نام و نام خانوادگی ......سها عمری...... پاسخنامه تشریحی تکلیف شماره ...۱۳... کلاس ...یازدهم دختر C...

۱	$y=(a-1)x^۲+x+۳ \xrightarrow[\text{به } x=۲ \text{ قرینه}]{\text{نسبت}} \frac{-b}{۲a}=۲a \to \frac{-1}{۲a-۲}=۲ \to ۴a-۴=-1 \to a=\frac{۳}{۴}$ $y=\frac{-1}{۴}x^۲+x+۳ \to \Delta=1+۳=۴ \to x=\frac{-1\pm\sqrt{۴}}{\frac{-1}{۲}} \to x_1=-۲$ $\boxed{x_۲=۶} \to$ مثبت
۲	$f(x)=mx^۲-۵x+m \xrightarrow{\Delta>0} ۲۵-۴m^۲>0 \to ۴m^۲<۲۵ \to m^۲<\frac{۲۵}{۴}$ $x_1 \quad x_۲$; $- \; ϕ \; + \; ϕ \; -$ $\to a<0 \to m<0$ ② $\quad \to \frac{-۵}{۲}<m<\frac{۵}{۲}$ ① $\xrightarrow{①,②} \frac{-۵}{۲}<m<0 \Longrightarrow m\in(-\frac{۵}{۲},0)$
۳	$P=\frac{۳-\sqrt{۵}}{۳}\times\frac{۳+\sqrt{۵}}{۳}=\frac{۹-۵}{۹}=\frac{۴}{۹}$ $S=\frac{۳-\sqrt{۵}}{۳}+\frac{۳+\sqrt{۵}}{۳}=\frac{۶}{۳}=۲$ $\to y=x^۲-Sx+P$ $y=x^۲-۲x+\frac{۴}{۹}$
۴	$۲x^۲-۸x+m+۲ \to S=\frac{-b}{a}=\frac{۸}{۲}=۴ \to \alpha+\beta=۴ \to \beta=۴-\alpha$ $۳\alpha^۲+\beta^۲=۱۲ \to ۳\alpha^۲+(۴-\alpha)^۲=۱۲ \to ۳\alpha^۲+\alpha^۲-۸\alpha+۱۶=۱۲$ $\to ۴\alpha^۲-۸\alpha+۴=0$ $\alpha^۲-۲\alpha+1=0$ $(\alpha-1)^۲=0 \to$ $\alpha=1, \beta=۳$ $\to P=\frac{c}{a}=\frac{m+۲}{۲}=1\times۳=۳$ $\to m+۲=۶ \to \boxed{m=۴}$
۵	$y=ax^۲+bx+c \to$ عرض از مبدا $=۵$ $\to S(۲,۹)=\frac{-b}{۲a}=۲ \to ۴a=-b$ $\to ۹=۴a-۸a+۵ \to a=-1$ $b=۴$ $y=-x+۴x+۵>0 \xrightarrow{a+c=b} -1, \frac{-c}{a} \Rightarrow -1, ۵$ $-1 \quad ۵$; $- \; ϕ \; + \; ϕ \; -$ $\to \boxed{(-1,۵)}$

۶	$\alpha x^2 - 7x + 9\beta = 0 \to \alpha\beta = \frac{9\beta}{\alpha} \to \alpha^2\beta = 9\beta \to \alpha^2 = 9$ $a = \pm 3$ $\xrightarrow{\alpha=3} S = \alpha+\beta = \frac{7}{3} \to 3+\beta = \frac{7}{3} \to \beta = \frac{-2}{3}$ غ ق ق $\xrightarrow{\alpha=-3} S = \alpha+\beta = \frac{-7}{3} \to -3+\beta = -\frac{7}{3} \to \beta = \frac{2}{3}$ $\to \frac{1}{\alpha}+\frac{1}{\beta} = \frac{-1}{3}+\frac{3}{2} = \frac{-2+9}{6} = \boxed{\frac{7}{6}}$
۷	$x^2+mx-2m=0 \xrightarrow[\text{صدق}]{\beta\text{ ریشه}} m\beta = 2m-\beta^2$ $\alpha^2-m\beta = 8 \to \alpha^2+\beta^2-2m = 8 \to \alpha^2+\beta^2 = 2m+8$ $S^2-P = 2m+8$ $m^2+4m = 2m+8 \to m^2+2m-8=0$ $(m+4)(m-2)=0$ $m = -4, 2$ $\xrightarrow{m=2} x^2+2x-4=0 \to \Delta = 4+16>0$ ق ق $\xrightarrow{m=-4} x^2-4x+8=0 \to \Delta = 16-32<0$ غ ق ق $\to S = -m = \boxed{-2}$
۸	$y = mx^2+4x+\frac{m}{2}+7 \to y_s = \frac{-\Delta}{4a} = \frac{2m^2+28m-16}{4m} = 8 \to 2m^2-4m-16=0$ $\to m^2-2m-8=0$ $\to (m-4)(m+2)=0$ $\to m = 4, -2$ $\xrightarrow{m=4} y = 4x^2+4x+9 = \Delta = 16-144<0$ غ ق $\xrightarrow{m=-2} y = -2x^2+4x+6 = 2\; x^2-2x-3 \xrightarrow{a+c=b} x = -1, -\frac{c}{a} \Rightarrow -1, 3$ $\boxed{3 = k}$ ← کا ریشه مثبت ←
۹	$y = ax^2+bx+\boxed{c} \to 4$ $\hookrightarrow \frac{-b}{2a} = 2 \to -b = 4a \Big\}\; y = ax^2-4ax+4 \xrightarrow{(2,6)}$ $6 = 4a-8a+4$ $\to -4a = 2 \to a = \frac{-1}{2}$ $y = -\frac{1}{2}x^2+2x+4 \to \frac{1}{\alpha}+\frac{1}{\beta} = \frac{\alpha+\beta}{\alpha\beta} = \frac{S}{P} = \frac{\frac{-2}{\cancel{-\frac{1}{2}}}\;4}{\frac{4}{\cancel{-\frac{1}{2}}}\;-8} = \boxed{\frac{-1}{2}}$
۱۰	$x^2-(4a+4)x+(3a^2+6a+3)=0 \xrightarrow{x=2} 4-8a-8+3a^2+6a+3=0$ $\to 3a^2-2a-1=0 \xrightarrow{a+b+c=0} a = 1, \frac{-1}{3}$ $\xrightarrow{a=1} x^2-8x+12=0 \to (x-6)(x-2)=0 \to x=2$ $\to \boxed{x=6}$ $\xrightarrow{a=-\frac{1}{3}} x^2-\frac{8}{3}x+\frac{4}{3}=0 \to \Delta = \frac{64}{9}-\frac{16}{3} = \frac{16}{9} \to x = \frac{\frac{8}{3}\pm\frac{4}{3}}{2}$ $\to \boxed{x = \frac{2}{3}}$ و $x = 2$