

$$-2 < \frac{3x+2}{0} < 4 \rightarrow -1 < 3x+2 < 4 \rightarrow -3 < x < 2 \rightarrow D = [-3, 2] \quad (2)$$

$$-2 < x < 3 \rightarrow -1 < 3x-2 < 4 \rightarrow D = [-1, 4] \quad (2)$$

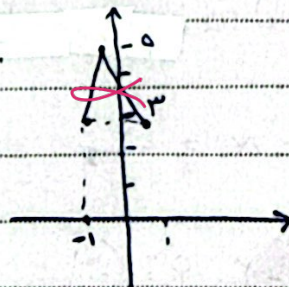
$$-1 < x < 2 \rightarrow -1 < \frac{3x+1}{1} < 0 \rightarrow D = [-1, 0] \quad (2)$$

$$-1 < 2-5x < 0 \rightarrow -\frac{3}{5} < x < \frac{2}{5} \rightarrow D = (-\frac{3}{5}, \frac{2}{5}]$$

$$\begin{array}{r|rrrr} 1 & -1 & -2 & +3 & -2 \\ 0 & +3 & 3 & & \end{array} \quad \frac{-2}{3} \quad (1.5)$$

$$\begin{array}{r|rrrr} 0 & -1 & -1 & +3 & -1 \\ 1 & +3 & 2 & +3 & 0 \end{array} \quad \frac{-1}{3}$$

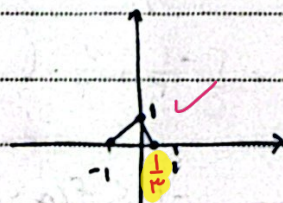
$$\begin{array}{r|rrrr} 2 & -1 & 1 & +3 & 1 \\ 0 & +3 & 3 & & \end{array} \quad \frac{1}{3}$$



$$\begin{array}{r|rrrr} 1 & -2 & -1 & +3 & \frac{1}{3} \\ 0 & \rightarrow & & & \end{array}$$

$$\begin{array}{r|rrrr} 2 & -2 & 0 & \rightarrow & \\ 2 & +3 & 1 & & \end{array}$$

$$\begin{array}{r|rrrr} 0 & -2 & 3 & +3 & -1 \\ 0 & \rightarrow & & & \end{array}$$



$$\frac{1}{3} (x-4)^2 + 3 = 0 \rightarrow \frac{1}{3} (x-4)^2 = -3 \rightarrow (x-4)^2 = -9$$

$$\Rightarrow x-4 = \pm 3 \quad \begin{array}{l} x=1 \\ x=7 \end{array} \rightarrow \text{چهار دو جواب داریم} \quad (2)$$

$$f(x) = a(x+1)/(x-3)$$

$$f = a(2)/(-2) \Rightarrow a = -1$$

$$x = 2 \rightarrow y = 1 - 2(2) = -3$$

$$\Rightarrow A(-\frac{1}{3}, -3) \Rightarrow \alpha\beta = \frac{3}{3}$$

$$f(x) \begin{cases} x \in (-\infty, a) \\ x \in (a, \infty) \end{cases}$$

$$g(x) \begin{cases} x \in [-1, b) \\ x \in (b-1, \infty) \end{cases}$$

$$f(x+1) + g(x-1) \Rightarrow (-2, 2) \rightarrow \text{حل}$$

$$\Rightarrow 1 + a = -2 \Rightarrow a = -3, b-1 = 2 \Rightarrow b = 3$$

$$\alpha\beta = -3 \Rightarrow (-3)$$

$$a \rightarrow -3 \leq x \leq 2 \Rightarrow -\frac{1}{3} \leq \frac{x+1}{x-3} \leq \frac{2}{3}$$

$$\Rightarrow D = [-\frac{1}{3}, \frac{2}{3}]$$

$$D \rightarrow -1 \leq f(x) \leq 2 \rightarrow -3 \leq f(x)-3 \leq 1 \rightarrow \alpha < 1$$

$$\sqrt{}, R = [1, 2]$$

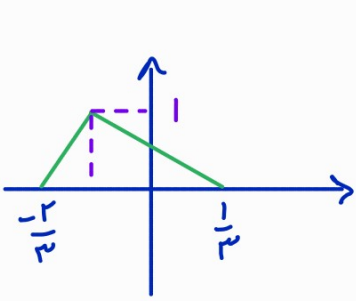
$$|2f(x)-3|$$

$$g(x) = \left| \frac{x-1}{x-3} \right| < 1 \rightarrow x + g(x) < 0 \rightarrow x + \left| \frac{x-1}{x-3} \right| < 0 \Rightarrow (x < -1)$$

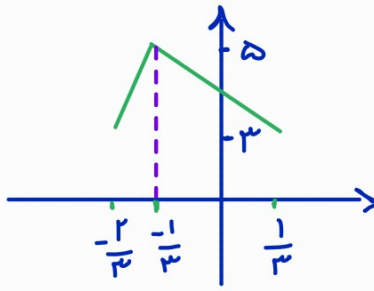
$$(-\infty, -1) \rightarrow \frac{x-1}{x-3} > 0 \Rightarrow x+1 + \frac{x-1}{x-3} < 0 \rightarrow \frac{2x^2-3}{x-3} < 0$$

Arman

$$x^2 - 2 > 0 \Rightarrow x < -\sqrt{2} \text{ or } x > \sqrt{2}$$



$$y = f(r_{n+1})$$



$$y = rf(r_{n+1}) + r$$

$$D_{y_1} = [-r, \Delta] \rightarrow -r \leq r_{n+1} \leq \Delta \rightarrow -\frac{1}{r} \leq \frac{r_{n+1}}{r} + 1 \leq \frac{\Delta}{r} \Rightarrow D_f = \left[-\frac{1}{r}, \frac{\Delta}{r}\right]$$

$$R_{y_1} = [-1, r] \rightarrow -1 \leq f \leq r \rightarrow -\Delta \leq rf - r \leq 1 \rightarrow 0 \leq |rf - r| \leq \Delta$$

$$0 \leq \sqrt{|rf - r|} \leq \sqrt{\Delta} \Rightarrow R_f = [0, \sqrt{\Delta}]$$