نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره 25 کلاس .....

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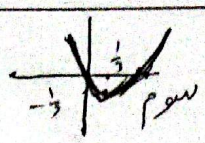
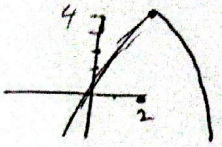
الف) $\min \left| \begin{matrix} \frac{1}{3} \\ -\frac{1}{3} \end{matrix} \right.$



ب) $\max \left| \begin{matrix} 2 \\ 4 \end{matrix} \right.$



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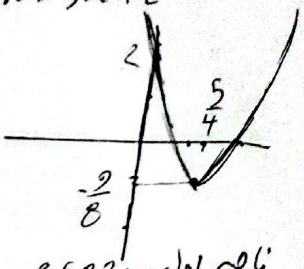
الف) $2x^2 - 5x + 2$

$ext \left| \begin{matrix} -\frac{b}{2a} = \frac{5}{4} \\ -\frac{\Delta}{4a} = -\frac{9}{8} \end{matrix} \right.$

$\Delta = 25 - 16 = 9$

$c = 2$



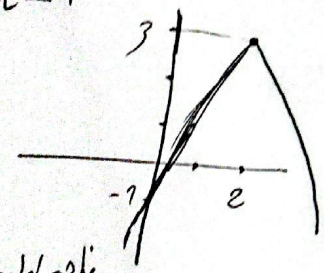
ناحیه اول و دوم و چهارم

ب) $-x^2 + 4x - 1$

$ext \left| \begin{matrix} -\frac{b}{2a} = 2 \\ -\frac{\Delta}{4a} = -\frac{12}{4} = 3 \end{matrix} \right.$

$\Delta = 16 - 4 = 12$

$c = -1$



ناحیه اول و سوم و چهارم

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$x^2 - x - 3 = 0$

$\Delta = 1 - (-12) = 13$

$P = -3$

الف) $\frac{\alpha+\beta}{\alpha\beta} = \frac{-\frac{b}{a}}{\frac{\sqrt{c}}{|a|}} = \frac{1}{\frac{\sqrt{13}}{1}} = \frac{\sqrt{13}}{13}$

ب) $\alpha^2 + \beta^2 = S^2 - 2P = 1 - 2(-6) = 7$

ج) $\alpha^3 + \beta^3 = S^3 - 3SP = 1 + 9 = 10$

د) $\alpha^3 - \beta^3 = (\alpha-\beta)^3 + 3P(\alpha-\beta) = (\sqrt{13})^3 - 3\alpha 6\sqrt{13} = 4\sqrt{13}$

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$y = 0 \Rightarrow x - 2 = 0 \Rightarrow x = 2$ ✓

$\downarrow x^2 - ax + a = 0 \Rightarrow x^2 - 4x + 4 = 0 \Rightarrow x = 2$ ✓

ب) $\Delta = 0 \Rightarrow \Delta = 0 \Rightarrow a^2 - 4a = 0 \Rightarrow a = 4$

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$\alpha^2 + \beta^2 + \alpha^2 - 4\alpha = 7$

① $\alpha + \beta = 4 \Rightarrow \alpha - 4 = \beta$

$S^2 - 2P + \alpha(\alpha - 4) = 7 \Rightarrow 16 + 3\alpha(\frac{a}{3}) = 7 \Rightarrow a = -9$

$\Rightarrow \begin{matrix} S=4 \\ P=3 \end{matrix} \Rightarrow \alpha = 1, \beta = 3 \Rightarrow \frac{\alpha}{\beta} = \frac{-9}{4}$

$20(s^2-2p)+20(\beta^2-p)=17$

$20+40\frac{b}{a}+20\frac{b}{a}=17 \Rightarrow 60\frac{b}{a}=-3 \Rightarrow \frac{b}{a}=\frac{-1}{20} \Rightarrow -20x^2+20x+1=0$ 9

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

$D=\frac{\sqrt{\Delta}}{|a|}=\frac{\sqrt{320}}{20}=\boxed{\frac{\sqrt{20}}{5}}$

discriminant $\Rightarrow b=\frac{2a+3+7-2a}{2}=5 \rightarrow S(5,3) \Rightarrow a(x-5)^2+3=y$

$\Rightarrow a(19)^2+3=7 \Rightarrow a=\frac{1}{19} \Rightarrow a=0 \Rightarrow \frac{25}{19}+3$ 7

$-\frac{\Delta}{4a}=-\frac{1}{2} \Rightarrow \frac{b^2-4ac}{-4a}=-\frac{1}{2}$, $25a-5b=a+b \Rightarrow 24a-6b=0 \Rightarrow$

$24a=6b \Rightarrow 4a=2b^2-(8a\alpha\frac{3}{2}) \Rightarrow \frac{4a}{b}=2b^2-\frac{12a}{3b}$ 8

$\Rightarrow 2b^2-4b=0 \Rightarrow 2b(b-2)=0 \begin{matrix} b=\alpha \\ b=2 \end{matrix} \Rightarrow a=\frac{1}{2} \Rightarrow \frac{1}{2}x^2+2x+\frac{3}{2}=0$

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

$\alpha\cdot\beta=a \quad \alpha+\beta=-6 \quad \alpha=-6-\beta$

$3\alpha^2+2\beta^2=3(-6-\beta)^2+2\beta^2) \Rightarrow 3(36+\beta^2+12\beta)+2\beta^2=5\beta^2+36\beta+108=85+72\sqrt{2}$

$5\beta^2+36\beta+23-72\sqrt{2}=0 \Rightarrow \beta=\frac{-36\pm\sqrt{362-20(23-72\sqrt{2})}}{10} \Rightarrow \beta=\frac{-36\pm(64+8\sqrt{2})}{10}$ 9

$\beta<-3+2\sqrt{2}$ $\quad \alpha=-6-\beta=-3-2\sqrt{2}$

$-\frac{22}{5}-2\sqrt{2}\alpha \quad a=\alpha\beta=(-3-2\sqrt{2})(-3+2\sqrt{2})=9-8=1$

$\frac{1}{\sqrt{\alpha}}+\frac{1}{\sqrt{\beta}}=5 \Rightarrow \frac{\sqrt{\alpha}+\sqrt{\beta}}{\sqrt{\alpha\beta}}=5 \Rightarrow 5\sqrt{\alpha\beta}=\sqrt{\alpha}+\sqrt{\beta} \Rightarrow \alpha+\beta+2\sqrt{\alpha\beta}$

$\Rightarrow \frac{25}{36}=\frac{m+4}{36}+\frac{2}{6} \Rightarrow m=-1 \Rightarrow 2x^2+3x+2=0 \Rightarrow \alpha\beta=\frac{c}{a}=-2$ 10