

الف) $t_n = 3n^2 - 1$ t_1, t_2, t_3, t_4, t_5
 $2, 11, 28, 47, 74$

ب) $t_n = \frac{2n+1}{n+2}$ $t_1 = \frac{3}{4}, t_2 = \frac{5}{6}, t_3 = \frac{7}{8}, t_4 = \frac{9}{10}, t_5 = \frac{11}{12}$

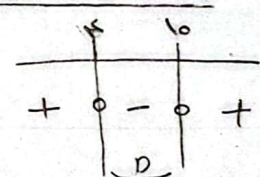
الف) $t_n = \frac{(-1)^n}{\sqrt{n+3}}$ $\rightarrow t_{13} = \frac{(-1)^{13}}{\sqrt{13+3}} = \frac{-1}{4} = t_{13}$

ب) $t_n = 2n - \left\lfloor \frac{n}{2} \right\rfloor \rightarrow t_{13} = 2(13) - \left\lfloor \frac{13}{2} \right\rfloor = 24 - 6 = 18 = t_{13}$
 $\left\lfloor \frac{13}{2} \right\rfloor = 6$

الف) $t_n = 2n - 10 \rightarrow 2n - 10 < 0 \rightarrow \frac{2n}{2} < \frac{10}{2} \rightarrow n < 5 \rightarrow n = 1, 2, 3, 4$
 $\bar{A}$

ب) $t_n = n^2 - 14n + 40 \rightarrow (n-10)(n-4)$
 $\textcircled{10} \quad \textcircled{4}$

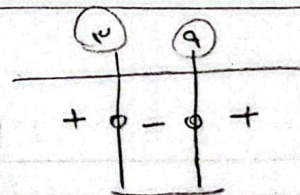
$D_f: (t, 10) \rightarrow \bar{A}$
 $4, 6, 8, 10, 12$



الف) $t_n = 2n - 14 \rightarrow 2n - 14 \leq 0 \rightarrow \frac{2n}{2} \leq \frac{14}{2} \rightarrow n \leq 7 \rightarrow \bar{A}$

ب) $t_n = n^2 - 12n + 27 \rightarrow (n-9)(n-3)$
 $\textcircled{9} \quad \textcircled{3}$

$D = [3, 9] \rightarrow \bar{A}$
 $3, 4, 5, 6, 7, 8, 9$



-d $t_r = ?$
 $t_f = 7$
 $t_9 = 22$
 $+10 : ad = 10 \rightarrow d = 3 \quad 7 - 3 = 4 = t_r$

$$\text{الف) } t_n = n^2 - 4n + 5 \xrightarrow{a>0} n_{\min} \begin{cases} n: \frac{-b}{2a} = \frac{4}{2} = 2 \\ t_n: 4 - 8 + 5 = -1 \rightarrow \text{معدل } n \end{cases}$$

ب) $t_n = n^2 + 5n + 1 \xrightarrow{a>0} n_{\min} \begin{cases} -\frac{b}{2a} = -\frac{5}{2} = -2.5 \\ t_n: \cancel{(-2.5)^2 + 5(-2.5) + 1} = \boxed{-3} \rightarrow \text{میزین بهار} \end{cases}$

[illegible]

$$\begin{array}{r} f_a + r b + c = -v \\ -a - b - c = r \\ \hline r a + b = -r \end{array}$$

$$\begin{array}{r} 9a + 17b + c = -1 \\ -9a - 17b - c = 1 \\ \hline 0a + 0b + 0c = 0 \end{array}$$

$$a + b + c = -f$$

$$\hookrightarrow 1 + 4 + c = -1 \rightarrow c = -6$$

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

$$\begin{array}{ccccccc} (-V) & = C & & & & & \\ 9 & -9 & -1 & \wedge & 21 & \dots & \\ \hline & 1 & \omega & 9 & 12 & & \\ \hline & \pi & & \pi & \pi & & \end{array}$$

$$\begin{array}{r} f a + 2 b + c = -1 \\ -a - b - c = 4 \\ \hline 3 a + b = 5 \end{array}$$

$$\begin{array}{r} 9a + 4b + c = 1 \\ -5a - 4b - c = 1 \\ \hline 14a + b = 0 \end{array}$$

$$\begin{array}{r} 5a + b = 9 \rightarrow b = -1 \\ -2a - b = -2 \\ \hline 7a = 7 \rightarrow a = 1 \end{array}$$

$$t_n = \gamma n^2 - n - V \rightarrow \text{slow}$$

$$(-\infty, a+\epsilon] \cap [2a+1, +\infty) = \emptyset \quad \text{بما أن } a+\epsilon < 2a+1$$

$$a + r \leq 4a + 1 \rightarrow a \geq r$$

$$a_n = a + (n-1)d \rightarrow 99 = \cancel{x} + \underbrace{(n-1) \cdot 10}_{n-x} \rightarrow \boxed{n = 10}$$

الف) بخش پذیر بر ۳

$$90 = \cancel{a} + \underbrace{(n-1)a}_{a_n} \rightarrow \boxed{n = \frac{90}{a} = 19}$$

(پ) نفس دیر بر ۵

$$a_0 = 10 + (n-1)10 \rightarrow n = \frac{a_0}{10} = 4$$

(ج) بخش پذیر ۵۳

$$n(A \cup B) = n(A) + n(B) - n(A \cap B) \rightarrow 33 + 19 - 4 = \boxed{48}$$

563 ~ " " (5)