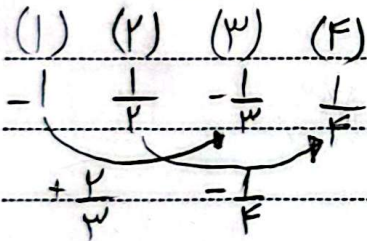
(3)



$$t_n = 1n - 3 \rightarrow t_{11} = 1 \times 11 - 3 = \boxed{8}$$

$$t_n = 4n + 1 \rightarrow t_{11} = 4 \times 11 + 1 = \boxed{45}$$

(4)



$$\left. \begin{array}{l} \text{بزرگترین جمله} = \frac{1}{2} \\ \text{کوچکترین جمله} = -\frac{1}{3} \end{array} \right\} \left| \frac{1}{2} - \left(-\frac{1}{3}\right) \right| = \frac{1}{2}$$

اختلاف

(5)

$$b_p = a_k = -2V - 2I = -4A \rightarrow -4A = -\omega k + 2 \Rightarrow -V_0 = -\omega k$$

$$k = \boxed{14}$$

(6)

$$12 = |a_{10} - a_7| = |10a + b - 7a - b| = |3a| \Rightarrow 4 = |a|$$

$$a_n = a \cdot n + b$$

$$|a_4 - a_1| = |4a + b - a - b| = |3a| = 3 \times 4 = \boxed{12}$$

(7)

$$10 - V = \Delta = a_f - a_r = Fa + b - Va - b \Rightarrow \Delta = Va \rightarrow a = \underline{F}, V = Va + b \rightarrow b = \underline{-1}$$

$$a_n = Fn - 1 \rightarrow a_f = b_f = \underline{F}, a_r = b_r = \underline{-1} \quad b_n = b \cdot n + C$$

$$b = b_r - b_f = -1 - F = \Delta, F = \Delta \times 1 + C \Rightarrow C = -\Delta \quad b_n = \Delta n - \Delta$$

3, 11, 19, 27, ...

(8)

$$t_n = \frac{Fn - 1}{-Fn + F} \rightarrow \frac{Fn - 1}{-Fn + F} = \frac{r}{F} \rightarrow \Delta n - F = 4n + 9 \rightarrow Fn = 14 \rightarrow n = 4, \Delta$$

$$n < 4, \Delta \rightarrow \text{جواب} = \text{جمله}$$

(9)

(1) (F) (r) (F) $VA = -r \rightarrow A = -\frac{r}{F} \rightarrow 0$

$C = 0 / 4 = A + B + C \rightarrow 4 = -\frac{r}{F} + B \rightarrow B = \frac{10}{F}$

$rA + \Delta B = r(-\frac{r}{F}) + \Delta \times \frac{10}{F} = \frac{10\Delta - 9}{F} = \underline{14}$

(10)

(1) (F) (r) $VA = F \rightarrow A = 1, C = -4 \quad -4 = A + B + C \Rightarrow$

$-4 = 1 + B - 4 \rightarrow B = -1$

$t_n = An^r + Bn + C \rightarrow t_n = 1n^r - n - 4$

$$a_f - a_r = Fa + b - Va - b \rightarrow F1 - r1 = Va \rightarrow a = \Delta \quad r1 = Va + b \Rightarrow r \times \Delta + b$$

$b = r1$

$$t_n = a_n \rightarrow n^r - n - 4 = \Delta n + r1 \Rightarrow n^r - 4n - rV = 0$$

$$(n-9)(n+r) = 0 \rightarrow n = \underline{9} \checkmark$$

$n = -r \times$