پرنیان دهقانی

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

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ب $2x^2+3x-8$ $\left|\begin{array}{l}-\frac{b}{2a}=\frac{3}{4}\\ -\frac{18}{16}+\frac{36}{16}-\frac{80}{16}=\frac{31}{8}\end{array}\right.$

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الف x^2-6x-1 $a>0$ $\left|\begin{array}{l}-\frac{b}{2a}=3\\ 9-18+1=-8\end{array}\right.$

Max ندارد

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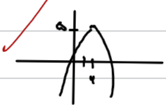
ب $-x^2+4x+1$ $a<0$ $\left|\begin{array}{l}-\frac{b}{2a}=2\\ -4+8+1=5\end{array}\right.$



Min ندارد

$4x^3+Kx^2-9x-2=0$ $\alpha+\beta=1$ $\alpha\beta=-2$ → $x^2-x-2=0$

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$4x^3+Kx^2-9x-2=x^2-x-2$ → $4x^3+(K-1)x^2-8x=0$

$3x^2+Kx-6=x^2-x-2$ → $2x^2+(k+1)x-4=0$ → $2x^2+(k+1)x-4=x^2-x-2$

$x^2+(k+1)x-2=x^2-x-2 - = x^2+(k+2)x=-x$

$x^2+(k+2)x-2=x^2-x-2$ → $(k+2)x=-x$ → $k=-3$

$(\sqrt{\alpha}+\sqrt{\beta})^2 → \alpha+\beta+\sqrt{2\alpha\beta}=1 → 3m-2\sqrt{m}=1 → m=1$ $S=3m$ $P=m$

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$2x^2-x-1=0$ → $P=\frac{c}{a}=-\frac{1}{2}$

$$\frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{b^2-4ac}}{|a|} = \sqrt{\frac{m^2+4+4m-8m}{2}} \quad \sqrt{\frac{(m-2)^2}{2}} = \frac{m-2}{2}$$ 5

$$m \times \left(\frac{m-2}{2}\right) \times \frac{1}{2} = \frac{m^2-2m}{4} = \frac{3}{4} \Rightarrow m^2-2m=3 \to m^2-2m-3=0 \to (m-3)(m+1)=0 \quad 3,\ -1$$

$$y.\ x^2-mx+1 \to x_S = \frac{m}{2} \to \frac{3}{2},\ -\frac{1}{2}$$

$$y = ax^2+3x+a \to \min \to a>0$$ -6

$$\frac{4ac-b^2}{4a} = \frac{4\times a\times a-9}{4a} \to \frac{4a^2-9}{4a} = \frac{7}{8} \qquad 8a^2-18=7a$$

یا $8a^2-7a-18=0 \times 8$

$$\frac{8(a-2)(8a+9)}{8} = 0 \quad \text{یا} \quad (a-2)(8a+9) \qquad (8a-16)(8a+9)=0$$

یا $\boxed{a=2} \to$ فقط ۱ مقدار a

$a=-\frac{9}{8}$ ×

$$x^2-(a+1)x+a=0 \qquad \frac{\sqrt{\Delta}}{|a|} = \sqrt{\frac{a^2+1+2a-4a}{1}} \Rightarrow a-1 \qquad a-1=2 \to a=3$$ -7

$$x^2-(3a+1)x+b=0 \qquad x^2-10x+b=0$$

$$\frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{\Delta}}{1} = \sqrt{\Delta} = \sqrt{100-4b} = \sqrt{4} \Rightarrow b=24 \qquad b-a=24-3=21$$

$$y = ax^2+ax+2 \qquad -\frac{b}{2a} = \frac{1}{2} \to \frac{-a}{2(-a)} = \frac{1}{2}$$ -8

$$\frac{4ac-b^2}{4a} = \frac{4\times -a\times 2-a^2}{4\times -a} = 2+\frac{a}{4} \qquad \frac{-b}{2a} = \frac{b}{4b} = \frac{1}{4}$$

$$\frac{4ac-b^2}{4a} = \frac{4(2b)(-1)-(-b^2)}{4(2b)} = -1-\frac{b}{8} \qquad b-a=6$$

$$2+\frac{a}{4} = \frac{1}{2}b - \frac{1}{2}b-1 \to a=-12 \qquad -1-\frac{b}{8} = -\frac{1}{16}a+\frac{1}{4}a+2 \Rightarrow b=-6$$

9- (2)

$y = 25\alpha x^2 + 4x + \beta \Rightarrow -\frac{4}{25\alpha} = \alpha + \beta \quad , \quad \frac{\beta}{25\alpha} = \alpha . \beta \rightarrow 25\alpha^2 = 1$

$\alpha^2 = \frac{1}{25} \rightarrow \alpha = \pm \frac{1}{5}$

$\alpha = \frac{1}{5} \quad = \frac{-4}{25 \times \frac{1}{5}} = \frac{1}{5} + \beta \rightarrow \beta = 1$

$-\frac{b}{2a} = \frac{-4}{50\alpha} = \frac{4}{10} \rightarrow x_s > 0$ $\quad \frac{4ac - b^2}{4a} = \frac{4(25 \times -\frac{1}{5}) \times 1 - 16}{1 \times \frac{-1}{5}} \Rightarrow \frac{36}{20} \rightarrow y_s > 0$ → ۱ ج

10- (2)

$x^2 - (a^2 + b^2 - 12)x + a + b - 1 = 0$

$\frac{a+b-1}{1} = ab \rightarrow a + b = ab + 1 \quad \frac{a^2 + b^2 - 12}{1} = a + b \rightarrow a + b \rightarrow a + b = a^2 + b^2 - 12$

$a^2 + b^2 + 2ab = a^2b^2 + 1 + 2ab \rightarrow a^2b^2 + 1 - 12 = ab + 1 \rightarrow a^2b^2 - ab - 12 = 0$

$(ab - 4)(ab + 3) = 0 \quad ab = 4$ یا -3 $\longrightarrow a + b = 4 + 1 \Rightarrow 5$