نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ...۱۰... کلاس ...یازدهم...A.....

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$\beta = 3\alpha \rightarrow 3\alpha^2 = \frac{c}{a} = \frac{2}{3} \rightarrow \alpha = \pm \frac{2}{3}$

$\alpha = \frac{2}{3} \rightarrow \beta = 2 \rightarrow \alpha + \beta = \frac{5}{3} = -\frac{b}{a} = \frac{a}{3} \rightarrow a_1 = 5$

$\alpha = -\frac{2}{3} \rightarrow \beta = -2 \rightarrow \alpha + \beta = -\frac{5}{3} = \frac{a}{3} \rightarrow a_2 = -5$

$a_1 - a_2 = 14$

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$\frac{1}{\sqrt{\alpha}} + \frac{1}{\sqrt{\beta}} = 0 \rightarrow \frac{\alpha+\beta}{\alpha\beta} + \frac{1}{\sqrt{\alpha\beta}} = 2 \xrightarrow{\alpha\beta = 1/24} 3(\alpha+\beta) + 12 = 2$

$\rightarrow \alpha + \beta = \frac{13}{3} = \frac{m+12}{3} \rightarrow m = -1$

$\xrightarrow{m=-1} mx^2 + 3x + 2 = -x^2 + 3x + 2 = 0 \rightarrow \alpha\beta = \frac{c}{a} = \frac{2}{-1} = -2$

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$\alpha + \beta = 1 \rightarrow \alpha^2 + \beta^2 + 2\alpha\beta = 1 \xrightarrow{\alpha\beta = -2} \alpha^2 + \beta^2 = 5 \rightarrow \alpha - \beta = 3$

$\begin{cases} \alpha + \beta = 1 \\ \alpha - \beta = 3 \end{cases} \Rightarrow \alpha = 2, \beta = -1 \rightarrow -4 + k + 9 - 2 = 0 \rightarrow k = -3$

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$3\alpha^2 + 2\beta^2 = 12\sqrt{2} + 50 \rightarrow 2,5(\alpha^2 + \beta^2) + 0,5(\alpha^2 - \beta^2) = 12\sqrt{2} + 50$

$\frac{5}{2}(s^2 - 2p) + \frac{1}{2}(s)(\sqrt{s^2 - 4p}) = 12\sqrt{2} + 50 \xrightarrow{s=-4}$

$\frac{5}{2}(34 - 2a) + \frac{1}{2}(4)(\sqrt{34 - 4a}) = 12\sqrt{2} + 50 \rightarrow 90 - 5a + 4\sqrt{9-a} =$

$12\sqrt{2} + 50 \rightarrow 90 - 5a + 4\sqrt{9-a} = 4\sqrt{8} + 50 \rightarrow a = 1$

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$x^2 = t \rightarrow t^2 - 7t - 5 = 0 \rightarrow t = \alpha \rightarrow x = \pm\sqrt{\alpha}$ ، $t = \beta \rightarrow x = \pm\sqrt{\beta}$

$S = 0 \rightarrow 2p^2 - 3sp + 2s = 2p^2 \Big\{ t_1 = \frac{7+\sqrt{49}}{2} \checkmark$ ، $t_2 = \frac{7-\sqrt{49}}{2}$ غ ق ق

$\rightarrow x^2 = \frac{7+\sqrt{49}}{2} \rightarrow x = \pm\sqrt{\frac{7+\sqrt{49}}{2}} \rightarrow 2p^2 = \frac{118 + 14\sqrt{49}}{2} = 59 + 7\sqrt{49}$

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$2ax^2 + ax - 4 = 0 \longrightarrow \alpha + \beta = -\frac{b}{a} = -\frac{1}{2}$

$2x^2 - ax + b = 0 \longrightarrow \alpha' + \beta' = \frac{1}{2} \longrightarrow a = 1 \rightarrow \alpha\beta = -2$

$(\alpha + \frac{1}{2})(\beta + \frac{1}{2}) = \frac{\alpha+\beta}{2} + \alpha\beta + \frac{1}{4} = \alpha'\beta' = \frac{b}{2} \rightarrow \frac{b}{2} = -2 \rightarrow b = -4$

$\left[\frac{ab}{2}\right] = \left[-\frac{4}{2}\right] = -2$

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$25\beta^2 + 20\alpha^2 - 20\beta = 17 \Longrightarrow (16\beta^2 + 20\alpha^2) + 9\beta^2 - 20\beta = 17 \Rightarrow 4(4\beta^2 + 5\alpha^2) + 20(\beta^2 - \beta) = 17$

$ax^2 - ax - b = 0 \xrightarrow{x=\beta} a\beta^2 - a\beta - b = 0 \Longrightarrow a(\beta^2 - \beta) = b \Rightarrow \beta^2 - \beta = \frac{b}{a}$

$\alpha^2 + \beta^2 = S^2 - 2P = (1)^2 - 2(-\frac{b}{a}) = 1 + \frac{2b}{a} \quad | \; 20(1 + \frac{2b}{a}) + 20(\frac{b}{a}) = 17 \rightarrow \frac{b}{a} = -\frac{1}{20}$

$|\alpha - \beta| = \sqrt{S^2 - 4P} = \sqrt{1^2 - 4(-\frac{b}{a})} = \sqrt{1 - 4(-(-\frac{1}{10}))}$

$= \sqrt{1 - \frac{4}{10}} = \frac{3}{\sqrt{5}}$

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ریشه‌ها: α و $\alpha+2$

$\alpha + 2 - \alpha = \frac{\sqrt{\Delta}}{|a|} = |a - 1| = 2 \rightarrow a = 3 \text{ یا } -1$

$\xrightarrow{a=-1} x^2 - 1 = 0 \rightarrow x = \pm 1 \rightarrow$ ق ق ق $\rightarrow a = 3$

$x^2 - 10x + b = 0 \longrightarrow \beta' + 2 - \beta' = \frac{\sqrt{\Delta}}{|a|} = 2\sqrt{25 - b} = 2 \rightarrow b = 24$

$\alpha\beta = 3, \; \alpha'\beta' = 24 \rightarrow 24 - 3 = 21$

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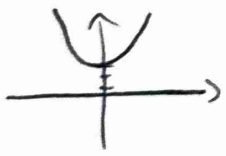
$\alpha^2 + \beta^2 = S^2 - 2P = 2m^2 + 3$



$y_{min} = 3$

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$y = ax^2 + bx + c \quad \{ x_B + x_A = \alpha + \beta = -2 \} \; \frac{x_B + x_A}{2} = -\frac{b}{2a} = -1 \rightarrow a = b$

$y = ax^2 + 2ax + c \xrightarrow{c|-1} 1 = a - 2a + c \rightarrow c - a = 1$

$S^2 - 2P = 5 \rightarrow 4 - 2P = 5 \rightarrow P = -\frac{1}{2} \rightarrow \frac{c}{a} = -\frac{1}{2} \rightarrow -2c = a$

$\rightarrow 2c = 1 \rightarrow c = \frac{1}{2}$