نام و نام خانوادگی ......کیمیا ملا داودی......

پاسخنامه تشریحی تکلیف شماره ...۲۲... کلاس ...A...

۱	$\alpha+\beta=5$ $\alpha\beta=2$ $\alpha=\frac{2}{\beta}$ $\beta^2-5\beta+2=0$ $\frac{4\alpha+\beta^5}{5\beta^2}=\frac{\alpha^2-\alpha+2+\beta^5}{5\beta^2}=\frac{(5-\beta)^2-5+\beta+2+\beta^5}{5\beta^2}=25-\beta^2-...+\beta$ $(\beta^2+2)^2=\beta^4+4\beta^2+4$
۲	$3+(-1,5)=1,5$
۳	$\frac{-\Delta}{4a}=\frac{4}{3}k$ $\frac{-4k^2+20}{4}=\frac{4}{3}k$ $-12k^2+60=16k$ $-3k^2-4k+15=0$ $16+180=196$ $\frac{4\pm14}{6}$ → $k=3$, ~~$k=-\frac{10}{3}$~~ $\left[\frac{k^2}{2}\right]=\left[\frac{9}{2}\right]=4$
۴	(1) $3-(-5)=\frac{8}{2}=4 \to -5+4=-1$ → طول رأس سهمی $\Rightarrow \frac{\alpha+\beta}{2}=-1 \to \alpha+\beta=-2$ $\frac{-b}{2a}=-1 \to b=2a$ $\to ax^2+2ax+c=0$ $a(x^2-(\alpha+\beta)x+\alpha\beta)=0$ $x^2+2x-\frac{1}{2}=0$ $(\alpha+\beta)^2=\alpha^2+\beta^2+2\alpha\beta$ $4=5+2\alpha\beta$ $2\alpha\beta=-1 \to \alpha\beta=-\frac{1}{2}$ $c=-\frac{1}{2}$
۵	$-x^2+5x+m=0$ $\alpha,\beta<\frac{9}{2}$ $\Delta=25+4m\geq 0 \to m\geq -6,25 \to m\geq -6$ $\frac{-b}{2a}=\frac{-5}{-2}=2,5 \to 2,5<\frac{9}{2}$ ✓ $-(4,5)^2+5(4,5)+m \Rightarrow 2,25+m<0 \Rightarrow m<-2,25 \to m<-2$ $-6\leq m<-2$ $\{-6,-5,-4,-3\} \to 4$

۶

$m>0$ $\quad -\frac{b}{2a} = -\frac{(-12)}{2m} = \frac{6}{m}$

$y = (\frac{6}{m})^2 m - 12(\frac{6}{m}) + 9m - 1$

$y = \frac{36}{m} - \frac{72}{m} + 9m - 1 = -\frac{36}{m} + 9m - 1 = 2$ $\quad m = \begin{cases} 2 \\ -2/5 \end{cases}$

$-\frac{36}{m} + 9m - 3 = 0 \rightarrow 9m^2 - 3m - 36 = 0$

۷

$x^2 - (2a+2)x + 2a - 1 = 0$ $\quad 4a^2 + 4 + 8a - 8a + 4 = 4a^2 + 8 = 4(a^2+2)$

$\frac{-2a-2 - 2\sqrt{a^2+2}}{2} \times 2 = a$

$-(a+1+\sqrt{a^2+2})2 = a$ $\quad a^2 = (a+1)^2 - (\sqrt{a^2+2})^2$

$a2 = -(a+1-\sqrt{a^2+2})$ $\quad a^2 = a^2 + 2a + 1 - a^2 - 2$

$a^2 - 2a + 1 = 0 \rightarrow a = 1$

۸

$x^2 = t \quad t^2 - 6t - 9 = 0 \quad t \geq 0$

$v = \frac{6 \pm \sqrt{36+36}}{2} = \frac{6 \pm \sqrt{72}}{2}$ $\quad \frac{6+\sqrt{72}}{2} > 0 \checkmark$ $\quad \frac{6-\sqrt{72}}{2} < 0 \times$

$\frac{\sqrt{6+\sqrt{72}}}{2}$, $-\frac{\sqrt{6+\sqrt{72}}}{2}$ $\rightarrow s = 0$, $p = -\frac{6+\sqrt{72}}{2}$

$2p^2 - 36p + 36 = 2p^2 = 2 \times \frac{36+72+12\sqrt{72}}{4} = 108 + 6\sqrt{72}$

۹

$\frac{1}{k} = \frac{1}{\frac{-9}{6}} = \frac{-6}{9}$

$\frac{-\Delta}{6a} = \frac{6}{4k} = \frac{1}{k}$ $\quad \frac{1}{k} = -\frac{4}{2}\frac{2}{k} - 4$

$\frac{1}{k} = \frac{-8}{k} - 4$

$\frac{-b}{2a} = \frac{6}{2k} = \frac{2}{k}$ $\quad \frac{9}{k} = -4 \rightarrow k = \frac{-9}{4}$

۱۰

$-m - x \geq -mx^2 + mx + 1$ $\quad m \neq 0$

$-mx^2 + (m+1)x + m + 1 \leq 0$ $\quad \Delta < 0 \Rightarrow$ [illegible]

$m^2 + 1 + 2m + 4m^2 + 4m = 5m^2 + 6m + 1$ $\quad -1, -\frac{1}{5}$

$\frac{-4 \pm 6}{10}$ $\quad -1$