

$$a \times aq \times aq^2 = 9\varepsilon \rightarrow a^3 q^3 = 9\varepsilon \rightarrow aq = \varepsilon$$

$$a(1+q+q^2) = 21$$

تقسیم بر  $a^2 q^2$ :  $\frac{1+q+q^2}{aq^2} = \frac{21}{a^2 q^2}$   $\rightarrow$   $\begin{cases} 19q^2 - 91q + 19 = 0 \\ 9q^2 - 109q + 9 = 0 \\ q^2 - 17q + 19 = 0 \end{cases} \rightarrow \begin{cases} q = \frac{19}{9} \\ q = \frac{1}{9} \end{cases}$

$$\varepsilon a^2 = (a^2 + \varepsilon)(a^2 - 2) = a^4 + 2a^2 - 1$$

$$(a^2 - \varepsilon)(a^2 + 2) \rightarrow a^2 = \varepsilon \rightarrow a = \pm \sqrt{\varepsilon}$$

if  $a = \sqrt{\varepsilon} \Rightarrow 1, \varepsilon, 2 \rightarrow$  جواب صحیح  $\rightarrow q = \frac{1}{9}$

if  $a = -\sqrt{\varepsilon} \Rightarrow 1, -\varepsilon, 2$   $S_n = a_1 \left( \frac{1 - \left(\frac{1}{9}\right)^n}{1 - \frac{1}{9}} \right) = \frac{1 \times 126}{9\varepsilon} = \frac{126}{\varepsilon}$

$$a + aq + aq^2 + aq^3 + aq^4$$

$$a(1+q+q^2+q^3+q^4) = 126 \times \frac{121}{11} = 126 \times 11$$

$$A = \frac{9\varepsilon + 1}{\varepsilon} = 32/8 \quad \& \quad B = \sqrt{\frac{9\varepsilon}{1}} = \pm 1$$

$$A+B = \begin{cases} 32/8 + 1 = 40/8 \\ 32/8 - 1 = 24/8 \end{cases}$$

$$a_n = -2\varepsilon, -23 \frac{\varepsilon}{\varepsilon}, \dots$$

$$+ \frac{1}{\varepsilon} \Rightarrow a_n = \frac{n}{\varepsilon} - 2\varepsilon \frac{1}{\varepsilon} \Rightarrow a_{101} = \frac{101}{\varepsilon} - 2\varepsilon \frac{1}{\varepsilon} = \frac{101}{\varepsilon} - 2$$

$$b_n = 121, a_{101} \dots (a_n = 1) \rightarrow q^n = \frac{1}{121} \rightarrow q = \frac{1}{11}$$

$$a_1 + r d, a_1 + q d, a_1 + n d$$

$$a^r + r a d + q d^r = a^r + 1 a d + 1 q d^r$$

$$r a d = -r d^r \rightarrow r a = -r d \rightarrow \underline{d = \frac{-a}{10}}$$

$$a + d, a + r d, a + v d$$

$$a^r + 1 a d + v d^r = a^r + q a d + q d^r$$

$$r a d = r d^r \rightarrow a = d = \frac{1}{\varepsilon} \rightarrow \frac{a}{\varepsilon} = \frac{r}{\varepsilon}, 1, r \rightarrow a = r$$

$$a_{10} = \frac{1}{\varepsilon} \times r^q v = \underline{121}$$

$$r a q, r a q^r, a q^r$$

$$r a q^r = r a q + a q^r \rightarrow a q (\varepsilon q) = a q (r + q^r)$$

$$\varepsilon q = r + q^r$$

$$q^r - \varepsilon q + r = 0$$

$$(q - r)(q - 1) \rightarrow q \rightarrow 1 \rightarrow \text{مستبعد}$$

$$\rightarrow \underline{q = r} \leftarrow \text{جواب}$$

$$\frac{\delta}{\varepsilon} + q / \frac{1}{\varepsilon} + n / \frac{-1 + q}{-n - 1}$$

$$\frac{1}{1q} + \frac{r}{n} + \frac{q}{r} = \frac{r}{\varepsilon} - \frac{\delta}{\varepsilon} + \frac{q}{2} \Rightarrow \frac{q}{\varepsilon} = \frac{-r}{1q} \rightarrow n = \frac{-r}{\varepsilon}$$

$$a_n = -\varepsilon / -\delta, \frac{-r d}{\varepsilon} \rightarrow q = \frac{\delta}{\varepsilon}$$

$$(a + d)^r = a(a + q d)$$

$$a^r + d^r + r a d = a^r + q a d \rightarrow d^r = v a d \rightarrow d = v a$$

$$d - v a = 0 \rightarrow a = \frac{d}{v}$$

$$\frac{d}{v} + \frac{1 d}{v} + \frac{q \varepsilon d}{v} = v r \rightarrow d + 1 d + q \varepsilon d = v r \times v$$

$$\Rightarrow \underline{v r d = v r \times v}$$

$$\Rightarrow \underline{d = v}$$