

امین خدویش دهم تجربی الف

الف) $tn = 3n^2 - 1 \Rightarrow t_1 = 2 / t_2 = 11 / t_3 = 24 / t_4 = 47 / t_5 = 74$
 ب) $tn = \frac{3n+1}{n+2} \Rightarrow t_1 = \frac{4}{3} / t_2 = \frac{5}{4} / t_3 = 1 / t_4 = \frac{4}{3} / t_5 = \frac{11}{9}$

سوال یک

الف) $\frac{(-1)^n}{\sqrt{13+3^n}} = \frac{-1}{3} \Rightarrow -\frac{1}{3}$ ب) $24 - [325] \Rightarrow 23$

سوال دو

الف) $2n-1 < 0 \rightarrow n < 0.5 \Rightarrow n=1, 2, 3, 4$ $n^2-14n+4 \leq 0 \Rightarrow (n-4)(n-1) < 0$
 $\frac{4-1}{4-0} \Rightarrow (4,1) \Rightarrow n=5, 6, 7, 8, 9$

سوال سه

الف) $2n-14 < 0 \Rightarrow n < 7 \Rightarrow n=0, 1, 2, 3, 4, 5, 6, 7$
 ب) $n^2-12n+27 < 0 \Rightarrow (n-3)(n-9) < 0 \Rightarrow \frac{9-3}{9-0} \Rightarrow [3, 9] \Rightarrow n=3, 4, 5, 6, 7, 8, 9$

سوال چهار

$tn = an + b \Rightarrow tn = 3n - 5$
 $t_4 \Rightarrow 4a + b = 7$
 $t_9 \Rightarrow 9a + b = 22$ $\left\{ \begin{array}{l} 5a = 15 \Rightarrow a = 3 \\ b = -5 \end{array} \right.$ روش اول

سوال پنج

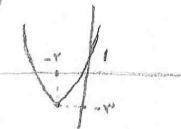
$t_6 = 5$ $t_4 = 22$ $t_9 = 22$ $\frac{1}{-6} \frac{1}{-18}$ $\left\{ \begin{array}{l} -6 \\ -18 \end{array} \right.$ روش دوم

ext $\left\{ \begin{array}{l} m = \frac{-b}{2a} = \frac{4}{2} = 2 \\ g = \frac{-\Delta}{4a} = \frac{-(-7)}{4} = \frac{7}{4} \rightarrow \min \end{array} \right.$



سوال شش

ext $\left\{ \begin{array}{l} m = \frac{-b}{2a} = -2 \\ g = \frac{-\Delta}{4a} = \frac{-(-9)}{4} = \frac{9}{4} \rightarrow \min \end{array} \right.$



جدول مقادیر
 $+1, -4, -9, -16, -25, -36, \dots$
 $-8, +3, +1, +1, +3, \dots$
 $+9, +2, +2, +2, \dots$

$2 = 2a \Rightarrow a = 1$ $an^2 + bn + c$
 if $n=1$ $\left\{ \begin{array}{l} n^2 + bn + 1 \\ 1 + b + 1 = -4 \Rightarrow b = -4 \end{array} \right.$

سوال هفت

$tn = an^2 + bn + c \Rightarrow 2n^2 + n - 5$

سوال هشت

$2 = 2a \Rightarrow a = 2$ $tn = 2n^2 - n - 5$
 $c = -5$
 if $n=1$ $\Rightarrow 1 + b - 5 = -4 \Rightarrow b = 0$

سؤال 9

①  $\rightarrow a+t < ra+1 \quad r < a$

②  $\rightarrow a+t = ra+1 \rightarrow a = r$

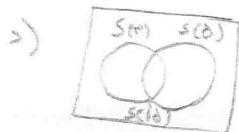
$a = [r, \infty +)$

الف) $3, 4, 4, \dots, 49 \Rightarrow \frac{n}{r} (tn+t_1) \Rightarrow \frac{3 \times (49+3)}{1} = 148$
 $n = \frac{49-3}{1} + 1 = 47$

سؤال 10

ب) $3, 10, 13, \dots, 100 \Rightarrow \frac{n}{r} (tn+t_1) \Rightarrow \frac{3 \times (100+3)}{1} = 309$
 $n = \frac{100-3}{3} + 1 = 33$

ج) $13, 40, 43, \dots, 90 \Rightarrow \frac{n}{r} (tn+t_1) \Rightarrow \frac{3 \times (90+13)}{1} = 345$



$\rightarrow S(A) \cup S(B) = S(A) + S(B) - S(A \cap B) \Rightarrow (148 + 100) - 33 = 215$
 $n(A \cup B) = n(A) + n(B) - n(A \cap B)$