

الف) $\left. \begin{aligned} 3(1)^2 - 1 &= 2 \\ 3(2)^2 - 1 &= 11 \\ 3(3)^2 - 1 &= 26 \\ 3(4)^2 - 1 &= 47 \\ 3(5)^2 - 1 &= 74 \end{aligned} \right\} 3n^2 - 1$ ۲، ۱۱، ۲۶، ۴۷، ۷۴ ۱، ۷، ۱۷، ۳۱، ۴۷	ب) $\frac{r_{n+1}}{n+f} \quad \frac{r}{\Delta}, \frac{\Delta}{9}, 9, \frac{9}{\Delta}, \frac{11}{9}$ $\frac{r(1)+1}{1+f} = \frac{r}{\Delta} \quad \frac{r(4)+1}{f+1} = \frac{9}{\Delta}$ $\frac{r(2)+1}{r+f} = \frac{\Delta}{9} \quad \frac{r(5)+1}{\Delta+f} = \frac{11}{9}$ $\frac{r(3)+1}{r+f} = 1$	
الف) $t_n = \frac{(-1)^n}{\sqrt{n+2}}$ $t_{12} = \frac{-1}{f}$	ب) $t_n = r_n - \left[\frac{n}{f}\right]$ $t_{12} = r_{12} - r = 22$	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) $t_n = n^2 - 14n + 27$ $(n-7)(n-2) \leq 0$ $n=7, n=2$ $n = \{2, 3, 4, 5, 6, 7, 8, 9\}$	۴
$t_4 = a_1 + 3d = 7$ $t_7 = a_1 + 6d = 22$ $d = 3$ $a = -5$ $t_7 = a_1 + 6d = -5 + 18 = 13$		۵

$$f(n) = n^2 - 4n + 2 \quad n = \frac{-b}{2a} = \frac{4}{2} = 2 \quad (2^2) - 4(2) + 2 = 9 - 8 + 2 = -1$$

از این شروع می شود

$$f(n) = n^2 + fn + 1 \quad n = \frac{-b}{2a} = \frac{-f}{2} = -2 \quad (-2)^2 + f(-2) + 1 = 4 - 2f + 1 = 5 - 2f$$

$$= -3$$

min جمله $\rightarrow n_1 = 2$

$$2a = 2$$

$$a = 1$$

$$0 = c = 1$$

$$f(n) = n^2 - 4n + 1$$

$$f_0 = 100 - 40 + 1 = 57$$

$$\begin{cases} f(n) = n^2 + bn + 1 \\ f_1 = 1 + b + 1 = -4 \quad b = -6 \end{cases}$$

$$\Rightarrow 2a = 2$$

$$a = 2$$

$$0 = -V = c$$

$$f(n) = 2n^2 + bn - V$$

$$f_1 = 2 + b - V = -4 \Rightarrow b = -6$$

$$f(n) = 2n^2 - 6n - V$$

$$a + f \leq ra + 1$$

$$r \leq a$$

$$a = [r, \infty)$$

$$n(A) + n(B) - n(A \cap B) \quad (د)$$

$$\Rightarrow 33 + 2 - 4 = 31$$

$$n(A) = 15$$

$$n(B) = 9$$

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

$$n(A) = 5 \quad (ب)$$

$$n(B) = 100$$

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

$$n(A) = 3 \quad (ج)$$

$$n(B) = 99$$

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