

$$t + tq + tq^2 = 21 \quad \text{--- 12, 15}$$

$$t^2 q^2 = 4t$$

$$tq = 4$$

$$t = \frac{4}{q}$$

$$tq + \frac{4}{q} = 17$$

$$t^2 - 17t + 4 = 0$$

$$\Delta = 289 - 16 = 273$$

$$\frac{17 \pm \sqrt{273}}{2}$$

$$\frac{1}{q} = \frac{17 \pm \sqrt{273}}{2}$$

پایه نام را با دقت مطالعه کن!

$$1 + q + q^2 + q^3 + q^4 = \frac{121}{11} \quad t_1 = 253$$

$$t + tq + tq^2 + tq^3 + tq^4 = \frac{121}{11} \times \frac{4}{t} = 44$$

$$1 \neq 4 \quad \text{--- 15}$$

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صحت جواب دارد

$$A+B = 24, 15$$

$$\frac{4t-1}{4} = 10/10$$

$$1 + 22/10 = 24/10$$

$$q = -2 \rightarrow B = 1 \times (-2) = -2$$

$$-2 \neq -\frac{90}{4}$$

$$-24 + \frac{90}{4} = 10/10$$

$$K \cap a_r = \dots$$

$$K \cap q^r = 1$$

$$q^r = \frac{1}{r}$$

$$t + d \quad t + 3d \quad t + 4d$$

$$t + 4d + 4td = t + 2d + 4td + 4td$$

$$rd^2 = rdt$$

$$rd = rt \quad \boxed{d=t}$$

$$rt, \epsilon t, nt$$

$$rt = \frac{1}{r}$$

$$t = \frac{1}{n}$$

$$\frac{1}{n} > \frac{1}{r} > 1$$

$$q = r$$

$$\frac{1}{r} \times r^q = r^r = 128$$

$$v + tq + tq^r + tq^r$$

$$q = r$$

①

$$v + tq^r = v + tq + tq^r$$

$$v + tq^r = tq(v + q^r) \quad vq = r - q^r \quad q^r - vq + r$$

$$(q-1)(q-r)$$

①

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$$t + tq^r + tq^4 = vr$$

$$a \quad \text{and} \quad \text{read} \rightarrow a \quad \text{na} \quad 4 \in a$$

$$q^r - d^r + \text{rad} = d^r + \text{rad} \\ d^r = vad \\ d = va$$

$$ar - a_1 = br - b_1 = d$$

$$av - a_1 = b_1 - b_1 = 9d$$

$$\frac{a(q^r - 1)}{a(q^4 - 1)} = \frac{d}{9d} \rightarrow q^r + 1 = 9 \rightarrow q = 2 \quad ①$$

$$a + aq^r + aq^4 = a + ra + 4a = vr a \rightarrow a = 1$$

$$ar - a_1 = d \rightarrow (1 \times r) - 1 = v \rightarrow d = v$$

$$② \quad q = 1 \rightarrow ra = vr \rightarrow a = \frac{vr}{r}$$

$$d = \frac{vr}{r} - \frac{vr}{r} = 0$$

* قد نسبت دینا صای منویا ۷ است

سوال ۲

$$(x^2 + \epsilon)(x^2 - 2) = (2n)^2$$

$$x^4 + 2nx^2 - 4 = \epsilon x^2 \rightarrow x^4 - 2nx^2 - 4 < 0$$

$$(x^2 - \epsilon)(x^2 + 2) < 0 \rightarrow x = \pm 2$$

$$x = 2 \rightarrow 1, \epsilon, 2 \quad \checkmark$$

$$x = -2 \rightarrow 1, -\epsilon, 2 \quad \times (q > 0) \rightarrow g_v = \frac{1(1 - (\frac{1}{2})^v)}{1 - \frac{1}{2}}$$

$$\frac{1(\frac{2^v - 1}{2^v})}{\frac{1}{2}} = \frac{127}{8}$$

سوال ۲

$$a_9 \times a_7 = (a_8)^2$$

↑ واسطه هندسی

$$(a + 1d)(a + 7d) = (a + 4d)^2$$

$$a^2 + 1 \cdot ad + 14d^2 = a^2 + 12ad + 16d^2 \rightarrow 2ad + 2d^2 = 0$$

$$2d(a + 1 \cdot d) = 0 \rightarrow d = 0 \quad \checkmark \quad \text{چون از متغیر بودن صحت نشود است}$$

$$\hookrightarrow d = -\frac{a}{10} \quad \checkmark \quad \text{نہیں } d \neq 0 \text{ مگر قابل قبول است!}$$

سوال 4

$$a_2 - a_1 = d \rightarrow \frac{1}{k} - 2 = -\frac{1}{k} \rightarrow d = -\frac{1}{k}$$

$$a_n = 2 + (n-1) \cdot \left(-\frac{1}{k}\right) \rightarrow a_n = \frac{2-n}{k} \rightarrow a_n = -\frac{n}{k} + \frac{2}{k}$$

$$\int a_k = \frac{2}{k} \quad (n=2)$$

$$a_1 = \frac{1}{k} \quad (n=1)$$

$$a_{13} = -1 \quad (n=13)$$

$$\left\{ \begin{aligned} \left(\frac{2}{k} + x\right)(-1 + x) &= \left(\frac{1}{k} + x\right)^2 \\ -\frac{2}{k} + \frac{x}{k} + x^2 &= x^2 + \frac{1}{k}x + \frac{1}{k^2} \\ \frac{x}{k} &= -\frac{21}{14} \rightarrow x = -\frac{21}{k} = \frac{21}{25} \end{aligned} \right.$$