

$$|y-1|=x \Rightarrow y \geq 0 \rightarrow y = \frac{x+1}{2} \rightarrow y \geq 0 \Rightarrow x \geq -1$$

$$-y \leq x \quad y < 0 \rightarrow y = -\sqrt{-x} \Rightarrow \sqrt{-x} > 1 \rightarrow x < -1$$

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

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

$$(-\infty, -1] \cup [0, 2] \cup [2, +\infty)$$

$$x^2 - 4x = 0 \rightarrow x(x-4) \rightarrow x(x-1)(x-3) = 0 \Rightarrow Df = \mathbb{R} - \{-1, 0, 2\}$$

$$\frac{x(x-1)(x-3)}{x(x-1)(x-3)} \Rightarrow \Delta = -1 \quad a > 0 \quad \frac{-1 \pm \sqrt{1-4(-1)(-1)}}{2(-1)} = \frac{-1 \pm 1}{-2} \Rightarrow \frac{0}{-2} = 0 \quad \frac{-1}{-2} = \frac{1}{2}$$

$$\frac{x-1}{x^2-4x} > 0 \rightarrow \frac{(x-1)(x^2-4)}{(x-1)(x-2)(x-4)} \Rightarrow \frac{(x-1)}{(x-2)(x-4)}$$

$$x \neq 1 \rightarrow \frac{1}{(x-2)(x-4)} \rightarrow \frac{-1}{x^2-6x+8} \Rightarrow Df = (-1, +\infty) - \{2\}$$

$$1 - 2[x] \neq 0 \Rightarrow [x] \neq \frac{1}{2} \rightarrow x \neq [1, 2]$$

$$\Rightarrow \mathbb{R} - [1, 2] = Df$$

$$\frac{x(x-1)(x-1)}{x(x-1)(x-1)} \geq \frac{1}{1+1+1}$$

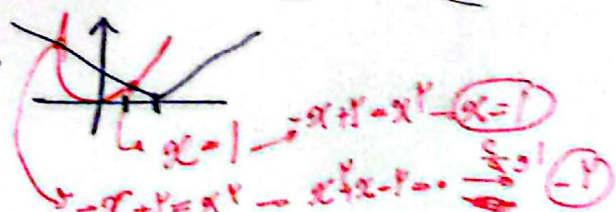
$$x+x > 0 \Rightarrow x > 0$$

$$(-\infty, 0] \cup [0, +\infty) = Df$$

$$|x-1| - x^2 > 0$$

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

$$\Rightarrow Df = (-1, 1) - \{1\}$$



$$D_f = \mathbb{R} \quad \text{مضاعف}$$

$$(x-1)(x-2) \geq 0 \Rightarrow x \leq 1 \text{ یا } x \geq 2$$

$$(x-1)(x-2) \geq 0 \Rightarrow (x-3) \geq 0 \Rightarrow x \geq 3$$

$$x-2 = \pm (k+1)$$

$$x > 2 \rightarrow x-1 = k \rightarrow x = k+1$$

$$x < 2 \rightarrow 2-x-1 = k \rightarrow x = 1-k$$

$$x-1 = k$$

$$x-1 = \pm k+1 \rightarrow k \geq 1$$

$$||x-2|-1| = k$$

$$x=2 \text{ و } x=0 \Rightarrow k=1$$

$$||x-2|-1| = k \Rightarrow x-2 = \pm k+1$$

$$x-2 = k+1 \Rightarrow x = k+3$$

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

$$\frac{(x+2)(x-1)}{(x+2)(x-1)} \rightarrow x \neq -2$$

$$\frac{x+1}{x-1} \rightarrow x \neq 1$$

$$\Rightarrow D_f = \mathbb{R} - \{-2, 1\}$$

$$\Rightarrow x^2 + 9x + 9$$

$$(x+3)^2$$

$$\Rightarrow \text{ارائه دارد}$$

$$\log \frac{1}{x^2} \rightarrow x \neq 0 \text{ و } x > 0$$

$$\log \frac{1}{x} > 0 \Rightarrow -\log x > 0 \Rightarrow x < 1$$

$$\Rightarrow D_f = (0, 1)$$

$$f(x) = (x^2-1)^3$$

$$f(x) \rightarrow [-1, 3] \rightarrow [-2, 2] \rightarrow \left[-\frac{2}{\sqrt{3}}, \frac{2}{\sqrt{3}}\right]$$

$$\Rightarrow D_f = \left[-\frac{2}{\sqrt{3}}, \frac{2}{\sqrt{3}}\right]$$