

$$y = (a-1)x^2 + x + 3$$

$$x_s = x_{\text{شماره}} = \frac{-b}{2a} = \frac{-1}{2a-2} = 2 \Rightarrow -1 = \varepsilon a - \varepsilon \Rightarrow \varepsilon a = 3 \Rightarrow a = \frac{3}{\varepsilon}$$

$$y = \frac{-1}{\varepsilon} x^2 + x + 3 \Rightarrow y = \frac{-b \pm \sqrt{\Delta}}{2a} \quad \left\{ \begin{array}{l} \Delta = 1 - \varepsilon(-\frac{1}{\varepsilon})(3) = \varepsilon \\ x = \frac{-1 \pm 2}{-\frac{1}{\varepsilon}} = \begin{array}{l} \xrightarrow{4} \\ \xrightarrow{-2} \end{array} \end{array} \right.$$

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$$f(x) = mx^2 - 5x + m$$

$$\begin{array}{c} x_1 \quad x_2 \\ - \quad + \quad - \end{array} \quad \left\{ \begin{array}{l} \text{I) } \Delta > 0 \Rightarrow 25 - \varepsilon m^2 > 0 \Rightarrow \varepsilon m^2 - 25 < 0 \\ \text{II) } m < 0 \end{array} \right. \Rightarrow \text{I} \cap \text{II} = \begin{array}{c} \xrightarrow{\frac{-5}{\varepsilon}} \quad \xrightarrow{\frac{5}{\varepsilon}} \\ \xrightarrow{-2.5} \quad \xrightarrow{2.5} \end{array}$$

$$m \in (-2.5, 0) \quad \text{I}$$

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$$y = x^2 - 5x + 9 = x^2 - 2x + \frac{\varepsilon}{9} \xrightarrow{\text{مربع کامل}} 9x^2 - 18x + \varepsilon$$

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$$y = 2x^2 - 11x + m + 2 = 0 \quad \left\{ \begin{array}{l} S = \varepsilon \\ P = \frac{m+2}{2} \end{array} \right. \quad S^2 - 4P = \left(\frac{\varepsilon}{2} \right)^2 - 4 \left(\frac{m+2}{2} \right) = 12 \Rightarrow$$

$$2\alpha^2 + \beta^2 = 2\alpha^2 + \alpha^2 + 2\beta^2 - \beta^2 = 2(\alpha^2 + \beta^2) - (\beta^2 - \alpha^2) = 12 \Rightarrow$$

$$2 \left(\frac{14 - m - 2}{2} \right) - (\varepsilon) \left(\frac{\sqrt{\varepsilon^2 - 14m}}{2} \right) = 12 - 2m - \varepsilon \sqrt{\varepsilon^2 - 14m} = 12 \Rightarrow$$

$$-2\sqrt{\varepsilon^2 - 14m} = 12 - 14 + 2m = -2 + 2m \Rightarrow \left(\sqrt{\varepsilon^2 - 14m} - 1 - m \right)^2 = \varepsilon^2 - 14m - 4\varepsilon + m^2 - 14m = m^2 - 14m + 12 = 0$$

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$$(m - \varepsilon)^2 = 0 \Rightarrow m = \varepsilon \quad \left\{ \begin{array}{l} -x^2 + \varepsilon x + 5 > 0 \xrightarrow{x_1} x^2 - \varepsilon x - 5 < 0 \\ (x - 5)(x + 1) < 0 \end{array} \right. \quad (-1, 5)$$

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$$y = ax^2 + bx + c$$

$$x_s = \frac{-b}{2a} = 2 \Rightarrow b = -4a \quad \text{چندانی}$$

$$y_s = \varepsilon a + 2b + 5 = 9 \Rightarrow \varepsilon a - 11a = 4 \Rightarrow a = -1, b = 4$$

$$y = \alpha x^r - vx + q\beta = 0$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{\beta + \alpha}{\alpha\beta} = \frac{v}{\frac{\alpha}{q\beta}} = \frac{v}{\frac{\alpha}{q\beta}} \Rightarrow \alpha = \pm r$$

$$S = \frac{v}{q}$$

$$p = \frac{q\beta}{\alpha}$$

$$\alpha \begin{cases} \rightarrow -r = \beta - r = -\frac{v}{r} \Rightarrow \beta = \frac{r}{r} \Rightarrow \alpha = -r \Rightarrow \frac{1}{\alpha} + \frac{1}{\beta} = \frac{v}{\frac{1}{r}} = \frac{v}{r} \end{cases}$$

$$\alpha \begin{cases} \rightarrow r = \beta + r = -\frac{v}{r} \Rightarrow \beta = -\frac{1}{r} \rightarrow \tilde{0}\tilde{0}\tilde{E} \end{cases}$$

$$y = x^r + mx - rm = 0$$

$$S \begin{cases} \alpha + \beta = -m \Rightarrow \alpha^r - m\beta = \Lambda \Rightarrow \alpha^r + (\alpha + \beta)\beta = \alpha^r + \alpha\beta + \beta^r = \Lambda \\ p = -rm \end{cases} \Rightarrow S^r - p = \Lambda \Rightarrow m^r + rm = \Lambda$$

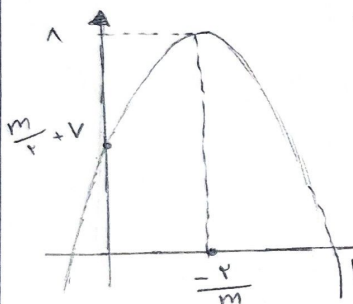
$$p = -rm$$

$$\Delta r = \frac{1}{r} \leftarrow \tilde{0}\tilde{0}\tilde{E}$$

$$m^r + rm - \Lambda = 0$$

$$\alpha + \beta = -m = -r$$

$$m = -\frac{1}{r} \leftarrow \tilde{0}\tilde{0}\tilde{E} \Rightarrow (m + \frac{1}{r})(m + r) = 0$$



$$y = mx^r + ex + \frac{m}{r} + v$$

$$x_s = \frac{-e}{rm} = -\frac{r}{m} \Rightarrow y_s = m \left(\frac{-r}{m} \right) + e \left(\frac{-r}{m} \right) + \frac{m}{r} + v$$

$$\frac{m^r + 1em - \Lambda}{rm} = \Lambda \Rightarrow m^r + 1em - \Lambda = 14m \Rightarrow m^r - rm - \Lambda = 0$$

$$(m - \frac{1}{r})(m + r) = 0 \Rightarrow m \begin{cases} \rightarrow \frac{1}{r} \\ \rightarrow -r \end{cases}$$

$$y = -rx^r + ex + r \Rightarrow x = -1 \leftarrow \tilde{0}\tilde{0}\tilde{E} \Rightarrow v = k$$

$$y = ax^r + bx + c$$

$$x_s = \frac{-b}{ra} = r \Rightarrow b = -\epsilon a$$

$$y = \frac{-x^r}{r} + rx + \epsilon = 0$$

$$x_1 = r + r\sqrt{r}, x_2 = r - r\sqrt{r}$$

$$y_s = \epsilon a + rb + \epsilon = r \Rightarrow \epsilon a - \Lambda a^r = r \Rightarrow a = \frac{-1}{r}, b = r$$

$$\frac{1}{x_1} + \frac{1}{x_2} = \frac{r - r\sqrt{r}}{-\Lambda} + \frac{-\epsilon a}{r + r\sqrt{r}} = \frac{\epsilon}{-\Lambda} = -\frac{1}{r}$$

$$y = x^r - (ra + \epsilon)x + (ra^r + 4a + r) = 0$$

$$(a - r)(a + 1) \Rightarrow a = \frac{1}{r} \leftarrow \tilde{0}\tilde{0}\tilde{E}$$

$$\epsilon - \Lambda a - \Lambda + ra^r + 4a + r = 0 \Rightarrow ra^r - ra - 1 = 0 \xrightarrow{ac} a^r - ra - r = 0$$

$$a \begin{cases} \rightarrow x^r - \Lambda x + 1r = 0 \Rightarrow (x - r)(x - 1) \Rightarrow x = r, 1 \end{cases}$$

$$x = \frac{1}{r}x + \frac{r}{r} = 0 \Rightarrow x = \frac{r}{r} = r$$