

Subject:

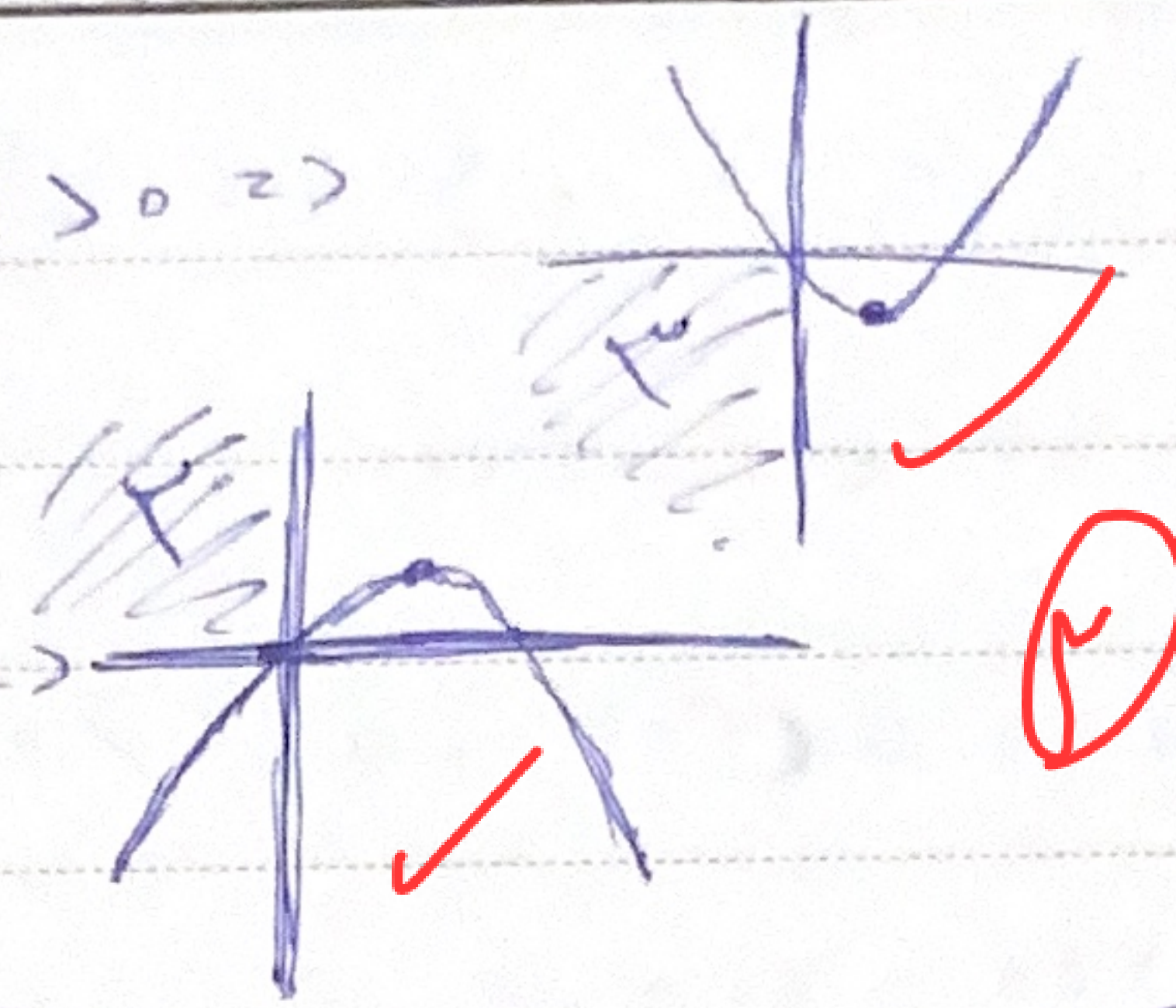
Date

الف) $2x^2 - 2x + \kappa(\kappa - 2) = 0 \Rightarrow x_2 = \frac{0}{2}, a > 0 \Rightarrow$

از ناحیه سورا می‌گذرد

ب) $x^2 + \varepsilon x - \kappa(-\kappa + \varepsilon) = 0 \Rightarrow x_2 = \frac{\varepsilon}{2}, a < 0 \Rightarrow$

ناحیه در

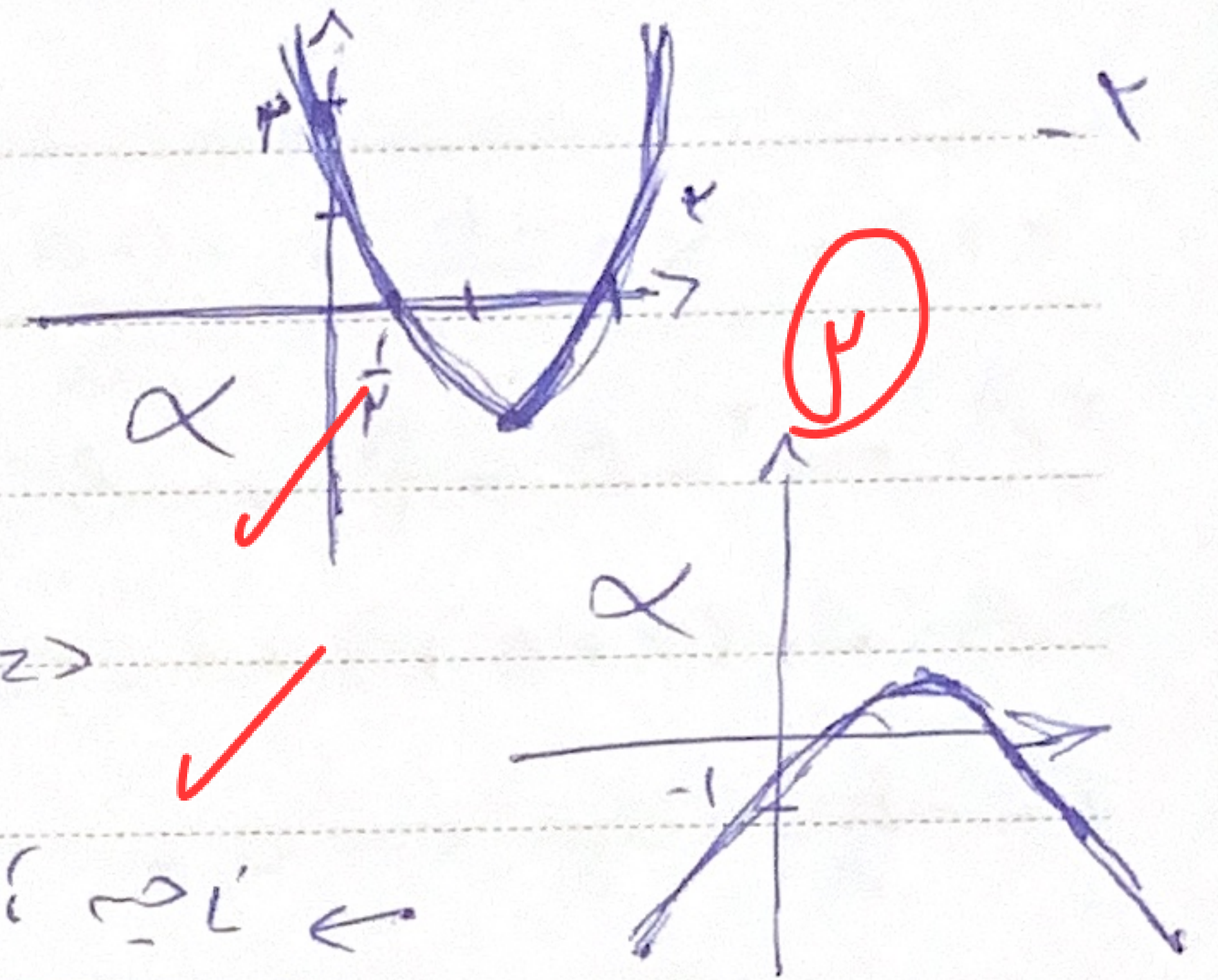


الف) $2x^2 - 8x + 4 = 0 \Rightarrow x_2 = \frac{4}{2}, a > 0 \Rightarrow (2, 2)$

ناحیه ای در ۲، ۴

ب) $x^2 + \varepsilon x - 1 = 0 \Rightarrow \frac{c}{a} > 0, \delta > 0, a < 0, c = -1 \Rightarrow$

← ناحیه ای در ۳، ۴



$$|\alpha - \beta| = \frac{\sqrt{\Delta}}{|a|} \quad |p| = \frac{c}{a} \quad |s| = \frac{-b}{a}$$

الف) $\frac{-b/a}{\sqrt{\Delta}/|a|} = \frac{\alpha + \beta}{\alpha - \beta} = \frac{1}{\sqrt{1c}} = \frac{\sqrt{1c}}{1c}$

ب) $\alpha^2 + \beta^2 = s^2 - 2p = 1 - 2(-c) = \underline{1 + 2c}$

ج) $\alpha^2 + \beta^2 = s^2 - 2p = 1 - 2(1 + c) = \underline{1 - 2 - 2c} = \underline{-1 - 2c}$

د) $\alpha^2 - \beta^2 = (\alpha - \beta)(\alpha + \beta + \alpha\beta) = \left(\frac{\sqrt{\Delta}}{|a|}\right)(s^2 - 2p + p) = \sqrt{1c}(1 + c) = \underline{\varepsilon\sqrt{1c}}$

$(u-1)(u^2 - au + a) = 0, u_2 = 1 \Rightarrow u^2 - au + a \xrightarrow{u=1} u^2 - \varepsilon u + \varepsilon \Rightarrow a_2 = \frac{\varepsilon}{2}$

$u^2 - au + a \xrightarrow{\Delta < 0} a^2 - \varepsilon a < 0 \quad a(a - \varepsilon) \quad a_2 = \frac{\varepsilon}{2}$

$\varepsilon \cup (0, \varepsilon) = (0, \varepsilon]$

$3x^2 - 12x - a^2 = 0 \Rightarrow p = \frac{-a}{3}, s = \varepsilon$

$\alpha^2 + \beta^2 = s^2 - 2p = \varepsilon^2 + 14 - 2p - \alpha(\alpha + \beta) = \underline{14 - 2p - \varepsilon^2}$

$\Rightarrow \sqrt{14 - 2p - \varepsilon^2} = -9 \Rightarrow -2p = 9 \Rightarrow -2\left(\frac{-a}{3}\right) = 9 \Rightarrow \underline{a = -9}$

$\Rightarrow 3x^2 - 12x + 9 = 0, x_2 = 1, 3 \Rightarrow \frac{a}{3} = \frac{-9}{3} = \underline{-3}$

$$v - ra + ra + r = 1 \cdot c \Rightarrow \frac{-b}{ra} = \gamma \text{ ext } \left| \begin{array}{c} \gamma \\ c \end{array} \right. \quad -9$$

$$\frac{-b}{ra} = \gamma \Rightarrow b = -1 \cdot a \Rightarrow \text{dble.} \rightarrow an^r - 1 \cdot an + c = 0$$

$$v - ra > 0 \Rightarrow a < r, a - r > 0 \Rightarrow a > r \quad | a \in \mathbb{N} \Rightarrow a > r \Rightarrow \left| \begin{array}{c} 1 \\ 1 \end{array} \right. \quad \textcircled{y}$$

$$\left| \begin{array}{c} \gamma \\ c \end{array} \right. \Rightarrow r \cdot a - \gamma \cdot a + c = r, \left| \begin{array}{c} 1 \\ 1 \end{array} \right. \Rightarrow a - 1 \cdot a + c = 1 \Rightarrow \begin{array}{l} a = \frac{-1}{\lambda} \\ c = \frac{-1}{\lambda} \end{array} \quad \checkmark \frac{1}{\lambda} \in \text{dob}$$

$$\alpha + \beta = \gamma = \frac{-b}{a} = \frac{-(-a)}{a} = 1 \quad -v$$

$$rB^r + \alpha^r - \beta = \frac{1}{r} \Rightarrow B^r - \beta + (\alpha + \beta)^r - r\alpha\beta = \frac{1}{r} = B(B-1) + 1 - r\alpha\beta$$

$$= B(B - (\alpha + \beta)) + 1 - r\alpha\beta = -r\alpha\beta + 1 = \frac{1}{r} \Rightarrow \alpha\beta = \frac{1}{r}$$

$$p = \frac{-b}{a} = \frac{1}{r} \Rightarrow a = -r \cdot b \Rightarrow -r \cdot b n^r + b n - b = 0 \Rightarrow -b n^r + r \cdot n - 1 = 0$$

$$\frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{r^2}}{r} = \frac{\sqrt{r}}{r} = \frac{\sqrt{r}}{r} \quad \checkmark \quad \textcircled{y}$$

$$an^r + bn + c = 0, c = \frac{r}{r} \Rightarrow an^r + bn + \frac{r}{r} = 0 \quad -\lambda$$

$$\frac{-b}{ra} = \frac{-\gamma + 1}{r} \Rightarrow b = \epsilon a \quad y = \frac{-\Delta}{\epsilon a} = \frac{b^r - \epsilon a c}{\epsilon a} = \frac{1}{r} \quad \textcircled{y}$$

$$\frac{(ra)^r - (\epsilon a)c}{\epsilon^2 a} = \epsilon a - c = \frac{1}{r} \Rightarrow a = \frac{1}{r}, b = \epsilon \left(\frac{n^r}{r} + n + \frac{r}{r} \right) = B$$

$$\Rightarrow n^r + \epsilon a + c - \frac{1}{r} = 0 \Rightarrow n = \left\{ \begin{array}{l} -\delta \\ 1 \end{array} \right. \rightarrow 1 + \epsilon + c - \frac{1}{r} = B \Rightarrow \checkmark B \in \mathbb{E}$$

$$n^r + \epsilon n + c = 0 \Rightarrow n = \left\{ \begin{array}{l} \frac{-\epsilon - \sqrt{\epsilon^2 - \epsilon a}}{\epsilon} = -\frac{\epsilon - \sqrt{\epsilon^2 - \epsilon a}}{\epsilon} \\ \frac{-\epsilon + \sqrt{\epsilon^2 - \epsilon a}}{\epsilon} = -\frac{\epsilon + \sqrt{\epsilon^2 - \epsilon a}}{\epsilon} \end{array} \right. \quad \leftarrow \alpha < \beta \quad -\alpha$$

$$rB^r + \alpha^r = (r\epsilon - r\epsilon a - 1\sqrt{\epsilon^2 - \epsilon a}) + \delta\epsilon - \epsilon a + 1\sqrt{\epsilon^2 - \epsilon a}$$

$$2\epsilon - \delta a + \epsilon\sqrt{\epsilon^2 - \epsilon a} = 1\sqrt{\epsilon^2 - \epsilon a} \Rightarrow \delta - \delta a + \epsilon\sqrt{\epsilon^2 - \epsilon a} = 1\sqrt{\epsilon^2 - \epsilon a} \Rightarrow \checkmark \alpha = 1 \quad \textcircled{y}$$

$$\frac{1}{\sqrt{\alpha}} + \frac{1}{\sqrt{\beta}} = \frac{\sqrt{\alpha} + \sqrt{\beta}}{\sqrt{\alpha\beta}} = \gamma \Rightarrow \frac{\alpha + \beta + r\sqrt{\alpha\beta}}{\alpha\beta} = r\gamma \quad -1$$

$$\Rightarrow \frac{m + 1/r}{c^4} + r\sqrt{\frac{r}{c^4}} = r\gamma \Rightarrow \frac{m + 1/r}{c^4} + \frac{1/r}{c^4} = \frac{r\gamma}{c^4} \Rightarrow 1/r + m = r\gamma \Rightarrow m = -1$$

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$$p = \frac{c}{a} = \frac{r}{-1} = -r \quad \checkmark$$