

الف) $t_n = 2n^2 - 1$ $n=1 \rightarrow 1$ $n=2 \rightarrow 11$ $n=3 \rightarrow 25$ $n=4 \rightarrow 47$ $n=5 \rightarrow 74$

$\rightarrow 1, 11, 25, 47, 74$

ب) $t_n = \frac{n+1}{n+4}$ $n=1 \rightarrow \frac{2}{5}$ $n=2 \rightarrow \frac{3}{6}$ $n=3 \rightarrow \frac{4}{7}$ $n=4 \rightarrow \frac{5}{8}$ $n=5 \rightarrow \frac{6}{9}$

$\rightarrow \frac{2}{5}, \frac{3}{6}, \frac{4}{7}, \frac{5}{8}, \frac{6}{9}$

ج) الف) $t_n = \frac{(-1)^n}{\sqrt{n+2}}$ $n=3 \rightarrow \frac{(-1)^3}{\sqrt{5}} = -\frac{1}{\sqrt{5}}$

ب) $t_n = 2n \left[\frac{n}{4} \right]$ $n=3 \rightarrow 2 \cdot 3 \cdot \left[\frac{3}{4} \right] = 6 \cdot \left[\frac{3}{4} \right] = 6 \cdot \frac{3}{4} = \frac{18}{4} = \frac{9}{2}$

ج) الف) $t_n = 2n - 10$ $\rightarrow 2n - 10 < 0 \rightarrow 2n < 10 \rightarrow n < 5 \rightarrow \boxed{4}$ (د-۱)

ب) $t_n = n^2 - 4n + 6$ $\rightarrow n^2 - 4n + 6 < 0 \rightarrow (n-2)(n-3) < 0 \rightarrow \frac{2}{1} < n < \frac{3}{1} \rightarrow (2, 3) \rightarrow \boxed{2}$

ج) الف) $t_n = 2n - 15$ $\rightarrow 2n - 15 \leq 0 \rightarrow 2n \leq 15 \rightarrow n \leq 7.5 \rightarrow 7.5 - 1 + 1 = \boxed{7}$

ب) $t_n = n^2 - 4n + 17$ $\rightarrow n^2 - 4n + 17 \leq 0 \rightarrow (n-2)(n-2) \leq 0 \rightarrow \frac{2}{1} \leq n \leq \frac{2}{1} \rightarrow [2, 2] \rightarrow 2 - 2 + 1 = \boxed{1}$

ج) الف) $t_n = 2n - 15$ $\rightarrow 2n - 15 \leq 0 \rightarrow 2n \leq 15 \rightarrow n \leq 7.5 \rightarrow 7.5 - 1 + 1 = \boxed{7}$

ب) الف) $t_n = n^2 - 9n + 12$ $\left| \begin{array}{l} \frac{9}{4} = 2.25 \\ 9 - 18 + 12 = -7 \end{array} \right. \rightarrow \boxed{-7}$

ب) $t_n = n^2 + t_{n+1}$ $\rightarrow \frac{t_n}{n} = -2 = n \rightarrow n = -2$

که نزدیکترین عدد طبیعی و مساوی ۱ را میگیریم $n=1$

$\rightarrow 1 - 9 + 12 = \boxed{4}$

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ب) الف) $t_n = 2n - 15$ $\rightarrow 2n - 15 \leq 0 \rightarrow 2n \leq 15 \rightarrow n \leq 7.5 \rightarrow 7.5 - 1 + 1 = \boxed{7}$

ب) $t_n = n^2 + bn + c$ $\rightarrow t_0 = c = 1$

$t_n = n^2 + bn + 1 \rightarrow t_1 = 1 + b + 1 = 2 + b$

$t_2 = 4 + 2b + 1 = 5 + 2b$

$t_3 = 9 + 3b + 1 = 10 + 3b$

$t_4 = 16 + 4b + 1 = 17 + 4b$

$t_5 = 25 + 5b + 1 = 26 + 5b$

$t_6 = 36 + 6b + 1 = 37 + 6b$

$t_7 = 49 + 7b + 1 = 50 + 7b$

$t_8 = 64 + 8b + 1 = 65 + 8b$

$t_9 = 81 + 9b + 1 = 82 + 9b$

$t_{10} = 100 + 10b + 1 = 101 + 10b$

$t_{10} = 101 + 10b = 101$ $\rightarrow 10b = 0 \rightarrow b = 0$

$t_n = n^2 + 0n + 1 = n^2 + 1$

Year:

Month:

Day:

| |

Subject:

(V)

$$t_n = -1, -1, 1, 1, \dots$$

$$\begin{matrix} \rightarrow & \rightarrow & \rightarrow & \rightarrow \\ +1 & +1 & +1 & +1 \end{matrix}$$

$$t_n = r_n t_{n-1} - v$$

(5) (1)

$$r_1, r_2, \dots, r_n \rightarrow a = \frac{r}{r-1} = 2 \quad (c = -v)$$

$$b \rightarrow t_1 = r + b \cdot v \rightarrow t_1 = b - a = -1$$

$$b = -1$$

$$t_n = a r^n + b n + c$$

$$t_n = r^n t_1 + b n - v$$

$$(-\infty, a+\epsilon] \cap [r a+1, +\infty) \rightarrow \text{الرأوس} \rightarrow \text{sec} \rightarrow a+\epsilon < r a+1$$

$$\rightarrow \text{اخر} \rightarrow a+\epsilon = r a+1$$

(5) (1)

$$\rightarrow a+\epsilon < r a+1 \rightarrow r < a \rightarrow [r, +\infty)$$

$$\left[\frac{100}{2}\right] = [r_0] = [r_0]$$

(1)

$$\left[\frac{100}{r}\right] = [r_1/r_0] = [r_1]$$

(2) (5)

$$\begin{matrix} \uparrow & \uparrow & \uparrow \\ r_1 & r_0 & r_0 \\ r_1 + r_0 - r_0 & = & [r_1] \end{matrix}$$

(3)

$$\left[\frac{100}{10}\right] = [r_1/r_0] = [r_1]$$

(2)