

نام و نام خانوادگی: علی یوسفی کلاس پنجم تجربی سرانه - تلف: ۱۵

$$t_n = 2n^2 - 1 = t_1 = 2(1)^2 - 1 = 2 - 1 = 1, t_2 = 2(2)^2 - 1 = 8 - 1 = 7, t_3 = 2(3)^2 - 1 = 18 - 1 = 17, t_4 = 2(4)^2 - 1 = 32 - 1 = 31, t_5 = 2(5)^2 - 1 = 50 - 1 = 49, t_6 = 2(6)^2 - 1 = 72 - 1 = 71, t_7 = 2(7)^2 - 1 = 98 - 1 = 97, t_8 = 2(8)^2 - 1 = 128 - 1 = 127, t_9 = 2(9)^2 - 1 = 162 - 1 = 161, t_{10} = 2(10)^2 - 1 = 200 - 1 = 199$$

$$t_n = \frac{2n+1}{n+1} = t_1 = \frac{2(1)+1}{1+1} = \frac{3}{2}, t_2 = \frac{2(2)+1}{2+1} = \frac{5}{3}, t_3 = \frac{2(3)+1}{3+1} = \frac{7}{4}, t_4 = \frac{2(4)+1}{4+1} = \frac{9}{5}, t_5 = \frac{2(5)+1}{5+1} = \frac{11}{6}, t_6 = \frac{2(6)+1}{6+1} = \frac{13}{7}, t_7 = \frac{2(7)+1}{7+1} = \frac{15}{8}, t_8 = \frac{2(8)+1}{8+1} = \frac{17}{9}, t_9 = \frac{2(9)+1}{9+1} = \frac{19}{10}, t_{10} = \frac{2(10)+1}{10+1} = \frac{21}{11}$$

$$t_n = \frac{(1)^n}{\sqrt{n+1}} = t_1 = \frac{1}{\sqrt{2}}, t_2 = \frac{1}{\sqrt{3}}, t_3 = \frac{1}{\sqrt{4}}, t_4 = \frac{1}{\sqrt{5}}, t_5 = \frac{1}{\sqrt{6}}, t_6 = \frac{1}{\sqrt{7}}, t_7 = \frac{1}{\sqrt{8}}, t_8 = \frac{1}{\sqrt{9}}, t_9 = \frac{1}{\sqrt{10}}, t_{10} = \frac{1}{\sqrt{11}}$$

$$t_n = 2n - \left[\frac{n}{2}\right] = t_1 = 2(1) - \left[\frac{1}{2}\right] = 2 - 0 = 2, t_2 = 2(2) - \left[\frac{2}{2}\right] = 4 - 1 = 3, t_3 = 2(3) - \left[\frac{3}{2}\right] = 6 - 1 = 5, t_4 = 2(4) - \left[\frac{4}{2}\right] = 8 - 2 = 6, t_5 = 2(5) - \left[\frac{5}{2}\right] = 10 - 2 = 8, t_6 = 2(6) - \left[\frac{6}{2}\right] = 12 - 3 = 9, t_7 = 2(7) - \left[\frac{7}{2}\right] = 14 - 3 = 11, t_8 = 2(8) - \left[\frac{8}{2}\right] = 16 - 4 = 12, t_9 = 2(9) - \left[\frac{9}{2}\right] = 18 - 4 = 14, t_{10} = 2(10) - \left[\frac{10}{2}\right] = 20 - 5 = 15$$

$$t_n = 2n - 10 = t_n < 0 \Rightarrow 2n < 10 \Rightarrow n < 5 \Rightarrow n = 1, 2, 3, 4$$

$$t_1 = 2(1) - 10 = -8, t_2 = 2(2) - 10 = -6, t_3 = 2(3) - 10 = -4, t_4 = 2(4) - 10 = -2$$

$$t_n = n^2 - 14n + 40 = t_n < 0 \Rightarrow n = \frac{14 \pm \sqrt{196 - 160}}{2} = \frac{14 \pm \sqrt{36}}{2} = \frac{14 \pm 6}{2}$$

$$n_1 = \frac{14 - 6}{2} = 4, n_2 = \frac{14 + 6}{2} = 10 \Rightarrow 4 < n < 10$$

$$n = 5, 6, 7, 8, 9 \Rightarrow t_5, t_6, t_7, t_8, t_9$$

$$t_n = 2n - 15 = t_n \leq 0 \Rightarrow 2n \leq 15 \Rightarrow n \leq 7.5 \Rightarrow n = 1, 2, 3, 4, 5, 6, 7$$

$$t_1 = 2(1) - 15 = -13, t_2 = 2(2) - 15 = -11, t_3 = 2(3) - 15 = -9, t_4 = 2(4) - 15 = -7, t_5 = 2(5) - 15 = -5, t_6 = 2(6) - 15 = -3, t_7 = 2(7) - 15 = -1$$

$$t_n = n^2 - 12n + 27 = t_n \leq 0 \Rightarrow n = \frac{12 \pm \sqrt{144 - 108}}{2} = \frac{12 \pm \sqrt{36}}{2} = \frac{12 \pm 6}{2}$$

$$n_1 = \frac{12 - 6}{2} = 3, n_2 = \frac{12 + 6}{2} = 9 \Rightarrow 3 \leq n \leq 9 \Rightarrow n = 3, 4, 5, 6, 7, 8, 9$$

$$t_3 = 9 - 36 + 27 = 0, t_4 = 16 - 48 + 27 = -5, t_5 = 25 - 60 + 27 = -8, t_6 = 36 - 72 + 27 = -9, t_7 = 49 - 84 + 27 = -8, t_8 = 64 - 96 + 27 = -5, t_9 = 81 - 108 + 27 = 0$$

$$t_n = 2n - 15 = t_n \leq 0 \Rightarrow n \leq 7.5 \Rightarrow n = 1, 2, 3, 4, 5, 6, 7$$

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$$b_n = n^2 - 9n + 2 = -\frac{b}{2a} \quad n = -\frac{-9}{2 \times 1} = \frac{9}{2} = 4.5$$

$$b_4 = (4)^2 - 9(4) + 2 = 16 - 36 + 2 = -18 \quad b_5 = -17$$

$$b_n = n^2 + 5n + 1 = n = -\frac{f}{2a} = -\frac{5}{2} = -2.5 \quad n > 0 \quad n = -4$$

$$n < 1 \quad b_1 = (1)^2 + 5(1) + 1 = 1 + 5 + 1 = 7 \quad b_2 = 7$$

$$b_3 = 7 + 1 + 1 = 9 \quad b_4 = 9$$

$$b_1 = -4 \quad b_2 = -17 \quad b_3 = -1 \quad b_4 = -17 \quad b_5 = -4$$

$$a + b + c = -4 \quad b_2 = -17 \quad 2 = 4a + 2b + c = -17$$

$$b_1 = -4$$

$$b_2 = -17 = 9a + 4b + c = -1 \quad 3a + b = 3 \quad 3a + b = 3$$

$$3a = 2 \Rightarrow a = \frac{2}{3}$$

$$1 + c - 3 + c = -4 \Rightarrow c = 1 \quad 3(1) + b = -3 \Rightarrow b = -6$$

$$b_3 = 13 - 2(4) + 1 = -1$$

$$b_4 = 16 - 4(4) + 1 = -3$$

$$b_5 = (5)^2 - 9(5) + 1 = 25 - 45 + 1 = -19$$

$$b_2 - b_1 = -1 - (-4) = 3 \quad b_3 - b_2 = 1 - (-1) = 2 \quad b_4 - b_3 = -3 - 1 = -4 \quad b_5 - b_4 = -19 - (-3) = -16$$

$$b_1 = -4 \quad b_2 = 1 \quad b_3 = 1 \quad b_4 = -3 \quad b_5 = -19$$

$$b_2 = 1 \quad b_3 = 1 \quad b_4 = -3 \quad b_5 = -19$$

$$b_2 = 1 \quad b_3 = 1 \quad b_4 = -3 \quad b_5 = -19$$

$$b_2 = 1 \quad b_3 = 1 \quad b_4 = -3 \quad b_5 = -19 \quad b_n = 2n^2 - n - 1$$

$$[2a+1, +\infty) \cap (-\infty, a+4] = [2a+1, a+4]$$

$$2a+1 \leq a+4 \quad a \leq 3 \quad a \in (-\infty, 3]$$

$$a_1 = 3 \quad a_n = 99 \quad 3, 5, 9, 12, \dots, 99$$

$$a_n = a_1 + (n-1)d \quad 99 = 3 + (n-1) \times 3 \quad 96 = (n-1) \times 3$$

$$n-1 = 32 \quad n = 33$$

$$5, 10, 15, \dots, 100 = 5 + (n-1) \times 5 = 100 \quad (n-1) \times 5 = 95$$

$$n-1 = 19 \quad n = 20$$

$$15, 20, 25, 30, 35, 40, 45, 50 = 15 + (n-1) \times 5$$

$$(n-1) \times 5 = 35 \quad n-1 = 7 \quad n = 8$$

اصل سوالوں وکرم سوال

تعداد = (پہلی پیر 3) - (پہلی پیر 5) - (پہلی پیر 7)

$$33 + 20 - 8 = 45$$