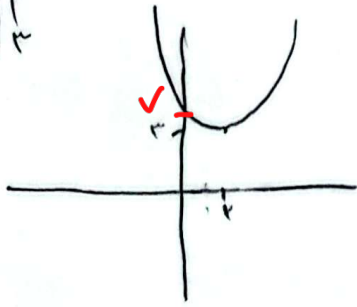
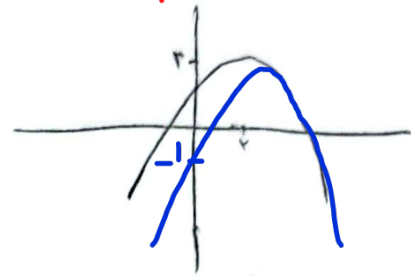


ان) $\max |f|$



ب) $\min |f|$



محل برخورد ها مهم!

(۱, ۷۵)

$$2x^2 + (m+1)x + \frac{1}{2}m + 2 = 0 \quad \Delta > 0 \rightarrow (m+1)^2 - 4 \cdot 2 \cdot (\frac{1}{2}m + 2) > 0 \rightarrow m^2 - 2m - 1 > 0$$

$$\rightarrow (m-4)(m+3) > 0 \rightarrow m \in \mathbb{R} - [-3, 4] \quad \checkmark$$

$$\Delta = 0 \rightarrow m^2 - 2m - 1 = 0 \rightarrow m \in \{-3, 4\} \quad \checkmark$$

$$\Delta < 0 \rightarrow m^2 - 2m - 1 < 0 \rightarrow (m-4)(m+3) < 0 \rightarrow m \in (-3, 4) \quad \checkmark$$

$$\Delta \geq 0 \rightarrow (m-4)(m+3) \geq 0 \rightarrow m \in \mathbb{R} - (-3, 4) \quad \checkmark$$

(الف)

(۲)

$$S < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow \frac{-1}{+1} < \frac{2}{-1} \rightarrow -1 < m < 2 \quad I$$

$$P > 0 \rightarrow \frac{1}{m-2} > 0 \rightarrow m > 2 \quad II \Rightarrow I \cap II = \emptyset \quad \checkmark$$

$$S < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow -1 < m < 2 \quad P < 0 \rightarrow m < 2$$

$$P < 0 \rightarrow \Delta > 0 \quad I \cap II \Rightarrow m \in (-1, 2) \quad \checkmark$$

(الف)

(۲)

(ب)

۳

$$P < 0 \rightarrow \frac{1}{m-2} < 0 \rightarrow m < 2 \quad \Delta > 0 \rightarrow x^2 - 12x + 21 > 0 \rightarrow \mathbb{R} \quad II$$

$$I \cap II \Rightarrow m < 2 \quad \checkmark$$

(الف)

(۲)

$$\frac{-b}{2a} \leq -1 \rightarrow \frac{-2m-2}{2m-2} \leq -1 \rightarrow -2m-2 \leq 2m-2 \rightarrow 4m \geq 0 \rightarrow m \geq 0$$

$$\rightarrow m \leq 1 \quad \checkmark$$

(ب)

۴

$$\Delta \geq 0 \rightarrow 4 \sin^2 \alpha - 4 \geq 0 \rightarrow \sin^2 \alpha \geq 1 \Rightarrow \sin \alpha = \pm 1 \rightarrow \text{بسیار سخت}$$

$$S > 0 \rightarrow \frac{2 \sin \alpha}{\frac{1}{\sin \alpha}} > 0 \rightarrow \sin \alpha \neq 1 \quad \leftarrow \begin{cases} 2x^2 - 12x + 9 = 0 \\ \Rightarrow (2x-3)^2 = 0 \Rightarrow x = \frac{3}{2} \end{cases}$$

$$\Rightarrow (2x-3)^2 = 0 \Rightarrow x = \frac{3}{2} \quad \checkmark$$

(۲)

۵

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

$$\Rightarrow y = -x^2 + 1x + 1 \quad \text{max} = \frac{-1}{2a} = \frac{-1}{2(-1)} = \frac{1}{2}$$

$$MS = QP + V \rightarrow \frac{r_{m+1}}{m} = \frac{-10}{m} + V \rightarrow r_{m+1} = -10 + Vm$$

$$\rightarrow r_m = 15 \Rightarrow m = 5 \rightarrow r_m - 4m - 1 = 0$$

$$\alpha^r + \beta^r = S^r - rP = \frac{14}{14} + 1 = \frac{14}{14} = \frac{1}{1}$$

$$\frac{\alpha + \beta}{\alpha\beta} \xrightarrow{\alpha\beta = 1} \frac{\alpha\beta + \beta}{\alpha\beta} = \frac{\alpha + \beta}{\alpha} = \frac{S - rSP}{\alpha} = \frac{14 - 10}{\alpha} = \frac{4}{\alpha} = 1$$

$$\alpha\beta = 1 \Rightarrow \alpha\beta = 1$$

$$\left. \begin{aligned} ax^r + bx + f &= (x+1) \cdot \frac{x}{r} \rightarrow fa + rb = 10 \\ ax^r + bx + f &= (x+1) \cdot \frac{x}{r} \rightarrow 9a - rb = 0 \end{aligned} \right\} \begin{aligned} a &= 1 \\ b &= r \end{aligned}$$

$$\Rightarrow ax^r + bx + f \rightarrow \frac{-b}{ra} = \frac{-r}{r}$$

$$rx^r + (m+1)x + m+1 = x \rightarrow rx^r + mx + (m+1) = 0$$

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

$$\frac{m-1}{-b} = \frac{m}{r} \checkmark$$

$$\frac{m+4}{-b} = \frac{m}{r} \times$$