

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

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

$$t_{n+1} \xrightarrow{n=10} t(10) + 4 = \boxed{49} \quad (الف)$$

$$t_n = 4, 10, 16, 22, \dots$$

$\xrightarrow{+6} \quad \xrightarrow{+6} \quad \xrightarrow{+6}$

$$S_n = \frac{n}{2} (a_1 + a_n) \quad (الف)$$

$$S_{10} = \frac{10}{2} (4 + 22) = 5 \times 26 = 130$$

$t_{n+2} = t_n + 6 \xrightarrow{n=10} t(10) + 6 = 22$

(ب) آخرین جمله ۳۲ است $(t_{32} = 32)$ $\rightarrow$ جمله مشترک ۶

$$t_{29}, t_{30}, t_{31}, t_{32} = 2(t_{30} + t_{31}) = 2(261) = \boxed{522}$$

$$t_{30} = t(30) + 6 = 186 \rightarrow t_{30} + t_{31} = 261$$

$$t_{31} = t(31) + 6 = 187$$

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

$$d = \frac{a_m - a_n}{m - n} = \frac{2 - 1 - \sqrt{2}}{2 - 1} = 1 - \sqrt{2}$$

$$t_n = a_1 + (n-1)d \rightarrow t_n = 1 + \sqrt{2} + (n-1)(1 - \sqrt{2})$$

$$t_{25} - t_{23} = 2d \rightarrow t_{25} - t_{23} = 2(1 - \sqrt{2}) = \boxed{2 - 2\sqrt{2}}$$

$$a_n = a^{2n}, 3 \times 2a^n, a^8 \rightarrow a^n, 3 \times a^{2n}, a^8$$

$$b_n = n, 2, 8$$

$$d_a = \frac{a_m - a_n}{m - n} \rightarrow \frac{3 \times a^{2m} - a^{2n}}{2 - 1} = \frac{a^8 - 3 \times a^{2n}}{2 - 1}$$

$$\Rightarrow 3 \times a^{2m} - a^{2n} = a^8 - 3 \times a^{2m}$$

$$a^{2m}(3 - 1) = a^8 - 3 \times a^{2m} \rightarrow a^8 - 3 \times a^{2m} - a^{2m}(2) = 0$$

Hashtag

$$a^{r_m} (a^{y-r_m} - r - r) = 0$$

$$a^{r_m} (a^{y-r_m} - a) = 0 \quad \text{بواب دار}$$

$$a^{r_m} = 0 \rightarrow a^{y-r_m} - a = 0 \rightarrow a^{y-r_m} = a$$

$$y - r_m = 1 \rightarrow y = r_m + 1$$

$$b_n = n, r, y$$

$$d_b = \frac{b_m - b_n}{m - n} = \frac{r - n}{r - 1} = \frac{y - r}{r - 1} \rightarrow r - n = y - r$$

$$r - n = y$$

$$y = r_m + 1, y = r - n$$

$$* \text{بين} \rightarrow r_m + 1 = r - n$$

$$r_m = r \rightarrow n = 1 \quad y = r - n \xrightarrow{n=1} y = r - 1 = r$$

$$ay = (1)(r) = r$$

$$r_m - 2, r_m - 1, r_m$$

$$a = \frac{n+y}{r} \rightarrow r_m - 1 = \frac{r_m - 2 + r_m}{r}$$

$$r_m - r = r_m - 2$$

$$+r = r_m \rightarrow n = \frac{1}{r}$$

$$n = \frac{1}{r} \Rightarrow r\left(\frac{1}{r}\right) - 2, r\left(\frac{1}{r}\right) - 1, r\left(\frac{1}{r}\right)$$

$$-r \quad +r \quad +r \quad r$$

Hashtag

H A S H T A G

$$t_n = a_1 + (n-1)d$$

$$t_n = -r + (n-1)r \rightarrow t_2 = -r + (r)r = r$$

$$a_n = 3, 5, 7, \dots \rightarrow \text{عده فردی} \rightarrow a_n = 2n+1 \rightarrow a_{r_0} = 2(r_0)+1 \quad (4)$$

آخرین = 41
عده مشترک
طبق قاعده
سال

$$b_n = 2, 5, 11, \dots$$

$$t_n = 4n-1$$

$$\downarrow$$

$$b_n = 2n-1$$

$$4n-1 \leq 41$$

$$4n \leq 42$$

$$b_{r_0} = 2(r_0)-1 = 41$$

$$n \leq 10.5 \rightarrow \text{عده مشترک}$$

$$a_1 + a_r + a_{r_0} = 21 \rightarrow a-d + a + a+d = 21 \quad (v)$$

$$3a = 21 \rightarrow a = 7$$

$$a_1 + a_r + a_d = 10.5$$

$$a_1 = a_r - 2d$$

$$a_d = a_r + 2d$$

$$\Rightarrow a_r - 2d + a_r + a_r + 2d = 10.5$$

$$3a_r = 10.5$$

$$a_r = 3.5$$

$$d = \frac{a_m - a_n}{m - n} = \frac{a_r - a_1}{r - 1} = 3.5 - 7 = -3.5$$

$$a_1, 7, 3.5, \dots$$

$\xrightarrow{+3.5} \quad \xrightarrow{+3.5}$

$$\rightarrow a_1 + 2n = 7$$

$$\boxed{a_1 = -7}$$

$$a_r - a_1 + a_1 = ?$$

$$\frac{3.5 - 7 - (-7)}{-3.5} = \frac{-3.5}{-3.5} = 1$$

$$a_1 + a_r + a_{r_0} = 10.5 \rightarrow S_n = \frac{n}{2} (a_1 + a_n) \quad (1)$$

$$a_r + a_d = 10.5$$

$$S_r = \frac{r}{2} (2a_1 + 2d) = 10.5 \rightarrow 2a_1 + 2d = 10.5$$

$$a_1 + a_r + a_{r_0} + a_{r_0} + a_d = 20.5 \rightarrow S_d = \frac{d}{2} (2a_1 + 2d) = 20.5$$

$$2a_1 + 2d = 14$$

$$\begin{cases} 2a_1 + 2d = 14 \\ -(2a_1 + 2d = 10.5) \end{cases}$$

$$2d = 4 \rightarrow d = 2$$

$$2a_1 + 2d = 14 \xrightarrow{d=2} 2a_1 + 4 = 14$$

$$\rightarrow 2a_1 = 10$$

$$\boxed{a_1 = 5}$$

Hashtag

HASHTAG

سری اولی $\rightarrow r, \omega, \Lambda, \dots$

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

$$t_{10} = r(10) - 1 = 29$$

$$S_q = q S_r \rightarrow S_n = \frac{n}{r} (a_1 + a_n) \quad (4)$$

$$\frac{q}{r} (a_1 + a_n) = q \left(\frac{n}{r} (a_1 + a_n) \right)$$

$$\frac{q a_1 + q a_n}{r} = \frac{r v a_1 + r v a_n}{r}$$

$$q a_1 + q a_n = r v a_1 + r v a_n$$

$$q a_n - r v a_n = r v a_1 - q a_1$$

$$a_n (q - r v) = a_1 (r v - q)$$

$$q (a_1 + n d) - r v (a_1 + r d) = 11 a_1$$

$$a_{r_0} \rightarrow a_1 + 19d$$

$$a_{r_0} = a_1 + \frac{1}{r} d \rightarrow \frac{1}{r} d + 19d = 19.5d$$

$$q a_1 + v r d - r v a_1 - \Delta \Sigma d = 11 a_1$$

$$11d = 34 a_1$$

$$a_v = a_1 + \frac{1}{r} d \rightarrow a_1 + 4d = \frac{1}{r} d + 4d = 4.5d$$

$$\boxed{a_1 = \frac{1}{r} d}$$

$$\frac{a_{r_0}}{a_v} = \frac{19.5d}{4.5d} = 3$$

$$a_1 = 11, a_v = 35$$

(10)

$$d = \frac{a_m - a_n}{m - n} = \frac{35 - 11}{v - 1} = \frac{r \Sigma}{4} = \Sigma \rightarrow a_n = r n + v \rightarrow$$

سری اولی $\rightarrow 11, 12, 13, 14, \dots$
 $\xrightarrow{+1} \xrightarrow{+1} \xrightarrow{+1}$
 Hashtag

$$d_b = \frac{b_\Sigma - b_1}{r - 1} = \frac{r \Sigma - 11}{r} = -5$$

Subject:

Date: / /

$$b_n = b_1 + (n-1)d \rightarrow b_n = 31 + (n-1)(-2)$$

$$13 = 31 + (n-1)(-2) \rightarrow -2d = -2(n-1)$$

$$d = n-1 \rightarrow \underline{n=4}$$

عدد 13، هجدهم و پنجاه و دوم است.

دنباله دوم $\rightarrow 31, 29, 27, 25, 23, 21, 19, 17, 15, 13$

↓
3 و 13 دارند