

نام و نام خانوادگی آیت الله پاسخنامه تشریحی تکلیف شماره ... ۱۱ ... کلاس

$$t_n = \frac{n(n+1)}{2}$$

$$t_{10} = \frac{10 \times 11}{2} = 55$$

۱

$$t = \frac{n(n-1)}{2}$$

$$t_n = \frac{n(n-1)}{2} = 55$$

$$n(n-1) = 110$$

$$n = 11$$

۲

$$1, 9, 25, \dots$$

$$t_n = f(n, 1)$$

$$t_{11} = (f \times 11) + 1 = 44$$

۳

$$n = 1, 2, 3, \dots$$

$$(-1) \left(\frac{1}{2} \right) - \frac{1}{2} \rightarrow \frac{1}{2} \rightarrow \dots$$

میزان یوا $\frac{1}{2}$
کد پیکرین ۱-۱

$$\frac{1}{2} - (-1) = \frac{3}{2}$$

۴

$$b_n = (-r)^n - v_n$$

$$b_r = (-r)^r - r_1$$

$$b_r = -r_v - r_1 = -r^r$$

$$a_n = -a_n + r_r$$

$$-a_n + r_r = -r^r$$

$$-a_n = -r_v$$

$$a_n = r_v$$

$$n \leq 1^r$$

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$$a_n = a_1 + (n-1)d$$

$$a_{10} - a_5 = (a_1 + 9d) - (a_1 + 4d) = 5d = 15 \Rightarrow d = 3$$

$$a_4 - a_1 = (a_1 + 3d) - (a_1) = 3d \Rightarrow 3d = 9 \Rightarrow d = 3$$

6

$$a_6 = a_1 + 5d = 10$$

$$a_2 = a_1 + d = 7$$

$$5d = 3$$

$$d = 3/5$$



$$a_1 = 7 \Rightarrow a_6 = a_1 + 5d = 7 + 3 = 10$$

$$b_7 = a_7 = 11$$

$$b_1 = a_1 = 7$$

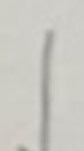
$$d = 1$$

$$b_7 = b_1 + 6d = 7 + (6 \times 1) = 13$$

7

$$t_n = \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} \right) \times \frac{10}{2} = \frac{1}{2} \times 10 = 5$$

$$t_n = \frac{t_n - r}{r_n + r}$$



$$\frac{t_n - r}{r_n + r} = \frac{r}{r} \rightarrow \frac{t_n - r}{r_n + r} = 1 \rightarrow t_n - r = r_n + r \rightarrow t_n = r_n + 2r$$

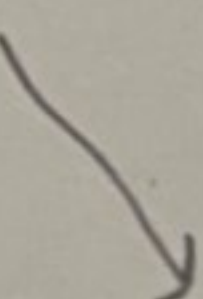
$$n = 1, 2, 3, 4, 5$$

8

$$t_n = 4, 9, 14, 19, \dots$$

$$t_n = An^2 + Bn$$

$$3A + 2B = ?$$



$$3(-1/4) + 2(5/4) = -3/4 + 10/4 = 7/4$$

$$t_1 = 4 = A + B = 4$$

$$t_1 = A + B = 4 \Rightarrow B = 4 - A$$

$$3A + B = 7$$

$$3A + (4 - A) = 7$$

$$2A = 3$$

$$A = 3/2$$

$$B = 4 - (3/2) = 5/2$$

9

$$t_n = -4, -9, -14, -19, \dots$$

$$t_1 - t_0 = -4 - (-9) = 5$$

$$t_2 - t_1 = -9 - (-14) = 5$$

$$t_n = an^2 + bn + c$$

$$\begin{cases} a(1)^2 + b(1) + c = -4 \\ a(2)^2 + b(2) + c = -9 \\ a(3)^2 + b(3) + c = -14 \end{cases}$$

$$\begin{cases} a + b + c = -4 \\ 4a + 2b + c = -9 \\ 9a + 3b + c = -14 \end{cases}$$

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$$(a+b) - (a+b) = 0 \Rightarrow a = 1$$

$$3a + b = 7 \Rightarrow 3(1) + b = 7 \Rightarrow b = 4$$

$$a_1 = a_1 + 5d = 1$$

$$a_2 = a_1 + d = 1$$

$$5d = 0 \Rightarrow d = 0$$

$$a_n = 1 + (n-1) \times 0 = 1$$

$$\begin{aligned} a_1 + d &= 1 \\ a_1 + 0 &= 1 \\ a_1 &= 1 \end{aligned}$$

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1. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

2. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

3. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100