

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

$\xrightarrow{+4}$ $\xrightarrow{+4}$

$$t_n = 4n + 1$$

$$t_{10} = 4 \times 10 + 1 = 41$$

(الف)

(ب)

$$t_n = 9, 10, 14, 17$$

$\xrightarrow{+1}$ $\xrightarrow{+4}$ $\xrightarrow{+3}$

$$t_n = 4n + 2$$

(الف) $S_{10} = \frac{10}{2} (4 + 9 + 9 \times 4) = 5 \times 41 = 205$

(ب) $1 \times 4 = 4$ $t_{22} = 4 \times 22 + 2 = 90$ $2(152 + 111) = 494$
 $32 - 3 = 29$ $t_{29} = 4 \times 29 + 2 = 118$

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

$\xrightarrow{+1-\sqrt{3}}$ $\xrightarrow{+1-\sqrt{3}}$

$$\Rightarrow d = 1 - \sqrt{3}$$

$$t_{20} - t_{22} = 2d = 2 - 2\sqrt{3}$$

$$\omega^{2n}, 2 \times 0^{2n}, 0^y$$

$\xrightarrow{+2 \times 0^{2n}}$ $\xrightarrow{+2 \times 0^{2n}}$

$$3 \times 0^{2n} + 2 \times 0^{2n} = 0^y$$

$$0 \times 0^{2n} = 0^y = 0^{2n+1}$$

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

$$2n+1 = 4-21 \Rightarrow$$

$$2n = 2 \Rightarrow n=1 \Rightarrow y=3$$

$$t_4 + t_1 = t_2 + t_3$$

$$2n-2 + t_4 = 2n-1 + 4n$$

$$d = 2n-1 - (2n-2) \Rightarrow$$

$$t_4 = 1n-1 - (2n-2)$$

$$d = 3$$

$$t_4 = 4n+3 = 2+2=4$$

$$2n-1+2=4n$$

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

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$$r_0, 0, 1, 2, \dots$$

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$$t_n = q_{n-1}$$

$$a_{n_0} = r_1$$

$$q_{n-1} \leq r_1 \Rightarrow q_n \leq r_2 \Rightarrow n \leq V \quad \text{و } n \leq V$$

$$a_r = \frac{r_1}{r} = V \Rightarrow a_1 + a_r = 1f$$

$$a_1 + a_r + a_0 = 1.0 \Rightarrow a_0 = 91 \quad d = \frac{9+V}{0-r} = \frac{1f}{r} = 2A$$

$$a_1 = a_r - d = -21$$

$$a_r = a_r + d = 20$$

$$\frac{a_r - a_1 + a_1}{a_1} = \frac{r_0 - V - r_1}{-21} = -\frac{1}{r}$$

$$a_1 + a_r + a_r = 10 \Rightarrow a_r = 0$$

$$a_r + a_0 = 20$$

$$2a_r + 0d = 20 \Rightarrow 0d = 10$$

$$d = 2$$

$$a_{10} = a_r + 1d = 0 + 2f = 29$$

$$9a_1 + 24d = 2Va_1 + 2Vd$$

$$9d = 11a_1 \Rightarrow d = 2a_1$$

$$\frac{a_r}{a_v} = \frac{a_1 + 11a_1}{a_1 + 12a_1} = \frac{r_1 a_1}{12a_1} = r$$

$$d = \frac{r_0 - 11}{V - 1} = \frac{r_1}{9} = 2$$

$$a_r = 11 + 12 = 23$$

$$d_B = \frac{23 - 21}{2 - 1} = \frac{10}{2} = 5$$

$$-0 = \frac{13 - 21}{k+1} \Rightarrow k+1 = 0$$

$$k = 13$$

$$k = 2$$