

گروه: دهم یکشنبه

سری: ۱۲
۱۹۲۵

نام و نام خانوادگی: تانیا تری تریابی

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

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

$$t_n = 4n + 1 \quad \leftarrow t_n = a_n + (n-1)d \quad (\text{الف})$$

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

(ب)

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

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

$$S_{10} = \frac{10}{2} (9 + 18) = 135 \quad \leftarrow S_n = \frac{n}{2} (a_1 + a_n) \quad (\text{الف})$$

$$a_n = 4n + 5 \Rightarrow a_{10} = 49$$

$$2(2(9) + 5(18)) = 494$$

$$t = t_1 + 3 \cdot d \Rightarrow 9 + 12 = 21$$

$$3t_{10} = 147$$

$$\leftarrow a_1 + a_2 + a_3 = 9 + 10 + 14 = 33$$

$$2(a_1 + a_4) = 9 + 18 + 10 + 14 = 51$$

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

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

$$T_n = (1 + \sqrt{3}) + (n-1)(1 - \sqrt{3}) \Rightarrow$$

$$T_n = n(1 - \sqrt{3}) + 1 + \sqrt{3}$$

$$T_{10} - T_9 = 10(1 - \sqrt{3}) + 1 + \sqrt{3} - (9(1 - \sqrt{3}) + 1 + \sqrt{3}) = 1 - \sqrt{3}$$

$$a_n = 2^n, 3 \times 2^n, a^y \Rightarrow 3 \times 2^n = \frac{2^{n+1} + a^y}{2} \Rightarrow 4 \times 2^n = 2^{n+1} + a^y \Rightarrow a^y = 2^n$$

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

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

$$x \times y = 1 \times 3 = 3$$

$$\begin{cases} y = 2n + 1 \\ y = 4 - x \end{cases} \Rightarrow 2n + 1 = 4 - x \Rightarrow x = 3 - 2n$$

$$2n-1, 2n-1, 2n, \dots$$

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

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

$$t_n = 2n - 1$$

$$t_1 = 1$$

$$a_n = 3, 5, 7, 9, 11, 13, 15, 17$$

$$t_n \cdot r_{n+1} \Rightarrow t_r = 41$$

$$b_n = 2, 5, 8, 11, 14, 17$$

$$t_n = r_{n-1} \Rightarrow t_r = 49$$

$$c_n = 5, 11, 17, \dots \quad t_n = 4n - 1$$

$$14 \quad 19$$

$$4n - 1 \leq 41 \Rightarrow 4n \leq 42 \Rightarrow n \leq 10.5$$

جمله مشترک

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$$a_1 + a_r + a_r = r1 \Rightarrow S_r = \frac{r}{r} (ra_1 + (\frac{r}{r}-1)d) = r1 \Rightarrow r(a_1 + d) = r1 \Rightarrow a_1 + d = 1$$

$$a_1 + a_r + a_a = 10 \Rightarrow a_1 + (a_1 + rd) + (a_1 + rd) = 10 \Rightarrow 3a_1 + 2rd = 10 \Rightarrow \frac{3a_1}{r} + 2d = \frac{10}{r} \Rightarrow$$

$$\begin{cases} a_1 + rd = 1 \\ a_1 + d = 1 \end{cases} \Rightarrow d = 0$$

$$a_1 + r0 = 1 \Rightarrow a_1 = 1$$

$$a_r = 1 + r0 = 1$$

$$a_r = 1 + rd = 1$$

$$a_r - a_r + a_1 = 1 - 1 + 1 = 1$$

$$\frac{1}{a_1} = \frac{1}{1} = 1$$

جمله مشترک

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$$a_1 + a_r + a_r = 10 \Rightarrow S_r = 10 \Rightarrow \frac{r}{r} (ra_1 + (\frac{r}{r}-1)d) = 10 \Rightarrow \frac{r}{r} (ra_1 + rd) = 10 \Rightarrow$$

$$a_r + a_a = 10 \Rightarrow S_a = 10 \Rightarrow \frac{a}{a} (ra_1 + (\frac{a}{a}-1)d) = 10 \Rightarrow \frac{a}{a} (ra_1 + rd) = 10 \Rightarrow$$

$$\begin{cases} r(ra_1 + rd) = 10 \\ a(ra_1 + rd) = 10 \end{cases} \Rightarrow \begin{cases} ra_1 + rd = 10/r \\ ra_1 + rd = 10/a \end{cases} \Rightarrow d = 10/r - 10/a$$

$$t_{10} = a_1 + 9d = 1 + 9(10/r - 10/a) = 10$$

$$S_1 = 1 S_r \Rightarrow S_1 = \frac{1}{r} (ra_1 + (\frac{1}{r}-1)d) = \frac{1}{r} (ra_1 + 10d)$$

$$S_r = \frac{r}{r} (ra_1 + rd)$$

$$S_1 = 1 S_r \Rightarrow \frac{1}{r} (ra_1 + 10d) = 1 \times \left(\frac{r}{r} (ra_1 + rd) \right) \Rightarrow \frac{1}{r} (ra_1 + 10d) = \frac{r}{r} (ra_1 + rd)$$

$$\Rightarrow ra_1 + 10d = r(ra_1 + rd) \Rightarrow ra_1 + 10d = ra_1 + r^2d \Rightarrow 10d = r^2d \Rightarrow 10 = r^2 \Rightarrow r = \sqrt{10}$$

$$a_1 = 1 \quad a_r = 10 \quad a_1 + 9d = 10 \Rightarrow 9d = 9 \Rightarrow d = 1 \quad a_r = 1 + 9 \times 1 = 10$$

$$1, \sqrt{10}, 10, 10\sqrt{10}, 100, 100\sqrt{10}, \dots$$

$$a_1 = 10 \quad a_r = 100 \Rightarrow 10 + 9d = 100 \Rightarrow 9d = 90 \Rightarrow d = 10$$

جمله مشترک

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