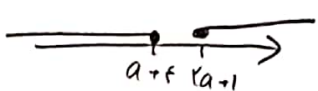
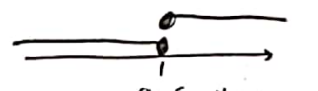


نام و نام خانوادگی: ... پاسخنامه تشریحی تکلیف شماره ... کلاس: ...

1	الف) $t_n = 5n - 1$ 2, 11, 24, 41, 74 ✓ ب) $t_n = \frac{2n+1}{n+2}$ $\frac{3}{8}, \frac{5}{4}, \frac{7}{5}, \frac{9}{8}, \frac{11}{9}$ ✓ (2)
2	الف) $t_n = \frac{(-1)^n}{\sqrt{n+2}}$ $\frac{(-1)^4}{\sqrt{14}} = -\frac{1}{\sqrt{14}}$ ✓ ب) $t_n = 2n - \lfloor \frac{n}{2} \rfloor$ $24 - \lfloor \frac{10}{2} \rfloor = 23$ ✓ (2)
3	الف) $t_n = 2n - 1$ $2n - 1 < 0 \Rightarrow n < \frac{1}{2} \rightarrow 0$ ✓ ب) $t_n = n^2 - 14n + 40$ $(n-10)(n-4)$ ✓ $\frac{10-10}{10-4} \rightarrow 0$ (2)
4	الف) $t_n = 2n - 12$ $2n - 12 \leq 0 \Rightarrow n \leq 6 \rightarrow 6$ Δ جمله ناصبته $8 \times 8 \rightarrow$ ب) $t_n = n^2 - 12n + 27$ $(n-9)(n-3)$ $\frac{9-9}{9-3} \rightarrow 0$ ✓ (1)
5	$t_4 + 5d = 22$ $t_4 = 7$ $0d = 10$ $\Rightarrow 2d = 20$ $t_4 - d = t_3 \Rightarrow 7 - 10 = -3$ ✓ (2)

و) $t_n = n^r - 4n + 1 \xrightarrow{\text{min}} \frac{-b}{2a} = \frac{-4}{2} = -2 \quad \boxed{n = -2}$ $(r = -2) \checkmark$ ب) $n^r + 4n + 1 \xrightarrow{\text{min}} \begin{cases} \frac{-b}{2a} = \frac{-4}{2} = -2 \\ y = -5 \end{cases}$  $\boxed{n = -2} \quad t_1 = 4 \checkmark$	6
$t_n = -1, -2, -3, -4, -5, \dots$ $-1 \quad -2 \quad -3 \quad -4 \quad -5$ $+1 \quad +2 \quad +3 \quad +4 \quad +5$ $t_n = n^r - 4n + 1$ $t_1 = 1 - 4 + 1 = -2 \checkmark$ $2a = 2 \Rightarrow a = 1$ $c = 1$ $n^r + bn + 1 = t_n \Rightarrow t_1 = 1 + b + 1 = -2 \Rightarrow b = -4$	7
$t_n = -4, -1, 1, 4$ $+5 \quad +9 \quad +13$ $+4 \quad +8$ $t_n = 2n^r - n - 4 \checkmark$ $2a = 2 \Rightarrow a = 1$ $c = -4$ $2n^r + bn - 4 = t_n \Rightarrow t_1 = 2 + b - 4 = -4 \Rightarrow b = -2$	8
$a + 4 = 2a + 1 \Rightarrow a = 3$ $a + 4 < 2a + 1$ $a > 3$ $\Rightarrow \boxed{a \geq 3} \checkmark$  $n \rightarrow \mathbb{Q}$  $n \rightarrow \{x\}$	9
و) $3n \leq 100 \Rightarrow n \leq 33 \frac{1}{3} \rightarrow 33$ عدد صحيح ب) $5n \leq 100 \Rightarrow n \leq 20 \rightarrow 20$ عدد صحيح ج) $10n \leq 100 \Rightarrow n \leq 10 \rightarrow 10$ عدد صحيح د) $n(5n + 1) - n(2n) \rightarrow 3n^2 - 4n = 4$ عدد صحيح	10