

$$\{1\}, \{2, 3, 4\}, \dots, \{90, \dots, 11\}$$

$$\frac{11-90}{2} = -39.5$$

سوال ۱:

په اول  $(n-1)^2 + 1 = 1^2 + 1 = 2$

$$b = \frac{11-90}{2} = -39.5 \quad 1+90 = 91$$

$$n^2 = a \times r = 11$$

$$90 \quad 72 \quad 54$$

موسی صورت  $\rightarrow \{1, 2, 3\}, \{4, 5, 6, 7, 8, 9, 10, 11, 12\}, \dots$

سوال ۲:

$$r^2 - 13r + 12 = 0$$

$$\frac{r^2 - 13r + 12}{r} = 0$$

$$\frac{r^2}{r} - \frac{13r}{r} + \frac{12}{r} = 0$$

$$r - 13 + \frac{12}{r} = 0$$

$$r^2 - 13r + 12 = 0$$

$$(r-12)(r-1) = 0$$

$$r = 12 \text{ or } r = 1$$

$$r = 12$$

$$198 + 245 = 443$$

$$r + 9 + 27 + 81$$

$$14 \times 2 = 28$$

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$$\begin{aligned}
 a_1 + r d &= t_1 + d_r & a_1 + v d &= t_1 + q d_r & a_1 + r d &= 10 d_r \\
 t_1 + q d &= 0 \rightarrow -q d = t_1 & a_1 + v d &= 10 d_r & & \\
 t_1 + 10 d_r &= \dots & & & & \\
 \frac{10 d_r}{\frac{1}{r} d_r} &= \dots \wedge
 \end{aligned}$$

$$\begin{aligned}
 q a^r &= \Delta a^r + r a^r \\
 q (a+d)^r &= \Delta (a+d)^r + r (a+d)^r \\
 &= q (a^r + r a d + d^r) = (\Delta a + 10 d) a^r + (r a + r d) a^r \\
 q a^r + 10 r a d + q d^r &= \Delta a^r + 10 a d + r a^r + r a d \\
 q d^r &= r a^r + 10 a d = q d^r = r a^r + 10 a d \\
 q d^r + 10 r a d + q d^r &= r a^r + 10 r a d \\
 q d^r - a d - r a^r &= 0 \quad q^r = \left(\frac{d}{a}\right) - r = \left(\frac{d}{a}\right) - r
 \end{aligned}$$

$$\begin{aligned}
 a_n &= c, b, a \\
 t_n &= b, \frac{a}{r}, \frac{c}{r} \\
 \frac{a q^r}{a q^d} &= q^r = (-r)^r = -r^r \\
 c + r b &= f a = \frac{b^r}{a} + r b \quad | k = \frac{a}{b} \rightarrow f k^r - r k - 1 = 0 \\
 a: f a^r &= b^r + r a b \quad \Delta = 9 + 19 = 28 \quad k = (r \pm \Delta) \\
 f a^r - r a b - b^r &= 0 \quad k = 1 \rightarrow k^r - r k - 1 = 0 \quad k = \frac{a}{b} \rightarrow k^r - r k + 1 = 0
 \end{aligned}$$

$$\begin{aligned}
 t_n &= c, b, a \quad c + r b = f a = c + r b \quad c = \frac{b^r}{a} \quad f a = \frac{b^r}{a} + r b \\
 a_n &= c, r a, r b \quad a: f a^r = b^r + r a b \\
 f a^r - r a b - b^r &= 0 \quad k = \frac{a}{b} \rightarrow f k^r - r k - 1 = 0 \quad \Delta = 9 + 19 = 28 \\
 k &= (r \pm \Delta) \quad \frac{1}{k} = 1 \quad \frac{-r}{k} = -\frac{1}{r} \quad q = \frac{b}{a} = \frac{b}{\frac{b}{r}} = -r \\
 \frac{a q^r}{a q^d} &= q^r = (-r)^r = -r^r
 \end{aligned}$$

$$a_n = aq^{n-1}$$

$$\frac{a_1}{(a_1)^r} + \frac{a_r}{(a_1)^r} = r$$

$$\frac{a_1}{(a_1)^r} + \frac{a_r}{(a_1)^r} = r$$

$$\frac{a^r}{aq} = \frac{a}{q}$$

سوال 9 :

$$\frac{aq^0}{(aq)^r} + \frac{aq}{a^r} = r$$

$$\frac{aq^0}{a^r q^r} + \frac{aq}{a^r} = \frac{aq^r}{a^r} + \frac{aq}{a^r} = \frac{aq^r}{a^r} + \frac{a^r q}{a^r}$$

$$\frac{q^r + aq}{a^r} = \frac{q(q+a)}{a^r} = r \Rightarrow ra^r = q(q+a)$$

$$\frac{aq^r}{a^r q^r} + \frac{aq}{a^r} = \frac{aq^r}{a^r} + \frac{a^r q}{a^r}$$

$$\frac{aq^r + a^r q}{a^r} = \frac{a(q^r + aq)}{a^r}$$

$$\frac{q^r}{a^r} + \frac{q}{a^r} = \frac{q^r + q}{a^r} = r$$

$$ra^r = q^r + q \rightarrow (q^r = ra^r - q) \times \frac{1}{q^r} < \frac{1}{r}$$

$$a_r = \sqrt{a_f} \quad a_d = rV$$

$$(a_r)^r = a_f \quad a_1 - \frac{1}{r} = ?$$

سوال 10 :

$$a^r q^r = aq^r = a^r q = aq \quad a^r q = a \quad q = \frac{a}{a^r} \quad q = \frac{1}{a} \quad \frac{q}{1} = \frac{1}{a}$$

$$a_d = aq^r \quad a_d = a \times \left(\frac{1}{a}\right)^r \quad a^d = a \times \frac{1}{a^r} \quad \frac{a}{a^r} = \frac{1}{a^r} = rV \quad a^r = \frac{1}{rV} = \frac{1}{a}$$

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