نام و نام خانوادگی ......حسین رمضانی...... پاسخنامه تشریحی تکلیف شماره ...۱۹.... کلاس ...یازدهم ریاضی.......

$\alpha = 3\beta$ و $4\beta = \frac{9}{3}$ ، $\alpha = 3 \times \frac{2}{3} = 2$ ، $\alpha = 2$ $3\beta \times \beta = 3\beta^2 = \frac{4}{3}$ ، $\beta^2 = \frac{4}{9} \to \beta = \pm\frac{2}{3}$ $2 + \frac{2}{3} = \frac{a}{3} \to \frac{8}{3} = \frac{a}{3} \Rightarrow a_1 = 8$ $\beta = -\frac{2}{3} \to \alpha = -2$ ، $-2 - \frac{2}{3} = \frac{a}{3}$ ، $a_2 = -8$ $8 - (-8) = 16$	۱
$\sqrt{\frac{1}{\alpha}} + \sqrt{\frac{1}{\beta}} = 5 \to \frac{1}{\sqrt{\alpha}} + \frac{1}{\sqrt{\beta}} = \frac{\sqrt{\beta} + \sqrt{\alpha}}{\sqrt{\alpha\beta}} = 5$ $mn^2 + 3n + 2 = 0$ $-n^2 + 3n + 2 = 0$ $P = \frac{C}{a} = -2$ $\frac{\sqrt{\alpha} + \sqrt{\beta}}{\frac{1}{6}} = 5 \to \sqrt{\alpha} + \sqrt{\beta} = \frac{5}{6}$ ، $\alpha\beta = \frac{1}{36}$ ، $\alpha + \beta = \frac{m+14}{36}$ $\alpha + \beta + 2\sqrt{\frac{1}{36}} = \frac{25}{36} \to \frac{m+14}{36} = \frac{25 - 12}{36} = \frac{13}{36} \to m + 14 = 13$ ، $m = -1$	۲
$(\alpha + \beta)^2 = 1 \to \alpha^2 + \beta^2 + 2\alpha\beta = 1 \to \alpha^2 + \beta^2 = 5$ ، $\alpha = 2$ ، $\beta = 1$ -4 $\alpha^2 + \beta = 1$ $4(-1)^3 + k + 9 - 2 = 0 \to k = -3$ $\to k = -3$ $4 \times 8 + 4k - 18 - 2 = 0 \to k = -3$	۳
$3\alpha^2 + 2\beta^2 = 2{,}5\alpha^2 + 2{,}5\beta^2 + 0{,}5\alpha^2 - 0{,}5\beta^2$ $\frac{5}{2}(\alpha^2 + \beta^2) + \frac{1}{2}(\alpha^2 - \beta^2)$ ، $\alpha^2 + \beta^2 = 36 - 2a$ $\alpha^2 - \beta^2 = (\alpha+\beta)(\alpha-\beta) = -6\left(-\sqrt{36 - 4a}\right) = 6\sqrt{36 - 4a}$ $\alpha < \beta \to -\sqrt{\Delta}$ $\frac{5}{2}(\alpha^2 + \beta^2) + \frac{1}{2}(\alpha^2 - \beta^2) \to 90 - 5a + 3\sqrt{36 - 4a} = 12\sqrt{2} + 85$ $90 - 5a = 85 \to a = 1$ ، $3\sqrt{36 - 4a} = 12\sqrt{2} \to a = 1$	۴
$x^2 = t \to t^2 - 7t - 5 = 0$ غ ق ق $t = \frac{7 \pm \sqrt{69}}{2} \to x = \pm\sqrt{\frac{7 + \sqrt{69}}{2}}$ $S = 0$ ، $P = \frac{-7 - \sqrt{69}}{2}$ ، $2P^2 - 3PS + 2S \to 2P^2 = 2 \times \frac{49 + 69 + 14\sqrt{69}}{4} = 59 + 7\sqrt{69}$	۵

$\alpha+\beta=-\frac{1}{2}$; $\alpha\beta=-\frac{2}{a}$

$\alpha+\frac{1}{2}+\beta+\frac{1}{2}=\frac{a}{2}$; $\alpha+\beta+1=\frac{\alpha}{2}$

$\alpha+\beta=-\frac{1}{2}$

$\alpha+\beta=\frac{a-2}{2}\rightarrow a=1$ $\quad \left(\frac{1}{2}+\alpha\right)\left(\frac{1}{2}+\beta\right)=\frac{1}{4}+(\alpha+\beta)\frac{1}{2}+\alpha\beta=\frac{b}{2}$

$\frac{1}{4}-\frac{1}{2}-\frac{12}{4}=\frac{b}{2}\rightarrow b=-6$

$\left[\frac{ab}{6}\right]=\left[\frac{1(-6)}{6}\right]=\left[-\frac{2}{2}\right]=-2$

$a\alpha^2-a\alpha-b=0$ $\quad S=1$

$a\beta^2-\alpha\beta-b=0\rightarrow\beta^2-\beta=\frac{b}{a}$ $\quad P=-\frac{b}{a}$

$4\beta^2+20\alpha^2-20\beta=20\beta^2+20\alpha^2+20\beta^2-20\beta$

$20(S^2-2P)+20(\beta^2-\beta)\rightarrow 20\left(1+\frac{2b}{a}\right)+20\left(\frac{b}{a}\right)=20+40\frac{b}{a}+20\frac{b}{a}=17$

$\frac{b}{a}=-\frac{1}{20}\rightarrow b=-\frac{1}{20}a\rightarrow\frac{\sqrt{\Delta}}{|a|}=\frac{\sqrt{a^2+4ab}}{|a|}\rightarrow\frac{|a|\sqrt{\frac{4}{a}}}{|a|}=\sqrt{\frac{4}{a}}=\frac{2}{\sqrt{a}}=\frac{2\sqrt{a}}{a}$

$a=(2k+1)^2-(2k-1)^2\rightarrow 4k^2$

$a+1=4k\rightarrow a=4k-1$

$\rightarrow 4k^2-4k=0$

$4k(k-1)=0$

$k=1,0$

$\rightarrow a=3$

$b=4k^2+4k$

$2a+1=4k+2$

$16=4k^2+2\rightarrow k^2=2\rightarrow b=24$

$|a-b|=|3-24|=21$

$\alpha+\beta=1$; $\alpha\beta=-1-m^2$ $\quad \alpha^2+\beta^2=S^2-2P$

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

$m^2=0\rightarrow 3+2m^2=3$

$y=a(x+1)^2+1\rightarrow 0=a(x^2+2x)+1\rightarrow 0=ax^2+2ax+1$

$\alpha+\beta=\frac{-2a}{a}=-2$ $\quad \alpha\beta=\frac{a+1}{a}$ $\quad a^2+\beta^2+2a\beta=4\rightarrow\alpha\beta=-\frac{1}{2}$

$\frac{a+1}{a}=-\frac{1}{2}\rightarrow a=-\frac{2}{3}$ $\quad y=-\frac{2}{3}(x+1)^2+1$

$x=0\rightarrow y=-\frac{2}{3}+1=\frac{1}{3}$