Date : ______ Subject : ______

سارینا امیری شهبازی

ناموفق

(۱)

$\frac{-b}{2a} = -1 \to b = 2a \mid m = -1 \to -a + c = 9 \to h = 2$

$\{ 9a + 3b + c = 1 \to 18a = -1 \to a = -\frac{1}{2}$

$y = -\frac{1}{2}x^2 - x + \frac{17}{2}$

(۳) 3

دو ریشه $\quad 3x^2 + 1 - 4m - 3(4 - 3m) > 0 \to 4m^2 + 8m - 23 > 0$

$m = \frac{-8 \pm \sqrt{64 - 4(-92)}}{8}$ $\quad \frac{-2 \pm \sqrt{27}}{2}$

$\frac{-1-\sqrt{27}}{2} \quad \frac{-1+\sqrt{27}}{2}$: + | − | +

$\alpha + \beta = \frac{1}{\alpha\beta} \to \frac{-2m+4}{3} = \frac{1}{\frac{4-m}{3}} \to 2m^2 - 5m - 7 = 0 \to (2m-7)(m+1) = 0 \to \begin{cases} -1 \times \\ \frac{7}{2} \end{cases} \to \frac{7}{2} = m$

(۴)

دو ریشه $\to m^2 - 4(2m + 12) > 0 \to m^2 - 8m - 48 > 0$

$(m+4)(m-12) > 0 \to$ $\quad -4 \quad 12$: + | − | +

$m \in (-\infty, -4) \cup (12, +\infty) \to S = \frac{-m}{2} > 0, \; m < 0 \quad \frac{m+4}{2} > 0 \to m > -4 \to -4 < m < 4$

(۲)

$S = 19 \quad p = -3 \to m_2^3 + m_1^3 + \frac{1}{m_2} + \frac{1}{m_1} = (m_1 + m_2)^3 - 3(-3)(x_1 + x_2) + \frac{x_1 + x_2}{x_1 x_2}$

$\left(x_2^3 + \frac{1}{x_1}\right)\left(x_1^3 + \frac{1}{x_2}\right) = (x_1 x_2)^3 + \frac{x_1^4 + x_2^4}{-2} + \frac{1}{x_1 x_2} \quad 1 + 15 + \frac{-1}{2} = \frac{51}{2} = S$

(۵)

$\sqrt[3]{x^2} = t \to \left(t + \frac{1}{t} + 1\right)(t - 1) = t^2 - \frac{1}{t} \to \sqrt[3]{x^4} - \frac{1}{\sqrt[3]{x^2}} = 2\sqrt[3]{x}$

$\frac{\sqrt[3]{x^6} - 1}{\sqrt[3]{x^2}} = 2\sqrt[3]{x}$

$x^2 - 2x - 1 = 0 \quad S = 2$

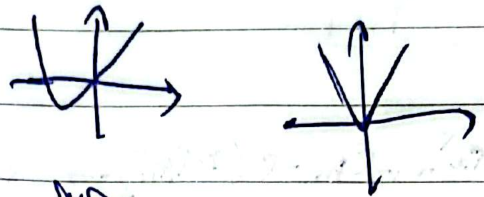
$-S$

PAN

(6) $3x^2 - \alpha x + 4 = 0$, $\alpha = 3\beta$, $\beta = \frac{4}{3}$ ... $3\beta^2 = \frac{4}{3}$, $\beta^2 = \frac{4}{9} \to \beta \left\{ \frac{2}{3}, -\frac{2}{3} \right.$

$\to S \left\{ \frac{8}{3} = \frac{\alpha}{3} \to \alpha = 8 \right.$; $-\frac{8}{3} = \frac{\alpha}{3} \to \alpha = -8$; $8 - (-8) = 16$

(7) $y = ax^2 + (3 + 2a)x + a$, $a > 0$



$\Delta \geq 0$

$S \geq 0 \to \frac{-3 + (-2a)}{a} \geq 0 \to -\frac{3}{2} \geq a$; $\emptyset$; $a > 0$

$9 + 4a^2 + 12a \geq 0 \to (2a + 3)^2 \geq 0$, $a \neq -\frac{3}{2}$

(8) $y = -x^2 - 2x + b$, $y = x^2 + ax - 2$

$\frac{-b}{2a} = \frac{2}{-2} = \frac{-a}{2} \to a = 2$

(9) $S = \frac{-a}{2a} = -\frac{1}{2}$, $P = \frac{-4}{2} = -2 \Big\} \to 2m^2 - am + b = 0$

$\to S = \alpha + \frac{1}{2} + \beta + \frac{1}{2} = -\frac{1}{2} + \frac{1}{2} + \frac{1}{2} = \frac{-(-a)}{2}$

$a = 1$

(10) $x^2 + 4x + m \to S = -4 \to \alpha = -4 - \beta \Big|$ $x^2 + 2m - 3m = 0$, $S = 2 \to \alpha = -2$, a

$-2 - \beta = 2 - \beta$

$\alpha - \beta = 4$