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کورد و مەزەنە

$$\{20, 21, \dots, 45\} \quad \{45, 44, \dots, 21\} \rightarrow \text{مەزەنە: } \frac{45+21}{2} \times 25 = 1$$

$$\{1, 2, 3\}, \{4, 5, \dots, 12\}, \{13, 14, \dots, 24\}, \{25, 26, \dots, 36\}, \{37, 38, \dots, 48\} \rightarrow \frac{1+48}{2} \times 25 = 625$$

$$a_n = 1, 4, 1+a, 4, 1+a, 4, 0, 1+a, 1 \quad 2a + 2a = 4 \quad 2as - 4 \rightarrow as = 2$$

$$a_1 + a_2 + a_3 + \dots + a_{25} = (-2)$$

$$a_n = an^2 + bn + c \rightarrow a = \frac{1}{6} \times (-16) = -\frac{1}{3}$$

$$a_0 = -a + b + c = 16 \rightarrow b + c = 17$$

$$a_1 = -\frac{1}{3} + b + c = 14 \rightarrow b + c = 14 + \frac{1}{3} = \frac{43}{3}$$

$$b = 8, c = 1 \rightarrow a_n = -\frac{1}{3}n^2 + 8n + 1$$

$$a_{10} = -\frac{1}{3} \times 100 + 80 + 1 = 16 \quad \left. \begin{array}{l} a_{10} = 16 \\ a_1 = -\frac{1}{3} + 8 + 1 = 7\frac{2}{3} \end{array} \right\} \frac{a_{10}}{a_1} = \frac{16}{7\frac{2}{3}} = \frac{48}{23}$$

$$a_n = a + (n-1)d \quad a_n = cn + b \rightarrow 1 \cdot c + b = 50 \quad b = 50 - c$$

$$a + d = 100 + b \rightarrow a + d = 100 + 50 - c \rightarrow a + d = 150 - c$$

$$a + 10d = 100 + b \rightarrow a + 10d = 100 + 50 - c \rightarrow a + 10d = 150 - c$$

$$9d = 50 - c \rightarrow d = \frac{50-c}{9}$$

$$\frac{c}{d} = \frac{100 + b}{d} = \frac{100 + 50 - c}{d} = \frac{150 - c}{d} = \frac{150 - c}{\frac{50-c}{9}} = \frac{1350 - 9c}{50-c}$$

$$4(a+d)^2 = 4(a+d)(a+d) = 4(a^2 + ad + ad + d^2) = 4(a^2 + 2ad + d^2)$$

$$4a^2 + 8ad + 4d^2 = 4a^2 + 8ad + 4d^2 \rightarrow 4a^2 + 8ad + 4d^2 = 4(a^2 + 2ad + d^2)$$

$$\frac{4a^2}{d} = \frac{4a^2 + 8ad + 4d^2}{d} \rightarrow \frac{4a^2}{d} = \frac{4a^2 + 8ad + 4d^2}{d} \rightarrow \frac{4a^2}{d} = \frac{4a^2 + 8ad + 4d^2}{d}$$

$$\frac{4a^2}{d} = \frac{4a^2 + 8ad + 4d^2}{d} \rightarrow \frac{4a^2}{d} = \frac{4a^2 + 8ad + 4d^2}{d}$$

$$rb = a + c \rightarrow c = rb - a$$

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$$\frac{1}{r} a^r = \frac{1}{r} b^r c \rightarrow a^r = b^r c \quad a^r = b^r (rb - a) \rightarrow a^r + ab - rb^r = 0$$

$$(a + rb)(a - b) = 0$$

$$a = -rb \quad a = b \quad \text{غیر ممکن}$$

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$$q = \frac{\frac{1}{r} a}{b} = \frac{-b}{b} = -1 \rightarrow (-1) \times r = \textcircled{-r}$$

$$ca = rb + c$$

-1

$$b^r = ac \rightarrow b^r = a(ca - rb) \rightarrow b^r + rab - ca^r = 0$$

$$(b + ca)(b - a) = 0$$

$$b = -ca \quad b = a \quad \text{غیر ممکن}$$

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$$q = \frac{b}{a} = -c \rightarrow \frac{aq^r}{aq^r} = q^r = \textcircled{-c}$$

$$\frac{aq^a}{a^r q^r} + \frac{aq}{a^r} = r \rightarrow \frac{q^r}{a^r} + \frac{q}{a} = r \rightarrow \left(\frac{q}{a}\right)^r + \frac{q}{a} - r = 0$$

-4

$$\frac{a^r}{aq} = \frac{a}{q} \quad \textcircled{1} \quad \textcircled{-\frac{1}{r}}$$

$$\left(\frac{q}{a} + r\right)\left(\frac{q}{a} - 1\right) = 0$$

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$$aq^r = \sqrt{aq^r} \times \sqrt{aq^r} \rightarrow a^r q^r = aq^r \rightarrow aq = 1$$

-10

$$\frac{aq^r}{aq} = r \vee \frac{q^r}{q} = r \rightarrow q = r, a = \frac{1}{r} \rightarrow \frac{1}{r} - \frac{1}{r} = \textcircled{\frac{1}{q}}$$

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