

$$\lambda = 2 \rightarrow m = 2 \rightarrow \frac{-b}{2a} = 2$$

محور (ن)

$$\frac{-1}{2(\alpha-1)} = 2 \rightarrow 2\alpha - 2 = -1 \rightarrow 2\alpha = 1 \rightarrow \alpha = \frac{1}{2}$$

$$\rightarrow y = \frac{1}{x^2} x^2 + x + 2$$

$$\Delta = 1 - 4\left(-\frac{1}{x^2}\right) 2 > 0 \rightarrow x > \frac{-1 \pm 2}{2\left(-\frac{1}{x^2}\right)}$$

$$x < \frac{-1 - 2}{2\left(-\frac{1}{x^2}\right)} \rightarrow x > 3$$

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

x_1	x_2
-	+
-	-

$m < 0$ (چون در رسم مخالف علامت است)

$$\Delta > 0 \rightarrow 2d - 4m^2 > 0 \rightarrow 2d > 4m^2$$

$$m^2 < \frac{2d}{4} \rightarrow |m| < \frac{\sqrt{2d}}{2} \rightarrow -\frac{\sqrt{2d}}{2} < m < \frac{\sqrt{2d}}{2}$$

$$(m < 0) \cap \left(-\frac{\sqrt{2d}}{2} < m < \frac{\sqrt{2d}}{2}\right) \rightarrow \boxed{-\frac{\sqrt{2d}}{2} < m < 0}$$

$$S = \alpha + \beta = \frac{r - \sqrt{a}}{r} + \frac{r + \sqrt{a}}{r} = \frac{r}{r} = 1$$

$$P = \alpha \times \beta = \left(\frac{r - \sqrt{a}}{r} \right) \left(\frac{r + \sqrt{a}}{r} \right) = \frac{r^2 - \sqrt{a}^2}{r^2} = \frac{r^2 - a}{r^2} = \frac{r^2 - 1}{r^2}$$

$$x^2 - Sx + P = 0 \rightarrow x^2 - 1x + \frac{r^2 - 1}{r^2} = 0 \xrightarrow{\times r^2}$$

$$\boxed{r^2 x^2 - rx + r^2 - 1 = 0}$$

$$\gamma \alpha^2 - \lambda \alpha + m + \gamma = 0$$

$$\gamma \alpha^2 + \beta^2 = 1 \quad (*)$$

$$S = \alpha + \beta = \frac{\lambda}{\gamma} = \gamma$$

$$p = \alpha \beta = \frac{m + \gamma}{\gamma}$$

$$\gamma \alpha^2 - \lambda \alpha + m + \gamma = 0 \rightarrow$$

$$\gamma \alpha^2 = \lambda \alpha - m - \gamma \quad *$$

$$\gamma \alpha^2 + \beta^2 = 1 \rightarrow \underbrace{\gamma \alpha^2}_{*} + \underbrace{\alpha^2 + \beta^2}_{S^2 - \gamma p} = 1 \quad \xrightarrow{*}$$

$$\lambda \alpha - m - \gamma + (\gamma)^2 - \gamma \left(\frac{m + \gamma}{\gamma} \right) = 1 \rightarrow$$

$$\lambda \alpha - m - \gamma + 1 - m - \gamma = 1 \rightarrow \lambda \alpha - 2m = 0 \rightarrow$$

$$m = \gamma \alpha$$

$$\xrightarrow{*} \gamma \alpha^2 - \lambda \alpha + \gamma \alpha + \gamma = 0 \rightarrow \gamma \alpha^2 - \gamma \alpha + \gamma = 0$$

$$\xrightarrow{\div \gamma} \alpha^2 - \alpha + 1 = 0 \rightarrow (\alpha - 1)^2 = 0 \rightarrow \alpha = 1$$

$$\Rightarrow \boxed{m = \gamma} \quad \text{جواب}$$

$$S(2, 9) \quad C=5 \quad y = ax^2 + bx + c = 5$$

$$\text{و چون } x = -\frac{b}{2a} = 2 \rightarrow 4a + b = 0$$

$$(2, 9) \rightarrow 9 = 4a + 2b + c \rightarrow 4a + 2b = 4$$

$$\begin{cases} 4a + b = 0 \\ 4a + 2b = 4 \end{cases}$$

$$4a + 2b = 4$$

$$b = 4$$

$$4a + 4 = 0 \rightarrow a = -1$$

$$y = -x^2 + 4x + 5 \Rightarrow x = -1$$

$$x = 5$$

$$\begin{array}{r|rr} & -1 & 5 \\ y & - & 4 + 5 - \end{array}$$

در این دو نقطه $(-1, 5)$ و $(5, 5)$ محور x مماس است. (و مماسیت)

Subject

Date

-4

$$\alpha x^2 - Vx + 9\beta = 0$$

$$\alpha \times \beta = p = \frac{c}{a} \rightarrow \alpha \times \beta = \frac{9\beta}{\alpha} \rightarrow \alpha^2 = 9 \rightarrow$$

$$\alpha = 3 \quad \text{or} \quad \alpha = -3$$

$$\alpha + \beta = S = \frac{-b}{a} \rightarrow \alpha + \beta = \frac{V}{\alpha}$$

گفته بر حسب $\alpha = 3 \rightarrow \beta = \frac{V}{3} - 3 = \frac{2}{3} \times$

$$\Rightarrow \alpha = -3 \rightarrow \beta = -\frac{V}{3} + 3 = \frac{2}{3}$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = -\frac{1}{3} + \frac{2}{3} = \boxed{\frac{1}{3}} \quad \text{جواب}$$

$$x^2 + mx - 2m = 0 \quad \alpha^2 - m\beta = 1 \quad -V$$

$$\frac{-b}{a} = \alpha + \beta = -m$$

$$\frac{c}{a} = \alpha\beta = -2m$$

دالة $\alpha \rightarrow \alpha^2 + m\alpha - 2m = 0 \rightarrow$
 $\alpha^2 = -m\alpha + 2m (*)$

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

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

$$-m(-m) + 2m - 1 = 0 \rightarrow$$

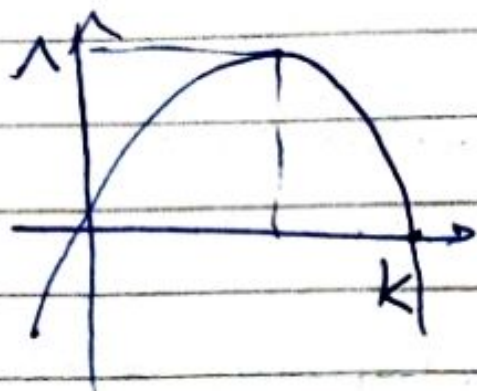
$$m^2 + 2m - 1 = 0 \rightarrow m = -1 \rightarrow x^2 - x + 1 = 0$$

$$(m+1)(m-1)$$

$$\boxed{m=1} \rightarrow x^2 + 2x - 1 = 0$$

$$\Rightarrow \boxed{S = -m = -1} \quad \text{جواب}$$

$$f(x) = mx^2 + kx + \frac{m}{r} + V \quad - \Lambda$$



$$x = -\frac{k}{2m} = -\frac{r}{m}$$

$$y = m\left(-\frac{r}{m}\right)^2 + k\left(-\frac{r}{m}\right) + \frac{m}{r} + V$$

$$y = \frac{r}{m} - \frac{1}{m} + \frac{m}{r} + V = -\frac{r}{m} + \frac{m}{r} + V$$

$$\rightarrow -\frac{r}{m} + \frac{m}{r} + V = \Lambda \rightarrow -\frac{r}{m} + \frac{m}{r} = 1 \xrightarrow{\text{مضروب}}$$

$$m^2 - rm - \Lambda = 0 \rightarrow m = r$$

$$(m-r)(m+r)$$

$$\rightarrow m = -r$$

حوالہ سہمی و بیاض
اعت و $a = m$
بین m باید منفی
باشد

$$\rightarrow y = -2x^2 + kx + 4$$

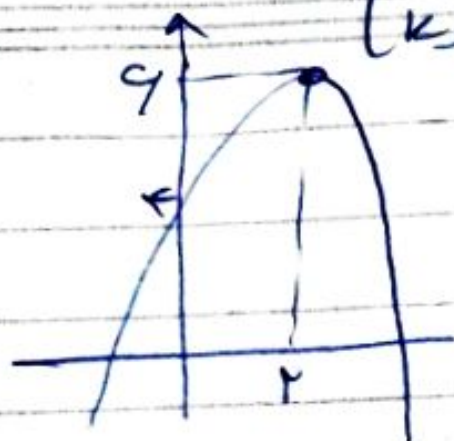
$$y = 0 \rightarrow x = -1$$

$$x = 3$$

$$\Rightarrow k = 8$$

$$\begin{aligned} a+c &= b \\ \rightarrow x &= -1 \\ \rightarrow x &= -\frac{c}{a} \end{aligned}$$

$$\begin{bmatrix} h \\ k \end{bmatrix} = \begin{bmatrix} 2 \\ 4 \end{bmatrix}$$



$$y = a(x-h)^2 + k$$

-9

$$y = a(x-2)^2 + 4$$

$$\begin{bmatrix} 0 \\ 4 \end{bmatrix}$$

$$4 = a(0-2)^2 + 4$$

$$4 = 4a + 4 \rightarrow a = -\frac{1}{2}$$

$$y = -\frac{1}{2}(x-2)^2 + 4 = 0 \rightarrow -\frac{1}{2}(x-2)^2 = -4 \rightarrow$$

$$(x-2)^2 = 8 \rightarrow x-2 = \sqrt{8} \rightarrow x_1 = 2 + 2\sqrt{2}$$

$$\rightarrow x-2 = -\sqrt{8} \rightarrow x_2 = 2 - 2\sqrt{2}$$

$$\frac{1}{x_1} + \frac{1}{x_2} = \frac{x_1 + x_2}{x_1 x_2} = \frac{4}{2^2 - (2\sqrt{2})^2} = \frac{4}{4 - 8} = -\frac{1}{2}$$

$$\boxed{-\frac{1}{2} = \text{جواب}}$$

$$x^{\mu} - (\mu a + \mu) x^{\mu} + (\mu a^{\mu} + 4a + \mu) = 0 \quad -10$$

$$\beta = x = \mu \rightarrow \mu - 1a - 1 + \mu a^{\mu} + 4a + \mu = 0 \rightarrow$$

$$\mu a^{\mu} - 2a - 1 = 0 \rightarrow a = 1 \rightarrow x^{\mu} - 1x + 1\mu = 0$$

$$\downarrow a = \frac{-1}{\mu} \rightarrow \mu x^3 = 2a = \frac{c}{a} = 1\mu \rightarrow \boxed{\alpha = \mu}$$

$$x^{\mu} - \frac{1}{\mu}x + \frac{\mu}{\mu} = 0$$

$$\mu \alpha = \frac{\mu}{\mu} \rightarrow \boxed{\alpha = \frac{\mu}{\mu}}$$