

$\{1\}, \{2, 3, 4\}, \{5, 6, 7, 8, 9\}, \dots$

(1)

$\rightarrow$ مجموع: $2 \times (9) - 1 = 17 \rightarrow$ برای 17 عدد $\Rightarrow 1 + 4 + 9 + \dots + 17 = 81 \rightarrow$ 9 رقم عدد است

جواب $\rightarrow$ $\frac{81 + 9}{2} = 73$ $\rightarrow$ اولین عدد است 9 $\rightarrow (9) + (17) = 26$

(2) $a_0 = a_1 q^4 = 3 \times 3^4 = 243 \rightarrow$ مقدار
 $1 + 9 + \dots + 243 = 3 \left(\frac{3^5 - 1}{3 - 1} \right) = 121$
 اولین عدد $= 363 \times \frac{1}{3} = 121$

عدد $= (363 - 121) + 1 = 243 \Rightarrow \frac{121 + 122 + 123 + \dots + 363}{243} = \frac{51102}{243} = 209$



هعی!!!

(3) $ax^2 + bx + c \rightarrow a = \frac{1}{v}(-12) = -\frac{1}{v}$
 $\begin{cases} x=0 \rightarrow -\frac{1}{v}(25) + 5b + c = 12 \rightarrow 5b + c = 19 \\ x=7 \rightarrow -\frac{1}{v}(49) + 7b + c = 17, 2 \rightarrow 7b + c = 27 \end{cases}$
 $5b + c = 19$
 $7b + c = 27$
 $27 - 19 = 2b \rightarrow b = 4$
 $5(4) + c = 19 \rightarrow c = -1$

$a_{10} = -\frac{1}{v}(10^2) + 10(4) - 1 = 14$ $a_1 = -\frac{1}{v}(1^2) + 1(4) - 1 = 2$ $\frac{14}{2} = 7 \rightarrow$ جواب

(4) $\begin{cases} a_1 + 4d = 2a + b \\ a_1 + 7d = 7a + b \end{cases} \rightarrow (7a + b) - (2a + b) = (a_1 + 7d) - (a_1 + 4d) \Rightarrow 5a = 3d \Rightarrow a = \frac{3}{5}d$

$10a + b = 0 \rightarrow 10d(10) + b = 0 \rightarrow b = -10d$
 $\frac{10a + b}{d} = \frac{10d - 10d}{d} = 0$ جواب

$$\gamma(a_1+d)^r = \omega(a_1+rd)a + r(a_1+d)a \rightarrow \gamma a_1^r + \gamma d^r + 1ra_1d = \omega a_1^r + 1\omega a_1d + r\omega a_1^r + r\omega a_1d \quad (6)$$

$$\gamma a_1^r + \gamma d^r + 1ra_1d = 1\omega a_1^r + 1\omega a_1d \rightarrow \gamma a_1 + a_1d = \gamma d^r \rightarrow \gamma a_1^r + a_1d - \gamma d^r = 0$$

$$\Delta \rightarrow \Delta = 1 + \varepsilon \Lambda = \gamma q \rightarrow \frac{-1 \pm \sqrt{1 \pm 4\gamma q}}{2} = -\gamma, 1/d = a_1 \rightarrow \frac{d^r}{d^r} = \frac{\gamma a_1^r}{d^r} + \frac{a_1d}{d^r} - \frac{\gamma}{d^r}$$

$$a_1 = a + rd \rightarrow \frac{a_1}{d} = \frac{-r+r}{1} = 1 \rightarrow \frac{1/d+r}{1} = \gamma \Delta \rightarrow \frac{a}{d} = 11$$

$$a, b, c \rightarrow \gamma b = c + a$$

$$\frac{c}{\varepsilon}, \frac{a}{r}, b \rightarrow \frac{a}{r} = \frac{c}{\varepsilon} q \rightarrow a = \frac{qc}{r} \text{ و } b = \frac{c}{\varepsilon} q^r \rightarrow b = \frac{qa}{r}$$

$$b = \frac{q^r c}{\varepsilon} = \frac{c+a}{r} = b \rightarrow \gamma c + \gamma a = q^r c \xrightarrow{a = \frac{qc}{r}} \frac{q^r c}{\varepsilon} = c + \frac{qc}{r}$$

$$\rightarrow \frac{q^r c}{\varepsilon} = c \frac{(q+r)}{\varepsilon} \rightarrow q^r = q+r \rightarrow q^r - q - r = 0 \quad \left\{ \begin{array}{l} q = -1 \times \\ q = r \end{array} \right. \quad \left\{ \begin{array}{l} r \times r = r \end{array} \right.$$

$$b^r = ac \rightarrow a = \varepsilon r^r, b = cr$$

$$\gamma a - c = r b - \gamma a \rightarrow \gamma a = c + r b \text{ و } \left. \begin{array}{l} \gamma a = \gamma cr^r \\ r b = r cr \end{array} \right\} \rightarrow \gamma cr^r - r cr - c = 0 \rightarrow c(r^r - r - 1) = 0$$

$$r = -\frac{1}{\varepsilon}, r = 1, c = 0 \leftarrow \text{نمی تواند باشد و از مجازیت زیرینا می آید}$$

$$\frac{a_q}{a_r} = q^r = \left(-\frac{1}{\varepsilon}\right)^r = -\frac{1}{\varepsilon \varepsilon} \quad \left\{ \begin{array}{l} \frac{a_q}{a_r} = \frac{a_q}{a_r} = r \rightarrow \frac{q^r + a_q}{a_r} = r \end{array} \right. \quad (9)$$

$$\gamma a^r - q^r - a_q = 0 \rightarrow (q-a)(q+ra) = 0 \rightarrow q = a, q = -ra$$

$$\frac{a^r}{a_q} = \frac{q}{-ra^r} = -\frac{1}{r}$$

$$a_r = \sqrt{a_\varepsilon} \rightarrow a_1 q^r = \sqrt{a_1 q^r} \xrightarrow{\sqrt{\cdot}} a_1 q^\varepsilon = a_1 q^r \rightarrow a_1 = \frac{1}{q}$$

$$a_d = a_1 q^2 = \frac{1}{q} \times q^2 = q^2 \rightarrow q = +r \rightarrow a_1 = \frac{1}{r}$$

$$\frac{1}{r} - \frac{1}{r} = \frac{1}{\varepsilon}$$