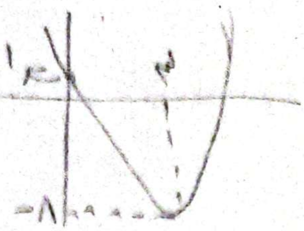
آزاده هادی

۱) الف) $\frac{-b}{2a}=1 \to 2-4+1=-1 \to ext\ min \left| \begin{matrix} 1 \\ -1 \end{matrix} \right.$

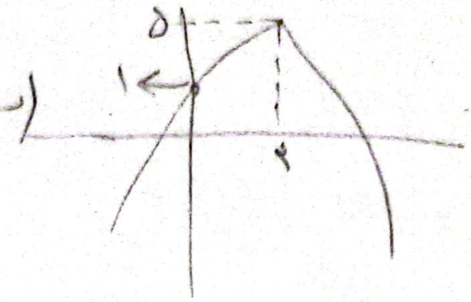
ب) $\frac{-b}{2a}=\frac{3}{4} \to ext: Max \left| \begin{matrix} \frac{3}{4} \\ \frac{-41}{8} \end{matrix} \right.$

۲)

الف)



ب)



۳) $\begin{cases} \alpha\beta=-2 \\ \alpha+\beta=1 \end{cases} \Rightarrow \alpha=-1 \text{ و } \beta=2 \to -4-2+9+k=0 \to k=-3$

۴) $(\sqrt{\alpha}-\sqrt{\beta})^2 \Rightarrow \alpha+\beta-2\sqrt{\alpha\beta}=1 \to 3m-2\sqrt{m}-1=0 \to \begin{cases} t=\frac{-1}{3} \\ t=1 \checkmark \end{cases} \Rightarrow m=1$

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

۵) $a+b+c=0 \Rightarrow \begin{cases} x=1 \\ x=\frac{m}{2} \end{cases} \qquad |\alpha-\beta|=\left|\frac{m}{2}-1\right|$

$S=\left|\frac{m}{2}-1\right| \times |m| \times \frac{1}{2}=\frac{3}{4} \to \left|m^2-2|m|\right|=3 \to \begin{cases} |m|^2-2|m|-3=0 \checkmark \\ |m^2|-2|m|+3=0 \to \text{بدون ریشه} \end{cases}$

$\Rightarrow m=\pm 3 \to \frac{-b}{2a}=\frac{m}{2}=\pm\frac{3}{2}$

۶) ① $a>0$ ② $\frac{-\Delta}{4a}=\frac{7}{8} \Rightarrow \frac{9-4a^2}{4a}=\frac{7}{8} \to 8a^2-7a-18=0$

$\Rightarrow a=\frac{-9}{8}, 2$ ①② $\to a=2 \Rightarrow$ یک مقدار

۷) $a+b+c=0 \to \begin{cases} x=1 \\ x=a \end{cases} \Rightarrow a=3 \Rightarrow P_1=3$

$|\alpha_2-\beta_2|=\frac{\sqrt{\Delta}}{|a|}=2 \Rightarrow \sqrt{100-4b}=2 \Rightarrow b=24 \Rightarrow x^2-10x+24=0 \to P_2=24$

$P_2-P_1=21$

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