

19.5

نام و نام خانوادگی: ... پاسخنامه تشریحی تکلیف شماره ... کلاس ... دهم پسر B

$t_n = 3n^2 - 1$ $t_1 = 2$ $t_2 = 11$ $t_3 = 26$ ✓ $t_4 = 47$ $t_5 = 76$	$t_n = \frac{2n+1}{n+4}$ $t_1 = \frac{3}{5}$ $t_2 = \frac{5}{6}$ ✓ $t_3 = 1$ ✓ $t_4 = \frac{9}{8}$ $t_5 = \frac{11}{9}$	1
$t_n = \frac{(-1)^n}{\sqrt{n+2}} \Rightarrow t_{13} = \frac{(-1)^{13}}{\sqrt{13+2}} = \frac{-1}{\sqrt{15}} = -\frac{1}{\sqrt{15}}$ ✓	$t_n = 2n - \lfloor \frac{n}{4} \rfloor \Rightarrow t_{13} = 26 - \lfloor \frac{13}{4} \rfloor = 26 - 3 = 23$ ✓	2
$t_n = 2n - 10$ $2n - 10 < 0$ $2n < 10$ $n < 5$ $n = 1, 2, 3, 4$ ✓ $t_n = n^2 - 12n + 27$ $(n-4)(n-9) < 0$ $n = (4, 9)$ ✓ $n = 5, 6, 7, 8$	$t_n = 2n - 10$ $2n - 10 < 0$ $2n < 10$ $n < 5$ $n = 1, 2, 3, 4$ ✓ $t_n = n^2 - 12n + 27$ $(n-4)(n-9) < 0$ $n = (4, 9)$ ✓ $n = 5, 6, 7, 8$	3
$t_n = 2n - 12$ $n = 1, 2, \dots, 8 \rightarrow$ نایب ✓	$t_n = n^2 - 12n + 27$ $n^2 - 12n + 27 < 0$ $(n-3)(n-9) < 0$ $[3, 9]$ ✓	4
$t_f = 7$ $t_g = 12$ $t_r = t_f - d$	$t_g = t_f + \omega d$ $12 = 7 + \omega d$ $5 = \omega d$ $15 = \omega d$ $d = 3$ $\omega = 5$ $15 = 5d$ $d = 3$ $\omega = 5$	5

$$t_n = n^2 - 9n + 1 \rightarrow \frac{-b}{2a} \rightarrow \frac{-(-9)}{2 \times 1} = \frac{9}{2} = 4.5 \quad 3.5 \text{ n}$$

(3) $-3(9) + 1 = 9 - 18 + 1 = -8$ ✓ (2) (5)

$$t_n = n^2 + 8n + 1 \rightarrow n=1 \rightarrow (1)^2 + 8(1) + 1 = 1 + 8 + 1 = 10$$

$$t_{11} = -1^2 - 1, -1^2 - 1, -1^2 - 1, -1^2$$

$$t_{10} = ? \quad t_n = n^2 + bn + 1 \Rightarrow 4b + 1 = -2 \quad b = -3$$

$$n^2 - 9n + 1 \leq t_{10} = 100 - 90 + 1 = 11 \quad \text{✓} \quad (5)$$

$$t_{10} = 11$$

$$t_n = -9, -1, 1, 21$$

$$+a \quad +b \quad +c$$

$$+c \quad +c$$

$$2 + b - 7 = -9 \quad (b = -16)$$

$$t_n = n^2 - n - 16$$

$$t_n = ? \quad ax^2 + bx + c \rightarrow a = \frac{1}{2} \quad (2) \quad (5)$$

$$(-\infty, a + \epsilon) \cap [2a + 1, +\infty) \neq \emptyset \rightarrow a + \epsilon < 2a + 1$$

$$\rightarrow a + \epsilon < 2a + 1 \rightarrow \epsilon < a + 1 \rightarrow a \in [2, +\infty) \quad \text{✓} \quad (5)$$

$$x < 100, x \in \mathbb{N} \rightarrow x = [1, 100]$$

فقط عددها $1, 2, 3, \dots, 100$

(الف) $1 \leq x_n \leq 100 \rightarrow 1 \leq n \leq 33 \rightarrow 33 \quad \text{✓} \quad (2) \quad (5)$

(ب) $1 \leq \frac{1}{2}x_n \leq 100 \rightarrow \frac{1}{2} \leq n \leq 200 \rightarrow 1 \leq n \leq 200 \rightarrow 200 - 1 + 1 = 200 \quad \text{✓} \quad (5)$

(ج) $1 \leq \frac{1}{10}x_n \leq 100 \rightarrow \frac{1}{10} \leq n \leq 1000 \rightarrow 1 \leq n \leq 1000 \rightarrow 1000 - 1 + 1 = 1000 \quad \text{✓} \quad (5)$

$$\Rightarrow \{(الف) + (ب)\} = ج = 33 + 200 = 233 \quad \text{✓} \quad (5)$$