

تالیف: Year:

Month: ۵۴/۷/۲۰

Day:

مهم دختر A

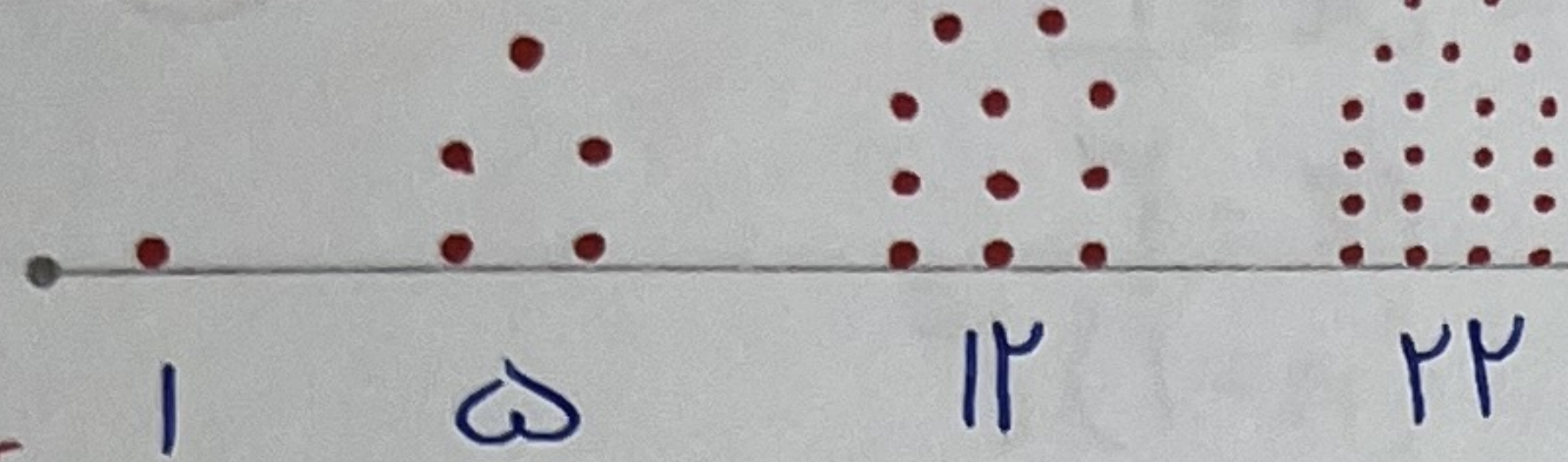
Subject: سارینا زارع

(۱)

(۲)

(۳)

(۴)



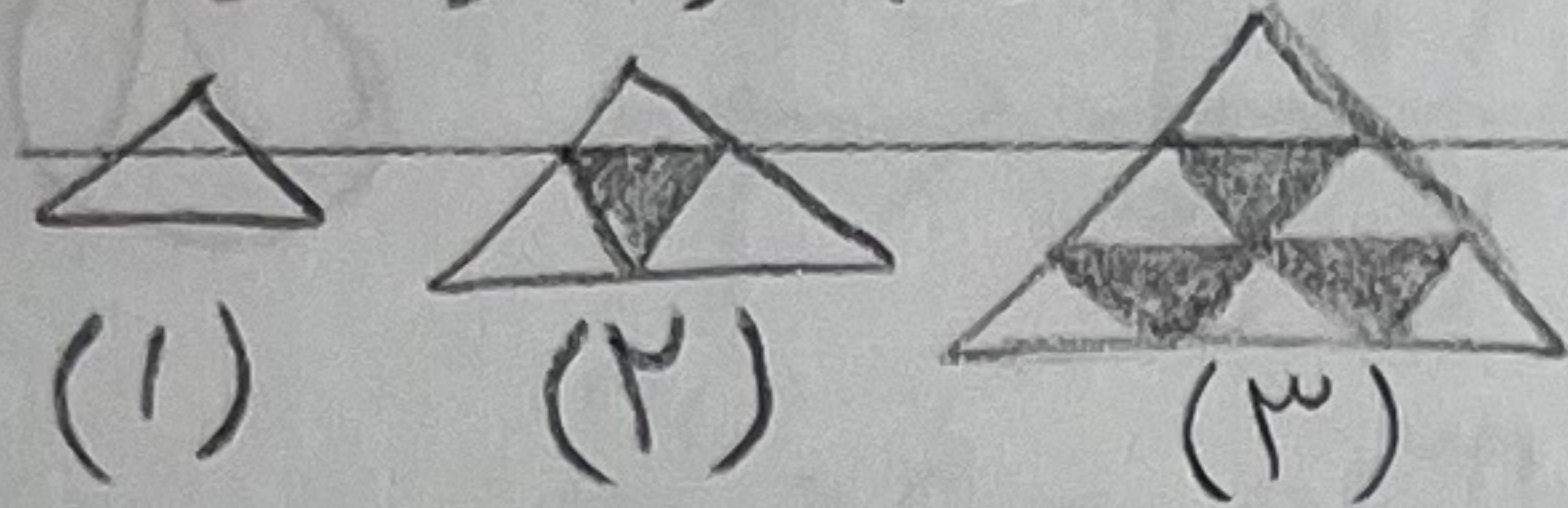
$$a_n = n^2 + \frac{n(n-1)}{2}$$

$$a_{10} = ?$$

$$10^2 + \frac{10(10-1)}{2} = 100 + 45 = 145$$

(۱)

۰, ۱, ۳, ۵

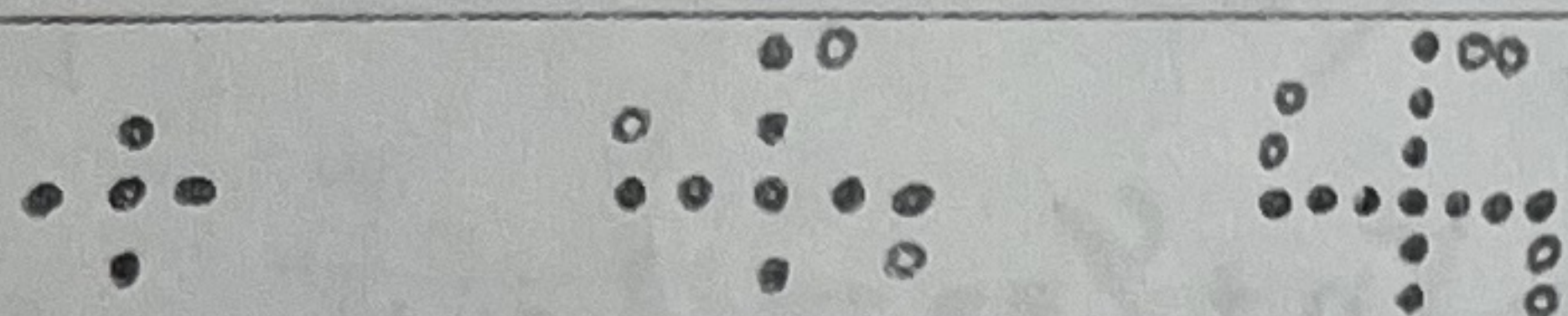


$$\frac{n(n-1)}{2} = 55$$

$$a_n = 55$$

$$n(n-1) = 110 \rightarrow 11 \times 10 = 110 \rightarrow n = 11$$

(۲)



(۱)

(۲)

(۳)

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۱۳

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۲۱

$$a_n = 4n + 1 \rightarrow a_{11} = 4 \times 11 + 1 = 45$$

$$a_n = 4n - 4$$

$$a_n = 4n - 3 - a_{11} = 15$$

$$45 + 15 = 60$$

(۳)

$$a_n = \frac{(-1)^n}{n} \rightarrow -1, \frac{1}{2}, -\frac{1}{3}, \frac{1}{4}, -\frac{1}{5}, \frac{1}{6}, \dots$$

(۴)

هر چه بیشتر باشد و در اعداد منفی بزرگتر و اعداد مثبت بیشتر به سمت صفر می روند پس بزرگترین عدد $\frac{1}{n}$ و کوچکترین عدد -1 است.

$$\frac{1}{2} - 1 = -\frac{1}{2}$$

$$b_n = (-3)^n - 7n$$

$$a_3 = (-3)^3 - 7 \times 3 = -27 - 21 = -48$$

(۵)

$$a_n = -5n + 22 \rightarrow a_k = -5k + 22 = -48 \rightarrow -5k = -70 \rightarrow k = 14$$

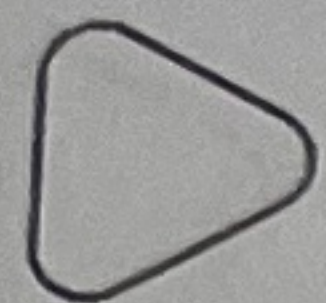
$$a_{10} - a_8 = 12$$

$$a_9 - a_1 = ? \rightarrow d + 8d - d = 8d = 20$$

(۶)

$$d + 9d - d - 9d = 12 \rightarrow 3d = 12 \rightarrow d = 4$$





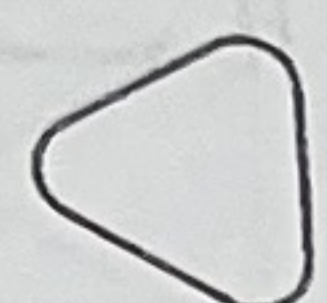
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$$\left. \begin{aligned} a_r = V &\rightarrow a + d = V \\ a_r = 1\omega &\rightarrow a + 3d = 1\omega \end{aligned} \right\} \rightarrow 2d = 1\omega \rightarrow d = \frac{1\omega}{2}$$

✓

$$\left. \begin{aligned} a_1 = 3 = b_1 \\ a_3 = 3 + 2 \times \frac{1\omega}{2} = 11 = b_3 \end{aligned} \right\} \begin{aligned} 11 - 3 = 8 = d_b \\ a = 3 \end{aligned} \rightarrow b_n = 3 + (n-1)8 = 8n - 5$$

$$t_n = \frac{1}{\omega} \rightarrow \frac{1}{\omega} \rightarrow \frac{1}{\omega} \rightarrow \frac{1}{\omega} \rightarrow \dots \rightarrow t_n = \frac{1^n - 1}{1^n + 1} \rightarrow \frac{1^n - 1}{1^n + 1} < \frac{1}{2}$$

①

$$\frac{1^n - 1}{1^n + 1} - \frac{1}{2} < 0 \rightarrow \frac{2^n - 2 - 1^n - 1}{2^n + 2} < 0 \rightarrow \frac{2^n - 3}{2^n + 2} < 0$$

$$\rightarrow 2^n - 3 = 0 \rightarrow n = \frac{3}{2}$$

$$\rightarrow 2^n + 2 = 0 \rightarrow n = -\frac{2}{2}$$

$$\rightarrow \frac{3}{2}, \frac{1}{2} \rightarrow -1/\omega, 9/\omega \rightarrow \boxed{9 \text{ عدد}}$$

$$t_n = 9, 9, 9, 9, 0, \dots$$

⑨

$$t_n = An^2 + Bn \rightarrow 2A = -1 \rightarrow A = -1/\omega$$

$$\rightarrow C = 0 \quad t_1 = 9 = -1/\omega \times 1^2 + B \times 1 \Rightarrow B = 1/\omega$$

$$3A + \omega B \rightarrow 3 \times (-1/\omega) + \omega \times (1/\omega) = \frac{3-1}{\omega} = \frac{2}{\omega}$$

$$t_n = -\frac{1}{\omega}n^2 + \frac{1}{\omega}n, 0, \dots$$

⑩

$$t_1 = |x|^2 + bx - 9 = -9 \rightarrow b - \omega = -9 \rightarrow b = -1$$

$$t_n = n^2 - n - 9$$

$$t_0 = -9 = C$$

$$\omega n + 1 = n^2 - n - 9 \Rightarrow n^2 - 9n - 2V = 0$$

$$\Delta = (-9)^2 - 4 \times 1 \times (-2V) = 81 + 8V \rightarrow \sqrt{\Delta} = 11$$

$$n = \frac{9 \pm 11}{2} \Rightarrow \begin{aligned} &9 \checkmark \\ &-3 \rightarrow \text{شماره جمله منفی نداریم} \end{aligned}$$

$$n = 9$$

$$\boxed{\text{جمله ی 9م}}$$

$$a + d = 31 \rightarrow a - d = -31$$

$$a + 3d = 41$$

$$2d = 10 \rightarrow d = 5$$

$$a + 5 = 31 \rightarrow a = 26$$

$$a_n = 26 + (n-1)5$$