نام و نام خانوادگی ....نیما پاپیری........ پاسخنامه تشریحی تکلیف شماره .... کلاس ......یازدهم ریاضی......

دفتر ال B

۱۷,۵

۱ (۱,۷۵)

$x_1 = ?$

$x_2 = 3x_1$

$P \to \frac{4}{3} = 3x_1^2 \to x_1^2 = \frac{4}{9} \quad x_1 = \pm\frac{2}{3}$

$x_1 = \frac{2}{3} \to x_2 = 2$

$\frac{a}{3} = \frac{8}{3} \to a = 8$

$x_1 = -\frac{2}{3}$

$x_2 = -2$

$a = -8 \leftarrow \frac{a}{3} = -\frac{8}{3}$

$8 - (-8) = 16$

۲ (۲)

$\alpha + \beta = \frac{m+14}{36}$

$\alpha \times \beta = \frac{1}{36}$

$\left(\sqrt{\frac{1}{\alpha}} + \sqrt{\frac{1}{\beta}}\right)^2 = (5)^2 \to \frac{1}{\alpha} + \frac{1}{\beta} + 2\sqrt{\frac{1}{\alpha \times \beta}} = 25$

$m + 14 + 12 = 25 \to m = -1$

$-x^2 + 3x + 2 = 0$

$\frac{-3+\sqrt{17}}{-2} \times \frac{-3-\sqrt{17}}{-2} = \frac{9-17}{4} = -2$

۳ (۲)

چون $\alpha\beta = -2 \quad \alpha + \beta = 1 \to x^2 - x - 2 = 0$

$$
\begin{array}{l|l}
4x^3 + kx^2 - 9x - 2 & x^2 - x - 2 \\
4x^3 - 4x^2 - 8x & 4x + 1 \\
\hline
(k+4)x^2 - x - 2 & \\
x^2 - x - 2 &
\end{array}
$$

$k + 4 = 1$

$k = -3$

۴ (۲)

$2{,}5\alpha^2 + 2{,}5\beta^2 + (0{,}5\alpha^2 - 0{,}5\beta^2) = 2{,}5(\alpha^2 + \beta^2) + 0{,}5(\alpha^2 - \beta^2)$

$2{,}5(36 - 2a) + \frac{1}{2}((-6)(-2\sqrt{9-a})) \to 90 - 5a + 6\sqrt{9-a}$

$85 + 12\sqrt{2}$

$-5a + 6\sqrt{9-a} = -5 + 12\sqrt{2}$

[illegible] $a = 1$

۵ (۲)

$x^2 = t \quad t \geq 0 \quad t^2 - 7t - 5 = 0$

$t_1 = \frac{7+\sqrt{69}}{2}$

$t_2 = \frac{7-\sqrt{69}}{2}$ با توجه به شرط [illegible] غ ق ق

$x = \pm\sqrt{\frac{7+\sqrt{69}}{2}}$

$\delta = 0$

$\to P = -\frac{7+\sqrt{69}}{2}$

$2P^2 - 3SP + 2S = 59 + 7\sqrt{69}$

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۶	$2x^2 - ax + b = 0$ ↙ $\alpha + \frac{1}{2}$, $\beta + \frac{1}{2}$ $S = \alpha + \beta + 1 = \frac{a}{2}$ $-\frac{1}{2} + \frac{2}{2} = \frac{a}{2} \rightarrow a = 1$, $b = 4$ $2ax^2 + ax - 4 = 0$ $S = -\frac{a}{2a} = \alpha + \beta = -\frac{1}{2}$ $2x^2 + x - 4 = 0$ $\alpha = -2$, $\beta = \frac{3}{2}$ $\rightarrow \left[\frac{ab}{4}\right] = \left[-\frac{4}{4}\right] = -2$	۱/۷۵
۷	$\alpha + \beta = 1 \rightarrow x^2 - x - \frac{b}{a} = 0$ $x^2 - x = \frac{b}{a}$ $\alpha = 1 - \beta$ $\quad 4.\beta^2 + 2.(1-\beta)^2 - 2.\beta = 7 \Rightarrow 2.\beta(\beta - 1) = -1 \rightarrow \alpha\beta = \frac{1}{2.} = \frac{-b}{a}$ $\Rightarrow a = -2.b$ $\quad ax^2 - ax - b = 0 \rightarrow -2.bx^2 + 2.bx - b = 0$ $\quad \lvert\alpha - \beta\rvert = \frac{\sqrt{\Delta}}{\lvert a\rvert} = \frac{2}{\sqrt{5}}$	۰
۸	$x^2 - (a+1)x + a = 0$ $x_1 = 2\alpha - 1$ $\quad x_2 = 2\alpha + 1$ $P = 4\alpha^2 - 1 = a$ $S = 4\alpha = a + 1$ $\quad a = 3 \rightarrow P = 3$ $24 - 3 = 21$	۲
۹	$(\alpha + \beta)^2 - 2\alpha\beta = (-1)^2 + 2(m^2 + 1) = 1 + 2m^2 + 2 = 2m^2 + 3 = 3$ $\alpha + \beta = -1$ $\quad \alpha\beta = -m^2 - 1$ کمترین مقدار	۲
۱۰	$\frac{-b}{2a} = \frac{S}{2} = -1 \rightarrow S = -2$ $\quad S^2 - 2P = 4 - 2\left(\frac{a + 10}{a}\right) = 5$ $a = -\frac{2}{3}$ $P = \frac{c}{a} = -\frac{1}{2}$ $C = \frac{-a}{2} = \frac{1}{3}$	۲