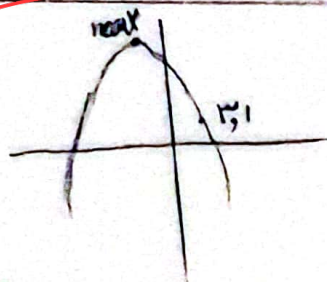


18, 25

تلف شماره ۲۳

کلاس دوم A

مدیر عامل بنیادی



در max داریم

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

$$9 = a - b + c$$

$$\rightarrow 9 = c - a$$

$$1 = 9a + 5b + c$$

$$1 = 15a + c$$

$$a = -\frac{1}{5}$$

$$c = \frac{14}{5}$$

$$\text{ext} \left| \frac{-b}{2a} = -1 \right. \quad (1)$$

$$\frac{-\Delta}{2a} = 9 \quad (2)$$

$$\frac{-b}{2a} = -1 \rightarrow b = 2a$$

$$a = -\frac{1}{5}$$

$$b = 2a$$

$$\left. \begin{matrix} a = -\frac{1}{5} \\ b = 2a \end{matrix} \right\} b = -1 \quad y = -\frac{1}{5}x^2 - x + \frac{14}{5} \quad \checkmark$$

$$2x^2 + mx + m + 4 = 0$$

$$\Delta > 0 \rightarrow m^2 - 4(m+4) > 0$$

$$\rightarrow (m-12)(m+4) > 0 \rightarrow$$

$$\begin{matrix} + & - & + \\ 0 & - & 0 \end{matrix} \rightarrow \begin{matrix} m < -4 \\ m > 12 \end{matrix}$$

$$S > 0 \rightarrow \frac{-b}{a} > 0 \rightarrow \frac{-m}{2} > 0$$

$$\begin{matrix} + & - \\ 0 & - \end{matrix} \rightarrow m < 0$$

$$P > 0 \rightarrow \frac{c}{a}$$

$$\frac{m+4}{2} > 0$$

$$\frac{-4}{-2} > 0$$

$$\rightarrow m > -4$$

$$-4 < m < -1 \quad \checkmark \quad m = (-4, -1) \quad (2) \quad (12)$$

$$2x^2 + (2m-1)x + 5-m = 0$$

$$\alpha\beta = \frac{1}{\alpha\beta} \rightarrow \frac{-b}{a} = \frac{a}{c} \rightarrow a^2 = -bc$$

$$9 = 2m^2 - 2m + 5 \rightarrow 2m^2 - 2m - 4 = 0 \rightarrow m^2 - m - 2 = 0 \rightarrow (m-2)(m+1) = 0$$

$$\Delta < 0 \rightarrow m = \frac{1 \pm \sqrt{1+8}}{2} = \frac{1 \pm 3}{2} \rightarrow m = 2 \text{ or } m = -1$$

$$(2) \quad (15)$$

$$m = -1$$

$$m = \frac{5}{2} \quad \checkmark$$

$$(2) \quad (16)$$

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

$$S = x_1 + x_2 = \frac{-b}{a} = 1$$

$$P = \frac{c}{a} = x_1 x_2 = -1$$

$$x_1^2 + \frac{1}{x_1} + x_2^2 + \frac{1}{x_2} = x_1^2 + x_2^2 + \frac{x_1 + x_2}{x_1 x_2} = S^2 - 2SP + \frac{S}{P} = 1 + 1 - \frac{1}{-1} = \frac{3}{-1} = -3$$

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

$$x^2 - \frac{3}{2}x - \frac{5}{2} = 0 \rightarrow 2x^2 - 3x - 5 = 0 \quad \checkmark$$

$$\left(\sqrt{x^2} + \frac{1}{\sqrt{x^2}} + 1\right)\left(\sqrt{x^2} - 1\right) = \sqrt{x^2} - \sqrt{x^2} + 1 - \frac{1}{\sqrt{x^2}} + \sqrt{x^2} = 1 - \frac{1}{\sqrt{x^2}} + \sqrt{x^2}$$

$$= \sqrt{x^2} - \frac{1}{\sqrt{x^2}} = 1 \quad \sqrt{x^2} - \sqrt{x^2} - \frac{1}{\sqrt{x^2}} = 0 \quad \times \sqrt{x^2}$$

$$x^2 - x - 1 = 0 \rightarrow S = \frac{-b}{a} = 1 \quad \checkmark$$



$$r^2 - ar + f = 0 \rightarrow a = r\beta$$

(2) (4)

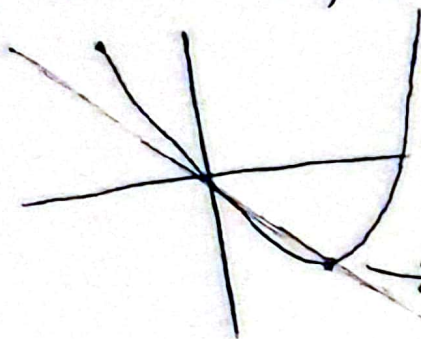
$$a + \beta = f/\beta = \frac{a}{r}$$

$$a\beta = r\beta^2 = \frac{f}{r} \Rightarrow \beta^2 = \frac{f}{r} \rightarrow \beta = \pm \frac{r}{r} \rightarrow f/\beta = \pm \frac{\Delta}{r} = \frac{a}{r} \rightarrow a = \pm 1$$

$$1 - (-1) = 14 \quad \checkmark$$

$$y = ar^2 + (r + ra)r$$

(2) (v)



$$S > 0$$

$$P \geq 0$$

$$\Delta > 0$$

$$\frac{-b}{2a} > \frac{-(r+ra)}{2a} > 0$$

$$\frac{-\frac{r}{r}}{-\frac{r}{r} + \frac{r}{r}}$$

$$\text{ext } \frac{-b}{2a} > 0$$

$$\frac{-\Delta}{2a} < 0$$

$$\rightarrow -\frac{r}{r} < a < 0 \rightarrow \frac{r}{r} \text{ min}$$

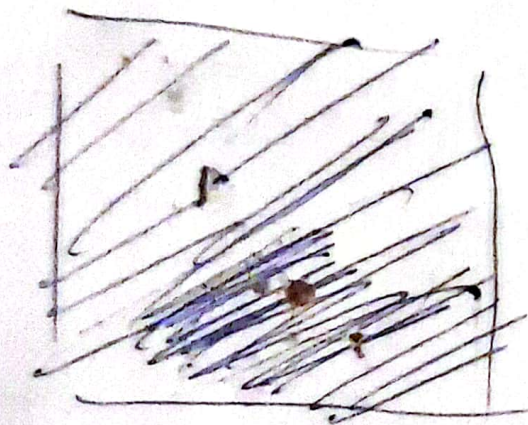
از ای هیچ مقدار از a  
(از 2 به 3 عبور نمی کند)

$$\left. \begin{aligned} y &= r^2 + ar - r \\ y &= -r^2 - r + b \end{aligned} \right\} \frac{-b}{2a} = -1 \quad \checkmark \quad \frac{b}{-1} = -\left(\frac{-r}{-1} + r\right) \rightarrow \frac{b}{-1} = 0 \rightarrow b = 0$$

(0, 2, 5)

$$1 = -r^2 - r \rightarrow -r^2 - r - 1 = 0 \rightarrow -(r+1)^2 \rightarrow r = -1$$

$$1 = r^2 + ar - r \rightarrow 1 = 1 - a - r \rightarrow a = -r \quad \checkmark \quad ab = 0 \times -r = 0$$



$$R = t + \frac{1}{r} \rightarrow rR - aR + b = 0$$

(2) . (9)

$$\rightarrow r \left( t + \frac{1}{r} \right) - a \left( t + \frac{1}{r} \right) + \frac{b}{r} = 0$$

$$\text{بسطاً، } ra + a + \frac{b}{r} = 0$$

$$t = r \rightarrow ra = r \rightarrow a = 1 \quad b = b \Rightarrow b = 4$$

$$\left[ \frac{-4 \times 1}{r} \right] = [4] = -2$$



$$\left. \begin{aligned} R^T + 4R + m &= 0 \\ R^T + 5R - 5m &= 0 \end{aligned} \right\} \begin{aligned} 6R + 6m &= 0 \\ \rightarrow R &= -m \end{aligned}$$

$$m^T - 9m + m = 0 \rightarrow \begin{aligned} &m = 0 \\ &m = 0 * \end{aligned}$$

$$\begin{aligned} R^T - (-1) &= 1 \\ R^T + 4R + \omega &= 0 \rightarrow \begin{aligned} R &= -1 \\ R &= -\omega \end{aligned} \\ R^T + 5R - 1\omega &= 0 \rightarrow \begin{aligned} R &= 1 \\ R &= \omega \end{aligned} \end{aligned}$$

(10)

(7)

$$R^T - (-1) = 1 \quad \checkmark$$

$$-\frac{a}{r} = \frac{r}{-r} \rightarrow \boxed{a = r}$$

-1

$$1 = u^r + r u - r \rightarrow (u+r)(u-1) = 0 \rightarrow \begin{cases} u=1 \rightarrow A(1,1) \\ u=r \rightarrow B(-r,1) \end{cases}$$

$$\boxed{b = r} \leftarrow 1 = -9 + 4 + b \quad \swarrow$$

$$\boxed{ab = 1}$$