

1. الف) $t_n = 2n - 1$ $t_1 = 1$ $t_2 = 3$ $t_3 = 5$ $t_4 = 7$

ب) $t_n = 2n$ $t_1 = 2$ $t_2 = 4$ $t_3 = 6$ $t_4 = 8$

ج) $t_n = \frac{2n+1}{n+1}$ $t_1 = \frac{3}{2}$ $t_2 = \frac{4}{3}$ $t_3 = \frac{5}{4}$ $t_4 = \frac{6}{5}$

د) $t_n = \frac{(-1)^n}{\sqrt{n+1}}$ $t_1 = \frac{-1}{\sqrt{2}}$ $t_2 = \frac{1}{\sqrt{3}}$ $t_3 = \frac{-1}{\sqrt{4}}$ $t_4 = \frac{1}{\sqrt{5}}$

هـ) الف) $t_n = \frac{(-1)^n}{\sqrt{n+1}}$ $t_1 = \frac{-1}{\sqrt{2}}$ $t_2 = \frac{1}{\sqrt{3}}$ $t_3 = \frac{-1}{\sqrt{4}}$ $t_4 = \frac{1}{\sqrt{5}}$

ب) $t_n = 2n - \left\lfloor \frac{n}{2} \right\rfloor = 24 - 2 = 22$

ج) الف) $t_n = 2n - 10$ $2n - 10 < 0 \rightarrow 2n < 10 \rightarrow n < 5 \rightarrow 1, 2, 3, 4$

ب) $t_n = n - 19n + 10 \rightarrow (n-10)(n-1) < 0$

$\frac{1}{n-10} < \frac{1}{n-1} \rightarrow 10, 11, 12, 13, 14$

د) الف) $t_n = 2n - 14$ $2n - 14 < 0 \rightarrow n < 7 \rightarrow 1, 2, 3, 4, 5, 6$

ب) $t_n = n^2 - 11n + 24$ $(n-3)(n-8) < 0$

$a = an + b \rightarrow 2a + b = 24$ $9a + b = 24$

$a = 12 \rightarrow a = 3$ $b = -12 \rightarrow 2n - 12 \rightarrow 9 - 12 = -3$

هـ) الف) $t_n = n^2 - 4n + 1 \rightarrow (n-2)^2 - 3$ $t_{min} = -3$

ب) $n^2 + 8n + 1 \rightarrow (n+4)^2 - 15$ $t_{min} = -15$

Hashtag

HASHTAG

$$1 \quad -\varepsilon, -v, -1, -v, -\varepsilon, \dots$$

$$a = 1 \quad \begin{matrix} \text{---} & \text{---} & \text{---} \\ +r & +r & +r \end{matrix}$$

$$a = 1 \quad an^r + bn + c \quad c = 1$$

$$1 + b + 1 = -\varepsilon \rightarrow b = -\varepsilon \rightarrow 1 + (-\varepsilon) + 1 = \varepsilon$$

$$1 \quad -\varepsilon, -1, 1, \dots \rightarrow a = 1, c = -v$$

$$b = 1 \rightarrow 1 - v + b = -\varepsilon \rightarrow b = -1$$

$$a_n = 1 - n - v$$

$$9 \quad 1 + a + 1 \geq a + \varepsilon \rightarrow 1 + a - a \geq \varepsilon - 1 \rightarrow a \geq \varepsilon \rightarrow [1, +\infty)$$

$$10 \quad \frac{99.9}{\varepsilon} + 1 = 100 \quad \frac{99.9}{99.9 - \varepsilon} + 1 = 100$$

$$11 \quad \frac{99.9 - \varepsilon}{10} + 1 = 100 \quad 12 \quad 100 + \varepsilon - 1 = \varepsilon v$$