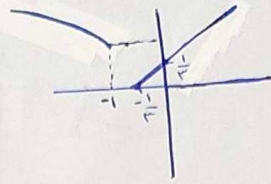


$$x = \begin{cases} 3y-1 & y \geq 0 \\ -y^2 & y > 1 \end{cases}$$



تابع است ✓

(۲)

$$y \geq 0 \rightarrow x = 3y-1 \rightarrow y = \frac{x}{3} + \frac{1}{3}$$

$$y > 1 \rightarrow x = -y^2 \rightarrow y = \sqrt{-x}$$

$$g(x) = \sqrt{\frac{x f(x-2)}{f(x)}} \rightarrow -2, 0, 7, \infty$$

$$\rightarrow -4, 2, 0$$

$$\begin{array}{c} -4 \quad -2 \quad 0 \quad 2 \quad \infty \\ -\frac{1}{3} + \frac{1}{3} \quad -\frac{1}{3} + \frac{1}{3} \quad -\frac{1}{3} + \frac{1}{3} \quad -\frac{1}{3} + \frac{1}{3} \end{array}$$

(۲)

$$D_f = (-4, -2] \cup [0, 2) \cup [7, +\infty) \checkmark$$

فقط حواصت باشد که $x=4$ در دامنه است و $x=4$ در دامنه $f(x-2)$ نیست که در بازه است آفده نیست

$$D_f = x^2 - 4x \neq 0 \Rightarrow x(x-4) \neq 0 \rightarrow x \neq \{0, 4\} = \mathbb{R} - \{0, 4\} \quad (\text{الف})$$

(۲)

$$D_f = f(x) \geq 0 \Rightarrow \frac{4x^2 - 3x + 2}{x^2 - 4x} \geq 0 \rightarrow \frac{-2 \quad 0 \quad 2}{-\frac{1}{3} + \frac{1}{3} - \frac{1}{3} +}$$

$$\hookrightarrow x(x-2)(x+2)$$

$$D_f = (-2, 0) \cup (2, +\infty) \checkmark$$

(۲)

$$\frac{x-2}{x^2-2x^2-8} \geq 0$$

$$\frac{-2 \quad 2}{-\frac{1}{3} + \frac{1}{3} +}$$

$$D_f = (-2, +\infty) - \{2\} \quad (\text{الف})$$

(۱,۷۵)

$$\hookrightarrow t^2 - 2t - 8 \leq 0 \rightarrow (t-4)(t+2) = 0 \begin{cases} t=4 \rightarrow x^2 = 4 \rightarrow x = \pm 2 \\ t=-2 \rightarrow \infty \end{cases}$$

$$4-2[-x] \neq 0 \Rightarrow 2-[-x] \neq 0 \rightarrow 2 \neq [-x] \rightarrow D_f = \mathbb{R} - (-2, -4] \quad (\text{وقت!})$$

$$(\text{الف}) \quad y = f(x) \begin{cases} x(x^2-1) \geq 0 \Rightarrow \frac{-1 \quad 0 \quad 1}{-\frac{1}{3} + \frac{1}{3} - \frac{1}{3} +} \quad x = [-1, 0] \cup [1, +\infty) \quad \text{I} \\ |x| + x > 0 \Rightarrow x > 0 \quad \text{II} \end{cases}$$

(۲)

$$\text{I} \cap \text{II} = [1, +\infty) \checkmark$$

(۲)

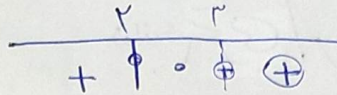
$$y = f(x) \begin{cases} |x-2| - x^2 \geq 0 \quad \text{I} \\ |x| \neq 1 \rightarrow x \neq \{-1, 1\} \quad \text{II} \end{cases}$$

$$-x^2 - x + 2 \geq 0 \rightarrow x^2 + x - 2 \leq 0 \rightarrow x^2 + x - 2 \leq 0 \rightarrow (x+2)(x-1) \leq 0 \rightarrow \frac{-2 \quad 1}{-\frac{1}{3} + \frac{1}{3} - \frac{1}{3} +} \rightarrow [-2, 1]$$

$$\text{II} \quad [-2, 1] \quad \text{II}$$

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

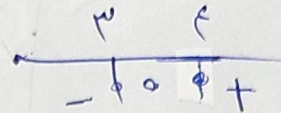
$$(n-2)[x-2] \geq 0$$



$$D_f = \mathbb{R} \checkmark$$

9

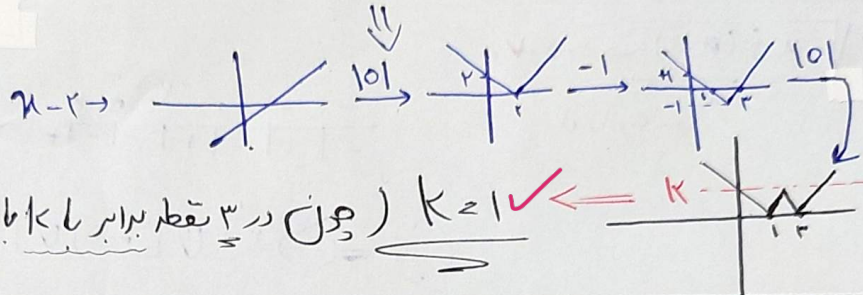
$$(n-1)[x-2] \geq 0$$



$$D_f = [2, +\infty) \cup \{1\}$$

9

$$||x-2|-1|-k \neq 0 \Rightarrow ||x-2|-1| \neq k$$



9

$$f(n) = \frac{\frac{n^2+3n+2}{n^2+3n+2}}{\frac{n+1}{n-1}} \begin{cases} n^2+3n+2 \neq 0 \rightarrow (n+2)(n+1) \neq 0 \rightarrow n \neq \{-2, -1\} \\ n-1 \neq 0 \rightarrow n \neq 1 \\ \frac{n+1}{n-1} \neq 0 \rightarrow n \neq \{-1, 1\} \end{cases}$$

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

$n=2 \leftarrow (n-2)^2 \leftarrow n^2-4n+4=0 \leftarrow n=2$

9

$$g_{n+1} g_n \frac{1}{r} \begin{cases} g_n^2 > 0 \rightarrow (x < 1) \\ n+1 > 0 \rightarrow n > -1, n+1 \neq 1 \Rightarrow n \neq 0 \end{cases}$$

$$D_{g_1} = (0, 1)$$

9

$$-5 < 2x^2-1 < 3 \begin{cases} 2x^2-1 < 3 \Rightarrow 2x^2 < 4 \Rightarrow x^2 < 2 \Rightarrow -\sqrt{2} < x < \sqrt{2} \\ 2x^2-1 > -5 \Rightarrow 2x^2 > -4 \Rightarrow x^2 > -2 \end{cases}$$

$$D_f = D_{g_1} = \left[-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2} \right] \text{ ارضی!}$$

9