

نام و نام خانوادگی طالع بنوری پاسخنامه تشریحی تکلیف شماره ۱: کلاس A

$$tn = 2n^2 - 1 \Rightarrow t_1 = 2 - 1 = 1 / t_2 = (2 \times 2^2) - 1 = 11 / t_3 = (2 \times 3^2) - 1 = 16 / t_4 = (2 \times 4^2) - 1 = 27$$

الف) $t_5 = (2 \times 5^2) - 1 = 49$

ب) $tn = \frac{2n+1}{n+2} \Rightarrow t_1 = \frac{2+1}{1+2} = \frac{3}{3} = 1 / t_2 = \frac{(2 \times 2)+1}{2+2} = \frac{5}{4} / t_3 = \frac{(2 \times 3)+1}{3+2} = \frac{7}{5} / t_4 = \frac{(2 \times 4)+1}{4+2} = \frac{9}{6} = \frac{3}{2}$

$t_5 = \frac{(2 \times 5)+1}{5+2} = \frac{11}{7} / t_6 = \frac{(2 \times 6)+1}{6+2} = \frac{13}{8}$

ج) $tn = \frac{(-1)^n}{\sqrt{n+2}} \Rightarrow \frac{(-1)^{12}}{\sqrt{12+2}} = t_{12} \Rightarrow \frac{-1}{\sqrt{14}} = -\frac{1}{\sqrt{14}}$

د) $tn = 2n - \left[\frac{n}{2}\right] \Rightarrow t_{12} = \frac{(2 \times 12) - \frac{12}{2}}{1} = \frac{18}{1} = 18$

ه) $tn = 2n - 1 \Rightarrow 2n - 1 < 0 \Rightarrow 2n < 1 \Rightarrow n < 0.5 \Rightarrow$ $t_1 = 1, 3, 5, 7$

و) $tn = n^2 - 12n + 35 \Rightarrow n^2 - 12n + 35 < 0 \Rightarrow n = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \Rightarrow \frac{12 \pm \sqrt{144 - 4 \times 1 \times 35}}{2} = \frac{12 \pm \sqrt{144 - 140}}{2} = \frac{12 \pm 2}{2} = 7, 5$

$\Rightarrow n = \frac{12+5}{2} = \frac{17}{2} = 8.5$
 $n = \frac{12-5}{2} = \frac{7}{2} = 3.5$

$\Rightarrow n = 3.5, 8.5 \Rightarrow$ $t_4 = 5, 7, 9, 11$

ز) $tn = 2n - 15 \Rightarrow 2n - 15 < 0 \Rightarrow 2n < 15 \Rightarrow n < 7.5 \Rightarrow$ $t_1 = 1, 3, 5, 7$

ح) $tn = n^2 - 12n + 27 \Rightarrow n^2 - 12n + 27 < 0 \Rightarrow n = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{12 \pm \sqrt{144 - 4 \times 1 \times 27}}{2} = \frac{12 \pm \sqrt{144 - 108}}{2} = \frac{12 \pm \sqrt{36}}{2} = \frac{12 \pm 6}{2} = 9, 3$

$\Rightarrow n = \frac{12+3}{2} = \frac{15}{2} = 7.5$
 $n = \frac{12-3}{2} = \frac{9}{2} = 4.5$

$\Rightarrow n = 4.5, 7.5 \Rightarrow$ $t_2 = 3, 5, 7, 9$

ط) $t_4 = 5 / t_9 = 18 \Rightarrow d = \frac{t_m - t_n}{m - n} = \frac{18 - 5}{9 - 4} = \frac{13}{5} = 2.6 \Rightarrow$

$\Rightarrow tn = 2.6n - 5$

$\Rightarrow t_2 = (2 \times 2) - 5 = -1$ or $t_2 = 5 \Rightarrow t_2 = 5 - 2.6 = 2.4$

الف) $t_n = n^2 - 6n + 2 \Rightarrow t_1 = 1 - 6 + 2 = -3 / t_2 = 4 - 12 + 2 = -6 / t_3 = 9 - 18 + 2 = -7$
 ج) عبارت درجه 2 است $\Rightarrow$ جمله 2 در بار ششم به 9 شود یا اگر
 $t_4 = 16 - 24 + 2 = -6$

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ب) $t_n = n^2 + 4n + 1 \Rightarrow$ جمله 2 درجه 2 است
 بین حالات 4 است
 $1 + 4 + 1 = 6$ $\Rightarrow$ ک ج 6

$t_n = -4, -7, -10, -13, \dots$
 $2a = 2 \Rightarrow a = 1$
 $3a + b = -3 \Rightarrow 3 + b = -3 \Rightarrow b = -6$
 $c = 0 - 5 = -5 \Rightarrow 0 = 1$ or
 $a + b + c = -4 \Rightarrow 1 - 6 + c = -4 \Rightarrow c = 1$
 $t_n = -4n + 1 =$ جمله 5
 $t_1 = 1 - 6 + 1 = -4$

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$t_n = -6, -1, 4, 9, \dots$
 $2a = 4 \Rightarrow a = 2$
 $3a + b = 5 \Rightarrow 6 + b = 5 \Rightarrow b = -1$
 $c = 0 + 1 = -6 \Rightarrow 0 = -7$ or
 $a + b + c = -6 \Rightarrow 2 - 1 + c = -6 \Rightarrow c = -7$
 $t_n = 2n^2 - 1n - 7 =$ جمله 5

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رایجی اشتراک متناهی است که یاری هم به اشتراک
 خبر که یعنی یا $a + 4 = 2a + 1$ یا $a + 4 < 2a + 1$ که
 اشتراک آن را به $\uparrow$ $\leftarrow$ b $\leftarrow$ a $\leftarrow$ $a + 4$
 $a + 4 < 2a + 1 \Rightarrow 3 < a$ $[3 + \infty) =$ عدد 3

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الف) $\frac{99-4}{3} = 33$ بر 3 بخش پذیر اند
 ج) $\frac{9+15}{15} + 1 = 6$ " " 5, 2

ب) $\frac{9+19}{5} + 1 = 19$ " " 5
 د) $\frac{33+19-6}{52} = 46$ بر 5 یا 3
 نگارای در 2 صاحب می شود

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