نام و نام خانوادگی امیرحسین صومنی.... پاسخنامه تشریحی تکلیف شماره ۲۲ کلاس دهم ریاضی A شنبه

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$x^2-5x+2=0 \longrightarrow \alpha,\beta \Rightarrow$ ریشه‌ها $\quad \frac{\varepsilon\alpha+\beta^5}{5\beta^2}=?$

$P=\alpha\beta=\frac{c}{a}=2 \rightarrow \beta=\frac{2}{\alpha}$

$S=\alpha+\beta=\frac{-b}{a}=5 \Rightarrow \frac{\varepsilon\alpha+\beta^5}{5\beta^2}=\frac{\varepsilon\alpha}{5(\frac{2}{\alpha})^2}+\frac{\beta^3}{5}=\frac{1}{5}(\alpha^3+\beta^3)$

$\frac{1}{5}(S^3-3PS)=\frac{1}{5}(5^3-3(2)(5))=\frac{1}{5}\alpha\ 95=\boxed{19} \rightarrow$ جواب

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$(3,9-\varepsilon) \rightarrow 9a+3b+c=-\varepsilon$

$(-1,5,9-\varepsilon) \rightarrow a(\frac{9}{\varepsilon})+b(\frac{-3}{2})+c=-\varepsilon$

$9a-\frac{9}{\varepsilon}a+(3b+\frac{3}{2}b)+(c-c)=0 \rightarrow 3a+2b=0$

$S=\frac{-b}{a}=-\frac{\frac{-3}{2}a}{a}=\frac{3}{2}=\boxed{1,5} \rightarrow$ جواب

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$x^2+2kx+5=0 \qquad \alpha-\beta=\frac{\varepsilon}{3}k \rightarrow \frac{\sqrt{\Delta}}{|a|}=\frac{\varepsilon k}{3}$

$\sqrt{\Delta}=\varepsilon k^2-20 \rightarrow \frac{\sqrt{\Delta}}{|a|}=\frac{\sqrt{\varepsilon k^2-20}}{1}=\frac{\varepsilon k}{3} \rightarrow \varepsilon k=3\sqrt{\varepsilon k^2-20} \rightarrow 16k^2=9(\varepsilon k^2-20)$

$\rightarrow 16k^2=36k^2-180 \rightarrow 180=20k^2 \rightarrow k^2=9 \rightarrow [\frac{k^2}{2}]=[\frac{9}{2}]=\boxed{\varepsilon}$ (براکت)

$\rightarrow$ جواب

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$A=(3,y) \quad B=(-5,y) \quad$ ریشه‌ها $\rightarrow \alpha,\beta$

$\frac{\alpha+\beta}{2}=(\frac{-5+3}{2})=-1 \rightarrow \alpha+\beta=-2 \rightarrow S=\frac{-2}{2}=-1$

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

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

$\rightarrow x=0 \rightarrow y=\boxed{\frac{1}{3}}$

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$F(\frac{9}{2})<0 \Rightarrow -(\frac{9}{2})^2+5\frac{9}{2})+m<0 \Rightarrow -\frac{81}{\varepsilon}+\frac{\varepsilon 5}{2}+m<0 \rightarrow m<\frac{9}{\varepsilon}=\boxed{2,25}$

دارای دو ریشه $\rightarrow \Delta>0 \rightarrow 25+\varepsilon m>0 \rightarrow m>-\frac{25}{\varepsilon}=\boxed{-6,25}$

$-6,25<m<2,25 \Rightarrow m=\boxed{-6,-5,-4,-3} \rightarrow$ (ε عدد) $\rightarrow$ جواب

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$y = mx^2 - 12x + 5m - 1 \xrightarrow{\text{کمترین مقدار}}$ رأس آن

$y = 2 \rightarrow \frac{-\Delta}{4a} = 2 \rightarrow -\Delta = 8a \rightarrow \Delta = -8a \rightarrow \Delta = -8m$

$144 - 20m^2 + 4m = -8m \rightarrow 144 - 20m^2 + 12m = 0 \xrightarrow{\text{مرتب}} -20m^2 + 12m + 144 = 0 \xrightarrow{\div 4}$

$-5m^2 + 3m + 36 = 0 \rightarrow m^2 + 3m - 180 = 0 \rightarrow (m+15)(m-12) \rightarrow m = 3$ ✓ و $\frac{-12}{5}$ ✗ $\rightarrow m = 3$

$3x^2 - 12x + 14 = 0 \rightarrow x = \frac{+12}{6} = 2 \rightarrow$ جواب

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$\alpha^2 = \alpha\beta \rightarrow \alpha^2 =$ ضرب ریشه‌ها $= 2a - 1 \rightarrow a^2 - 2a + 1 = 0 \rightarrow a = 1$

$x^2 + 2(a+1)x + 2a - 1 = 0 \xrightarrow{a=1} x^2 + 4x + 1 = 0 \rightarrow$ به ازای $a = 1$

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$x^4 - 7x^2 - 5 = 0 \rightarrow 2p^2 + 2sp + 2s = ?$

$x^2 = t \rightarrow t^2 - 7t - 5 = 0 \rightarrow t = \frac{7 + \sqrt{69}}{2} \rightarrow x^2 = \frac{7 + \sqrt{69}}{2}$

$\rightarrow s = 0$ و $p = -\left(\frac{7+\sqrt{69}}{2}\right) \rightarrow 2p^2 = 59 + 7\sqrt{69} \rightarrow$ جواب

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$y = kx^2 - 4x - 6$ و $y = -4x - 4$

$ext \begin{cases} \frac{-b}{2a} = \frac{4}{2k} = \frac{2}{k} \\ \frac{-\Delta}{4a} = -\frac{(16 + 24k)}{4k} \rightarrow \frac{-4(4+6k)}{4k} = \frac{-4-6k}{k} \end{cases}$

$y = -4x - 4 \rightarrow \frac{-4-6k}{k} = -4 \times \frac{2}{k} - 4 \rightarrow \frac{-4-6k}{k} = \frac{-8}{k} - \frac{4k}{k}$

$-4 - 6k = -8 - 4k \rightarrow -4 + 8 = 2k \rightarrow k = 2 \rightarrow \frac{-4 - 6 \times 2}{2} = \frac{-16}{2} = -8 \rightarrow$ جواب

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$y = -mx^2 + mx + 1 \quad y = -m - x$

$-mx^2 + mx + 1 = -m - x \rightarrow mx^2 - (m+1)x - (m+1) = 0 \rightarrow \Delta < 0$

$(m+1)^2 + 4m(m+1) = 5m^2 + 6m + 1 < 0 \rightarrow (m+1)(m + \frac{1}{5}) < 0 \rightarrow -1 < m < -\frac{1}{5}$

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