نام و نام خانوادگی ...[illegible]... پاسخنامه تشریحی تکلیف شماره ...۲۲... کلاس ...دهم [illegible]...

۱	$\begin{cases} \alpha = \frac{5+\sqrt{17}}{2} \\ \beta = \frac{5-\sqrt{17}}{2} \end{cases}$ $\frac{4\alpha+\beta^5}{5\beta^2} = 19$ $\frac{4\left(\frac{5+\sqrt{17}}{2}\right)+\left(\frac{5-\sqrt{17}}{2}\right)^5}{5\left(\frac{5-\sqrt{17}}{2}\right)} =$
۲	$\begin{cases} \alpha = 3 \\ \beta = \frac{-3}{2} \end{cases}$ $\alpha+\beta = 3-\frac{3}{2} = 1/5$
۳	$\lvert\alpha-\beta\rvert = \frac{\sqrt{\Delta}}{\lvert a\rvert} = \frac{4}{3}k$ $\left(\frac{4}{3}k\right)^2 = \left(\frac{\sqrt{4k^2-20}}{1}\right)^2$ $\frac{16}{9}k^2 = 4k^2-20$ $\to 4k^2-\frac{16}{9}k^2 = +20$ $\frac{36-16}{9}k^2 = 20$ $\frac{20}{9}k^2 = 20$ $\to k^2 = 9$ $\frac{k^2}{2} = \frac{9}{2} = 4/5$
۴	، [illegible] $\frac{\alpha+\beta}{2} = 1 \longrightarrow \alpha+\beta = 2$ $\alpha^2+\beta^2 = (\alpha+\beta)^2-2\alpha\beta$ $5 = 4-2\alpha\beta \to \alpha\beta = \frac{-1}{2}$ $\to y = k(x-\alpha)(x-\beta)$ $(3,2) \to 2 = k(3-\alpha)(3-\beta)$ $\quad (3-\alpha)(3-\beta) = 9-6-\frac{1}{2} = \frac{5}{2}$ $\quad k = \frac{2}{\frac{5}{2}} = \frac{4}{5}$ $y = k(\alpha\beta) = \frac{4}{5}\left(-\frac{1}{2}\right) = \frac{-2}{5}$ $\xrightarrow{\text{برخورد با محور y}} \left(0, \frac{-2}{5}\right)$
۵	$\alpha < \beta < \frac{9}{2}$ $+ \quad \frac{9}{2} \quad -$ $\xrightarrow{\frac{9}{2}} \frac{-81}{4}+\frac{45}{2}+m < 0$ $\frac{9}{4}+m < 0$ $m < \frac{-9}{4}$

$y = mx^2 - 12x + 5m - 4 = 0$

$\dfrac{-b}{2a} = \dfrac{12}{2m} = \dfrac{6}{m} \longrightarrow y = 2 = m\left(\dfrac{36}{m^2}\right) - 12\left(\dfrac{6}{m}\right) + 5m - 1$

$\dfrac{-36m - 72m + 5m^2 - 3m}{m} = 0$

$5m^2 - 3m - 36 = 0 \Rightarrow \Delta = 729 \rightarrow x = \dfrac{3 \pm 27}{10} = 3, \dfrac{-12}{5}$

$\dfrac{6}{12/5} = 2/5$

۶

$0 = \alpha^2 + 2(a+1)\alpha + 2a - 1 = \beta^2 + 2(a+1)\beta + 2a - 1$

$\alpha^2 - \beta^2 = 0$

$(\alpha + \beta)(\alpha - \beta) = 0$

$\dfrac{-b}{a} \times \dfrac{\sqrt{\Delta}}{|a|} = \dfrac{-2a - 2}{1} \cdot \dfrac{\sqrt{4(a+1)^2 - 4(2a-1)}}{1}$

$= -4(a+1)\sqrt{a^2+2} = 0 \longrightarrow a + 1 = 0,\ \boxed{a = -1}$

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$x^2 = t$

$t^2 - 7t - 5 = 0$

$\begin{cases} S = \dfrac{-b}{a} = 7 \\ P = \dfrac{c}{a} = -5 \end{cases}$

$2(5^2) + (-3)(7)(-5) + 2(7)$

$50 + 105 + 14 = 169$

$\sqrt{169} = 13$

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$\dfrac{-b}{2a} = \dfrac{4}{2k} = \dfrac{2}{k} \Rightarrow \dfrac{2}{k}$ ①

$y = k\left(\dfrac{4}{k^2}\right) - 4\left(\dfrac{2}{k}\right) - 6$

$y = \dfrac{-4}{k} - 6 \longrightarrow \dfrac{-4}{k} - 6 = -4\left(\dfrac{2}{k}\right) - 4$

$-4 - 6k = -8 - 4k$

$4 = 2k \longrightarrow k = 2$

۹

$-mx^2 + mx + 1 = -m - x \neq 0$

$-mx^2 + (m+1)x + (m+1) = 0 \rightarrow -1 < m < \dfrac{-1}{5}$

$\Delta = (m+1)^2 - 4(m+1)(-m) < 0$

$5m^2 + 6m + 1 < 0$

$\Delta = 36 - 4(5)(1) = 16$

m	$-\infty$		-1		$\frac{-1}{5}$		$+\infty$
y		+	0	−	0	+	

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