

$$f(m) = (m+1)^2 + (2m-1)^2 + m^2 + 12m + mn$$

$$g(m) = \{(2, m), (m, 2), (2, -1), (-1, 2, k)\}$$

$$x^2 + 1 + 2x + 9x^2 + 1 - 9x + m^2 + 12x + mn$$

$$1 - 9x - 8x^2 + 2 + m^2 + 12x + mn$$

$$\Rightarrow m = -1$$

$$n = 2$$

$$P+1 = -1 \Rightarrow P = -1$$

$$P+K = -1$$

$$-1+K = -1 \Rightarrow K = 0$$

$$\Rightarrow (-1) + (2) + (-1) + (1) = -1$$

$$f(x) = \sqrt{\frac{x-2}{x^2-2x-1}}$$

$$(x, t) \Rightarrow t^2 - 2t - 1$$

$$(t, -2) \Rightarrow t = 2 \Rightarrow x^2 - 2x - 1 = 0 \Rightarrow x = 1 \pm \sqrt{2}$$

$$f(m) = \frac{2m^2 + 1}{4 - 2(-m)}$$

$$x = 2(-m) \Rightarrow x = -2m \Rightarrow D_f: R - \{-2\}$$

$$f(m) = \frac{x(x-1)}{\sqrt{|x|+x}}$$

$$|x|+x > 0 \Rightarrow |x| > -x$$

$$+2x \Rightarrow (+) \text{ با } x \text{ علامت یکسان باشد}$$

$$I \cap II = [1, +\infty)$$

$$f(m) = \frac{\sqrt{|x-1|-x^2}}{|x|-1}$$

$$\frac{|x-1|}{1} \geq \frac{x^2}{1} \Rightarrow [1, 2]$$

$$|x| \neq 1 \Rightarrow x \neq -1, 1$$

$$I \cap II = [1, 2] - \{1\}$$

$$g = \frac{1}{||x-1|-1|-x}$$

$$II \text{ جز اول}$$

$$x = -3 \Rightarrow |1 - (-3)| = 4$$

$$x = -1 \Rightarrow |1 - (-1)| = 2$$

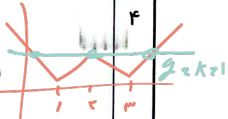
$$x = 1 \Rightarrow |1 - 1| = 0$$

$$||x-1|-1| = R$$

$$I \text{ جز دوم} \Rightarrow |x-1|-1 = |x-1|$$

$$II \text{ جز دوم} \Rightarrow |1-x-1| = |-x|$$

$$R = f$$



$$y = 2x - [x]$$

$$x = 2 \Rightarrow -f + 2 = -2$$

$$x = 1.5 \Rightarrow -f + 2 = -1$$

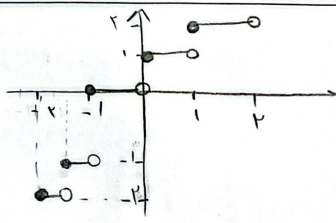
$$x = 1 \Rightarrow -f + 2 = 0$$

$$-1 < x < 1$$

$$-1 \leq x < 0$$

$$2x+2$$

$$2x+1$$



$$f(x) = \frac{x^2 - 6x + 5}{x + 1} + b \quad \sim \quad \frac{(x-5)(x-1)}{x+1} + b$$

$$a = b = ?$$

$$\begin{aligned} \text{a) } x=5 & \quad \frac{(x-5)(x-1)}{x+1} + b = 0 \\ \text{b) } x=1 & \quad \frac{(x-5)(x-1)}{x+1} + b = 0 \end{aligned}$$

$a_1 = 5 \Rightarrow (x-1) + b \Rightarrow b = -4$
 $a_2 = 1 \Rightarrow (x-5) + b \Rightarrow b = -4$
 $x=5 \Rightarrow -5-5 = -10$
 $x=1 \Rightarrow -1-1 = -2$

$$f(x) = \begin{cases} \frac{x^2 + 4x^2 - x - 2}{x^2 - 1} \rightarrow x \neq \pm 1 \\ \frac{5x + 2}{x + 1} \rightarrow x = \pm 1 \end{cases}$$

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

$$g(x) = \sqrt{4x + 2} \rightarrow 4x + 2 \geq 0 \Rightarrow 4x \geq -2 \Rightarrow x \geq -1/2$$

$$D_{f \cap g} = [-1/2, \infty)$$

$$f - g(x) = 1\sqrt{x} - \sqrt{4x + 2} = 4\sqrt{x} \Rightarrow f = 1\sqrt{x}$$

$$g = (-1)^k (x - \{x\}) - \frac{1}{x} = 0$$

