

$$x = -1$$

$$a - b + c = 9$$

$$x = 2$$

$$9a + 3b + c = 1$$

$$\Rightarrow 1a + 1b = -1 \Rightarrow a = -\frac{1}{2} \Rightarrow b = -1$$

$$\frac{-b}{2a} = -1 \Rightarrow b = 2a$$

$$a - b + c = 9 \Rightarrow -\frac{1}{2} + 1 + c = 9$$

$$\frac{1}{2} + c = 9 \Rightarrow c = \frac{17}{2} \Rightarrow \frac{-x^2}{2} - x + \frac{17}{2} = 0 \quad \text{نحلها}$$

$$\Delta = m^2 - 4m - 18 > 0$$

$$4m + 18 - 4m > 0 \Rightarrow m = \frac{1 \pm 17}{2} < -8$$

$$\frac{-b}{a} > 0 \Rightarrow \frac{-1}{2} > 0 \Rightarrow m < 0$$

$$\frac{c}{a} > 0 \Rightarrow \frac{m+4}{2} > 0 \Rightarrow m > -4$$

$$\Rightarrow -8 < m < -4$$

$$\frac{1-2m}{2} = \frac{2}{2-m} \Rightarrow 2m^2 - 4m + 1 = 9 \Rightarrow 2m^2 - 4m - 8 = 0 \quad \Delta = 16 + 64 = 80$$

$$m = \frac{4 \pm 8}{4} < \frac{4}{2} \quad \checkmark$$

$$x_1 + x_2 = 1 \quad x_1 x_2 = -8 \quad x_1^3 + \frac{1}{x_1^3} = A \quad x_2^3 + \frac{1}{x_2^3} = B \quad A + B = \frac{1}{x_1^3} + \frac{1}{x_2^3} + x_1^3 + x_2^3 =$$

$$\Rightarrow \frac{x_2 + x_1}{x_1 x_2} - x_1^3 + x_2^3 = 1 - \frac{1}{8} = \frac{7}{8} \quad AB = \left(\frac{1}{x_1} + x_1^3\right)\left(\frac{1}{x_2} + x_2^3\right) = x_1^3 x_2^3 = -64$$

$$\Rightarrow x_1^3 + x_2^3 = (x_1 + x_2)^3 - 3x_1 x_2 = 1 - (-8) = 9 \Rightarrow AB = \frac{1}{8} - 9 - 64 = -\frac{511}{8}$$

$$\text{المطلوب: } -8x^2 + 5(x+2)$$

$$\sqrt[3]{x^2} \rightarrow \frac{(x^2-1)(\sqrt[3]{x^2}+1)}{\sqrt[3]{x^2}} = \sqrt[3]{x^2}$$

$$x^2 - 1 = 2x \Rightarrow x^2 - 2x - 1 = 0 \Rightarrow \boxed{5=2}$$

$$P = \alpha \frac{B}{r\alpha} = r\alpha^2 = \frac{9}{r} \rightarrow \alpha = \pm \frac{r}{3}$$

$$S = \alpha + \frac{B}{r\alpha} = 6\alpha = \frac{a}{r} \rightarrow \pm \frac{\Delta}{r} = \frac{a}{r} \rightarrow \boxed{\alpha = \pm 1}$$

اختلاف = $\boxed{16}$

$$x = -t \quad y = (-t)^2 \alpha + (-t)(r + 2\alpha) = \alpha t^2 - 3t - 2\alpha t$$

-۷

$$\frac{(2\alpha + 3)^2}{4\alpha} = y_{\min}$$

اگر $\alpha > 0$

اگر $\alpha = 0$

اگر $\alpha < 0$ $\rightarrow y \rightarrow -\infty$

برای همه مقادیر α

$$\frac{-b}{r\alpha} = \frac{1}{\alpha} \quad \frac{y}{r} = \frac{a}{r} \Rightarrow \alpha = 2 \quad x^2 + 2x - 1 = 1 \Rightarrow x^2 + 2x - 3 = 0 \Rightarrow x < -3$$

-۸

$$\Rightarrow b = 9, \alpha b = 18$$

$$\frac{a}{r} + \frac{a}{r\alpha} = 1 \quad \frac{a}{r} + \frac{1}{r} = 1 \Rightarrow a = 1 \quad \frac{-y}{r\alpha} = -\frac{y}{r} = -3 \Rightarrow \frac{b}{r} = -3 \Rightarrow b = -9$$

-۹

$$\frac{db}{dr} = -\frac{y \times 1}{9} = \left[-\frac{9}{9} \right] = -1$$

$$\left. \begin{array}{l} S_A = P + Z \\ S_B = K + P \end{array} \right\} \Rightarrow S_A - S_B = Z - K$$

$$\left. \begin{array}{l} S_A = -9, S_B = -1 \end{array} \right\} \Rightarrow Z - K = -1 - (-9) = \boxed{8}$$

۱- ریشه های معادله $Z, P: A = x^2 + 2x + m$

ریشه های معادله $K, P: B = x^2 + 2x - 3m$