

تکلیف شماره ۱۷

برج هادی زاده / دهم A

$$\{1\}, \{1, 2, 3\}, \dots$$

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در عبارت زیر

$$1, 3, 7, 13, 21, \dots \rightarrow n^2 + n - 1 = a_n$$

$a_1 = 1$
 $a_2 = 3$
 $c = -1$
 $b = 1 + b - 1 = 1$
 $b = 1$

$a_9 = 81 + 9 - 1 = 89$
89

$$\{1, 2, 3\}, \{1, 4, 7, 10, \dots, 12\}, \{13, \dots\}$$

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اعداد اول مرتبه: $1, 4, 13, 29, (12)$

اعداد آخر مرتبه: $3, 11, 29, 120, (141)$

$\frac{121 + 141}{2} = 131$
131

$$\begin{cases} n=1 \Rightarrow a_1 = 2 \times 0 + 2 = 2 \\ n=2 \Rightarrow a_2 = 2 \times 1 + 2 = 4 \\ n=3 \Rightarrow a_3 = 2 \times 2 + 2 = 6 \end{cases}$$

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$$2, 4, 6, 8, 10, 12, 14, 16, 18, 20, \dots$$

$$2, 4, 6, 8, 10, 12, 14, 16, 18, 20, \dots$$

$$a_1, a_2, a_3 \Rightarrow 3k + 2 = n \Rightarrow \left\{ \frac{3k+2}{k+1} \right\} = \{1, 2, 3, 4, 5\}$$

$$S = (1 \times 1) + (1 \times 2) + 10a = \{1, 2, 3, 4, 5\}$$

$$18 - 10 = 8$$

Lunaphil

$$a_n = 1/r \rightarrow a_1 = -\frac{1}{r} + (-1) = -\frac{1}{r} - 1$$

$$a_n = \frac{1}{V_n} x - 1/r = -\frac{1}{r}$$

$$(-\frac{1}{r} x d^r) + db + c = 1/r$$

$$(-\frac{1}{r} x v^r) + vb + c = 1/r$$

$$\begin{cases} db + c = 1/r \\ vb + c = 1/r \end{cases} \Rightarrow \begin{cases} rb = 1 \\ b = 1/r \end{cases} \Rightarrow c = -1$$

$$\frac{a_n}{a} = \frac{(-\frac{1}{r} x d^r) + 1/r - 1}{1/r} = \frac{1/r}{1/r} = 1$$

$$a_n = pn + b \rightarrow 10n + b = 0 \rightarrow b = -10p$$

$$a_n = pn - 10p = p(n - 10) \rightarrow a_1 = p(1 - 10) = -9p$$

$$a_v = a(v - 10) = -9p$$

$$x_p = -9p = a + d = -9p$$

$$x_n = -9p = a + vd$$

$$d = \frac{a_p}{r} = \frac{-9p + 1p}{1-p}$$

$$\left\{ \begin{aligned} \frac{a_n}{a} &= \frac{p(n-10)}{-9p} = \frac{n-10}{-9} \end{aligned} \right.$$

$$y_{ap} = \Delta a_p \cdot a + r a_p \cdot a$$

$$a \Delta a^r + b \Delta d^r + r a^r + r a d^r = y a^r + y d^r + 1 r a d$$

$$r a^r + a d^r - y d^r = 0 \xrightarrow{\div d^r} r(\frac{a}{d})^r + \frac{a}{d} - y = 0 \xrightarrow{x = \frac{a}{d}}$$

$$r x^r + x - y = 0 \Rightarrow x = \frac{-1 \pm \sqrt{1+4r}}{2} = \frac{r}{r} = -r = \frac{a}{d}$$

$$a = -rd \Rightarrow \frac{a+rd}{d} = \frac{d}{d} = 1$$

$$ra = rd \Rightarrow a = \frac{r}{r} d \rightarrow \frac{\frac{r}{r} d + rd}{d} = \frac{q}{r}$$

$$\rightarrow b_1(a+d), c_2(a+d)$$

$$\rightarrow \frac{a+c_2}{r} b \rightarrow a+c_2 r b \quad : \text{vor}$$

$$b \times \frac{c}{r} \rightarrow \left(\frac{a}{r}\right)^r \rightarrow \frac{bc}{r} = \frac{a^r}{r} \rightarrow bc = a^r$$

$$b \rightarrow a^r, bc = (a+d)(a+rd) = a^r + rad + rd^r$$

$$rad + d^r = a^r, d(r+rd) = a^r \quad r+d=0$$

$$\downarrow \text{div} \Rightarrow \frac{a}{r} = bq \Rightarrow q = \frac{a}{rb} = \frac{a}{r(a+d)} = \frac{a}{r(-\frac{a}{r})} = \boxed{-1}$$

$$rq = r(-1) = \boxed{-r}$$

$$-ac = b^r, \rightarrow ra - rb = d = c - ra$$

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$$b = aq, c = aq^r$$

$$ra - r(aq) = aq^r - ra$$

$$ra - raq = aq^r \rightarrow q^r + rq - r = 0$$

$$(q-1)(q+r) = 0$$

$$q=1, q=-r$$

$$\frac{aq^r}{aq} = q^{r-1} = 1, (-r)^{r-1} = -4r$$

$$\frac{a^r aq}{aq} = \frac{a^r}{q} = ?$$

$$\frac{a^r aq + aq}{a^r q^r} = r$$

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$$\sim q = a \rightarrow \frac{a}{q} = 1$$

$$\sim q = -ra \Rightarrow \frac{a}{q} = -\frac{1}{r}$$

$$\rightarrow \frac{q^r + aq}{a^r} = r$$

$$q^r + aq = ra^r$$

$$q^r + aq - ra^r = 0$$

$$q = \frac{-a \pm \sqrt{a^2 + 4a^r}}{2} = a, -ra$$

Lunaphil

$$a p_2 \sqrt{a q}$$

$$\Rightarrow a_2 \sim \sqrt{V}$$

loc

$$a q^2 \sqrt{a q^2}$$

$$\rightarrow a^2 q^2 \sim a q^2 \rightarrow q \sim \frac{1}{a}$$

$$a x \left(\frac{1}{a} \right)^2$$

$$\Rightarrow \left(\frac{1}{a} \right)^2 \sim \frac{1}{a} \Rightarrow a \sim \frac{1}{p}$$

$$\frac{1}{p} - \frac{1}{p} \sim \frac{1}{q}$$

$$\left[\frac{1}{p} - \frac{1}{p} \sim \frac{1}{q} \right]$$