

نام و نام خانوادگی ریاضی پاسخنامه تشریحی تکلیف شماره کلاس دبیر ریاضی

الف) $t_n = 3n^2 - 1$ $t_1 = 2$ $t_2 = 11$ $t_3 = 24$ $t_4 = 47$ $t_5 = 74$

* جای n
از شماره اول و دوم

ب) $t_n = \frac{3n+1}{n+4} \rightarrow t_1 = \frac{3}{4}$ $t_2 = \frac{5}{4}$ $t_3 = \frac{7}{5} = 1$ $t_4 = \frac{9}{8}$ $t_5 = \frac{11}{9}$

الف) $t_n = \frac{(-1)^n}{\sqrt{n+3}}$ $t_{14} = \frac{-1}{\sqrt{14}} = \frac{-\sqrt{14}}{14} = \frac{-4}{14} = \frac{-1}{4}$

ب) $t_n = 2n - \left[\frac{n}{4} \right]$ $t_{12} = 24 - \left[\frac{12}{4} = 3 \right] = 24 - 3 = 21$

الف) $t_n = 2n - 10$ $n = 5$ $\frac{5}{-1+}$ $\boxed{6} \rightarrow t_1, t_2, t_3, t_4$
 $2n - 10 = 0$ $2n = 10$

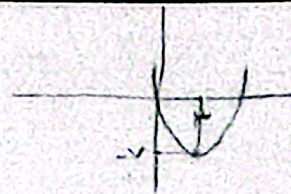
ب) $t_n = n^2 - 14n + 10 = 0 \rightarrow (n-10)(n-1) = 0$ $\frac{10}{+4-1+}$ $\boxed{11}$
 $n=10$ $n=1$ $t_2, t_4, t_6, t_8, t_{10}$

الف) $t_n = 2n - 14$ $\frac{14}{-1+}$ $\boxed{7} \rightarrow t_1, t_2, \dots, t_7$
 $2n - 14 = 0$ $(0, 7)$
 $2n = 14$

$n = 7$ $\frac{7}{+4-1+}$ $\boxed{8} \rightarrow t_2, t_4, t_6, \dots, t_8$
ب) $t_n = n^2 - 12n + 27$ $(-2, 9)$
 $(n-9)(n-3) = 0 \rightarrow n=9$ $n=3$

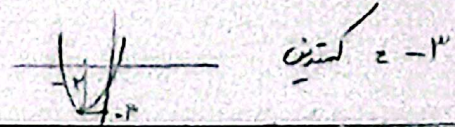
$a_4 = 5$ $\begin{cases} a_1 + 3d = 5 \\ a_9 = 22 \end{cases} \Rightarrow 5d = 15 \Rightarrow \boxed{d=3}$ $\boxed{a_1 = -2}$
 $a_9 = 22$ $a_1 + 8d = 22$ با جایابی
 $a_{12} = ? \rightarrow a_{12} + 3d = -2 + 9 = \boxed{7}$

الف) $t_n = n^2 - 4n + 1$ ext $\frac{-b}{2a} = \frac{4}{2} = 2$
 $\min$ $a > 0$
 $\text{کسین} = -5$



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ب) $t_n = n^2 + 6n + 1$ $\frac{-6}{2} = -3$



کسین = -3

$t_n = -9, -7, -1, -7, -9, \dots$ $a = 1 \rightarrow a = 1$ $b = -9$
 $n^2 - 4n + c \xrightarrow{n=1} 1 - 4 + c = -9 \rightarrow c = 1$
 $a_n = n^2 - 4n + 1$

$t_{10} = 100 - 40 + 1 = 61$
 -59

$n^2 + bn + c \xrightarrow{n=1} 1 + b + c = -9 \rightarrow b + c = -10$

$n=3 \rightarrow 9 + 3b + c = -17 \Rightarrow 3b = -26 \Rightarrow b = -\frac{26}{3}$

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$t_n = -9, -1, 1, 9, \dots$ $a = 1 \rightarrow a = 1$
 $2n^2 + bn + c \xrightarrow{n=1} 2 + b + c = -9 \rightarrow b + c = -11$
 $1 + 2b + c = -1 \rightarrow 2b + c = -2$

$b = -1$

$c = -10$

$a_n = t_n = 2n^2 - n - 10$

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$[2a+1, +\infty) \cap (-\infty, a+4]$
 $\Rightarrow$ استیک $\{ \}$

$2a+1 \leq a+4$
 $a \leq 3$

$\Rightarrow 2a+1 = a+4$
 $a = 3$

$[1, +\infty) \cap (-\infty, 4]$
 $\{1, 2, 3, 4\}$

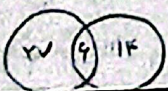
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$33 = \left[\frac{100}{3} \right]$ $\leftarrow$ بخش پذیر به 3

$20 = \left[\frac{100}{5} \right]$ $\leftarrow$ بخش پذیر به 5

$9 = \left[\frac{100}{10} \right]$ $\leftarrow$ به 3 و 5

$33 + 20 - 9 = 44$ $\leftarrow$ به 3 و 5



$n(A \cup B) = nA + nB - n(A \cap B)$

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