

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

$$-\frac{1}{2}x^2 + x + 3 = 0 \xrightarrow{x=2} x^2 - 4x - 12 = 0 \Rightarrow (x-6)(x+2) = 0 \Rightarrow x = 6, -2$$

$$m < 0, \Delta > 0 \Rightarrow 2\omega - 4m^2 > 0 \Rightarrow \frac{\omega}{2} > m^2 \Rightarrow m > -\frac{\omega}{2}$$

$$I \cap II = \left(-\frac{\omega}{2}, 0\right)$$

$$x^2 - 8x + 9 \Rightarrow x^2 - 2x + \frac{4}{9} \rightarrow x-1 \rightarrow (9x^2 - 18x + 4)$$

سوال ۲۰

$$2a^2 + a^2 + 2b^2 - b^2 = 12 \Rightarrow 3(a^2 + b^2) + (a^2 - b^2) = 12$$

$$a+b=5 \quad (a^2-b^2) = (a+b)(a-b)$$

$$19 - m - 2 + (5) \left(\frac{\sqrt{25-4m-4}}{5-2m} \right) = 12 \Rightarrow 2 - m + \sqrt{21-4m} = 0$$

$$m-2 = \sqrt{21-4m} \Rightarrow m^2 - 4m + 4 = 21 - 4m \Rightarrow m^2 - 17 = 0 \Rightarrow m = \pm \sqrt{17}$$

$$m = -2 \Rightarrow 2m^2 - 17m = 0 \Rightarrow m(m-8.5) = 0 \Rightarrow m = 0, 8.5$$

$$m=5 \Rightarrow 2m^2 - 17m + 4 = 0 \Rightarrow m^2 - 8.5m + 2 = 0 \Rightarrow m = 8.5, 0.235$$

$$a(x-2)^2 + 9 \quad (0, 9)$$

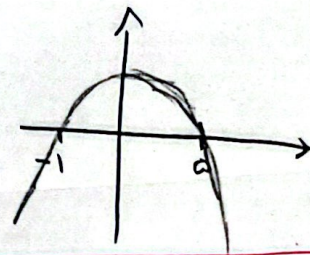
$$4a + 9 = 0 \Rightarrow a = -2.25$$

$$-x^2 + 4x + 9 > 0 \Rightarrow x \in (-1, 5)$$

$$y = -x^2 + 4x + 9$$

$$x^2 - 4x - 9 = 0$$

$$(2, 1), (6, -5)$$



سوال ۲۱

$$\frac{a+b}{ab}$$

$$ab = \frac{9b}{a} \Rightarrow \frac{a}{b} = 9 \Rightarrow a = 9b$$

$$\frac{a}{b} = a+b$$

$$a^2/b = 9b \Rightarrow a^2 = 9b^2 \Rightarrow a = \pm 3b$$

$$a = \pm 3$$

$$\frac{a}{b} = \frac{3}{1} = 3 \Rightarrow a = 3b$$

$$\frac{a}{b} = -3 \Rightarrow a = -3b$$

$$b = \pm \frac{1}{3} \Rightarrow a = \pm 1 \Rightarrow \frac{a+b}{ab} = \frac{1 \pm \frac{1}{3}}{\pm \frac{1}{3}} = \frac{4}{3} \text{ or } -\frac{2}{3}$$

سوال ۲۲

(سوال ۷)

$$a^p - m\beta \quad \begin{array}{l} a^p + \beta^p - 2m = \lambda \\ m^p + \beta m \\ \beta^p - 2m \end{array} \Rightarrow m^p + 2m - \lambda = 0 \quad \begin{array}{l} \rightarrow m = -\beta \\ \rightarrow m = 2 \end{array}$$

$$\Rightarrow m^p + \lambda m > 0 \Rightarrow m = 2, m \neq -\beta \quad -\frac{b}{a} = (-2) \rightarrow \text{جواب}$$

(5)

(سوال ۸)

$$m < 0 \quad \Delta > 0 \quad \frac{-b^p + \sqrt{b^2 - 4ac}}{2a} = \lambda \Rightarrow \frac{-19 + \sqrt{(m^p + 7m)}}{2m}$$

(5)

$$32m = 2m^p + 2\lambda m - 19 \Rightarrow m^p - 2m - \lambda = 0 \quad \begin{array}{l} m = 2 \\ m = -2 \end{array}$$

$$-2a^p + 4a + 7 = 0 \quad \div -2 \Rightarrow a^p - 2a - 3 = 0 \Rightarrow \text{جواب } (3, -1) \quad \boxed{K = 3}$$

(سوال ۹)

$$a(x-2) + \frac{p}{2x^p + x - 2} = 0 \Rightarrow (0, 2) \Rightarrow 2a + 4 = 2 \Rightarrow a = -\frac{1}{2}$$

(5)

$$-\frac{1}{2}x^p + 2x + 2 = 0 \quad x=2 \quad x^p - 4x - \lambda = 0 \quad \frac{1}{a} + \frac{1}{13} = \frac{a+b}{ab} \cdot \frac{1}{-1} = \boxed{-\frac{1}{2}}$$

(سوال ۱۰)

$$x - \lambda a - \lambda + 3a^p + 4a + 3 = 0 \Rightarrow 3a^p - 2a - 1 = 0$$

(5)

(4)

(3)

$$a=1 \Rightarrow x^p - \lambda x + 12 \quad \text{جواب } (4)$$

$$a^p - 2a - 3$$

$$\frac{3}{2} = 1 \quad \frac{1}{2} \rightarrow \Delta < 0$$

$$x^p - \left(-\frac{1}{2} + \frac{1}{2}\right)x + \left(\frac{1}{2} - 2 + 3\right) \quad x^p - \frac{\Delta}{2}x + \frac{1}{2} \Rightarrow 3x^p - \lambda x + 4 \quad \begin{array}{l} (x - \frac{4}{3})(x - 2) \\ \frac{1}{3} \end{array} \quad \boxed{\frac{1}{3}}$$

$$a = \frac{1}{3}$$