

الف) $t_n = 3n^2 - 1 \rightarrow 2, 11, 24, 47, 74$

ب) $t_n = \frac{2n+1}{n+4} \rightarrow \frac{3}{5}, \frac{5}{6}, \frac{7}{7}=1, \frac{9}{8}, \frac{11}{9}$

ج) $t_n = \frac{(-1)^n}{\sqrt{n+3}} \rightarrow \frac{-1}{\sqrt{14}} = -\frac{1}{\sqrt{14}}$

د) $t_n = 2n - \left[\frac{n}{5}\right] \rightarrow 24 - \frac{13}{5} = 24 - 2\frac{3}{5} = 21\frac{2}{5}$

ه) $t_n = 2n - 1 \rightarrow$ عدد فرد

و) $t_n = n^2 - 14n + 46 \rightarrow t_n = (n-7)(n-10) \rightarrow 2, 4, 6, 8, 9 \rightarrow$ عدد زوج

$$\begin{array}{r} 2 \\ + \end{array} \begin{array}{r} 4 \\ + \end{array} \begin{array}{r} 6 \\ - \end{array} \begin{array}{r} 8 \\ + \end{array} \begin{array}{r} 9 \\ + \end{array}$$

ز) $t_n = 2n - 14 \rightarrow$ عدد زوج

ح) $t_n = n^2 - 12n + 27 \rightarrow t_n = (n-3)(n-9) \rightarrow \frac{9-3}{1} + 1 = 7$ عدد فرد

$$\begin{array}{r} 3 \\ + \end{array} \begin{array}{r} 9 \\ - \end{array} \begin{array}{r} 1 \\ + \end{array}$$

$t_n a_5 = 7$

$t_n a_7 = 22 \rightarrow a_7 = a_5 + 2d \rightarrow a_7 = 7 + 2d \rightarrow 2d = 15 \quad \begin{array}{l} d=7 \\ a=-2 \end{array}$
 $a_7 = a + 6d \quad a_7 = -2 + 6 \times 7 = 40$

$$1) t_n = n^2 - 4n + 2$$

$$① \rightarrow 1 - 4 + 2 = -1$$

$$② \rightarrow 4 - 12 + 2 = -6$$

$$③ \rightarrow 9 - 18 + 2 = -7$$

$$④ \rightarrow 16 - 24 + 2 = -6$$

$$-1, -6, -7, -6, \dots$$

سلسلة

$$1) t_n = n^2 + 6n + 1$$

$$1, 13, \dots$$

$$① \rightarrow 1 + 6 + 1 = 8$$

$$② \rightarrow 4 + 12 + 1 = 17$$

سلسلة

$$t_n = -1, -5, -9, -13, -17, \dots$$

$$2a = 2 \quad a = 1$$

$$1x^2 + bx + c \rightarrow 1 \times 1 + bx + 1 = -1$$

$$\rightarrow a = 1 \quad b = -2 \quad c = 1$$

$$\rightarrow (1 \times 100) + (-2 \times 10) + 1 = 81$$

$$\begin{array}{cccccc} (0) & (1) & (2) & (3) & (4) & \\ 1 & -1 & -5 & -9 & -13 & \dots \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\ -2 & -2 & -4 & -4 & -4 & \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\ -1 & -1 & -1 & -1 & -1 & \end{array}$$

$$t_n = -1, -5, -9, -13, -17, \dots$$

$$2a = 2 \quad a = 1$$

$$2x^2 + bx + c \rightarrow (2 \times 1) + bx - 1 = -1$$

$$\rightarrow a = 2 \quad b = -1 \quad c = -1$$

$$\rightarrow 2x^2 - 1x - 1$$

$$\begin{array}{cccccc} (0) & (1) & (2) & (3) & (4) & \\ -1 & -5 & -9 & -13 & -17 & \dots \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\ +1 & +1 & +1 & +1 & +1 & \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\ +1 & +1 & +1 & +1 & +1 & \end{array}$$

$$(-\infty, a+c] \cap [2a+1, +\infty) \rightarrow a+c = 2a+1$$

$$a = 2$$

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$$\rightarrow 2a+1 \geq a+c$$

$$\rightarrow [2, +\infty)$$

$$الف) 22$$

$$ب) 19$$

$$ج) 9$$

$$د) (22+19)-9 = 32$$