

$$P_2 = \{(-1, 2), (0, 1), (1, 0), (1, 4)\}$$

(سوال ۱)

(۱, ۷۵)

$$P_f = \{(-1, 0), (0, 3), (1, 4), (1, 0)\}$$

$$P_2 - P_f = \{(-1, 2), (0, 1), (1, 4)\}$$

$$P + \Delta + K = 11$$

$$f(x) = 2x - 1 \quad D = [1, +\infty)$$

(سوال ۲)

(۵)



$$h = [0, +\infty) \quad \text{II}$$

$$g(x) = \frac{1}{3}x + 2 \rightarrow (-\infty, 3] \quad \text{II}$$

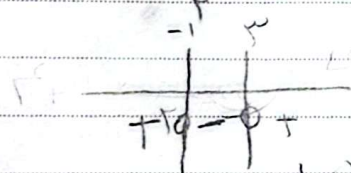
$$D = (-\infty, 3]$$

$$I \cup II = (-\infty, 4] \cup [0, +\infty)$$

$$y = \frac{x^2}{-1} + x + 3 \geq \frac{3}{1} \rightarrow x^2 - 2x - 6 < -3$$

(سوال ۳)

(۵)



$$x^2 - 2x - 3 < 0$$

$$(x - 3)(x + 1) < 0$$

$$R = (-1, 3)$$

$$b - a = \sqrt{3 - (-1)} = 2$$

$$y = |x - 1| + |x - 3| + |2x - 4|$$

(سوال ۴)

(۵)

$$x = 0 \rightarrow y = 1$$

$$x = 1 \rightarrow y = 2$$

$$x = 2 \rightarrow y = 2$$

$$x = 3 \rightarrow y = 4$$

$$x = 4 \rightarrow y = 8$$

$$x = 5 \rightarrow y = 11$$

$$x = 6 \rightarrow y = 15$$

$$x = 7 \rightarrow y = 20$$

$$x = 8 \rightarrow y = 26$$

$$x = 9 \rightarrow y = 33$$

$$x = 10 \rightarrow y = 41$$

Aiman

$$x - 1 - x + 3 + 2x - 4 \quad 1 < x < 3$$

$$x - 1 + x - 3 + 2x - 4 \quad 3 < x$$

$$x - 1 - x + 3 + 2x - 4 \quad x < 1$$

$$x - 1 - x + 3 + 2x - 4 \quad x < 1$$

$$x - 1 - x + 3 + 2x - 4 \quad x < 1$$

$$f(x) = |x| - 1|x+1|$$

$$x=0 \quad x=-1 \quad x > 1$$

$$x=0 \rightarrow -1$$

$$-1x - 1x + 1 = -2x + 1 \leq 0$$

$$x=1 \rightarrow -1$$

$$-1x - 1x + 1 = -2x + 1 \leq 0$$

$$x=-1 \rightarrow 0$$

$$x - 1x - 1 = -1 \leq 0$$

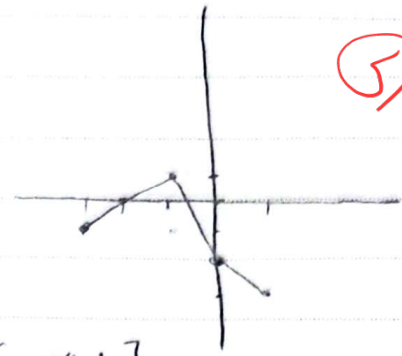
$$x=-1 \rightarrow 0$$

$$-x - 1$$

$$x=-1 \rightarrow 0$$

$$x=1$$

$$R = (-\infty, 1]$$



$$y = \frac{x^2 + \omega x + m}{x+1}$$

$$(x+\omega)(x-1)$$

$$(x+\omega)(x-1)$$

$$y(x+1) = x^2 + \omega x + m$$

$$x^2 + (\omega - y)x + m - y = 0 \quad \Delta = \frac{(\omega - y)^2 - 4(m - y)}{4}$$

$$(\omega - y)^2 - 4(m - y) \geq 0 \quad \omega^2 - 2\omega y + y^2 - 4m + 4y \geq 0$$

$$\Delta \leq 0 \quad \omega^2 - 2\omega y + y^2 - 4m + 4y \geq 0$$

$$\frac{(x+1)(x+2)}{(x+1)} = x+2$$

$$x = -1 \rightarrow 1$$

$$R = [1, +\infty)$$

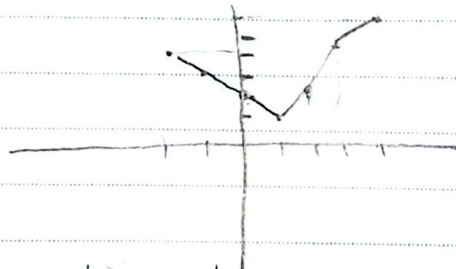
$$\frac{(x+1)(x+2)}{(x+1)} = x+2$$

$$m \rightarrow (-\infty, +\infty)$$

$$x+1; x \geq 1$$

$$x^2 - 2x + 1; 0 \leq x \leq 1$$

$$|x| + 1; x < 0$$



$$R = [1, +\infty)$$

$$f(x) = \begin{cases} x^2 + 2x + 1 & x \leq 0 \\ 2x & x > 0 \end{cases}$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-2 \pm \sqrt{4 - 4}}{2} = -1 \rightarrow y = 1 - 1 + 1 = 1 \quad R = [1, +\infty)$$

$$-1 \leq [2x] - 2x < 0 \rightarrow R = [-1, 0]$$

$$I \cup II = [-1, +\infty)$$

Arman

$$y = a+1 - \sqrt{2x+3} \quad D = [b, +\infty)$$

(1) حل

$$2x+3 \geq 0$$

$$R = (-\infty, \omega]$$

$$x \geq -\frac{3}{2} \Rightarrow b = -\frac{3}{2}$$

$$y = a+1 - \sqrt{2x - \frac{3}{2} + 3} = \omega \Rightarrow a = 2$$

$$ab = 2 \times -\frac{3}{2} = -3$$

(5)

$$f(x) = 2\sqrt{x+1} + 5\sqrt{1-x}$$

5.5

10

$$x+1 \geq 0 \quad x \geq -1$$

$$1-x \geq 0$$

$$1 \geq x$$

$$\Rightarrow D = [-1, 1]$$

(10) حل

$$x=1$$

$$f(x) = 2\sqrt{2}$$

$$f(x) + g(x) = 2\sqrt{2+2\sqrt{1-x}}$$

$$x=1$$

$$f(x) = 2\sqrt{2}$$

$$g(x) = \sqrt{2}$$

$$x=-1$$

$$f(x) = 5\sqrt{2}$$

$$f(x) + g(x) = 3\sqrt{2+2\sqrt{1-x}}$$

$$f(x) = 5\sqrt{2}$$

$$g(x) = -\sqrt{2}$$

$$y = \frac{f(x)}{g} = \frac{g(x)}{w}$$

$$x=1$$

$$\frac{2\sqrt{2}}{2} = \frac{\sqrt{2}}{1}$$

$$= \frac{2\sqrt{2} - 1\sqrt{2}}{2} = 0$$

$$x=-1 \Rightarrow \frac{5\sqrt{2}}{2} - \frac{1\sqrt{2}}{1} = \frac{5\sqrt{2} - 1\sqrt{2}}{2} = \sqrt{2}$$

$$R_f = [0, \sqrt{2}]$$

(5)