

$$3m^2 - am + 1 = 0$$

سوال ۱۱

$$\alpha = 3\beta \rightarrow 3\beta = \frac{a}{\mu}$$

$$3\beta \times \beta = 3\beta^2 = \frac{1}{\mu} \rightarrow \beta^2 = \frac{1}{3\mu} \rightarrow \beta = \pm \frac{1}{\sqrt{3\mu}} \quad \alpha = \frac{3 \times \frac{1}{\sqrt{3\mu}}}{\mu} = \frac{\sqrt{3}}{\mu}$$

$$3 + \frac{1}{\mu} = \frac{\alpha}{\mu} \rightarrow \frac{1}{\mu} = \frac{\alpha}{\mu} - 3 \rightarrow \alpha_1 = 1$$

$$\alpha_1 - \alpha_2 = 1 - (-1) = 2 \quad , \quad \beta = -\frac{1}{\sqrt{3\mu}} \quad , \quad \alpha = \frac{\sqrt{3}}{\mu}$$

$$-1 - \frac{1}{\mu} = -1 = \alpha_2 \quad \leftarrow \text{جواب}$$

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$$39m^2 - (m+1)m + 1 = 0$$

$$\alpha\beta = \frac{1}{39} \quad \alpha + \beta = \frac{m+1}{39} \quad \leftarrow \text{سوال}$$

$$\sqrt{\frac{1}{\alpha}} + \sqrt{\frac{1}{\beta}} = 2 \rightarrow \frac{\sqrt{\beta\alpha\alpha} + \sqrt{\beta\alpha\beta}}{\sqrt{\alpha\beta}} = 2 \rightarrow \frac{\sqrt{\beta\alpha}(\sqrt{\alpha} + \sqrt{\beta})}{\sqrt{\alpha\beta}} = 2$$

10 حاصل ضرب اینه های

$$m\alpha^2 + 2\alpha + 1 = 0$$

$$\sqrt{\beta} + \sqrt{\alpha} = \frac{2}{\sqrt{\alpha\beta}}$$

$$\beta + \alpha + 2\sqrt{\frac{1}{\alpha\beta}} = \frac{20}{39} \rightarrow \frac{m+1}{39} + \frac{2}{\sqrt{39}} = \frac{20}{39} - \frac{12}{39} = \frac{8}{39}$$

$$m+1 = 8 \rightarrow m = 7 \quad , \quad \frac{1}{m}\alpha^2 + 2\alpha + 1 = 0 \quad \frac{c}{a} = -2$$

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$$9m^2 + km - 9m - 2 = 0 \rightarrow \alpha\beta = -2, \quad \alpha + \beta = 1 \quad \leftarrow \text{سوال ۱۳}$$

$$(\alpha + \beta)^2 = 1 \rightarrow \alpha^2 + \beta^2 - 2\alpha\beta = 1 \rightarrow \alpha^2 + \beta^2 = 5$$

$$9 \times (-1)^2 + k + 9 - 2 = 0 \quad \boxed{k = -16} \quad \checkmark$$

$$\alpha = 2, \quad \beta = -1$$

$$9 \times 1 + k - 18 - 2 = 0 \quad k = 11$$

$$m^2 + 9m + a = 0$$

سوال ۴) β, α ریشه

$$2\alpha^2 + 2\beta^2 = 12\sqrt{2} + 18$$

$$\alpha < \beta \leftarrow \text{مندی شرط}$$

$$\alpha + \beta = -9 \quad \alpha \times \beta = a$$

$$\alpha - \beta = \sqrt{29 - 4a} = -2\sqrt{9 - a}$$

$$2\alpha^2 + 2\beta^2 = 12\sqrt{2} + 18$$

$$\hookrightarrow 2/5 \alpha^2 + 2/5 \beta^2 + (1/5 \alpha^2 + 1/5 \beta^2) = 2/5 (\alpha^2 + \beta^2) + 1/5 (\alpha^2 - \beta^2)$$

$$\alpha^2 + \beta^2 + 18\beta = 18 \rightarrow \alpha^2 + \beta^2 = 18 - 18\beta$$

$$90 - 5a + 4\sqrt{9 - a} = 180 + 18\sqrt{2}$$

$$2/5 (18 - 2a) + 1/5 ((\alpha + \beta)(\alpha - \beta))$$

$$\hookrightarrow -5a + 4\sqrt{9 - a} = -54 + 18\sqrt{2} \rightarrow 9\sqrt{2}$$

$$\boxed{a = 1}$$

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$$\alpha^2 + \sqrt{m}^2 = 0$$

$$\Delta = 49 - 20 = 29 \quad \text{سوال ۵)$$

$$t = \alpha^2$$

$$\rightarrow t^2 - \sqrt{t} = 0$$

$$\frac{\sqrt{t} \pm \sqrt{49}}{2} = t_1, t_2$$

$$2p^2 - 3sp + 15s^2$$

عنه

$$\frac{\sqrt{49} \pm \sqrt{49}}{2}$$

$$p = \frac{-\sqrt{49}}{2}$$

$$2p^2 = \frac{49 + 49 + 15\sqrt{49}}{2} \times \times \rightarrow 59 + 15\sqrt{49}$$

$$s = 0, 5$$

$$m^2 - a\alpha + b = 0 \quad \alpha + \frac{1}{\alpha} + \beta + \frac{1}{\beta} = \frac{a}{f} \quad \text{سوال ۶) ریشه}$$

$$2a\alpha^2 + a\alpha - 9 = 0 \quad \alpha + \beta = \frac{1}{f}$$

ا دانه مینه مینی

$$2a^2 - aab = 0$$

$$2a^2 + a - 9 = 0$$

$$\alpha + \frac{1}{\alpha} + \beta + \frac{1}{\beta} = \frac{a}{\alpha}$$

$$\alpha + \beta = -\frac{1}{\alpha}$$

$$\alpha\beta = -\frac{1}{\alpha}$$

$$\alpha + \beta + 1 = \frac{a}{\alpha} \rightarrow -\frac{1}{\alpha} + 1 = \frac{a}{\alpha} \rightarrow a = 1$$

$$\left(\frac{1}{\alpha} + \alpha\right)\left(\frac{1}{\beta} + \beta\right) = \frac{1}{\alpha} + \left(\alpha \times \beta\right)\frac{1}{\alpha} + \alpha\beta + \frac{1}{\beta}$$

$$\frac{1}{\alpha} - \frac{1}{\alpha} = \frac{1}{\alpha} = \frac{b}{\alpha} \rightarrow \boxed{b = -1} \quad \left[\frac{ab}{\alpha}\right] = \left[\frac{-1}{\alpha}\right] \Rightarrow$$

$$2a^2 + a - b = 0 \quad , \quad \alpha + \beta + 1 = \frac{a}{\alpha} \quad , \quad \alpha\beta = -\frac{1}{\alpha}$$

$$2 \cdot \beta^2 + \alpha \cdot \beta^2 + \alpha \cdot \alpha^2 - 2 \cdot \beta = 1$$

$$\alpha + \beta = 1 \quad , \quad \alpha\beta = -\frac{1}{\alpha}$$

$$2a^2 - a - \frac{b}{\alpha} = 0 \rightarrow 2a^2 - a - \frac{b}{\alpha} = 0$$

$$\beta^2 - \beta = \frac{b}{\alpha}$$

$$2 \cdot (\beta^2 - \beta) + \alpha \cdot (\beta^2 - \beta) = 1$$

$$2 \cdot \left(\frac{b}{\alpha}\right) + \alpha \cdot \left(1 + \frac{1}{\alpha}\right) = 1$$

$$2 \cdot 4 \cdot \frac{b}{\alpha} = 1$$

$$4 \cdot \frac{b}{\alpha} = 1 \rightarrow \boxed{\frac{b}{\alpha} = \frac{1}{4}}$$

$$\alpha + \beta = 1 \quad , \quad \alpha\beta = -\frac{1}{\alpha} \rightarrow -1$$

$$2a^2 - (a+1)a = 0 \rightarrow 2K+1, 2K-1$$

$$2a^2 - (2a+1)a = 0 \rightarrow 2K', 2K'+1$$

$$a = (2K+1) \times (2K-1) = 4K^2 - 1$$

$$a+1 = 4K \rightarrow a = 4K-1$$

$$4K(K-1) \rightarrow K=1, 2, \dots$$

$$b = \varepsilon K^2 + \varepsilon K' \quad \text{و } \alpha \Delta = \varepsilon K' + \varepsilon \rightarrow 1.2 \varepsilon K' \Delta$$

$$b = 2\varepsilon$$

$$|a-b| = |1-2\varepsilon| = 2\varepsilon$$

(سوال 9)

$$\alpha^2 + \eta - 1 = m^2 \quad \alpha^2 + \beta^2 = \min$$

$$\alpha + \beta = -1 \rightarrow \alpha^2 + \beta^2 + 2\alpha\beta = 1 \quad \alpha^2 + \beta^2 = (m^2 + 1) = 1$$

$$\alpha\beta = \frac{1}{2} - (1 - m^2)$$

ما.

$$\alpha^2 + \beta^2 = 2m^2 = 2$$

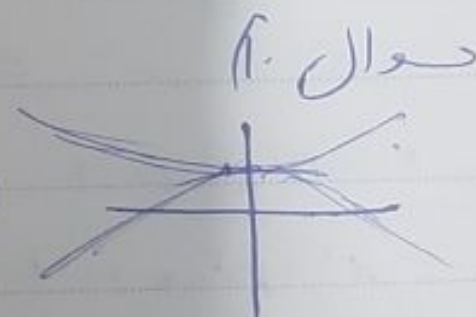
$$\alpha^2 + \beta^2 = 2$$

$$B = (-5, 9) \quad A(2, y)$$

$$\text{مس.} = \begin{vmatrix} -1 \\ 1 \end{vmatrix}$$

$$\alpha^2 + \beta^2 = 0$$

$$\frac{y-0}{2} = \frac{-1}{1}$$



$$y = 2a(\eta+1)^2 + 1 \rightarrow 0 = a(\eta^2 + 2\eta) + 1$$

$$0 = a\eta^2 + 2a\eta + a + 1$$

$$\alpha + \beta = \frac{-2a}{a} = -2 \rightarrow \alpha^2 + \beta^2 + 2\alpha\beta = 4$$

$$y = \frac{1}{\eta} (\eta+1)^2 + 1$$

$$\alpha\beta = \frac{a+1}{a}$$

$$\frac{-1}{\eta}$$

$$y = \frac{1}{\eta} + 1 \rightarrow y = \frac{1}{\eta} + 1 \rightarrow \frac{1}{\eta} = 1 + \frac{1}{\eta} \rightarrow \frac{1}{\eta} = 1 + \frac{1}{\eta} \rightarrow \frac{1}{\eta} = 1 + \frac{1}{\eta}$$