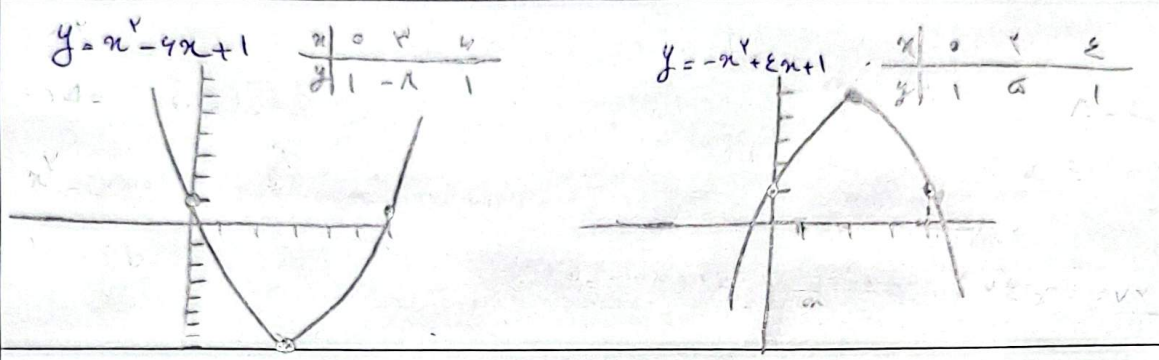


الف  $y = 2x^2 - 8x + 1$   $x_s = -\frac{b}{2a} = 1$   $y_s = -1 \Rightarrow \min | -1$

ب  $-2x^2 + 8x - 5 = y$   $x_s = -\frac{b}{2a} = \frac{+4}{-2} = -2$   $y_s = -\frac{\Delta}{4a} = -\frac{16-20}{-8} = \frac{4}{-8} = -\frac{1}{2} \Rightarrow \max | -\frac{1}{2}$



$\varepsilon x^2 + kx^2 - 9x - \gamma = 0 \Rightarrow x^2 - 5x + p = x^2 - x - \gamma$

$(\varepsilon x^2 + kx^2 - 9x - \gamma) \div (x^2 - x - \gamma) = \varepsilon x + w$

$\Rightarrow w = 1$

$\Rightarrow (\varepsilon x + 1)(x^2 - x - \gamma) = \varepsilon x^2 - \varepsilon x^2 - \varepsilon x + x^2 - x - \gamma = \varepsilon x^2 - \varepsilon x - \varepsilon \gamma + x^2 - x - \gamma$

$= \varepsilon x^2 - 4x - \gamma \Rightarrow k = -4$

$\sqrt{\frac{\psi m + \sqrt{\Delta}}{\psi}} - \sqrt{\frac{\psi m - \sqrt{\Delta}}{\psi}} = 1$

$\Rightarrow \psi m - \sqrt{\psi \Delta} = 1 \Rightarrow \psi m - \sqrt{\psi \Delta} - 1 = 0$

$\Rightarrow \frac{-m}{\psi} = \frac{-1}{\psi}$

$\psi = 1 \Rightarrow m = 1$   
 $\psi = -1 \Rightarrow m = -1$

$y = 2x^2 - (m+2)x + m \Rightarrow a+b+c=0 \Rightarrow \alpha=1, \beta = \frac{m}{2}$

$\Rightarrow \frac{(1-\frac{m}{2})m}{x} = \frac{c}{x} \Rightarrow (1-\frac{m}{2})m = c$

$\Rightarrow \frac{(\frac{m}{2}-1)m}{x} = \frac{c}{x} \Rightarrow (\frac{m}{2}-1)m = c$

$\Rightarrow y = x^2 - mx + 1$

$\Rightarrow y = 2x^2 + x + 1 \Rightarrow x_s = -\frac{1}{4}$

$y = 2x^2 - \frac{m}{2}x + 1 \Rightarrow x_s = \frac{m}{4}$

$$y = ax^2 + \sqrt{a}x + a \quad \text{Min} = \frac{1}{2} \Rightarrow y_s = \frac{-1}{2a} = \frac{2a^2 - 9}{2a} = \frac{1}{2}$$

$$\Rightarrow \sqrt{a}x + \sqrt{a} = 2a \Rightarrow 2\sqrt{a}x - 2\sqrt{a} - \sqrt{a} = 0 \Rightarrow 2\sqrt{a}x - 3\sqrt{a} = 0$$

$$\Rightarrow 2x - 3 = 0 \Rightarrow x = \frac{3}{2}$$

$$\Rightarrow \text{Min} = \frac{1}{2} \Rightarrow a > 0 \Rightarrow a = \frac{1}{4}$$

$$x^2 - (a+1)x + a = 0 \Rightarrow \alpha - \beta = 1 \Rightarrow \frac{a+1+\sqrt{\Delta}}{2} - \frac{a+1-\sqrt{\Delta}}{2} = 1 \Rightarrow \sqrt{\Delta} = 1 \Rightarrow \Delta = 1$$

$$\Rightarrow \Delta = a^2 - 4a + 1 = 1 \Rightarrow a^2 - 4a = 0 \Rightarrow a = 0 \vee a = 4$$

$$x^2 - (a+1)x + b = 0 \Rightarrow x_1 - \log x_2 + b = 0 \Rightarrow \alpha - \beta = 1 \Rightarrow \sqrt{\Delta} = 1 \Rightarrow \Delta = 1$$

$$\Rightarrow 1 - \log b = 1 \Rightarrow b = 1 \Rightarrow x^2 - 2x + 1 = 0 \Rightarrow \frac{c}{a} = 1 \Rightarrow 1 - 1 = 0 \Rightarrow \frac{c}{a} = 1$$

$$y = -ax^2 + ax + 1 \Rightarrow x_s = \frac{1}{2} \Rightarrow y_s = \frac{a^2 + 4a}{-2a}$$

$$y = bx^2 - bx - 1 \Rightarrow x_s = \frac{1}{2} \Rightarrow y_s = -\frac{b^2 + 4b}{4b}$$

$$\Rightarrow \frac{1}{2} = \frac{b}{2} - \frac{b}{2} - 1 = y \Rightarrow y = -1 \Rightarrow \frac{a^2 + 4a}{-2a} = -1 \Rightarrow a = -1$$

$$\Rightarrow y = 1 \Rightarrow \frac{1}{2} = \frac{1^2}{4} - 1 + 1 = \frac{1}{2} \Rightarrow -\frac{b^2 + 4b}{4b} = \frac{1}{2} \Rightarrow b = -1 \Rightarrow b \cdot a = 1$$

$$x \alpha x^2 + \epsilon x + \beta = y \Rightarrow \alpha \cdot \beta = \frac{\beta}{x \alpha} \Rightarrow \alpha = \frac{1}{x}$$

$$\alpha + \beta = \frac{-\epsilon}{x \alpha} \Rightarrow \alpha = \frac{1}{x} : \frac{1}{x} + \beta = \frac{-\epsilon}{x} \Rightarrow \beta = -1 \quad \alpha > \beta \text{ OK}$$

$$\alpha = -\frac{1}{x} : \frac{1}{x} + \beta = \frac{\epsilon}{x} \Rightarrow \beta = 1 \quad \beta > \alpha \checkmark \quad \beta = 0 : x \alpha x^2 = -\epsilon x$$

$$\Rightarrow -\alpha x^2 + \epsilon x + 1 = y \Rightarrow \text{Ext} \begin{cases} \frac{\epsilon}{x} \\ \frac{-2y}{x} \end{cases} \Rightarrow \frac{\epsilon}{x} = \frac{-2y}{x}$$

$$x^2 - (a^2 + b^2 - 1)x + a + b - 1 = 0 \quad a + b = a^2 + b^2 - 1 \Rightarrow a + b = a + b - 1$$

$$\Rightarrow ab = \frac{a^2 + b^2 - 1}{(a+b)^2 - 1} \Rightarrow \frac{a+b-1}{(a+b)^2 - 1} = \frac{a+b-1}{(a+b)^2} \Rightarrow (a+b) + 1 = (a+b)^2$$

$$\Rightarrow (a+b)^2 - (a+b) - 1 = 0 \Rightarrow (a+b-2)(a+b+1) = 0 \Rightarrow a+b = 2 \checkmark$$

$$a+b = -1 \text{ OK}$$