

کتاب ریاضیاتی - دوم دبستان - کلاس سبزه دانه

① $a + aq + aq^2 = 11$

$(a)(aq)(aq^2) = 4r \rightarrow a^3 q^3 = 4r \rightarrow (aq)^3 = 4r \rightarrow aq = r, a = \frac{r}{q}$

$\frac{r}{q} (1 + q + q^2) = 11 \rightarrow r + r\cancel{q} + r\cancel{q^2} = 11q \rightarrow r^2 - 11rq + r = 0 \xrightarrow{r \neq 0} q^2 - 11q + 1 = 0$
 $\rightarrow (q-14)(q-1) = 0$
 $\left[\begin{array}{l} q = \frac{14}{1} = 14 \text{ غلط} \\ q = \frac{1}{1} = 1 \text{ غلط} \end{array} \right.$

② $(x^2)^r = (x^2 - r)(x^2 + r) \rightarrow x^{2r} = x^2 + x^2 - 2x^2 - 1 \rightarrow x^2 - 2x^2 - 1 = 0$

$\rightarrow (x^2 - r)(x^2 + r) = 0$
 $\left[\begin{array}{l} x = r \rightarrow \frac{1}{x} = \frac{1}{r} \\ x = \sqrt{-r} \text{ غلط} \end{array} \right.$

$S_v = \frac{1(\frac{1}{r} - 1)}{\frac{1}{r} - \frac{1}{r}} \sim 1\left(\frac{-\frac{1}{r}}{-\frac{1}{r}}\right) = \frac{12v \times 5 \times 5}{12v \times 5 \times 5} = \frac{12v}{1}$

③ $(1 + q + q^2 + q^3 + q^4) = \frac{121}{11}$
 $\rightarrow a \rightarrow a + aq + aq^2 + aq^3 + aq^4 \rightarrow 25r \times \frac{121}{11} = 25r$

④ $1, \dots, \frac{A}{r}, \dots, 4r \rightarrow \frac{4r}{r} = 4 \rightarrow A = 1 + (1, 2, 3, 4) = 10$

$1, \dots, \frac{B}{r}, \dots, 4r \rightarrow q^2 = 4r \rightarrow q = \sqrt{4r} \rightarrow B = 11$

$A + B \rightarrow 10 + 11 = 21$

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⑤ $-2r, -\frac{9r}{r}, \dots, -\frac{9r}{r} + 2r \rightarrow \frac{-9r + 9r}{r} = \frac{1}{r} \rightarrow a_{101} = -2r \left(\log \times \frac{1}{r} \right) = 1$

$121, a, \dots, \frac{1}{a} \rightarrow \frac{aq^v}{a} = \frac{1}{121} \rightarrow q^v = \frac{1}{121} \rightarrow q = \frac{1}{11}$

⑥ $\frac{a+rd}{a_r} + \frac{a+rd}{a_r} + \frac{a+rd}{a_r} \sim (a+rd)^r = (a+rd)(a+rd)$

$\rightarrow a^r + rrd^r + 1rd^r = a^r + \cancel{1rd^r} + \cancel{1rd^r} + 1rd^r \rightarrow rrd^r + 1rd^r = 0 \rightarrow rd(1rd + a) = 0$
 $d = 0 \rightarrow d = a$

⑦ $\frac{a+rd}{a_r} + \frac{a+rd}{a_r} + \frac{a+rd}{a_r} \sim (a+rd)^r = (a+rd)(a+rd) \rightarrow rd(d-a) \rightarrow d = a$

$a_1 \rightarrow \frac{1}{r} \rightarrow a_2 \rightarrow aq^2 \rightarrow \frac{1}{r} \times q^2$

$q \rightarrow \frac{1}{a} = \frac{1}{r} \rightarrow a = \frac{1}{r} \rightarrow q = \frac{(\frac{1}{r} + \frac{1}{r})}{(\frac{1}{r} + \frac{1}{r})} = r \rightarrow aq^2 = \frac{1}{r} \times r^2 \rightarrow r^2 = 121$

Arman

$$\textcircled{A} \quad r a_r, r a_r, a_r \rightarrow r(aq), r(aq^r), aq^r \quad \frac{1}{(q-1)} \frac{r}{(q-r)}$$

$$r a q^r : r a q + a q^r \rightsquigarrow r(aq^r) - r(rq + q^r) \rightarrow q^r - r q^r + r q = 0 \rightarrow q(q^r - r q + r) = 0$$

$$\rightarrow q = 0 \rightarrow \text{وَجَدَ}$$

$$(2.2.2) \quad q = 1 \rightarrow \text{وَجَدَ}$$

$$q = r \rightarrow \text{وَجَدَ}$$

$$\textcircled{9} \quad d = a_r - a_i \rightarrow \frac{v}{f} - r = -\frac{1}{f}$$

$$a_n = r + (n-1)d \rightarrow a_n = -\frac{n}{f} + \frac{1}{f} \quad \begin{cases} a_r = \frac{v}{f} \\ a_i = \frac{1}{f} \\ a_{1r} = 1 \end{cases}$$

$$\frac{v}{f} + n, \quad \frac{1}{f} + n, \quad -1 + n$$

$$\rightsquigarrow \left(\frac{1}{f} + n\right)^r = \left(\frac{v}{f} + n\right)(n-1) \rightarrow \frac{n}{f} = -\frac{r}{1r} \rightarrow n = \frac{rx-21}{1r} = -9/1r$$

$$-r, -v, -9/1r \rightsquigarrow q = \frac{-v}{-r} = \left(\frac{v}{r}\right)$$

$$\textcircled{10} \quad a + a q^r + a q^r = v r \rightarrow a(1 + q^r + q^r) = v r$$

$$\frac{t}{t_1} + \frac{t+d}{t_1} + \frac{t+qd}{t_1} \rightarrow r t + d = v r \quad \begin{cases} d = a q^r - a \rightsquigarrow a(q^r - 1) \\ q d = a q^r - a \rightsquigarrow a(q^r - 1) \end{cases} \rightarrow \begin{cases} a q^r - a = q^r - 1 \\ a^2 - a q^r + 1 = 0 \end{cases}$$

$$q = +1$$

$$* (q^r - 1)(q^r - 1) = 0$$

$$\rightarrow q = +\sqrt{r}$$

$$d \rightsquigarrow a \left(\frac{v}{1-r} \right) \rightarrow d = v a \rightarrow d = \sqrt{v} \quad \boxed{d = 0} \quad \text{وَجَدَ} \quad q = 1 \text{ ؟}$$