

Subject :

تکلیف سری ۱۱

درهم B

کتابه صفریان

Date :



سوال ۱ <=

(۱) (۲) (۳) (۴)

$$1^2 + 0$$

$$2^2 + 1$$

$$3^2 + 3$$

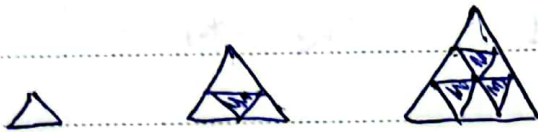
$$4^2 + 4$$

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

نفرم مربعی (n-1) -

$$10^2 + \frac{9 \times 10}{2 + 0} = 145$$

سوال ۲ <=



(۱)

(۲)

(۳)

$$n^2 - 1 = 0$$

$$n^2 - 3 = 1$$

$$n^2 - 4 = 3$$

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

$$1 - 0 = 0$$

$$4 - 3 = 1$$

$$9 - 4 = 3$$

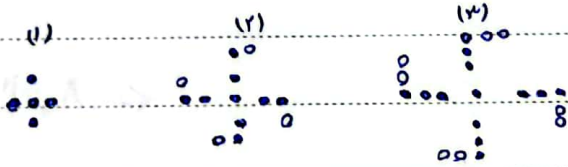
$$\frac{n^2 - n^2 - n}{2} = 0$$

$$\frac{n^2 - n^2 - n}{n^2} = 11$$

$$n(n-1) = 11$$

$$n-1 = 11 \Rightarrow n = 12$$

سوال ۳ <=



(۱)

(۲)

(۳)

$$\frac{1+4}{5} = 1$$

$$\frac{1+8}{9} = 1$$

$$\frac{1+12}{13} = 1$$

$$a_n = 4n + 1$$

(مستطی)

$$4 \times 11 + 1 = 45$$

نفرم

+

+

$$\frac{4 \times 11}{2} + \frac{4 \times 11}{2} = 44$$

$$a_n = 4n - 4$$

نفرم

$$45 + 40 = 85$$

$$44 - 4 = 40$$

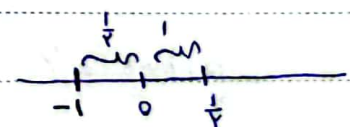
سوال ۴ <=

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

$$-1, +\frac{1}{2}, -\frac{1}{3}, +\frac{1}{4}, \dots$$

$$\max = \frac{1}{2} \quad \min = -1$$

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



MICRO

سوال ۵ <

$$\frac{(-1)^n - 1}{-2} = -an + 12$$

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

$$n = 14$$

$$n = 14$$

$$K = 14$$

سوال ۶ <

$$t_1 - t_2 = 12$$

$$t_4 - t_1 = ?$$

$$t_4 + 2d - t_1 = 12 \Rightarrow d = 4$$

$$t_4 = t_1 + 3d$$

$$t_4 - t_1 = 12$$

$$t_4 - t_1 = 12$$

سوال ۷ <

$$t_1 = 1$$

$$t_2 = 10$$

$$a_n$$

$$t_4 = t_1 + 3d = 1 + 3d = 10$$

$$a_n = 9n - 8$$

$$t_1 = 1$$

$$t_2 = 10$$

$$3, 11, \dots$$

$$b_n = 11n - 8$$

$$3, 11, 19, 27, \dots$$

سوال ۸ <

$$\frac{1}{2}, \frac{4}{5}, \frac{9}{8}, \frac{16}{11}, \frac{25}{14}, \frac{36}{17}, \frac{49}{20}, \frac{64}{23}$$

سوال ۹ <

$$\frac{1}{2}$$

$$\frac{fn - 1}{2n + 1} = 3$$

$$= 11n - 1 = 4n + 9$$

$$11n - 4n = 1 + 9$$

$$7n = 10$$

$$n = \frac{10}{7}$$

$$n = 4$$

سوال ۹ <

$$t_n = 4, 9, 16, 25, 36, \dots$$

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

$$2A + 2B = ?$$

$$ra = 1 \quad a = 1/4$$

$$An^2 + Bn = 4C = 0$$

$$2 \times 1/4 + 2 \times 1/4 =$$

$$-1/4 + 2 \times 1/4 = 1/4$$

$$a + b + c = 4 \Rightarrow b = 1/4$$

MICRO

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$$t_n = n^2 + bn \rightarrow n=1 \quad 1+b-4 = 4b = -1$$

سوال 1. $k=1$

$$t_n = n^2 - n - 4$$

$$t_n = -4, -9, 0, \dots \quad r_1 = 1 \quad a = 1$$

$\begin{matrix} \vee & \vee & \vee \\ 0 & -4 & -9 \\ \vee & \vee & \vee \\ r_1 & r_1 & r_1 \end{matrix} \quad = 4 \quad 4 = -4$

$$t_n = t_r + r_d \quad = 4d = a \quad f_n \cdot a + 0 = f_1$$

$f_1 \quad r_1$

$$= 4 \quad a(n+r_1) = a_n$$

$$a(n+r_1) = n^2 - n - 4$$

$$r_v = n^2 - 4$$

$$r_v = n(n-4)$$

$$= 4 \quad \boxed{n=4}$$

$$\underbrace{a \cdot 4 + r_1}_{=0} = 44$$

$$N - 4 - 4 = 11$$