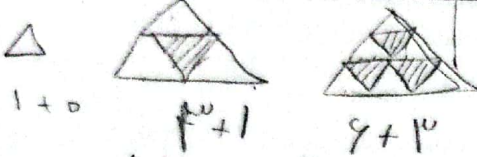


1

$$n^2 + \frac{n(n-1)(n+1-1)}{2} \rightarrow \text{آلگوریتمی}$$


$$n^2 + \frac{n^2 - n}{2} = \frac{2n^2 + n^2 - n}{2} = \frac{3n^2 - n}{2}$$

2



1+0 4+1 9+3

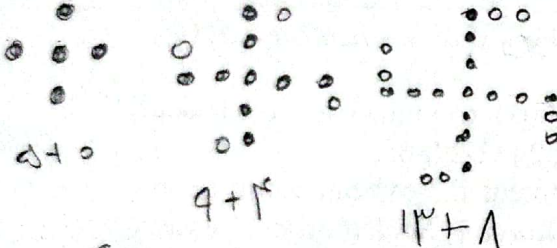
جمله اول: دنباله مثلثی
جمله دوم: دنباله مثلثی شروع از صفر

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

روش اعقانه ای بود ولی خوب ...



3



5+0 9+4 13+8

جمله اول: $4n+1$
جمله دوم: $4n-4$

$$4n+1 + 4n-4 = 8n-3$$

4

هر چه n بزرگتر باشد به سمت منفی می رود $\leftarrow 1=n \leftarrow -1 \leftarrow$ کوچکترین

$2=n \leftarrow \frac{1}{2} \leftarrow$ بزرگترین

$$\frac{1}{2} + 1 = \left\{ \frac{3}{2} \right\}$$

5

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

$$-48 = -5k + 22$$

$$5k = 70$$

$$k = \frac{70}{5} = 14$$

$$d = \frac{1p}{r} = r$$

$$\Delta \times r = r_0$$

$$\frac{ab}{a} = r$$

6

$$d = \frac{1a - v}{r - r} = \frac{1}{r} = r$$

$$a_1 = v - r = r$$

$$a_r = v + r = 11$$

7

$$r, 11 \rightarrow d = 1 \quad a_1 = r \quad a + (n-1)d = r + 1n - 1 = \underline{1n - a}$$

$$+1$$

$$\frac{r}{a}, \frac{r}{v}, \frac{1}{q}$$

$$+r$$

$$\frac{1(n-r)}{r+n+r}$$

$$1 = \frac{r}{r}$$

$$\frac{r(n-r)}{r(n+r)} < \frac{r}{r}$$

$$\frac{1n-r}{9n+9} < 1$$

$$1n-r < 9n+9$$

$$r(n-r) < 1p$$

$$n < \frac{1p}{r}$$

$$n \leq 6$$

1

$$t_n = An^r + Bn$$

$$t_1 = A + B = 4$$

$$t_r = rA + rB = 9$$

$$rA + \Delta B = r(-\frac{r}{r}) + \Delta(\frac{1a}{r}) = \frac{-9 + 1a}{r}$$

$$-A + B = -1r$$

$$rA + rB = 9$$

$$rA = -r$$

$$A = -\frac{r}{r}$$

$$\frac{99}{r} = \frac{r}{r}$$

$$B = \frac{1a}{r}$$

$$r(-\frac{r}{r}) + rB = 9 \rightarrow rB = 1a$$

9

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

$$\frac{f(1-r)}{f-r} = \frac{10}{r} = a \neq d$$

$$a_1 = r(1-a) = r(9)$$

$$a + (n-1)d$$

$$r(9) + (n-1)a = r(9) + \Delta n - a = \underline{\Delta n + r(1)}$$

← "مستقر"

$$a + b + c = -9$$

$$ra + rb + c = -r$$

$$9a + rb + c = 0$$

$$\Delta a + b = r$$

$$ra + b = r$$

$$ra = r$$

$$a = 1 \quad b = -1$$

$$c = -9$$

10

$$n^2 - n - 4 = tn$$

$$n^2 + 21 = tn$$

$$n^2 - n - 4 = tn + 21$$

$$n^2 - 4n - 25 = 0$$

$$\Delta = b^2 - 4ac = 16 + 100 = 116 \rightarrow n = \frac{4 \pm \sqrt{116}}{2}$$

← n یعنی نمی شود پس

$$n = \frac{4 + 12}{2} = \underline{\underline{9}}$$