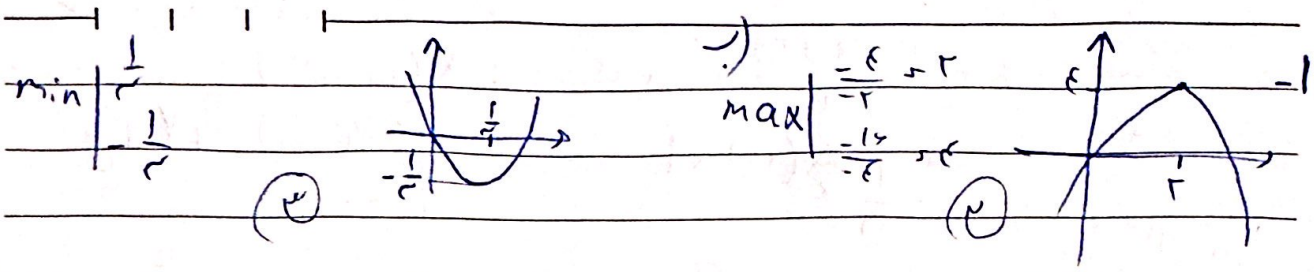
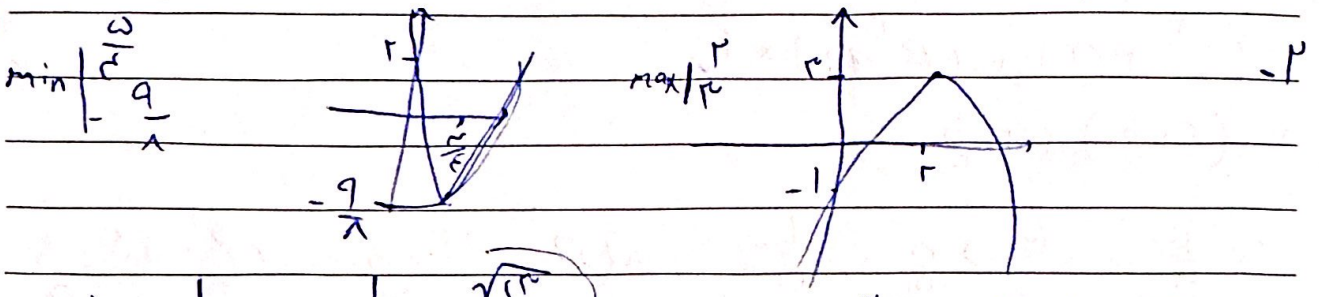
Subject:





الف) $\frac{1}{\frac{\sqrt{8}}{3}\sqrt{12}} = \frac{1}{\sqrt{24}} = \frac{\sqrt{12}}{12}$

ب) $(\alpha+\beta)^2 - 2\alpha\beta = 1+4\sqrt{7} \Rightarrow$

ج) $\alpha^2+\beta^2 = (\alpha+\beta)^2 - 2\alpha\beta(\alpha+\beta) = 1+9(1) = 6$

د) $(\alpha-\beta)^2 - 2\alpha\beta(\alpha-\beta) = \sqrt{12}^2 - 9\sqrt{12} = 4\sqrt{12}$

۴-

حالت ۱ ← $\Delta = 0$ ← $a^2 - 4a < 0$ ← $a(a-4) < 0$ ← $a \in (0,4)$

ریشه‌ی مضاعف ← اول ۲

حالت ۲ ← $x^2 - ax + a$ ریشه‌ی $x = 1$ ← $1 - a + a = 0$

$a = 4$ ، $x^2 - 4x + 4 = 5$

$(x-2)^2$

$[0,4)$

ب-

$\alpha^2+\beta^2-2\alpha = 7$

$S^2 - 2P + \alpha(\alpha-\beta) = 7$

$4 + 2\alpha(\frac{9}{4}) = 7 \Rightarrow \alpha = -9$

$\alpha = 1, \beta = 4$ ← $S = 5$, $P = 4$

$\frac{a}{\beta} = \frac{-9}{4}$

$A(9,1)$ ⟵ $9-2a \geq 1 \rightarrow 2a \leq 8 \rightarrow a \leq 4$ ⟹ $a \leq 4$

Subject:

⟸ ...

... $b = \frac{9-2a+2a+3}{2} = 6 \Rightarrow S(6,3)$ ...

... $A(19) = 1 \longrightarrow \frac{1}{8} A(8) + 3y = \frac{19}{8}$ ...

$\frac{2\omega}{19} + 3$

$2a(\beta^2 - 2\beta) + 2a(\beta^2 - \beta) = 17$

$2a(\beta^2 - 2\beta + \beta^2 - \beta) = 17$

$2a(2\beta^2 - 3\beta) = 17$

$a(\beta^2 - \beta) = b \Rightarrow \beta^2 - \beta = \frac{b}{a}$

$\frac{b}{a} = -2 \Rightarrow \frac{b}{a} = -\frac{1}{2}$ ... $2\beta^2 - 2\beta + 1 = 0$

$\frac{\sqrt{8}}{|a|} = \frac{2\sqrt{2}}{2} = \frac{2\sqrt{10}}{5}$

$2a^2 - 3ab = a + b$

$\Rightarrow 2a - 4b = 0 \Rightarrow 2a = 4b$

$4a + 2b^2 - 8a \times \frac{2}{2} \Rightarrow 4a + 2b^2 - 16a$

$2b^2 - 6b = 0 \Rightarrow 2b(b-3) = 0 \Rightarrow b = 0 \times \quad b = 3 \quad a = \frac{1}{2}$

$\frac{1}{2}m^2 + 2m + \frac{3}{2} = 0 \Rightarrow \frac{1}{2} + 2 + \frac{3}{2} = 4$

α, β

$\rho = \frac{1}{2\sqrt{2}}$

$\frac{3+m}{2\sqrt{2}} = \alpha + \beta$

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

$a = \frac{1}{\sqrt{2\alpha}} + \frac{1}{\sqrt{2\beta}} = \frac{\sqrt{\beta} + \sqrt{\alpha}}{\sqrt{\alpha\beta}} \Rightarrow a\sqrt{2\alpha\beta} = \sqrt{\alpha} + \sqrt{\beta} \Rightarrow a = \alpha + \beta + 2\sqrt{\alpha\beta}$

$\Rightarrow \frac{3}{2\sqrt{2}} = \frac{m+11}{2\sqrt{2}} \Rightarrow \frac{3}{2} = \frac{m+11}{2}$

$m^2 + 2m + 2 = 0$

$\alpha \cdot \beta = \frac{3}{2} = \frac{b}{a}$

$\Leftarrow 11 = m + 3 + 4 \Rightarrow m = -1$

IDEA