نام و نام خانوادگی ...مینا حیات داوودی... پاسخنامه تشریحی تکلیف شماره ...۲۴... کلاس ...دهم دختر ج ریاضی...

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الف) $y=2x^2-4x+1$ Min $\left|\begin{array}{l}\frac{-b}{2a}=\frac{4}{4}=1\\ -1\end{array}\right.$

ب) $y=-2x^2+3x-5$ Max $\left|\begin{array}{l}\frac{-b}{2a}=\frac{-3}{-4}=\frac{3}{4}\\ \frac{-\Delta}{4a}=\frac{-(9-40)}{-8}=\frac{-31}{8}\end{array}\right.$

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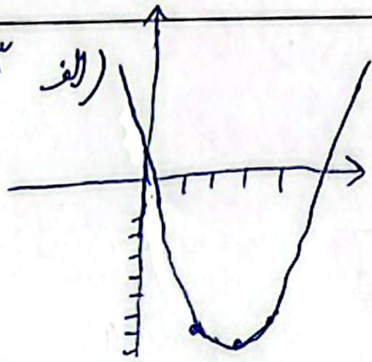
الف) $y=x^2-6x+1$ Min $\left|\begin{array}{l}\frac{-b}{2a}=\frac{6}{2}=3\\ -8\end{array}\right.$

x	2	3	4
y	-7	-8	-7

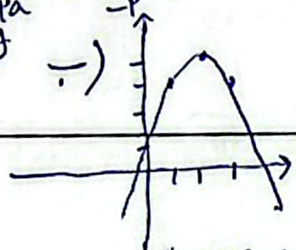
الف)



ب) $y=-x^2+4x+1$ Max $\left|\begin{array}{l}\frac{-b}{2a}=\frac{-4}{-2}=2\\ 5\end{array}\right.$

x	1	2	3
y	4	5	4

ب)



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$\alpha+\beta=1$

$\alpha\beta=-2$

$\left.\begin{array}{l}4\alpha^3+k\alpha^2-9\alpha-2=0\\ 4\beta^3+k\beta^2-9\beta-2=0\end{array}\right\} \Rightarrow 4(\alpha^3+\beta^3)+k(\alpha^2+\beta^2)-9(\alpha+\beta)-4=0$

$S^3-3SP=1+6=7$ $S^2-2P=1+4=5$

$4\times7+5k-13=0$

$5k=-15$ $k=-3$

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$\sqrt{\alpha}-\sqrt{\beta}=1$ $x^2-3mx+m=0$ $2x^2-mx-m=0$

$x_1x_2=\frac{c}{a}=\frac{-m}{2}=\frac{-1}{2}$

~~$\alpha+\beta-2\sqrt{\alpha\beta}=1$~~

$\frac{-b}{a}=3m$ $-2\sqrt{m}$

$\sqrt{m}=t$

$3t^2-2t-1=0$ $t=1$ $t=\frac{-1}{3}$ ✗ $m=1$

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$S_\Delta=\frac{ah}{2}=\frac{(\alpha-\beta)c}{2}=\frac{3}{4}$ $m\sqrt{m^2+4+4m-8m}=3$ $y=x^2-mx+1$

$\alpha-\beta=\frac{\sqrt{\Delta}}{|a|}=\frac{\sqrt{(m+2)^2-8m}}{2}$ $m\sqrt{m^2+4-4m}=3$

$\frac{-b}{2a}=\frac{m}{2}$ → $=\frac{-1}{2}$ → $=\frac{3}{2}$

$\frac{\sqrt{(m+2)^2-8m}\times m}{4}=\frac{3}{4}$

$m(m-2)=3$

$m^2-2m-3=0$ $(m-3)(m+1)=0$

$m=3$ $m=-1$

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$y = ax^2 + 3x + a$

Min $\rightarrow a > 0$

$\frac{-\Delta}{4a} = \frac{-(9-4a^2)}{4a} = \frac{7}{8}$

$4a^2 - 9 = \frac{28}{8}a$

$4a^2 - 9 = 3.5a$

$4a^2 - 3.5a - 9 = 0 \Rightarrow a = \frac{3.5 \pm \sqrt{12.25+144}}{8}$ ($\sqrt{\;} = 12.5$) $\rightarrow 2,\ \times$

$a = 2$ به ازای a مقدار

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

$\beta = \frac{a-1}{2}$

$x^2 - (3a+1)x + b = 0 \quad x_2 - x_1 = 2 \quad x_1 x_2 = b \quad x_1 + x_2 = 3a+1 \quad \alpha = \frac{a+3}{2}$

$\frac{a-1}{2} \times \frac{a+3}{2} = a \quad a^2 + 2a - 3 = 4a \quad a^2 - 2a - 3 = 0 \quad (a-3)(a+1) = 0$

$2x_1 = 3a - 1 \quad x_1 = \frac{3a-1}{2} \quad x_2 = \frac{3a+3}{2} \quad \frac{(3a-1)(3a+3)}{4} = b \quad a = 3 \quad a = -1$

$a = -1 \Rightarrow b = 0$ غ ق ق

$a = 3 \Rightarrow b = 24$

$b - a = 21$

چون ریشه های معادله اول منفی

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$y = -ax^2 + ax + 2 \quad S\left(\frac{-a}{-2a} = \frac{1}{2}, \frac{-(a^2+8a)}{-4a} = \frac{a+8}{4}\right)$

$y = 2bx^2 - bx - 1 \quad S\left(\frac{b}{4b} = \frac{1}{4}, \frac{-(b^2+8b)}{8b} = -\frac{b+8}{8}\right)$

$2b \times \frac{1}{4} - \frac{1}{2}b - 1 = \frac{a+8}{4} \Rightarrow a + 8 = -4$

$a = -12$

$-\frac{1}{16}a + \frac{1}{4}a + 2 = \frac{-b+8}{8} \qquad \frac{3}{4} - 3 + 2 = \frac{-b+8}{8} \Rightarrow -b + 8 = -2$

$b = 10$

$b - a = 10 + 12 = 22$

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$y = 25\alpha x^2 + 4x + \beta \quad \beta > \alpha$

$\alpha + \beta = \frac{-4}{25\alpha} \quad \alpha\beta = \frac{\beta}{25\alpha} \quad 25\alpha^2 = 1 \quad \alpha^2 = \frac{1}{25} \quad \alpha = \pm\frac{1}{5}$

$\alpha = \frac{1}{5}: \frac{1}{5} + \beta = \frac{-4}{5} \quad \beta = -1 \quad \times$

$\alpha = \frac{-1}{5}: \frac{-1}{5} + \beta = \frac{-4}{-5} = \frac{4}{5} \quad \beta = 1$

$y = x^2 - Sx + P$

$y = x^2 - \frac{4}{5}x - \frac{1}{5}$

Min $\left| \frac{\frac{4}{5}}{2} = \frac{2}{5} \right.$, $\frac{-9}{25}$ $\Rightarrow$ گزینه ۲

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$x^2 - (a^2 + b^2 - 12)x + a + b - 1 = 0 \quad S = a^2 + b^2 - 12 = a + b, \quad P = a + b - 1 = ab \Rightarrow a^2 + b^2 - 12 = ab + 1$

$a^2 + b^2 - ab = 13$

$\Rightarrow (a+b)^2 - 2ab - ab = 13 \quad a + b = S$

$S^2 - 3ab - 13 = 0 \Rightarrow S^2 - 3a - 3b + 3 - 13 = 0$

$S^2 - 3S - 10 = 0$

$a + b = S = \frac{3 \pm \sqrt{49}}{2} \rightarrow 5,\ -2 \ \times$

$a + b = 4 + 1 = 5$