نام و نام خانوادگی: فاطمه سیخی پاسخنامه تکلیف شماره ۱۹: 19,75 کلاس: ۱۱ رشته A

$\beta=3\alpha \rightarrow \rho=\frac{\varepsilon}{\mu}=\frac{c}{a} \Rightarrow \frac{\varepsilon}{\mu}=\beta\times\alpha=3\alpha^2=\frac{\varepsilon}{\mu}$ $\Rightarrow \alpha=\frac{2}{3}, \beta=2$ ① $\Rightarrow \alpha=-\frac{2}{3}, \beta=-2$ ②

$\frac{c}{a}$ جمع ①: $\frac{a}{3}=\frac{2}{3}+\frac{6}{3} \Rightarrow a=8$

$\frac{c}{a}$ جمع ②: $\frac{a}{3}=\frac{-8}{3} \Rightarrow a=-8$

$|a_2-a_1|=|-8-8|=16$ جواب

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$\sqrt{\frac{1}{\alpha}}+\sqrt{\frac{1}{\beta}}=5 \overset{\text{به توان دو}}{\Rightarrow} \frac{1}{\alpha}+\frac{1}{\beta}+2\sqrt{\frac{1}{\alpha\beta}}=25 \Rightarrow \frac{\alpha+\beta}{\alpha\beta}+2\sqrt{36}=25 \Rightarrow m+12=25 \Rightarrow m=-1$

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معادله جدید $-8x^2+3x+2=0 \Rightarrow \rho=-2$ جواب

$\alpha+\beta=1$, $\alpha\beta=-2$ $\Rightarrow \alpha(1-\alpha)=-2 \Rightarrow \alpha^2-\alpha-2=0$ جایگذاری ریشه‌ها $\alpha=2$ $\beta=-1$

$\varepsilon(1)+\varepsilon k-18-2=0 \Rightarrow k=-3$ جواب

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$\frac{\alpha}{2}(\alpha^2+\beta^2)+\frac{1}{2}(\alpha^2-\beta^2)=\frac{\alpha}{2}(5^2-2\rho)+\frac{1}{2}(5)(\alpha-\beta)=\frac{\alpha}{2}(36-2\alpha)+\frac{1}{2}(-9)(\sqrt{\beta-\alpha})=$

$90-5a+9\sqrt{9-a}=12\sqrt{2}+8a \rightsquigarrow a=1$ جواب

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$t=x^2 \rightarrow t^2-7t+a=0 \rightarrow \Delta=49 \rightarrow t_1=\frac{7+\sqrt{49}}{2}$, $t_2=\frac{7-\sqrt{49}}{2}$ غیق‌ق $(t>0)$

$\begin{cases} x_1=\sqrt{\frac{7+\sqrt{49}}{2}} & ① \\ x_2=-\sqrt{\frac{7+\sqrt{49}}{2}} & ② \end{cases}$ 1,75

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① و ② $\rightarrow \Delta=0$, $\rho=-\frac{7+\sqrt{49}}{2}$

$2\rho^2-3\rho+5=2\rho^2=2\left(-\frac{7+\sqrt{49}}{2}\right)^2 \rightarrow 2\times\frac{(7+\sqrt{49})^2}{4}$

$\frac{7\sqrt{49}+9\sqrt{49}+98}{2}=\frac{16\sqrt{49}+112}{2}$

ریشه‌های معادله اول α,β و ریشه‌های معادله دوم α',β'

$$\begin{cases}\alpha=\frac{1}{2}+\alpha'\\ \beta=\frac{1}{2}+\beta'\end{cases}\Rightarrow\begin{cases}\alpha+\beta=1+\alpha'+\beta'\Rightarrow\frac{a}{2}=1+(-\frac{1}{2})\Rightarrow a=1\\ \alpha\beta=\frac{1}{4}+\frac{1}{2}(\alpha'+\beta')+\alpha'\beta'\Rightarrow\frac{b}{2}=\frac{1}{4}+\frac{1}{2}(-\frac{1}{2})-2\Rightarrow b=-4\end{cases}$$

$$\left[\frac{-4\times1}{4}\right]=\left[-\frac{2}{2}\right]=[-1,0]=-2$$

جواب

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$$\alpha+\beta=\frac{\alpha}{\alpha}=1\rightarrow\alpha=1-\beta\rightarrow 4\beta^2+5(1-\beta)^2-2\beta-17=0\Rightarrow$$

$$4\beta^2+5+5\beta^2-10\beta-4\beta-2\beta-17=0\Rightarrow 9\beta^2-16\beta-12=0\Rightarrow\Delta=256+432=688$$

$$\begin{cases}\alpha=\frac{1}{2}+\frac{\sqrt{688}}{36}\\ \beta=\frac{1}{2}-\frac{\sqrt{688}}{36}\end{cases}\text{تفاضل ریشه‌ها}=\left|\frac{8\sqrt{43}}{18}\right|=\frac{4\sqrt{43}}{9}$$

جواب

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شرط ریشه‌های معادله اول $=2$

$$\Rightarrow\Delta=a^2+4a+1-4a=(a-1)^2,\ \frac{\sqrt{\Delta}}{|a|}=\sqrt{(a-1)^2}=|a-1|=2\begin{cases}a=-1\ \text{غ ق ق}\\ a=3\ \text{ق ق ق}\end{cases}$$

$$x^2-4x+3=0\rightarrow P_1=3$$

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معادله دوم $\Rightarrow x^2-10x+b\rightarrow\Delta=100-4b\Rightarrow\frac{\sqrt{\Delta}}{|a|}=2\Rightarrow\sqrt{100-4b}=2\Rightarrow$

$$|400-4b|=4\begin{cases}b=24\ \text{ق ق ق}\\ b=96\ \text{غ ق ق}\end{cases}\rightarrow x^2-10x+24\rightarrow P_2=24$$

$$P_2-P_1=24-3=21$$ جواب

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

کمترین مقدار $\rightarrow m=0\rightarrow\alpha^2+\beta^2=3$

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$$25a-5b+c=9a+3b+c\Rightarrow 16a=8b\Rightarrow b=2a$$ ①

$$y=ax^2+bx+c$$ ★

$$\alpha^2+\beta^2=5\Rightarrow\left(\frac{b}{a}\right)^2-2\left(\frac{c}{a}\right)=5\Rightarrow 4-2\left(\frac{c}{a}\right)=5\Rightarrow c=-\frac{1}{2}a$$ ②

$$S\left|\begin{matrix}1\\-1\end{matrix}\right.\Rightarrow 1=a-b+c\Rightarrow 1=a-2a-\frac{1}{2}a\Rightarrow-\frac{3}{2}a=1\Rightarrow a=-\frac{2}{3},\ b=-\frac{4}{3},\ c=\frac{1}{3}$$

عرض از مبدأ $=\frac{1}{3}$

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