

الف) $t_n = 3n^2 - 1$ $n \in \mathbb{N}$

$n=1 \rightarrow$	۲
$n=2 \rightarrow$	۱۱
$n=3 \rightarrow$	۲۴
$n=4 \rightarrow$	۴۷
$n=5 \rightarrow$	۷۴

$\rightarrow ۲, ۱۱, ۲۴, ۴۷, ۷۴$

ب) $t_n = \frac{n+1}{n+2}$ $n \in \mathbb{N}$

$n=1 \rightarrow$	$\frac{2}{3}$
$n=2 \rightarrow$	$\frac{3}{4}$
$n=3 \rightarrow$	$\frac{4}{5}$
$n=4 \rightarrow$	$\frac{5}{6}$
$n=5 \rightarrow$	$\frac{6}{7}$

$\Rightarrow \frac{2}{3}, \frac{3}{4}, \frac{4}{5}, \frac{5}{6}, \frac{6}{7}$

الف) $t_n = \frac{(-1)^n}{\sqrt{n+2}}$ $n=1, 2 \Rightarrow \frac{-1}{\sqrt{3}}, \frac{1}{\sqrt{4}}$

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

الف) $t_n = 2n - 1$ $2n - 1 < 0 \Rightarrow n < 0.5 \Rightarrow n=1$ (از $n=1$ تا $n=5$)

ب) $t_n = n^2 - 12n + 20$ $n^2 - 12n + 20 < 0 \Rightarrow (n-4)(n-8) < 0$

$\rightarrow n=5, 6, 7, 8, 9 \rightarrow$ نه

الف) $t_n = 2n + 4$ $2n + 4 < 0 \Rightarrow n < -2 \Rightarrow n=1$ (از $n=1$ تا $n=8$)

ب) $t_n = n^2 - 12n + 27$ $n^2 - 12n + 27 < 0 \Rightarrow (n-3)(n-9) < 0$

$\rightarrow n=4, 5, 6, 7, 8, 9 \rightarrow$ نه

$t_n = an + b$

$5a + b = 7$

$9a + b = 22$

$4a = 15 \Rightarrow a = 3$

$n=3 \Rightarrow 9 - a = 6$

$3n + (-8) \Rightarrow t_n = 3n - 8$

الف)

$$\min \left| \frac{y}{x} = 3 \right|$$

$$\Rightarrow \begin{matrix} \text{نقطة} \rightarrow \\ n \in \mathbb{N} \rightarrow y \in \mathbb{N} \end{matrix} \Rightarrow \boxed{t_{\min} = -7}$$

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ب)

$$\min \left| \frac{-x}{y} = -2 \right|$$

$$\rightarrow \begin{matrix} \text{نقطة} \rightarrow \\ n \neq -2 \text{ و } n \in \mathbb{N} \Rightarrow n=1 \end{matrix} \quad 1 + x + 1 = \boxed{4}$$

$$t_n = -x \rightarrow -7 \rightarrow -1 \rightarrow -7 \rightarrow -x$$

$$\begin{matrix} \text{نقطة} \rightarrow \\ n \neq -2 \text{ و } n \in \mathbb{N} \Rightarrow n=1 \end{matrix}$$

$$x_a = 2 \Rightarrow a=1$$

$$\Rightarrow t_n = 1 \cdot n^2 - 4n + 1 \Rightarrow n=10 \Rightarrow$$

$$100 - 40 + 1 = \boxed{61}$$

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$$c = -x + a = 1$$

$$-x = 1 + b + 1 \Rightarrow b = -4$$

$$t_n = -y \rightarrow -1 \rightarrow 1 \rightarrow 21$$

$$\begin{matrix} \text{نقطة} \rightarrow \\ n \neq -2 \text{ و } n \in \mathbb{N} \Rightarrow n=1 \end{matrix}$$

$$x_a = x \Rightarrow a=2$$

$$c = -4 - 1 = -5$$

$$\Rightarrow t_n = (x^2 - n - 5)$$

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$$n(1-\omega > a+\varepsilon) \cap [ra+1, +\infty) \subseteq \mathbb{N} \Rightarrow \text{نقطة} \rightarrow$$

$$ra+1, a+\varepsilon \Rightarrow \boxed{a, 3}$$

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$$1 \leq n \leq 1 \Rightarrow \frac{1}{2} \leq n \leq \frac{1}{2} \Rightarrow 1 \leq n \leq 3 \Rightarrow \text{نقطة} \rightarrow$$

$$1 \leq n \leq 1 \Rightarrow \frac{1}{5} \leq n \leq \frac{1}{5} \Rightarrow 1 \leq n \leq 19 \Rightarrow \text{نقطة} \rightarrow$$

$$1 \leq n \leq 1 \Rightarrow \frac{1}{10} \leq n \leq \frac{1}{10} \Rightarrow 1 \leq n \leq 4 \Rightarrow \text{نقطة} \rightarrow$$

$$\begin{matrix} \text{نقطة} \rightarrow \\ \text{نقطة} \rightarrow \\ \text{نقطة} \rightarrow \end{matrix} \Rightarrow 33-4=29$$

$$\Rightarrow 29+4+4 \Rightarrow 37$$

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