

$$\text{جدا آید} \Rightarrow 9^2 = 111$$

$$\text{جدا آید} \Rightarrow 1^2 = 45 \quad 45 + 1 = 46$$

$$\frac{45 + 11}{2} = \frac{149}{2} = 74.5$$

{1, 2, 3}, {4, 5, 6, 7, 8, 9, 10, 11, 12}, {13, 14, ..., 19}, {20, ..., 25}, {26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100}

$$\frac{344 + 121}{2} = 232.5$$

$a_0 = r^0 = 1 / n = 1 \rightarrow k = 0 \rightarrow a_1 = r$
 $n = 2 \rightarrow k = 0 \rightarrow a_2 = \left[\frac{r}{2} \right] + a = 1 + a / n = 2 \quad k = 1 \quad a_2 = r^1 = r$
 $n = 4 \rightarrow k = 1 \rightarrow a_4 = 2 / n = 4 \rightarrow k = 1 \rightarrow a_4 = \left[\frac{a}{2} \right] + a = 1 + a$
 $n = 4 \rightarrow k = 2 \rightarrow a_4 = r^2 = 4 / n = 1 \rightarrow k = 2 \rightarrow a_4 = 0 / n = 1 \rightarrow k = 2 \rightarrow a_4 = \left[\frac{a}{4} \right] + a = 2 + a$
 $n = 4 \rightarrow k = 3 \rightarrow a_4 = r^3 = 8$
 $a_0 = 1$

$$a_1 = r / a_2 = 1 + a / a_3 = 2 / a_4 = r / a_5 = 1 + a / a_6 = 4 / a_7 = 0 / a_8 = 2 + a$$

$$a_9 = 1 / \Rightarrow 1 + r + 1 + a + r + r + 1 + a + r + 0 + r + a + 1 = 2a + 3a = 19$$

$$\Rightarrow 3a = -4 \Rightarrow a = (-2)$$

$$a_1 + a_2 + a_3 + \dots + a_{19} = -1 + (-1) + 0 + \dots + 0 = -2$$

$\downarrow \quad \downarrow \quad \downarrow$
 $1 + (-2) - 1 + (-2) - 1 \rightarrow 1 + (-2)$

$$25a + 5b + c = 14$$

$$49a + 7b + c = 14.1$$

$$24a + 2b = 14.1 \Rightarrow 24 \left(-\frac{1}{5} \right) + 2b = \frac{14.1}{10} \Rightarrow 2b = \frac{14.1}{10} + \frac{24}{5}$$

$$\frac{1}{10} \times (-14) = -\frac{1}{5} = a$$

$$2b = \frac{14.1 + 48}{10} = \frac{62.1}{10} = 6.21$$

$$a_5 = d_1 \Rightarrow 14 \left(-\frac{1}{5} \right) + d_1 + c = 14 \Rightarrow c = -1 \quad b = 3$$

$$a_1 + 10d_A = b + d_B$$

$$a - b = d_B - 10d_A$$

$$a_1 = b_1$$

$$a + 10d_A = b + 4d_B$$

$$a - b = 4d_B - 10d_A$$

$$b_{10} = b + 9d_B = 0$$

$$b = -9d_B \Rightarrow -9 \left(\frac{r}{9} d_A \right) = -\frac{14}{9} d_A$$

$$b_{10} = b + 10d_B \Rightarrow -\frac{14}{9} d_A + 10 \left(\frac{r}{9} d_A \right) = 0$$

$$d_B - 10d_A = 4d_B - 10d_A$$

$$10d_A = 3d_B \rightarrow d_B = \frac{10}{3} d_A$$

$$\text{ملاحظة: } \frac{a_1}{d} = \frac{a_1 + r d}{d} \quad \frac{a_1 + r d}{\frac{r}{r} a_1} = \frac{q}{r} \quad \frac{a_1 + r d}{d} = \frac{1}{d} \quad \frac{a_1 + r d}{d} = \frac{1}{d}$$

$$4 a_1^r - r a_1 a = \Delta a_1 a$$

$$r a_1 (r a_1 - a) = \Delta a_1 a$$

$$a_1 + r d = 0$$

$$r a_1 (a_1 + r d) = \Delta (a_1 + r d) a_1 \quad a_1 = -r d$$

$$\hookrightarrow r a_1 = \Delta a_1 \rightarrow r(a_1 + d) = \Delta a_1 \rightarrow r a_1 + r d = \Delta a_1 \rightarrow r d = r a_1$$

$$C, C+d, C+rd$$

$$C+d = \frac{C q^r}{r}$$

$$\frac{C}{r}, \frac{C q}{r}, \frac{C q^r}{r}$$

$$d = C \left(\frac{q^r}{r} - 1 \right)$$

$$C + r d = \frac{C q}{r} \Rightarrow C \left(\frac{q}{r} - 1 \right) = r d \quad \frac{r d}{d} = \frac{C \left(\frac{q}{r} - 1 \right)}{C \left(\frac{q^r}{r} - 1 \right)} = \frac{1}{\frac{q}{r} + 1} = r$$

$$\Rightarrow 1 = q + r \Rightarrow q = -1 \quad r q = -r$$

$$\begin{array}{ccc} C & b & a \\ C & C q & C q^r \end{array}$$

$$r C q = C + r d \Rightarrow r d = C (r q - 1)$$

$$\begin{array}{ccc} C & r a & r b \\ C & C + d & C + r d \end{array}$$

$$r C q^r = C + d \Rightarrow d = C (r q^r - 1)$$

$$\frac{r d}{d} = \frac{r q^r - 1}{r q^r - 1} = r \Rightarrow r q^r - r q - 1 = 0$$

$$\Delta = r d \rightarrow q = \frac{r \pm \Delta}{r}$$

$$\frac{a_1}{a_1} \Rightarrow \frac{a_1 q^1}{a_1 q^0} = q^r = \left(\frac{-1}{r} \right)^r = \frac{-1}{r^r}$$

$$\frac{a_1 q^0}{a_1 q^r} + \frac{a_1 q}{a_1 r} = \frac{q^r}{a_1 r} + \frac{q}{a_1} = r$$

$$\frac{q^r}{a_1 r} + \frac{q}{a_1} - r = 0 \rightarrow \frac{q}{a_1} = 1 \quad \frac{q}{a_1} = -r$$

$$\frac{a^r}{a_1} = \frac{a^r}{a_1} = \frac{a}{q} \rightarrow \frac{a}{q} = 1 \quad \frac{a}{q} = -\frac{1}{r}$$

$$a q^r = \sqrt{a q^r}$$

$$a q^r = r v$$

$$\frac{1}{r} - a = ?$$



$$a q^r (q^r) = r v$$

$$q^r = r v \rightarrow q = r$$

$$(a q^r)^r = (\sqrt{a q^r})^r \Rightarrow a^r q^r = a q^r \rightarrow \frac{a^r q^r}{a q^r} = 1 \Rightarrow a q = 1 = a_1$$

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

$$a x^r = 1 \Rightarrow a = \frac{1}{r}$$