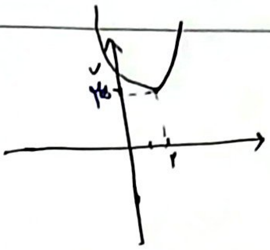
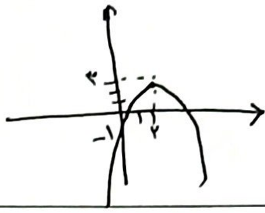
نام و نام خانوادگی ...فراز شیرانی... پاسخنامه تشریحی تکلیف شماره ..۱۲.. کلاس ...یازدهم ریاضی ۸...

۱

الف) $x^2-4x+7=y$



ب) $-x^2+4x-1$



۲

$2x^2+(m+1)x+\frac{1}{2}m+2=0$

۱) $\to \Delta>0 \to (m+1)^2-8(\frac{1}{2}m+2)>0 \to m^2+2m+1-4m-16>0 \to m^2-2m-15>0 \to (m-5)(m+3)>0$ ، $m\in(-\infty,-3)\cup(5,+\infty)$

۲) $\to \Delta=0 \to m^2-2m-15=0 \to m=5, -3$

۳) $\to \Delta<0 \to m^2-2m-15<0 \to (m-5)(m+3)<0 \to m\in(-3\ 5)$

۴) $\to \Delta\geq 0 \to m^2-2m-15\geq 0 \to m\in(-\infty\ -3]\cup[5+\infty)$

۳

$y=(m-2)x^2-2(m+1)x+10$

$\Delta=4m^2+8m+4-40m+80=4m^2-32m+84=$ ، $m^2-8m+21=0$

الف) $\to$ دو ریشه منفی $\to \Delta>0\ S<0\ P>0$

$\Delta>0 \to$ همیشه

$S<0$ ، $\frac{2m+2}{m-2}<0 \to$ $-1\quad 2$ ، $+\ -\ +$ $\to m=(-1\ 2)$

$\frac{10}{m-2}>0 \to m-2>0 \to m>2 \to \cap = \varnothing$

ب) $\to$ یکی + یکی − $\to \Delta>0\ S<0\ P<0$

$\Delta>0 \to$ همیشه

$S<0$ ، $\frac{2m+2}{m-2}<0 \to$ $-1\quad 2$ ، $+\ -\ +$ ، $m\in(-1\ 2)$

$\frac{10}{m-2}<0 \to m-2<0 \to m<2 \to \cap\ (-1\ 2)$

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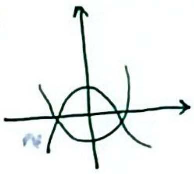
$(m-2)x^2-2(m+1)x+10=0$

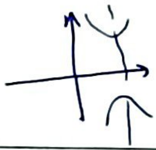
$\Delta>0$ ، $P<0$ $\leftarrow$



الف) سوال بالا $\to \Delta>0$ همیشه ، $\frac{10}{m-2}<0 \to m<2$

ب) $-\frac{b}{2a}=\frac{2(m+1)}{2(m-2)}=-2 \to m+1=-2m+4$

$3m=3 \to m=1$



۵

$\frac{2x^2}{3}-(2\sin\alpha)x+\frac{3}{2}=0$

$4\sin^2\alpha-4\geq 0 \to \sin=\pm 1 \to \frac{2}{3}x^2-2x+\frac{3}{2}$ یا $\frac{2}{3}x^2+2x+\frac{3}{2}$

$\xrightarrow{\times 6} 4x^2-12x+9 \to (2x-3)^2=0 \to x=\frac{3}{2}$ ✓

$\xrightarrow{\times 6} 4x^2+12x+9 \to (2x+3)^2=0 \to x=-\frac{3}{2} \to$ ریشه مثبت ✗

$$\frac{(3x^2-2x-1)(2x^2-3x-5)}{1-x^2} = \frac{(3x+1)(x-1)(2x-5)(x+1)}{(1-x)(x+1)} = 6x^2-13x-5=0$$

۶

$$\max = -\frac{\Delta}{4a} = \frac{169+120}{24} = 12\frac{1}{24}$$

$$mx^2-(m+2)x-2=0$$

$$S = \frac{-b}{a} = P+V \longrightarrow 3\left(\frac{m+2}{m}\right) = 0\left(\frac{-2}{m}\right)+V \longrightarrow 3m+6 = 0+Vm \Rightarrow m=-1$$

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$$4m=16 \longrightarrow m=4 \qquad 4x^2-4x-2$$

$$S^2-2P \longrightarrow 4\frac{1}{16}+1 = 5\frac{1}{16}$$

$$\frac{۴\alpha+\beta^{۵}}{۵\beta^{۲}} \xrightarrow{\times\beta^{۴}} \frac{۵\beta+\beta^{۹}}{۵\beta^{۳}} \xrightarrow{\beta=\frac{۲}{\alpha}} \frac{۱+\beta^{۹}}{۵\beta^{۳}} = \frac{(\beta^{۲}+۲)(\beta^{۴}+۲\beta^{۲}+۴)}{۵\beta^{۳}}$$

$$\xrightarrow{} \frac{\beta^{۴}+۲\beta^{۲}+۴}{\beta^{۲}} \xrightarrow{\beta^{۲}=۵\beta-۲} \beta^{۴}=۲۵\beta^{۲}-۲۰\beta+۴ \xrightarrow{} \frac{۲۴\beta^{۲}-۲۰\beta+۸}{\beta^{۲}}$$

$$\xrightarrow{-۲۰\beta+۸=-۴\beta^{۲}} \xrightarrow{} \frac{۱۹\beta^{۲}}{\beta^{۲}} = ۱۹$$

$y_2 = ax^2 + bx + c$ $\quad y_1 = 2x + 10$ $\quad c = 4$

$a(2)^2 + b(2) + 4 = 2(2) + 10 \rightarrow 4a + 2b = 10 \rightarrow 8b + 2a = 0$

$a(-2)^2 + b(-2) + 4 = 2(-2) + 10 \rightarrow 9a - 2b = 0 \rightarrow 2a - b = 0$

$5a = 0 \rightarrow a = 1 \quad b = 2$

$\rightarrow -\frac{b}{2a} = \frac{-2}{2} = -1/5$

$2x^2 + (m+1)x + m + 4 = x \rightarrow 2x^2 + mx + m + 4 = 0$

$\xrightarrow{\Delta = 0} m^2 - 4m - 48 \rightarrow (m-12)(m+4) = 0$

$\rightarrow m = 12, -4 \longrightarrow$

$m = -4$ ✓ قابل اول

$m = 12$ ✗ قابل سوم