

نام و نام خانوادگی: ...
پاسخنامه تشریحی تکلیف شماره ...
کلاس: ...
تاریخ: ...

الف) $t_n = 5n - 1$ ۲, ۱۱, ۲۰, ۲۹, ۳۸

ب) $t_n = \frac{2n+1}{n+2}$ $\frac{3}{5}, \frac{5}{7}, \frac{7}{9}, \frac{9}{11}, \frac{11}{13}$

الف) $t_n = \frac{(-1)^n}{\sqrt{n+2}}$ $\frac{(-1)^{12}}{\sqrt{14}} = -\frac{1}{\sqrt{14}}$

ب) $t_n = 2n - \left[\frac{n}{2}\right]$ $24 - \left[\frac{12}{2}\right] = 18$

الف) $t_n = 2n - 1$ $2n - 1 < 0 \Rightarrow n < 0.5 \rightarrow 0$

ب) $t_n = n^2 - 12n + 35$ $(n-5)(n-7)$ $\frac{5-10}{5-7} \rightarrow 5$

الف) $t_n = 2n - 12$ $2n - 12 \leq 0 \Rightarrow n \leq 6 \rightarrow 6$

ب) $t_n = n^2 - 12n + 35$ $(n-5)(n-7)$ $\frac{5-9}{5-7} = 2 \rightarrow 5$

$t_4 + 5d = 22$ $t_4 = 7$

$5d = 15$ $t_4 - d = t_3 \Rightarrow 7 - d = 2$
 $\Rightarrow d = 3$

$$\omega) t_n = n^r - 4n + 1 \xrightarrow{\text{min}} \frac{-b}{2a} = \frac{-4}{-2} = 2 \quad \boxed{n=2} \\ (r = -V)$$

$$\div) n^r + 4n + 1 \xrightarrow{\text{min}} \begin{cases} \frac{-b}{2a} = \frac{-4}{2} = -2 \\ y = -c \end{cases} \quad \begin{array}{c} \text{Graph of } y = x^2 + 4x + 1 \\ \text{Vertex at } (-2, -3) \end{array} \quad \boxed{n=1} \quad t_1 = 4$$

$$t_n = -1, -V, -1, -V, -1, \dots \\ \begin{array}{ccccccc} -1 & -1 & -1 & -1 & -1 & -1 & -1 \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ +2 & +2 & +2 & +2 & +2 & +2 & +2 \end{array} \quad t_n = n^r - 4n + 1 \\ t_1 = 1 - 4 + 1 = -2 \\ r a = r \Rightarrow a = 1 \\ c = 1 \quad n^r + b n + 1 = t_n \Rightarrow t_1 = 1 + b + 1 = -2 \Rightarrow b = -4$$

$$t_n = -4, -1, 1, 2, \dots \\ \begin{array}{ccccccc} -4 & -1 & 1 & 2 & 3 & 4 & 5 \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ +2 & +2 & +2 & +2 & +2 & +2 & +2 \end{array} \quad \boxed{t_n = 2n^r - n - V} \\ r a = r \Rightarrow a = 1 \\ c = -V \quad 2n^r + b n - V = t_n \Rightarrow t_1 = 4 = 2 + b - V \Rightarrow b = -1$$

$$a + r = 2a + 1 \Rightarrow a = 1 \\ a + r < 2a + 1 \\ a > 1 \Rightarrow \boxed{a \geq 2}$$

$a+r > 2a+1$

$\mathbb{N} \rightarrow \emptyset$

$a+r = 2a+1$

$\mathbb{N} \rightarrow \{1\}$

ا) $3n \leq 100 \Rightarrow n \leq 33 \frac{1}{3} \rightarrow 33$ عدد

ب) $5n \leq 100 \Rightarrow n \leq 20 \rightarrow 20$ عدد

ج) $10n \leq 100 \Rightarrow n \leq 10 \rightarrow 10$ عدد

د) $n(100 - n) \rightarrow 0 \quad 100 - n = 0 \rightarrow n = 100$ عدد