

$$\frac{a}{q} + a + aq = 11$$

$$\frac{a}{q} \times a \times aq = 9K \rightarrow a^3 = 9K \rightarrow a = K$$

$$\frac{K}{q} + K + Kq = 11 \rightarrow \frac{K+Kq}{q} = 11-K=1V \xrightarrow{\times q} K+Kq^2 = 1Vq \rightarrow K-1Vq+Kq^2 = 0$$

$$\rightarrow \Delta = b^2 - 4ac = \frac{1V^2}{1} - 4(K)(K) = 1V^2 \rightarrow q = \frac{1V \pm \sqrt{1V^2}}{2K} = \frac{1V \pm 1V}{2K} \rightarrow \frac{1}{K} \checkmark$$

(غير قابل قبول در صورت سوال گفته غير حاسبي)

$$(2x)^2 = (x^2 + K)(x^2 - 2) \rightarrow Kx^2 = x^4 - 2x^2 + Kx^2 - 2 = x^4 - 2x^2 - 2 = 2x^2 - x^4 - 2$$

$$\rightarrow x^4 - 2x^2 - 2 = 0 \rightarrow \Delta = K + 4 = 36 \rightarrow x^2 = \frac{2 \pm \sqrt{36}}{2} = \frac{2 \pm 6}{2} \rightarrow x = \pm 2$$

منفي زير دارد كمال قارخي كيرد

$$\frac{1}{K} \rightarrow 1, 2, 3$$

$$\frac{1}{K} \rightarrow 1, 2, 3 \checkmark$$

قد رنسبت

$$\frac{a(a^n - 1)}{a^n - 1} = \frac{1 \times ((\frac{1}{K})^n - 1)}{\frac{1}{K} - 1} = \frac{\frac{1}{K^n} - 1}{\frac{1}{K} - 1} = \frac{\frac{1 - K^n}{K^n}}{\frac{1 - K}{K}} = \frac{1 - K^n}{1 - K}$$

$$ax(1 + a + a^2 + a^3 + a^4) = \frac{121}{11} = a + a^2 + a^3 + a^4 + a^5 = \frac{121}{11} \rightarrow a = 11$$

$$\rightarrow \text{مجموع} = 363$$

جدول

$$\frac{9K-1}{4} = 10, 5$$

$$1, 11, 5, 22, 32, 55, 99$$

$$a^4 = \frac{9K}{1} \rightarrow a = \sqrt[4]{9K} = \sqrt[4]{27} = \pm 2$$

$$1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024$$

$$A+B = 32, 5+1 = 37, 5 \quad 32, 5-1 = 31, 5$$

$$-2E, -\frac{9A}{K}$$

$$\rightarrow -23, 17$$

$$+0, 25$$

$$a_n = a + (n-1)d = -2E + (n-1)0, 25 \rightarrow 0, 25n - 2E, 25$$

$$a_{101} = \frac{101 \times 25}{100} - 2E, 25 = 1$$

$$a_n = aq^n = 121 \times aq^n = 1 \rightarrow aq^n = \frac{1}{121} \rightarrow aq = \frac{1}{11}$$

$$a_3, a_5, a_9$$

$$(a+2d), (a+4d), (a+8d) \rightarrow (a+4d)^2 = (a+2d)(a+8d) = a^2 + 12ad + 16d^2 = a^2 + 2ad + 16ad + 16d^2$$

$$\rightarrow 12ad = 2ad + 16d^2 \rightarrow ad + 16d^2 = 0 \rightarrow d(a+16d) = 0 \rightarrow d = 0 \text{ X}$$

$$16d + a = 0 \rightarrow d = -\frac{a}{16}$$

$$a_2, a_4, a_8$$

$$(a+d), (a+3d), (a+7d) \rightarrow (a+3d)^2 = (a+d)(a+7d) = a^2 + 4ad + 9d^2 = a^2 + ad + 7ad + 9d^2$$

$$\rightarrow 4ad = ad + 7ad + 9d^2 \rightarrow 3ad = 9d^2 \rightarrow a = 3d \rightarrow a = \frac{3d+d}{d+d} = 2$$

$$a_{10} = \frac{1}{K} \times 2^9 = 2^9$$

هنري

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

-1

$$\frac{r a q + a q^w}{r} = r a q^r \rightarrow r a q + a q^w = r a q^r \rightarrow -r a q^r + r a q + a q^w = 0 \rightarrow a q_r (-r a_q + r a_q^r) = 0$$

(بسط طرفین)

$$q = \frac{-b \pm \sqrt{\Delta}}{2a} \quad \leftarrow -r a_q + r a_q^r + a q^w = 0$$

$$q = \frac{r \pm r}{r} = \frac{r \pm \sqrt{14-12}}{r} \quad \leftarrow q = \frac{-b \pm \sqrt{\Delta}}{2a}$$

دستگاه معادلات غیر خطی است

$$\boxed{d = w}$$

-9

$$r \rightarrow 1, 2, 5 \quad a_n = r + (n-1) \cdot 0,25 = \frac{-25}{100} n + 2,25$$

$$a_k > a_n > a_{13} \rightarrow 1,25 > 0,25 > -1 \xrightarrow{+x} (1,25+x), (0,25+x), (-1+x)$$

$$\rightarrow (0,25+x)^2 = (-1+x)(1,25+x) \rightarrow 0,0625 + x + 0,25x = -1,25 - x + 1,25x + x^2 \rightarrow$$

$$0,25x = -1,3125 \rightarrow x = -5,25 \rightarrow (1,25 - 5,25), (0,25 - 5,25), (-1 - 5,25)$$

$$\rightarrow -4, -5, -5,25 \rightarrow \text{قریبی} = \frac{5}{k} \approx 1,25$$

دستگاه معادلات

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

$$a q^r = a + d \rightarrow d = a q^r - a = a (q^r - 1)$$

$$a q^r = a + q d = a + q a (q^r - 1) = a + q a q^r - q a = -1 a + q a q^r = a q^r \rightarrow a q^r - q a q^r + 1 a = 0$$

$$\frac{a \neq 0}{\div a} \rightarrow q^r - q q^r + 1 = 0 \xrightarrow{q^r = x} x^r - q x + 1 = 0 \rightarrow (x-1)(x-1) = 0 \rightarrow \begin{matrix} x=1 \\ x=1 \end{matrix}$$

$$q^r = 1 \rightarrow q = 1 \rightarrow \text{بسط طرفین}$$

$$q^r = 1 \rightarrow q = 1 \rightarrow a + a q^r + a q^r = 12 \rightarrow a (1 + 1 + 1) = 12 \rightarrow \boxed{a=1}$$

$$a_1 = 1 \quad a_r = 1 \quad a_{10} = 9 \rightarrow d = a_r - a_1 = 1 - 1 = 0$$

$$q = 1 \rightarrow r a = 12 \rightarrow a = \frac{12}{r}$$

$$a q^r - a = d$$

$$\frac{12}{r} - \frac{12}{r} = 0 = d$$