

۱۸، ۷۵

نام و نام خانوادگی: ... پاسخنامه تشریحی تکلیف شماره ۱۲ ... کلاس: ...

$$t_n = 5, 9, 13, 17, \dots \Rightarrow t_n = 4n + 1 \quad \text{الف}$$

$$t_{10} = 4(10) + 1 = 41 \quad \text{ب}$$

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$$t_n = 9, 10, 11, 12, \dots \Rightarrow t_n = n + 8$$

$$S_n = \frac{n}{2} (2a_1 + (n-1)d) \Rightarrow S_{10} = 5(19 + (9)1) = 95 \quad \text{الف}$$

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$$t_{19} + t_{10} + t_{11} + t_{12} \Rightarrow 118 + 122 + 124 + 130 = 494 \quad \text{ب}$$

$$\Rightarrow t_{19} = 118, t_{10} = 122, t_{11} = 124, t_{12} = 130$$

$$1 + \sqrt{3}, 2, 3 - \sqrt{3}$$

$$2 - (1 + \sqrt{3}) = 1 - \sqrt{3}$$

$$(3 - \sqrt{3}) - 2 = 1 - \sqrt{3} \Rightarrow d = 1 - \sqrt{3}$$

$$a_{13} = a_1 + 12d$$

$$a_{10} = a_1 + 9d$$

$$\Rightarrow a_1 + 12d - (a_1 + 9d) = 3d \Rightarrow 3(1 - \sqrt{3}) = 3 - 3\sqrt{3}$$

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$$a_n = 2^x, 3 \times 2^x, 5^y \Rightarrow 2^x, 3^y \times 2^x, 5^y \Rightarrow 3^y \times 2^x - 2^x = 5^y - (3 \times 2^x)$$

$$b_n = x, y \Rightarrow 1 - x = y - 1 \Rightarrow y = 2 - x$$

$$a_n \text{ دایره } \Rightarrow 2^x (3 - 1) = 5^y - 3 \times 2^x \xrightarrow{3 \times 2^x \text{ با } 2^x \text{ ضرب}} 2^x = 5^y (1 + 3)$$

$$\Rightarrow 2^x = 5^y \times 4 \Rightarrow y = 2x + 1$$

$$y = 2 - x \Rightarrow 2 - x = 2x + 1 \Rightarrow 3 = 3x \Rightarrow x = 1, y = 2 - 1 = 1$$

$$y = 2x + 1 \Rightarrow xy = 3$$

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$$2x - 4, 2x - 1, 4x, \dots$$

$$4x - (2x - 1) = 2x - 1 - (2x - 4)$$

$$2x + 1 = 3 \Rightarrow 2x = 2 \Rightarrow x = 1$$

$$2x - 4 = -2$$

$$2x - 1 = 1$$

$$4x = 4$$

$$-2, 0, 2, 4 \Rightarrow \text{جمله حسابی}$$

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$$a_n = 3, 5, 7, \dots \Rightarrow 2n+1 \quad \text{شماره } d=4$$

$$b_n = 2, 5, 8, \dots \Rightarrow 3n-1$$

$$\text{شماره} = 5, 11, 17 \Rightarrow 4n-1$$

$$4n-1 < 41 \Rightarrow n < 11$$

$$a_{p_0} = 2(p_0) + 1 = 41$$

$$b_{p_0} = 3(p_0) - 1 = 59$$

✓ جمله مشترک

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$$a_1 + a_r + a_p = 21 \Rightarrow 3a_r = 21 \Rightarrow a_r = 7$$

$$a_1 + a_p + a_d = 105 \Rightarrow 3a_p = 105 \Rightarrow a_p = 35$$

$$d = 35 - 7 = 28$$

$$a_1 = 7 - 28 = -21$$

$$a_p - a_r + a_1 \Rightarrow 35 - 7 + (-21) = 7 \Rightarrow a_1 = -21$$

$$\frac{p}{q} = \left(-\frac{1}{3}\right)$$

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$$a_1 + a_r + a_p = 15 \Rightarrow 3a_r = 15 \Rightarrow a_r = 5$$

$$a_f + a_d = 25 \Rightarrow a_f = 15, a_d = 10$$

$$a_1 = 0, a_r = 5, a_p = 10 \Rightarrow a_n = 5n - 5 \Rightarrow a_{10} = 5(10) - 5 = 45$$

$$a_f + a_d = a_r + 2d + a_r + 3d = 25 \rightarrow d = 3$$

$$a_{10} = a_r + 10d = 29$$

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$$S_9 = 9S_p \Rightarrow \frac{9}{p}(2a + 10d) = 9 \times \frac{p}{p}(2a + 2d)$$

$$\Rightarrow 9a + 10d = 2pa + 2pd \Rightarrow 39a = 10d \Rightarrow d = 3a$$

$$\frac{a_{p_0}}{a_v} = \frac{a + 10d}{a + 4d} = \frac{39a}{13d} = 3$$

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$$t_1 = 11, t_v = 35 \Rightarrow d = \frac{a_m - a_n}{m - n} \Rightarrow d = \frac{35 - 11}{4} = 6$$

$$11, 17, 23, 29, 35$$

$$t_f$$

$$t_1 = 38$$

$$38, \left[\frac{33}{5}, \frac{28}{4}, \frac{23}{3}, \frac{18}{2} \right], 13$$

در دنباله‌ای جدید 4 اعدادی شایع می‌باشد که تکرار دارد.

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