

الف) $t_n = 2n^2 - 1 \rightarrow 2, 11, 24, 47, 78$

(1)

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

الف) $t_{1,2} = \frac{-1}{4} = -\frac{1}{4}$

(2)

ب) $t_{1,2} = 2 \times 1^2 - 2 = 0$

الف) $2n-1 < 0 \rightarrow n < \frac{1}{2} \rightarrow \text{لا يوجد}$

(3)

ب) $n^2 - 14n + 40 < 0 \rightarrow \frac{40}{+} \frac{14}{-} \frac{40}{+} \rightarrow 4 < n < 10 \rightarrow \text{لا يوجد}$

الف) $2n-14 \leq 0 \rightarrow n \leq 7 \rightarrow \text{لا يوجد}$

(4)

ب) $n^2 - 14n + 47 \leq 0 \rightarrow \frac{47}{+} \frac{14}{-} \frac{47}{+} \rightarrow [4, 9] \rightarrow \text{لا يوجد}$

$d = \frac{24-1}{9-4} = 5 \rightarrow t_r = V - 5 = 5$

(5)

الف) $\begin{cases} 2 \\ -1 \end{cases} \rightarrow n^2 - 4n + 4 = -1 \rightarrow n^2 - 4n + 5 = 0 \rightarrow n = 2$

(6)

ب) $\begin{cases} -2 \\ -3 \end{cases} \rightarrow n^2 + 4n + 1 = -2 \rightarrow n^2 + 4n + 3 = 0 \rightarrow (n+1)(n+3) = 0 \rightarrow n = -1 \rightarrow \text{لا يوجد}$
 $\Rightarrow n = 1$

$\begin{matrix} 1 & -4 & -1 & -1 & -1 \\ -1 & -4 & -1 & -1 & -1 \end{matrix} \Rightarrow a=1, c=1 \quad 2+b=-4 \rightarrow b=-6$

(7)

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

$\begin{matrix} 1 & -4 & -1 & 1 & 2 \\ -1 & -4 & -1 & 1 & 2 \end{matrix} \rightarrow a=2, c=-1 \quad b-d=-4 \rightarrow b=-3$

(8)

$\Rightarrow t_n = 2n^2 - n - 1$

$$\text{بعض مشترك} \Rightarrow a + 4 = 2a + 1 \rightarrow a = 3$$

(9)

$$\text{الف) } \frac{99 - 3}{3} + 1 = 33$$

(10)

$$\text{ب) } \frac{100 - 8}{8} + 1 = 12$$

$$\text{ج) } \frac{90 - 18}{18} + 1 = 4 \rightarrow 4 + 2 = 6$$

$\downarrow$
 $4 \times 2 = 8$

$$\Rightarrow n(A \cup B) = n(A) + n(B) - n(A \cap B) \Rightarrow 33 + 12 - 6 = 39$$