

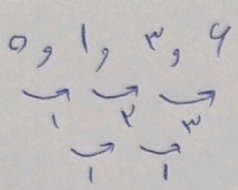
$$\frac{w}{r}n^2 + bn = \frac{w}{r} + b, 1 \Rightarrow b = -\frac{1}{r}$$

1

$$a_2 = 5 \Rightarrow a_2 = \frac{w}{r}$$

$C=0$

$$\frac{w}{r}n^2 - \frac{1}{r}n \Rightarrow \frac{w}{r} \times 100 - \frac{1}{r} \times 1 = 100 - 1 = 99$$



$$\frac{n(n-1)}{2} = 55$$

$$n(n-1) = 110$$

$n = 11$

2

تعدادی $\rightarrow 5, 9, 13 \Rightarrow b_n = 4n + 1$

تعدادی $\rightarrow 5, 13, 21 \Rightarrow a_n = 8n - 3$

3

$$a_{n-3} = 8(n-3) - 3 = 8n - 27$$

$$b_{n+1} = 4(n+1) + 1 = 4n + 5$$

$$a_n = \frac{(-1)^n}{n}$$

$$a_1 = \frac{-1}{1} = -1 \quad \left(\begin{array}{l} \text{کوچکترین جمله} \\ \text{بزرگترین جمله} \end{array} \right)$$

$$a_r = \frac{+1}{r} = \frac{1}{r}$$

$$\left\{ \begin{array}{l} \frac{1}{r} - (-1) = \frac{w}{r} \end{array} \right.$$

4

$$b_n = (-3)^n - 1 \Rightarrow b_3 = (-3)^3 - 1 = -27 - 1 = -28$$

$$a_k = -5^k + 22$$

$$\Rightarrow -5^k + 22 = 28$$

$$5^k = 6$$

$$(k = 1)$$

5

$$a_{10} - a_{12} = a_{11} + qd - a_{11} - qd = rd \Rightarrow rd = 1r$$

$$d = r$$

$$a_9 - a_{12} = a_{11} + qd - a_{11} - qd = 0 \Rightarrow \omega \times r = r_0$$

$$a_1 = v \quad a_2 = 1\omega \Rightarrow \frac{1\omega - v}{r} = r = d = \frac{a_2 - a_1}{r - 1}$$

$$a_{12} = r$$

$$a_{12} = 11$$

$$b_{12} = r$$

$$b_{12} = 11$$

$$d = \frac{11 - r}{1} = 11$$

$$b_n = 11n - \omega$$

$$t_n = \frac{r}{\omega}, \frac{r}{v}, \frac{10}{a}, \frac{11}{11}, \dots$$

جدول

$$t_n = \frac{r_n - r}{r_{n+1} + r} \Rightarrow \frac{r_n - r}{r_{n+1} + r} < \frac{r}{r}$$

$$11n - r < r_{n+1} + r$$

$$r_n < 11r$$

$$n < \frac{11r}{r} \Rightarrow 9 \leq n < 11$$

$$1 \leq n \leq 9$$

$$t_n = 9, 9, 9, 9, 0, \dots$$

$$r \times \left(-\frac{r}{r}\right) + \omega \times \frac{1\omega}{r} = -\frac{r}{r} + \frac{r\omega}{r}$$

$$\frac{99}{r} = \frac{r}{r}$$

$$t_n = An^r + Bn \quad r_{n+1} = A_2 - \frac{r}{r}$$

$$-\frac{1}{r}n^r + Bn = -\frac{r}{r} + B \quad (B, V, \omega)$$

$$t_n = -\frac{r}{r}, -\frac{r}{r}, \dots$$

$$a_1 = 1$$

$$1n^r + b_n - 9 = 0$$

$$c_2 = -9$$

$$1 + b - 9 = -9 \Rightarrow b = -1$$

$$a_r = r \mid \rightarrow a_{12} = r$$

$$a_n = \omega n + r$$

$$n^r - n - 9 = \omega n + r \Rightarrow n^r - 9n - r = 0 \Rightarrow (n - 9)(n + r) = 0$$

$$n = -r \quad \text{or} \quad n = 9$$

$$n = 9 \quad \checkmark$$