

الف) $t_n = 3n^2 - 1$ $t_1 = 3(1)^2 - 1 \rightarrow 2$ $t_2 = 3(2)^2 - 1 = 11$ $t_3 = 3(3)^2 - 1 = 26$ $t_4 = 3(4)^2 - 1 = 47$ $t_5 = 3(5)^2 - 1 = 74$

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

۱ (۱) (۲) (۳) (۴) (۵)

الف) $t_n = \frac{(-1)^n}{\sqrt{n+3}}$ $t_{13} = \frac{(-1)^{13}}{\sqrt{13+3}} = \frac{-1}{\sqrt{16}} = -\frac{1}{4}$

ب) $t_n = 2n - \left[\frac{n}{4}\right]$ $t_{13} = 24 - \left[\frac{13}{4}\right] = 24 - [3.25] \rightarrow 24 - 3 = 21$

الف) $t_n = 2n - 10 \rightarrow 2n - 10 < 0 \rightarrow 2n < 10 \rightarrow n < 5$ $1 \leq n \leq 4 \rightarrow (4-1)+1 = 4$ **جمله ۴**

ب) $t_n = n^2 - 14n + 40$ $n^2 - 14n + 40 < 0 \rightarrow (n-10)(n-4) < 0$ $\frac{n}{an} \mid \frac{4}{4} - \frac{10}{4} +$ $4 < n < 10 \rightarrow (9-4)+1 = 5$ **جمله ۵**

الف) $t_n = 2n - 16 \rightarrow 2n - 16 < 0 \rightarrow 2n < 16 \rightarrow n < 8$ $1 \leq n \leq 7 \rightarrow (7-1)+1 = 7$ **جمله ۷**

ب) $t_n = n^2 - 12n + 27$ $n^2 - 12n + 27 < 0$ $(n-9)(n-3) < 0$ $\frac{n}{an} \mid \frac{3}{3} - \frac{9}{3} +$ $3 < n < 9 \rightarrow (8-3)+1 = 5$ **جمله ۵**

$t_4 = 4$ $t_9 = 22$ $t_{10} = ?$ $t_n = (an+b)$

$t_4 = a(4) + b = 4$ $t_9 = a(9) + b = 22$ $\begin{cases} -4 = -5a + b \\ 22 = 9a + b \end{cases} \rightarrow 12 = 14a \rightarrow a = \frac{3}{2} \rightarrow b = -5$

$t_n = 3n - 5 \rightarrow t_{10} = 9 - 5 = 4$

الف) $t_n = n^2 - 6n + 2 \rightarrow a > 0 \rightarrow \min$ $t_3 = 9 - 18 + 2 = -7$ **جمله ۳**

ب) $t_n = n^2 + 4n + 1$ $a > 0 \rightarrow \min$ $t_{-2} = 4 - 8 + 1 = -3$ **جمله ۲**

$t_n = -4, -7, -1, -4, -7, \dots$ $t_n = an^2 + bn + c$ $t_1 = 1 + b + c = -4 \rightarrow t_n = n^2 - 4n + 1 \rightarrow t_{10} = 100 - 40 + 1 = 61$

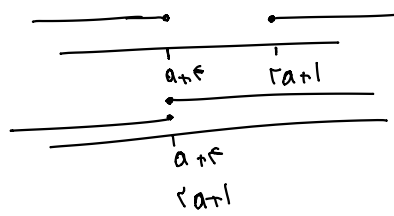
۱ (۱) (۲) (۳) (۴) (۵) (۶) (۷) (۸) (۹) (۱۰)

$t_n = -6, -1, 1, 2, 1, \dots$ $t_n = an^2 + bn + c$ $t_1 = 1 + b + c = -6 \rightarrow t_n = n^2 - 4n - 3 \rightarrow t_{10} = 100 - 40 - 3 = 57$

۱ (۱) (۲) (۳) (۴) (۵) (۶) (۷) (۸) (۹) (۱۰)

$$(-\infty, a+4] \cap [2a+1, +\infty)$$

$$a+4 \leq 2a+1 \rightarrow 4 \leq a$$



$$n(A \cup B) = n(A) + n(B) - n(A \cap B) \quad (2)$$

$$33 + 20 - 4 = 49$$

$$n(A) = \left[\frac{100}{3} \right] = 33$$

(الف)

$$n(B) = \left[\frac{100}{5} \right] = 20$$

(ب)

$$n(A \cap B) = \left[\frac{100}{15} \right] = 4$$

استدراكات

(ج)