

نام و نام خانوادگی شماره کلاس پاسخنامه تشریحی تکلیف شماره ۱۱۱

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$$1, 5, 12, \dots \rightarrow a_n = n^2 + \frac{n(n-1)}{2}$$

$$a_{10} = 10^2 + \frac{10 \times 9}{2} = 100 + 45 = 145$$

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$$0, 1, 3, 6, \dots \rightarrow a_n = \frac{n(n-1)}{2}$$

$$\frac{n(n-1)}{2} = 55 \rightarrow n(n-1) = 110 \rightarrow n = 11$$

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$$a_n = kn + 1$$

$$t_n = 8n - 3$$

$$\left. \begin{array}{l} a_{11} = 11k + 1 = 45 \\ t_{11} = 8 \times 11 - 3 = 85 \end{array} \right\} 45 + 85 = 130$$

$$5, 9, 13, \dots$$

$$5, 13, 21, \dots$$

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$$\Rightarrow n=2 \rightarrow \frac{(-1)^2}{2} = \frac{1}{2}$$

$$\Rightarrow n=1 \rightarrow \frac{(-1)^1}{1} = -1$$

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

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$$b_3 = (-3)^3 - 7 \times 3 = -27 - 21 = -48$$

$$a_k = -5k + 22 \rightarrow -48 = -5k + 22 \rightarrow 5k = 70 \rightarrow k = \frac{70}{5} = 14$$

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$$a_n = an + b$$

$$a_1 - a_0 = 1 \rightarrow 1a + b - (0a + b) = 1 \rightarrow 1a + b - 0a - b = 1 \rightarrow 1a = 1 \rightarrow a = 1$$

$$a_2 - a_1 = ? \rightarrow 2a + b - (a + b) = 2a + b - a - b = a = 1 \rightarrow a = 1$$

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$$a_1 = 1 \quad a_2 = 1$$

$$a_n = n - 1$$

$$1a + b = 1 \rightarrow b = 1 - 1a$$

$$1a + b = 1 \rightarrow b = 1 - 1a \quad \left\{ \begin{array}{l} 1a - 1a = 1 - 1a \rightarrow 1a = 1 \rightarrow a = 1 \\ b = -1 \end{array} \right.$$

$$a_1 = 1 = b_1$$

$$a_n = 1 = b_n \rightarrow a_n = 1, 1, \dots \rightarrow b_n = 1n - 1$$

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$$t_n = \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \dots \rightarrow t_n = \frac{n-1}{n+1}$$

$$\frac{n-1}{n+1} < \frac{1}{2} \rightarrow 2(n-1) < n+1 \rightarrow 2n-2 < n+1 \rightarrow n < 3 \rightarrow n = 1, 2 \rightarrow 1, 2, 3, 4, 5, 6 \rightarrow 1, 2$$

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$$t_1 = A + B = 1$$

$$t_2 = 2A + 2B = 1 \rightarrow 2A + 2B = 1$$

$$\left\{ \begin{array}{l} -A - B = -1 \\ 2A + 2B = 1 \\ A = -1, B = 1 \end{array} \right.$$

$$2A + 2B = 2(-1) + 2(1) = -2 + 2 = 0 \rightarrow 0 = 0$$

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$$t_n = \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \dots \rightarrow t_n = \frac{n-1}{n+1}$$

$$a_1 = 1$$

$$a_2 = 1 + b - 1 = -1$$

$$b = -1$$

$$a_1 = 1a + b = 1$$

$$a_2 = 2a + b = 1$$

$$\left\{ \begin{array}{l} 1a - 1 = 1a - 1 \\ 2a - 1 = 1a - 1 \end{array} \right. \rightarrow a = 1$$

$$a_n = n + 1$$

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$$t_n = a_n \rightarrow n - 1 = n + 1 \rightarrow n - 1 - n - 1 = 0 \rightarrow n - 2 = 0 \rightarrow n = 2$$

$$\Rightarrow (n+1)(n-2) = 0 \rightarrow n = -1 \text{ or } n = 2$$