

$1+0$ $1+1$ $1+2$ $1+3$
 $1, 2, 12, 24, \dots$
 $+1 +2 +3$

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

$a_1 = 1 + \frac{1(1-1)}{2} = 1$

$a_2 = 2 + \frac{2(2-1)}{2} = 3$

$\frac{n(n-1)}{2}$
 $0, 1, 3, 6$

$a_{10} = 10 + \frac{10(10-1)}{2} = 55$
 100 40

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

$a_n = \text{مجموعه} + \text{مجموعه}$

$0, 1, 3, 6, 10, 15$

(2)

~~$a_n = 2n - 1$
 $1, 3, 5, 7, 9, 11$
 $2n-1 = 11$
 $2n = 12$
 $n = 6$~~

$a_n = 2n - 1$
 هر یک از اعداد فرد یک
 به عنوان یک جمله اول

$2n-1 = 11$
 $2n = 12$
 $n = 6$
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 $2n = 12$
 $n = 6$
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 $2n = 12$
 $n = 6$

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 $n = 6$

$$f_n = 5, 9, 13, \dots$$

$\begin{matrix} \swarrow & \searrow \\ +4 & +4 \end{matrix}$

$$f_{n+1} = a_n$$

(۱۳)

$$a_{11} = f(11) + 1 = \underline{45}$$

$$f_n = 5, 13, 21, \dots$$

$\begin{matrix} \swarrow & \searrow \\ +1 & +1 \end{matrix}$

$$a_n = 11n - 3$$

$$a_{11} = 11(11) - 3 = \underline{121}$$

(-1)

(۱۴)

$\left(-1\right), \left(\frac{1}{2}\right), -\frac{1}{3}, \frac{1}{4}, \dots$

← کترین عدد بترین عدد → اعداد زوج کوچکتر

و فردها بزرگتری شوند
عنتیها

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

و
عینان اختلاف

$$b_{11} = (-3)^{11} - \sqrt[11]{(11)} = -27 - 21 = \underline{-48} \quad (۱۵)$$

$$-5^{11} + 22 = -41$$

$$-5n = -40$$

$$\boxed{n=14} \Rightarrow \boxed{k=14}$$

$$\textcircled{1} \quad d = \frac{11}{10-9} = 11 \quad (9)$$

$$\left. \begin{aligned} a_9 &= a + 9d \\ a_{10} &= a + 10d \end{aligned} \right\} \Rightarrow \begin{aligned} 10d &= 11 \\ d &= 11 \end{aligned}$$

$$a_9 = d + 8d$$

$$a_1 = -a + 10d$$

$$2d = 8 \times 11 = 88$$

اختلاف

(V)

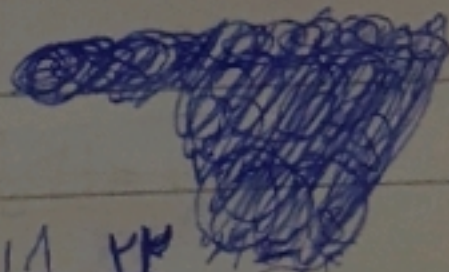
$$d = \frac{10-9}{11-10} = \frac{1}{1} = 1$$

$$a_n \text{ لیس } \rightarrow 9, 10, 11, 12, \dots$$

$$b_n \text{ لیس } \rightarrow 9, 11, 13, 15, \dots \quad \boxed{b_n = 11n - 2}$$

(A)

$$t_n = \frac{11n - 1}{11n + 1}$$



$$\frac{1}{8}, \frac{9}{5}, \frac{10}{9}, \frac{11}{11}, \frac{11}{13}, \frac{11}{15}, \frac{11}{17}, \dots$$

$$\textcircled{159}$$

$$= 1, 8$$

$$9, 9, 9, 9, 0, \dots$$

$$\begin{array}{cccc} \underbrace{+10} & \underbrace{+0} & \underbrace{-10} & \underbrace{-9} \\ \underbrace{-10} & \underbrace{-10} & \underbrace{-10} & \end{array}$$

$$Pa = -10$$

(9)

$$a = 1, d$$

$$an^p + bn + c$$

-1, d

$$a_p = 1, d \times (10)^p + Bn = 9$$

$$A = 10, d$$

$$Bn = -1, d$$

$$B = \frac{-1, d}{10} = -1, d$$

$$A = 1, d$$

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

$$\begin{array}{cc} \underbrace{+10} & \underbrace{+10} \\ & \underbrace{+10} \end{array}$$

(10)

$$a = 1$$

$$an^p + bn + c$$

$$d = \frac{10(10-1)}{10-1} = 10$$

$$a_1 = 1 + b + c = -9$$

$$b + c = -10 \rightarrow -b - c = 10$$

$$a_n = 10, 10, 10, 10, \dots$$

$$\underbrace{+10}$$

$$a_p = 10 + pb + c = -10$$

$$pb + c = -20$$

$$+ -b - c = 20$$

$$\boxed{b = -1} \quad \boxed{c = -9}$$

$$t_n = n^p + (-n) - 9$$

$$a_n = 10n + 10$$

$$\boxed{10} \quad \boxed{10}$$

$$n=9 \quad n=9$$

$$10n + 10 = 10 - 10 - 9$$

$$10 = 10 - 9$$

$$\boxed{n=9}$$

$$\boxed{99}$$