

نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره کلاس
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$$a + aq + aq^2 = 11 \Rightarrow a(1 + q + q^2) = 11 \Rightarrow a = \frac{11}{1 + q + q^2}$$

$$a \times aq \times aq^2 = 9 \Rightarrow a^3 q^3 = 9 \Rightarrow aq = \sqrt[3]{9}$$

$$1 + q + q^2 = \frac{11}{14} \Rightarrow 14q^2 - 4nq + 14 = 0 \Rightarrow 4q^2 - 14q + 14 = 0$$

$$q^2 - 14q + 14 = 0 \Rightarrow (q-1)(q-14) = 0 \Rightarrow q = 1 \text{ or } q = 14$$

غیرممکن است جوابی $q = \frac{1}{14}$ $q = \frac{1}{14}$ $q = \frac{1}{14}$

$$(a^2 + 4)(a^2 - 2) = 4a^2 \Rightarrow a^4 + 2a^2 - 8 = 4a^2 \Rightarrow a^4 - 2a^2 - 8 = 0$$

$$\Rightarrow a = \pm 2 \rightarrow a = 2 \quad a_1 = 1 \quad a_2 = 2 \quad a_3 = 2 \quad a_4 = 2$$

$$a = -2 \quad a_1 = 1 \quad a_2 = -2 \quad a_3 = 2 \quad a_4 = 2$$

$$S_V = a \left(\frac{1 - \left(\frac{1}{2}\right)^n}{1 - \frac{1}{2}} \right) = A \left(\frac{1 - \left(\frac{1}{2}\right)^n}{\frac{1}{2}} \right) = \frac{12V}{n}$$

$$S_\omega = a_1(1 + q + q^2 + q^3 + q^4) = 243 \times \frac{121}{11} = 243 \times 11$$

(2) ✓

$$A = \frac{44 + 1}{2} = 22.5$$

$$B^2 = 44 \times 1 = 44 \Rightarrow B = \pm 1$$

$$A + B \rightarrow A = 22.5, B = +1 \quad A + B = 23.5$$

$$A + B \rightarrow A = 22.5, B = -1 \quad A + B = 21.5$$

(2) ✓

$$a_n = -24, -\frac{90}{2}, \dots \Rightarrow a_{1,1} = -24 + (1-1)\frac{1}{2} = -24 + 0 = -24$$

$$a_n = a + (n-1)d \quad a_{1,1} = t_n \Rightarrow t_n = 1$$

$$t_n = 1, 2, 3, \dots, t_n$$

$$\frac{t_n}{t_1} = \frac{1}{1 \times n} = \frac{1}{n} \Rightarrow q = \frac{1}{n}$$

$$\left. \begin{aligned} a_p &= a_1 + r d \\ a_v &= a_1 + r d \\ a_q &= a_1 + r d \end{aligned} \right\} \rightarrow (a_1 + r d)^2 = (a_1 + r d)(a_1 + r d)$$

$$\Rightarrow a^2 + 1 r d + 1 r^2 d^2 = a^2 + 1 r d + 1 r^2 d^2$$

$$\Rightarrow r a d = - r \cdot d^2 \Rightarrow a = -1 \cdot d = d = -\frac{1}{1} a$$

$$r a d = - r \cdot d^2$$

$$(r) \checkmark$$

جواب ۲: $d=0$ منفرجه و این را غلط می‌گویند

$$\left. \begin{aligned} a_p &= a + d \\ a_r &= a + r d \\ a_n &= a + n d \end{aligned} \right\} \Rightarrow (a + d)(a + r d) = (a + r d)^2 \Rightarrow a^2 + r a d + r d^2 = a^2 + r a d + r^2 d^2$$

$$\Rightarrow r a d = r d^2 \frac{d \neq 0}{r}, r a = r d \Rightarrow a = d$$

$$\Rightarrow r d, r d, r d \quad t_1 = \frac{1}{r} q = r \quad t_{10} = \frac{1}{r} \times r^9 = (12)$$

$$(r) \checkmark$$

$$r a q, r a q^r, a q^r \rightarrow q \neq 1$$

$$r a q^r = r a q + a q^r \Rightarrow r a q^r = r a q + a q^r \Rightarrow r q = r + q^r$$

$$\Rightarrow r q^r - r q + r = 0 \Rightarrow (q - 1)(q - r) = 0 \Rightarrow q = 1 \quad X$$

$$(q = r) \checkmark$$

$$a_n = r, \frac{1}{r}, \dots \quad a_p = a_1 + r d = r - \frac{r}{r} = \frac{\omega}{r} \quad a_n = r - \frac{1}{r} = \frac{1}{r} \quad a_{10} = r - \frac{1}{r} = -1$$

$$d = -\frac{1}{r} \quad t_n = \dots, (\frac{\omega}{r} + n), (\frac{1}{r} + n), (-1 + n)$$

$$\Rightarrow \frac{1}{r} q = -\frac{r}{14} \Rightarrow a = -\frac{r}{r} \quad t_n = r, -\frac{\omega}{r}, \frac{r \omega}{r} \Rightarrow q = \frac{\omega}{r}$$

$$a + a q^r + a q^r = v r \quad t_1 = a \quad t_r = a d^r = a + d \Rightarrow a(q + q d) = a^2 + r a d + d^2$$

$$d - v a = 0 \Rightarrow a = \frac{1}{v} d \Rightarrow \frac{1}{v} d + \frac{1}{v} d + \frac{r}{v} d = v r$$

$$\Rightarrow \frac{v r}{v} d = v r \Rightarrow d = v$$

$$d = 0 \quad d = v$$