

۱۷، ۱۷۵

نام و نام خانوادگی تاریخ پاسخنامه تشریحی تکلیف شماره کلاس

$$a_n = \frac{1}{r} \times r^{n-1} \rightarrow a_{10} = \frac{1}{r} \times r^9 = r^8 = \boxed{256} \checkmark$$

(الف)

(۲)

$$\frac{a_{14}}{a_{12}} = \frac{a_1 \cdot r^{14}}{a_1 \cdot r^{12}} = r^2 = r^8 = \boxed{16} \checkmark$$

(ب)

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$$\text{وسطی} = \sqrt{a_8 \times a_{10}} = \sqrt{a_1 \cdot r^8 \cdot a_1 \cdot r^{10}} = \sqrt{a_1^2 \cdot r^{18}} = a_1 \cdot r^9 = \frac{1}{r} \times r^9 = \boxed{32} \checkmark$$

(ج)

$$128 = \frac{1}{r} \times r^{n-1} \Rightarrow r^V = r^{n-2} \Rightarrow n-2=V \Rightarrow n=9 \checkmark$$

(د)

$$\frac{a_8}{a_2} = r^6 \Rightarrow r^6 = \frac{94}{12} \Rightarrow r^6 = 1 \Rightarrow r = 2$$

(۲)

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$$a_{10} = a_1 \times r^9 = 94 \times 2^9 = \boxed{384} \checkmark$$

$$a_8^2 = r^{16} = r^8 \Rightarrow a_8 = \boxed{3} \checkmark$$

(الف)

(۲)

$$a_1 \times a_8 = a_4^2 = r^2 = \boxed{9} \checkmark$$

(ب)

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$$r^a \times r^b = (r\sqrt{r})^c \Rightarrow r^{a+b} = r^{\frac{c}{2}} \rightarrow a+b = \frac{c}{2} \xrightarrow[\text{محاسبی}]{\text{واسطی}} \frac{a+b}{r} = \boxed{2,5} \checkmark$$

(۲)

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$$a_7^2 = a_4 \times a_{11} \Rightarrow x^7 = (x+1)(1-x) \Rightarrow x^7 = 1-x^7$$

$$2x^7 = 1 \Rightarrow x^7 = \frac{1}{2} \Rightarrow x = \pm \sqrt[7]{\frac{1}{2}}$$

ساخته شده
۹۴۰۰

(۱, ۱, ۱, ۱, ۱, ۱, ۱)

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$\left. \begin{aligned} a_1 + a_1 \cdot q^{\mu} &= 18 \\ a_1 \cdot q + a_1 \cdot q^{\nu} &= 12 \end{aligned} \right\} \Rightarrow S_F = F_0 \Rightarrow a_1 \left(\frac{q^F - 1}{q - 1} \right) = F_0$ $a_1 (q^{\nu} + q^{\nu} + q + 1) = F_0 \rightarrow \frac{1 + q^{\nu} - q}{q(1 + q)} = \frac{\nu}{3}$ $\nu q = 3 + 3q^{\nu} - 3q \rightarrow 3q^{\nu} - 10q + 3 = 0 \rightarrow \begin{cases} q = 3 \\ q = \frac{1}{3} \end{cases}$ $q = 3 \rightarrow a(1 + 3^{\nu}) = 18 \rightarrow a = 1 \quad 1, 3, 9, 27$ $q = \frac{1}{3} \rightarrow a(1 + (\frac{1}{3})^{\nu}) = 18 \rightarrow a = 27 \quad 27, 9, 3, 1$	0 6
$\left. \begin{aligned} a_1 + a_{\nu} + a_{\mu} &= 13 \\ a_{\nu}^{\mu} &= 27 \Rightarrow a_{\nu} = \mu \end{aligned} \right\} \rightarrow a_1 \cdot a_{\mu} = 9, a_1 + a_{\mu} = 10$ $q = \mu \cdot \frac{1}{\mu} \rightarrow a_1 = 169, a_{\mu} = 169$ $\begin{matrix} a_1 & a_{\nu} & a_{\mu} \\ 169 & 3 & 169 \end{matrix}$	2 7
$S_{10} = a_1 \left(\frac{q^{10} - 1}{q - 1} \right) = K \left(\frac{\mu^{10} - 1}{\mu} \right) = \mu^{10} - 1$ $a_1 \times a_{\nu} \times a_{\mu} \times \dots \times a_{10} = a_{\omega}^q \times a_{10} = a_{\omega}^q \times a_{\omega}^{\omega} \cdot q^{\omega} = (a_{\omega}^{\nu} \cdot q)^{\omega} = (a_1^{\nu} \cdot q)^{\omega} = \mu^{10} \times \mu^{F\omega}$	الف 2 8
$\begin{matrix} (1) & (2) & (3) \\ a_1 - a_1 q & a_1 q - a_1 q^2 & a_1 q^2 - a_1 q^3, \dots \end{matrix} \quad q' = ?$ $q' = \frac{a'_n}{a'_{n-1}} = \frac{a'_n}{a'_1} = \frac{a_1(q - q^n)}{a_1(1 - q)} = q$ واسطی حسابی جمله اول و آخر	2 9
$S_n = \frac{n}{\nu} (1a_1 + (n-1)d) \xrightarrow{1a_1 + (n-1)d = a_1 + a_n} S_n = n \times \frac{a_1 + a_n}{\nu}$ $q(a_1 + a_1 \cdot q + \dots + a_1 \cdot q^{n-2} + a_1 \cdot q^{n-1}) \rightarrow a_1 \cdot q + a_1 \cdot q^2 + \dots + a_1 \cdot q^{n-1} + a_1 \cdot q^n = q \cdot S_n$ $S_n + a_1 \cdot q^n = q \cdot S_n \Rightarrow S_n = a_1 \left(\frac{q^n - 1}{q - 1} \right)$	الف 2 10