

الف) $\left. \begin{aligned} 3(1)^2 - 1 &= 2 \\ 3(2)^2 - 1 &= 11 \\ 3(3)^2 - 1 &= 26 \\ 3(4)^2 - 1 &= 47 \\ 3(5)^2 - 1 &= 74 \end{aligned} \right\} 3n^2 - 1$ $2, 11, 26, 47, 74$	ب) $\frac{r_{n+1}}{n+f} \quad \frac{r}{\Delta}, \frac{\Delta}{9}, 9, \frac{9}{\Delta}, \frac{11}{9}$ $\frac{r(1)+1}{1+f} = \frac{r}{\Delta} \quad \frac{r(4)+1}{4+1} = \frac{9}{\Delta}$ $\frac{r(2)+1}{2+f} = \frac{\Delta}{9} \quad \frac{r(5)+1}{5+f} = \frac{11}{9}$ $\frac{r(3)+1}{r+f} = 1$	۱
الف) $t_n = \frac{(-1)^n}{\sqrt{n+2}}$ $t_{12} = \frac{-1}{f}$	ب) $t_n = r_n - \left[\frac{n}{f}\right]$ $t_{12} = r_{12} - r = r_{12}$	۲
الف) $t_n = r_n - 10$ $r_n - 10 < 0$ $r_n < 10$ $n < 5$ $\Rightarrow n = \{1, 2, 3, 4\}$	ب) $n^2 - 14n + 40$ $n^2 - 14n + 40 < 0$ $(n-10)(n-4) < 0$ $n=10, n=4$ $\frac{f}{+0} - \frac{10}{-4} + \Rightarrow n = \{5, 6, 7, 8, 9\}$	۳
الف) $t_n = r_n - 14$ $r_n - 14 \leq 0$ $r_n \leq 14$ $n \leq 1$ $n = \{1, 2, 3, 4, 5, 6, 7, 8\}$	ب) $t_n = n^2 - 14n + 27$ $(n-7)(n-2) \leq 0$ $n=7, n=2$ $n = \{2, 3, 4, 5, 6, 7, 8, 9\}$ $\frac{r}{+0} - \frac{7}{-2} +$	۴
$\left. \begin{aligned} t_4 &= a_1 + 3d = 7 \\ t_7 &= a_1 + 6d = 22 \end{aligned} \right\} \begin{aligned} d &= 3 \\ a &= -5 \end{aligned}$ $t_r = a_1 + rd = -5 + r(3) = f$		۵

ان) $t_n = n^r - 4n + 2$ $n = \frac{-b}{2a} = \frac{4}{2} = 2$ $(2^r) - 4(2) + 2 = 9 - 8 + 2 = -1$

—) $t_n = n^r + fn + 1$ $n = \frac{-b}{2a} = \frac{-f}{2} = -2$ $(-2)^r + f(-2) + 1 = f + (-1) + 1$
 $= \boxed{-1}$

$\Rightarrow 2a = r$
 $a = 1$

وحد = $C = 1$

$t_n = n^r - 4n + 1$
 $t_0 = 100 - 4 \cdot 0 + 1 = 101$
 $\begin{cases} t_n = n^r + b n + 1 \\ t_1 = 1 + b + 1 = -1 \Rightarrow b = -2 \end{cases}$

$\Rightarrow 2a = r$
 $a = 2$

وحد = $-1 = C$

$t_n = r n^r + b n - 1$
 $t_1 = r + b - 1 = -4 \Rightarrow b = -5$

$t_n = r n^r - 5n - 1$

$a + f \leq r + 1$ $r \leq a$ $a = [r, \infty)$

$n(A) + n(B) - n(A \cap B)$ (ب)

$\Rightarrow 33 + 2 - 4 = 31$

دبی = 15

دبی = 9

$\frac{15 - 15}{15} = 0$

(ج)

دبی = 5

دبی = 100

$\frac{100 - 5}{5} + 1 = 20$

(د)

دبی = 3

دبی = 99

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

10