

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

(الف) t_{n+1}

(ب) $4 \times 10 + 1 = 41$

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

$$t_n = 4n + 2 \Rightarrow t_{10} = 4 \times 10 + 2 = 42$$

$$S_{10} = \frac{10}{2} (42 + 9) = 245$$

(ب) $t_{29}, t_{30}, t_{31}, t_{32} \rightarrow t_n = 4n + 2$
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$
 $118 \quad 122 \quad 126 \quad 130$

$$118 + 122 + 126 + 130 = 496$$

$$a_n = 1 + \sqrt{3}, 2, 3 - \sqrt{3}, \dots \Rightarrow a_n = (1 - \sqrt{3})n + 2\sqrt{3}$$

$$\Rightarrow a_{25} - a_{23} = ((1 - \sqrt{3}) \times 25 + 2\sqrt{3}) - ((1 - \sqrt{3}) \times 23 + 2\sqrt{3}) = 2 - 2\sqrt{3}$$

$$a_n = 5^{2n}, 3 \times 25^n, 5^y \Rightarrow a_n = 5^{2n}, 3 \times 5^{2n}, 5^y \Rightarrow 3 \times 5^{2n} + 2 \times 5^{2n} = 5^y$$

$$b_n = n, 2, y \Rightarrow \frac{n+y}{2} = 2 \Rightarrow n+y = 4$$

$$\Rightarrow 5 \times 5^{2n} = 5^y \Rightarrow y = 2n + 1$$

$$\Rightarrow y - 2n = 1$$

$$\left. \begin{array}{l} n + y = 4 \\ y - 2n = 1 \end{array} \right\} \Rightarrow 3n = 3 \Rightarrow n = 1 \Rightarrow y = 3 \Rightarrow ny = 1 \times 3 = 3$$

$$2n - 4 \quad 2n - 1 \quad y_n \quad ?$$

$$(1) \quad (2) \quad (3) \quad (4)$$

$$-3 \quad 0 \quad 3$$

$$(1) \quad (2) \quad (3) \Rightarrow a_4 = 3 + 3 = 6$$

$$+3 \quad +3$$

$$\rightarrow \frac{2n - 4 + 4n}{2} = 2n - 1 \Rightarrow 1n - 4 = 2n - 2$$

$$\Rightarrow 4n = 2 \Rightarrow n = \frac{1}{2}$$

$$b_n = r, 0, 1, \dots \rightarrow b_n = r^{n-1} \rightarrow b_n = r, 2, 1, 11, 15, 14, 10, 25, \dots, \Delta 9$$

$$\downarrow$$

$$b_{r_0} = r \times r_0 - 1 = \Delta 9$$

$$a_1 + a_r + a_r = r_l \rightarrow \frac{a_1 + a_r}{r} = a_r \Rightarrow r a_r = r_l \Rightarrow a_r = V$$

$$\frac{a_2 - a_1 + a_1}{a_1} = ? \rightarrow \frac{(a_1 + r_d) - (a_1 + d) + a_1}{a_1} = \frac{r_d - d + (-r_l)}{-r_l} = \frac{r}{-r_l} = -\frac{1}{r_l}$$

$$a_r + a_d = r\omega \rightarrow a_r + r\dot{\theta} + a_r + r\dot{\theta} = r\omega \Rightarrow 2a_r + \omega d = r\omega$$

$$\Rightarrow 1.0 + \Delta d = 2.0 \Rightarrow d = 1.0$$

$$S_9 = 957 \rightarrow a_1 + (a_1 + d) + (a_1 + d) + (a_1 + d) + \dots + (a_1 + d) = 9(a_1 + (a_1 + d) + (a_1 + d))$$

$$\Rightarrow 9d = 11a_1 \Rightarrow d = \frac{11}{9}a_1$$

$$\frac{a_{r0}}{a_v} \rightarrow \frac{a_1 + 19d}{a_1 + 4d} = \frac{a_1 + 19(12a_1)}{a_1 + 4(12a_1)} = \frac{19a_1}{13a_1} = \frac{19}{13} \leftarrow$$

$$\left. \begin{array}{l} a_1 = 11 \\ a_v = 20 \end{array} \right\} \Rightarrow d = \frac{a_m - a_n}{m - n} = \frac{20 - 11}{v - 1} = \frac{9}{9} = 1 \Rightarrow a_f = 20$$

$$b_n = \frac{r_{\Lambda}}{(1)} - \frac{r_{\Psi}}{(r)} \rightarrow d = \frac{a_m - a_n}{m - n} = \frac{r_{\Psi} - r_{\Lambda}}{r - 1} = \frac{-10}{r} = -10$$

$$d = \frac{13-28}{\text{تعداد واسطه} + 1} \Rightarrow -5 = \frac{13-28}{\text{تعداد واسطه} + 1} \Rightarrow \text{تعداد واسطه} + 1 = 5 \Rightarrow \text{تعداد واسطه} = 4$$