نام و نام خانوادگی ....طراوت سبزی‌ها.......... پاسخنامه تشریحی تکلیف شماره ..۲۳... کلاس ....

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$y = a(x+1)^2 + 9 \xrightarrow{(3,1)} a(4)^2 + 9 = 1 \Rightarrow 16a = -8 \Rightarrow a = -0.5$

$y = 0.5(x+1)^2 + 9 \Rightarrow 0.5x^2 - 0.5x + 9 - \frac{1}{2} \to \boxed{y = -0.5x^2 - 0.5x + 4.5}$

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$S > 0 \to \frac{-m}{2} > 0 \to \frac{m}{2} < 0 \to m < 0 \ (1) \quad , \quad P > 0 \to \frac{m+6}{2} > 0 \to m+6 > 0 \to m > -6 \ (2)$

$(3)\ \Delta > 0 \to m^2 - 8m - 48 > 0 \to m^2 - 8m - 48 = 0 \to (m-12)(m+4) = 0 \to$ (جدول علامت: -4 ، 12 : $+ \ - \ +$)

$\to (-\infty, -4) \cup (12, +\infty)$

$(1), (2), (3) \longrightarrow \boxed{\text{ج.م} = (-6, -4)}$

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$\frac{-b}{a} = \frac{a}{c} \to a^2 = -bc \to 9 = (1-2m)(2-m) \to 9 = 2m^2 - 5 + 2$

$\to 2m^2 - 5m - 7 = 0 \to m_1, m_2 = \frac{5 \pm \sqrt{81}}{4}$

$m_1 = \frac{14}{4} = \boxed{\frac{7}{2}}$

$m_2 = -1 \to$ غ ق ق $\to$ چون Δ منفی می‌شود

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$x^2 - 4 - x = 0 \to x_1 + x_2 = 1 \quad , \quad x_1 x_2 = -4$

$P = (x_2^3 + \frac{1}{x_1})(x_1^3 + \frac{1}{x_2}) = (x_1 x_2)^3 + \underbrace{x_2^2 + x_1^2}_{(1)\ =\ 9} + \frac{1}{x_1 x_2} = -55.25$

$(1)\ x_2^2 + x_1^2 \to (x_1 + x_2)^2 = x_1^2 + x_2^2 + \overbrace{2x_1 x_2}^{-8}$

$S = x_2^3 + \frac{1}{x_1} + x_1^3 + \frac{1}{x_2} = \underbrace{x_2^3 + x_1^3}_{(x_1+x_2)^3 - 3x_1x_2(x_1+x_2)} + \frac{x_2 + x_1}{x_1 x_2} = 12.75$

$x^2 - 12.75x - 55.25 = 0 \to \boxed{4x^2 - 51x - 221}$ ✓

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$x\sqrt[3]{x} + \cancel{1} + \sqrt[3]{x^2} - \sqrt[3]{x^2} - \frac{1}{3\sqrt{x^2}} - \cancel{1} = 2\sqrt[3]{x} \Rightarrow x\sqrt[3]{x} - \frac{1}{\sqrt[3]{x^2}} - 2\sqrt[3]{x} = 0$

$\xrightarrow{\sqrt[3]{x^2}} x^2 - 1 - 2x = 0 \to \frac{2 \pm \sqrt{8}}{2} \to 1+\sqrt{2} \ , \ 1-\sqrt{2}$

$1+\sqrt{2} + 1 - \sqrt{2} = 2$ (۱)

$x_1 = 3x_2 \quad , \quad 3x_2 \times x_2 \Rightarrow 3x_2^2 = \frac{4}{3} x_2^2 = \frac{4}{9} \to x_2 = \frac{2}{3} \to x_1 = -2 \to -2 + \frac{2}{3} = \frac{a}{3} , a = 8$ $\hookrightarrow x_2 = \frac{-2}{3} \to x_1 = -2 \to -2 - \frac{2}{3} = \frac{a}{3} , a = -8$ $8 - (-8) = 16$	۶
$y = ax^2 + (3 + 2a)x \qquad a > 0$ $P = 0 \to$ یکی از ریشه‌ها $= 0$ $\to \neq 0 \to S > 0 \to \frac{-3-2a}{a} > 0$ از ناحیه ۳ می‌گذرد $\to = 0 \quad \alpha \to$ از ناحیه ۳ نمی‌گذرد $\frac{-3}{2} \quad 0$; $- \; + \; -$ $\to (-\frac{3}{2}, 0)$ $\Rightarrow (-\frac{3}{2}, 0) \cap (0, +\infty) = \emptyset$ چرا از ناحیه ۳ نمی‌گذرد	۷
$\frac{-b}{2a} \to \frac{2}{-2} = \frac{-a}{2} \to a = 2 \qquad ab = 2 \times 4 = 8$ $y = 1 \to x^2 + 2x + 1 - b = x^2 + 2x - 3 \Rightarrow b = 4$	۸
$2ax^2 + ax - 6 = 0 \qquad x_1, x_2 \to x_1 + x_2 = \frac{-a}{2a} = \frac{-1}{2}$ $2x^2 - ax + b = 0 \to (x_1 + 0/5) , (x_2 + 0/5)$ $S = x_1 + x_2 + 1 = \frac{1}{2} = \frac{a}{2} \to a = 1 \to x^2 + x - 6 = 0 \to \frac{-1 \pm \sqrt{49}}{4} \to 1/5 , 2 \quad P = -3 = \frac{b}{2} \to b = -6$ $[\frac{ab}{4}] = [\frac{-6}{4}] \to -2$	۹
$x^2 - 6x + m = 0 \quad \hookrightarrow \alpha, \beta \qquad \alpha + \beta = -6 \quad , (x-1)\alpha + \beta' = 2$ $x^2 - 2x - 3m = 0 \quad \hookrightarrow \alpha, \beta'$ $\to \alpha + \beta = -6$ $\to -\alpha + \beta' = 2$ $\to \beta - \beta' = -4$	۱۰