

$$x = -1 \Rightarrow a - b + c = 9 \Rightarrow 8a = -8 \Rightarrow a = -\frac{1}{2}, b = -1 \quad 1$$

$$x = 3 \Rightarrow 9a + 3b + c = 1 \quad -\frac{b}{a} = -1 \Rightarrow b = 2a$$

$$9 - \frac{1}{2} + 1 + c = 9 \Rightarrow c = \frac{17}{2} \Rightarrow -\frac{2a}{2} = x + \frac{17}{2} = 0 \quad \checkmark$$

$$\Delta > 0 \Rightarrow m^2 - 4(2)(m+6) > 0 \Rightarrow m^2 - 8m - 48 > 0 \quad 1$$

$$\Rightarrow (m-12)(m+4) > 0 \Rightarrow \frac{-4 \quad 12}{+1 \quad -1 \Rightarrow} (-\infty, -4) \cup (12, +\infty)$$

(فردار باین است)

$$\alpha + \beta = \frac{1}{\alpha\beta} \Rightarrow -\frac{b}{a} = \frac{1}{c} \Rightarrow -\frac{b}{a} = \frac{c}{c}$$

$$\Rightarrow -\frac{2m+1}{3} = \frac{2}{2+m} \Rightarrow 2m^2 - 5m + 2 = 9 \Rightarrow 2m^2 - 5m - 7 = 0$$

$$m^2 - 5m - 14 = 0 \Rightarrow (m-7)(m+2) \quad m = \frac{7}{2} = 3.5 \quad \checkmark$$

$$m = -\frac{2}{2} = -1 \quad \checkmark$$

$$x_1 + x_2 = 7, x_1 x_2 = 4. \quad x_1^3 + \frac{1}{x_2} = A, B = x_2^3 + \frac{1}{x_1} \quad 4$$

$$2) A+B = \frac{1}{x_2^2} + \frac{1}{x_1} + x_2^3 + x_1^3 \Rightarrow \frac{x_2 + x_1}{x_2 x_1} - x_2^3 + x_1^3 = 13 - \frac{1}{4} = \frac{51}{4}$$

$$AB = \left(\frac{1}{x_2} + x_1^3\right)\left(\frac{1}{x_1} + x_2^3\right) = x_1^3 x_2^3 = -64 \Rightarrow x_1^2 + x_2^2 = (x_1 + x_2)^2 - 2x_1 x_2 = 7^2 - 8 = 41$$

$$\Rightarrow AB = \frac{1}{4} - 9 - 64 = -\frac{227}{4} \Rightarrow -4x^2 + 51x + 227 \quad \checkmark$$

$$(3\sqrt[3]{n} + 3\sqrt[3]{n^2} + 1)(3\sqrt[3]{n^2} - 1) = 2^2 \sqrt[3]{n} \Rightarrow 2x^2 - 1 = 2x \Rightarrow x^2 - 2x - 1 = 0 \quad 5$$

$$3\sqrt[3]{2x^2}$$

$$\Rightarrow S = \frac{b}{a} = \frac{-(-2)}{1} = 2 \quad \checkmark$$

$$S > 0 \rightarrow \frac{-b}{a} > 0 \rightarrow -m > 0 \rightarrow m < 0 \quad (II)$$

$$P > 0 \rightarrow \frac{m+4}{p} > 0 \rightarrow m > -4 \quad (III)$$

$$I \cap II \cap III \rightarrow -4 < m < -2$$

s.a.m

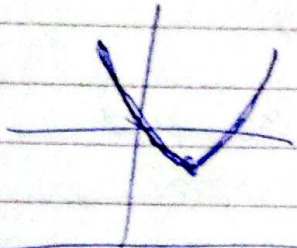
مسئله ۲

$$P = \alpha\beta = 3\alpha^2 = \frac{4}{3} \Rightarrow \alpha = \pm \frac{2}{3}$$

$$S = \alpha + \beta \Rightarrow 4\alpha = \frac{a}{3} \Rightarrow \pm \frac{8}{3} = \frac{a}{3} \Rightarrow a = \pm 8 \Rightarrow \text{اختلاف} = +16$$

$C = 0$ = ...

$$a > 0 \text{ (I)}$$



$$\Rightarrow -\frac{b}{2a} > 0 \Rightarrow \frac{-3-2a}{2a} > 0 \Rightarrow \frac{-3}{-2} < \frac{0}{-2}$$

$$\Rightarrow \text{II) } a \in [-\frac{3}{2}, 0) \quad \text{I) } \cap \text{II) } = \emptyset \rightarrow \text{هیچ مقدار}$$

$$-\frac{b}{2a} \Rightarrow -\frac{a}{2} \Rightarrow \frac{1}{-2} \Rightarrow a = 2 \quad 4\Delta_1 \Rightarrow 4 + 8 = 4 - 4(-1)(1) \Rightarrow 12 = 4 + 4b = b = 2$$

$a \cdot b = 2 \cdot 2 = 4$

(جواب با این است)

$$\frac{a}{2} + \frac{a}{2a} = 1 \Rightarrow \frac{a}{2} + \frac{1}{2} = 1 \Rightarrow a = 1 \quad -\frac{b}{2a} = -\frac{6}{2} = -3$$

$$\Rightarrow \frac{b}{2} = -3 \Rightarrow b = -6 \quad \frac{ab}{4} = \frac{-6}{4} = \left[-\frac{6}{4}\right] = -2 \checkmark$$

$$S_A = P + Z, S_B = k + P \Rightarrow S_A - S_B = Z - k$$

$$S_A = -6, S_B = -2 \Rightarrow Z - k = -2 - (-6) = +4 \checkmark$$

$Z = n^2 + 6n + m$
 $n^2 + 2n - 3m = k + P$

$$\begin{cases} y = a^x + 12n - r \\ y = 1 \end{cases} \rightarrow a^x + 12n - r = 0 \rightarrow (a+x)(a-x) = 0$$

$$ab = 1$$

$$\begin{cases} a = 1 \rightarrow A(1, 1) \\ a = -r \rightarrow B(-r, 1) \end{cases} \rightarrow 1 = -4 + 4 + b \rightarrow b = 1$$

s.a.m