

$$t_n = 5, 9, 13, 17, \dots$$

$$t_n = a_n + b$$

$$t_n \kappa_n + b \xrightarrow[n \rightarrow \infty]{} \kappa(1) + b, \quad \omega \rightarrow b+1$$

الف) $t_n = x_{n+1}$

$$t_{10} = f(10) + 1 = 11 \quad (c)$$

$$t_n = 9, 10, 14, 18, \dots$$

$$d := \uparrow$$

$$S_n = \frac{n}{p} (r_{q_1} + (n-1)d) \rightarrow \frac{10}{p} \left(\frac{14}{12} + \frac{9}{34} \right) = 450 \quad (\text{الف})$$

$$f \circ \lambda \circ \mu \rightarrow \text{آئینہ} \sim a \circ \mu \rightarrow \underbrace{a \circ \mu \circ a^{-1} + a \circ \mu \circ a^{-1} + a \circ \mu \circ a^{-1}}_{\text{مجموع}} = a_1 + \mu d + a_1 + \mu d + a_1 + \mu d + a_1 + \mu d = 4a_1 + 4\mu d$$

$$1 + \sqrt{3}, 2, 3 - \sqrt{3}, \dots$$

$$d = 1 - \sqrt{p}$$

$$a_1 + r - a_1 - r = 0 \rightarrow a_1 + r - (a_1 + r) \rightarrow \cancel{a_1} + r - \cancel{a_1} - r = 0$$

$$a_n = \Delta^{rx}, r \times \Delta^x, \Delta^y \rightarrow r \times \Delta^x - \Delta^{rx} = \Delta^{rx} \left(\frac{r}{r-1} \right) = \Delta^y \quad \Delta^y - r \times \Delta^x = r \times \Delta^y \rightarrow \Delta^y = r \times \Delta^x + r \times \Delta^y \rightarrow \Delta^y \left(\frac{1}{1+r} \right) = \Delta^x \quad \Delta^y = r \times \Delta^x$$

$$b_n = x, r, y \rightarrow \frac{\Delta^x + y}{r} = r \rightarrow x + y = r \cdot \Delta^y \rightarrow x + r \cdot \Delta^y = r \rightarrow r \cdot \Delta^y + 1 = r \rightarrow \Delta^y = \frac{r-1}{r}$$

$$2x - 4, 2x - 1, 9x, \dots$$

$$\frac{r_n - r + 4r}{r} = \frac{r_n - r}{r} = \frac{\cancel{r}(r_n - r)}{\cancel{r}} = r_n - r = r_{n-1}$$

$$a_1 = r\left(\frac{1}{r}\right) - r = -r \quad a_2 = r\left(\frac{1}{r}\right) - 1 = 0 \quad a_3 = r\left(\frac{1}{r}\right) - r$$

$\xrightarrow{+r}$

$$a_4 = a_1 + r \rightarrow -r + r = 0$$

$$a_n = r, \sum_{i=1}^n d_i \rightarrow d = r \rightarrow a_n = a_1 + (n-1)d \rightarrow a_n = r + (n-1)r \rightarrow a_n = r + r(n-1) = rn$$

$$b_n = r, \frac{d}{r}, \frac{1}{r}, \dots \rightarrow d = r \rightarrow a_n = r \cdot (n-1)r \rightarrow a_1 = r + d = 2r$$

$$d = 4 \text{ (فارق تسلسل)} \quad a_n = a_1 + (n-1)d \quad \text{لـ } n \leq 1 \rightarrow a_n = 2 + (n-1)4 \quad \text{لـ } n \leq 1 \rightarrow 2 + 4n - 4 \quad \text{لـ } n \leq 1 \rightarrow 4n - 2 \quad \text{لـ } n \leq 1$$

$$\begin{aligned}
 a_1 + a_r + a_r &= r_1 & \rightarrow a_1 + a_1 + d + a_1 + r d = r_1 & \rightarrow r a_1 + r d = r_1 & \xrightarrow{(\cdot)} \begin{cases} -r a_1 - r d = -r_1 \\ r a_1 + r d = 10a \end{cases} & \begin{matrix} r d = 11 \\ \boxed{d = 11} \\ r a_1 = -11 \\ \boxed{a_1 = -11} \end{matrix} & (V) \\
 a_1 + a_r + a_d &= 10a & \rightarrow a_1 + a_1 + r d + a_1 + r d = 10a & \rightarrow r a_1 + 4d = 10a & \begin{matrix} r a_1 + 4d = 10a \\ \boxed{a_1 = 51} \end{matrix} \\
 \frac{a_r - a_r + a_1}{a_1} &= ? & \frac{a_1 + r d - (a_1 + d) + a_1}{a_1} = \frac{a_1 + r d - a_1 - d + a_1}{a_1} = \frac{a_1 + d}{a_1} & \rightarrow \frac{r_1 + r_1}{-r_1} & \rightarrow -\frac{V}{\eta}
 \end{aligned}$$

$$a_1 + ar + ar^2 = 12 \rightarrow a_1 + a_1 + d + a_1 + r_d \rightarrow (3a_1 + r_d = 12) \div 3 \rightarrow \begin{cases} (a_1 + d = 4) \rightarrow -r_d = -10 \rightarrow a_1 = 14 \\ (a_1 + r_d = 10) \rightarrow r_d = -6 \end{cases} \quad (1)$$

$$\frac{9}{r} (ra_1 + 1d) = 9 \left(\frac{w}{p} (ra_1 + rd) \right)$$

$$9a_1 + 9rd = 9va_1 + 9vd$$

$$-11a_1 = -9d$$

$$9a_1 = 9d$$

$$\frac{a_1}{a_1} = \frac{a_1 + 19d}{a_1 + 4d} = \frac{9a_1}{9a_1} = 1$$

$$s_n < \frac{n}{r} (ra_1 + (n-1)d)$$

$$a_1 = 11$$

$$a_1 + 4d = 22$$

$$11 + 4d = 22$$

$$4d = 11$$

$$d = \frac{11}{4}$$

$$a_1 = ?$$

$$a_1 = \frac{11 + 12}{2} = 11.5$$

$$a_1 = b_1 \text{ (مساوی)} \quad (b_n) \text{ دنباله حسابی}$$

$$d = \frac{b_n - a_1}{n} = \frac{12 - 11}{1} = 1$$

$$b_1 = 12 = a_1 + 1d$$

$$12 = 11 + 1d$$

$$1 = 1d$$

$$d = 1$$

$$- 2n - 2 = -2n$$

$$- 2n = -20$$

$$n = 10$$