

الف) $2n^2 - 1$

$$\begin{array}{ccccccc} 2 & 11 & 26 & 47 & 74 & 107 & 146 \\ \hline 9 & 15 & 21 & 27 & & & \\ \hline 6 & 6 & 6 & & & & \end{array}$$

✓

(۲)

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

الف) $t_n = \frac{(-1)^n}{\sqrt{n+3}} = \frac{(-1)^{13}}{\sqrt{16}} = -\frac{1}{4}$ ✓

ب) $2n - \left\lfloor \frac{n}{4} \right\rfloor = 26 - \left\lfloor \frac{13}{4} \right\rfloor = 26 - \left\lfloor 3 \frac{1}{4} \right\rfloor = 26 - 3 = 23$ ✓

(۲)

الف) $2n - 1$

$$2n - 1 < 0$$

$$2n < 1$$

$$n < \frac{1}{2}$$

جمله ۴
 $n = \{1, 2, 3, 4\}$
شماره های

ب) $n^2 - 14n + 45 \rightarrow (n-10)(n-5) < 0$

$$\begin{array}{cc} 4 & 10 \\ + & - \\ \hline + & - \end{array}$$

جمله ۵
 $n = \{5, 6, 7, 8, 9, 10\}$

$$t_n = 2n - 19$$

$$2n - 19 \leq 0$$

$$2n \leq 19$$

$$n \leq \frac{19}{2}$$

جمله ۸
 $n = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

$t_n = n^2 - 14n + 27 \rightarrow (n-7)(n-9) \leq 0$

$$\begin{array}{cc} 7 & 9 \\ + & - \\ \hline + & - \end{array}$$

جمله ۷
 $(9-7)+1 = 7 \rightarrow$
 $n = \{7, 8, 9, 10, 11, 12, 13\}$

۱۴

$$t_n = 3n^2 - 5$$

$t_5 = 9a + b = 17$

$t_3 = 3(3)^2 - 5 = 4$ ✓

$t_9 = 9a + b = 22$

$-9a - b = -22$

$+8a = -15 \Rightarrow a = 3, b = -5$

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الف) $n^2 - 9n + 2$ $n = \frac{-b}{2a} = \frac{9}{2} = 4.5$ $a_3 = 9 - 11 + 2 = -1$ min ✓

ب) $n^2 + 4n + 1$ $n = \frac{-b}{2a} = \frac{-4}{2} = -2$ $a_1 = 1 + 4 + 1 = 6$ ✓

$t_n = -4, -7, -1, -7, -4$
 $t_{10} = 100 - 90 + 1 = 11$ ✓
 $c = 1$
 $t_n = n^2 - 9n + 1$
 $t_1 = 1 + b + 1 = -4 \Rightarrow b = -6$

$t_n = -6, -1, 1, 4, 9, 16$
 $a = 2$ $c = -7$
 $t_n = 2n^2 + bn - 7$
 $t_1 = 2 + b - 7 = -6 \Rightarrow b = 1$
 $t_n = 2n^2 + n - 7$

سے باہر یک خصوصیت رکھتا ہے یا مجموعی خصوصیت رکھتا ہے
 $a + f < 2a + 1$
 $2 < a$
 $a \in [3, \infty)$ ✓

الف) $A = \{3, 6, 9, 12, \dots, 99\}$ $\frac{99-3}{3} + 1 = 33$ ✓
 ب) $B = \{5, 10, 15, \dots, 95\}$ $\frac{95-5}{5} + 1 = 19$ ✓
 ج) $A \cap B = \{15, 30, 45, \dots, 90\}$ $\frac{90-15}{15} + 1 = 7$ ✓
 $n(A \cup B) = n(A) + n(B) - n(A \cap B)$
 $n(A \cup B) = 33 + 19 - 7 = 45$

