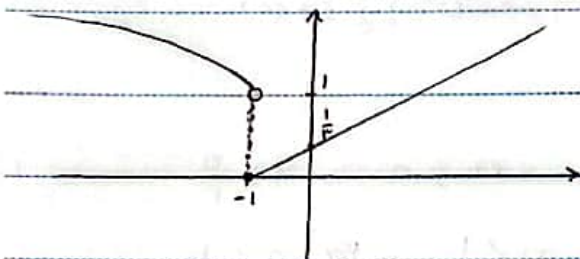


$$x = \begin{cases} 3y - 1, & y \geq 0 \rightarrow y = \frac{x}{3} + \frac{1}{3}, \quad \frac{x}{3} + \frac{1}{3} \geq 0 \rightarrow x \geq -1 \\ -y^2, & y > 1 \rightarrow y = \sqrt{-x}, \quad \sqrt{-x} > 1 \rightarrow -1 > x \rightarrow \textcircled{1} \cap \textcircled{2} = (-\infty, -1) \\ D = (-\infty, 0] \textcircled{1} \end{cases}$$



تابع است.

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

	$-\varepsilon$	-2	0	2	4	6	$+$
x	$-$	$-$	$-$	0	$+$	$+$	$+$
$f(x-2)$	$-$	$-$	0	$+$	$+$	$+$	0
$f(x)$	$-$	$+$	$+$	$+$	$+$	$+$	$+$
$g(x)$	$-$	$+$	0	$+$	$+$	$+$	$+$

* ۴ و ۶ هم تعریف نشده بودند و بی چون کوی دامنه مرور نقطه نبودند محاطی نشدند.

$$f(x) = \frac{2x^2 - 2x + 2}{x^2 - 4x} \rightarrow \Delta < 0 \rightarrow D_{f(x)} = \mathbb{R} - \{-2, 0, +2\}$$

$$x \mid \begin{array}{ccc} -2 & 0 & 2 \\ - & + & - \end{array} \quad D_{f(x)} = (-2, 0) \cup (2, +\infty)$$

$$y = \sqrt{\frac{x-2}{x^2 - 2x^2 - 1}} \quad x-2=0 \rightarrow x=2$$

$$x^2 - 2x^2 - 1 = 0 \quad t = x^2 \rightarrow t^2 - 2t - 1 = 0$$

$$x \mid \begin{array}{ccc} -2 & +2 \\ - & + \end{array}$$

$$\Rightarrow D = (-2, +2) \cup (2, +\infty)$$

$$ب) y = \frac{x^2 - 1}{x - 2} \rightarrow \Delta < 0$$

$$x - 2 \neq 0 \rightarrow x \neq 2 \rightarrow x = [-2]$$

$$\rightarrow x < -2 < 2 \rightarrow -2 > x > 2 \rightarrow x \in (-2, 2]$$

$$\Rightarrow D = \mathbb{R} - (-2, 2]$$

$$الف) f(x) = \frac{\sqrt{x(x^2 - 1)}}{\sqrt{|x| + x}} \rightarrow x(x-1)(x+1) \quad x \mid \begin{array}{ccc} -1 & 0 & 1 \\ - & + & - \end{array} \rightarrow [-1, 0] \cup [1, +\infty) \quad ①$$

$$y = |x| + x = \begin{cases} x & x \geq 0 \\ 0 & x < 0 \end{cases} \rightarrow (0, +\infty) \quad ② \Rightarrow ① \cap ② = D = [1, +\infty)$$

$$ب) f(x) = \frac{\sqrt{|x-2| - x^2}}{|x| - 1} \quad |x| - 1 = 0 \rightarrow x = \pm 1 \quad ①$$

$$|x-2| - x^2 \geq 0 \rightarrow |x-2| \geq x^2 \rightarrow \begin{cases} x-2 \geq x^2 \rightarrow x^2 - x + 2 \leq 0 \rightarrow D = \emptyset \\ x-2 \leq -x^2 \rightarrow x^2 + x - 2 \leq 0 \end{cases} \quad x \mid \begin{array}{ccc} -2 & -1 & 1 \\ + & - & + \end{array} \rightarrow [-2, 1] \quad ②$$

$$D = ① \cap ② = [-2, -1) \cup (-1, 1)$$

$$الف) y = \sqrt{(x-2)[x-3]} \quad \text{intersections of } [a] \text{ and } a \rightarrow$$

$$\rightarrow a[a] \geq 0 \rightarrow (x-2)[x-3] \geq 0 \rightarrow D = \mathbb{R}$$

$$ب) y = \sqrt{|x-1|} [x-3]$$

$$D = [3, +\infty) \cup \{1\}$$

	1	3	5
$ x-1 $	+	+	+
$[x-3]$	-	-	+
y	-	-	+

Subject.

آریت یازدهم

Day. Month. Year.

$$g = \frac{1}{||x-2|-1|-k}$$

۷- برای اینکه ۳ عدد صحیح عبارت از صفر باشند باید $|x-2|$ برابر ۱ یا ۲ باشد.
شود. فقط یک جواب ایجاد کنند.

$$||x-2|-1|-k=0 \rightarrow ||x-2|-1|=k \xrightarrow{k=1} |x-2|-1=1 \rightarrow x=0, 4$$

$$|x-2|-1=-1 \rightarrow x=2$$

$$\Rightarrow \boxed{k=1}$$

$$x^2 + 3x + 2 = 0 \rightarrow (x+1)(x+2) = 0 \quad x = -1, x = -2$$

$$x+1=0 \rightarrow x=-1$$

$$\Rightarrow n=3$$

$$x-1=0 \rightarrow x=1$$

$$\Rightarrow x^2 - 6x + 9 = 0 \rightarrow (x-3)^2 = 0 \rightarrow x=3$$

یازدهم

$$x+1 > 0 \rightarrow x > -1 \quad (1) \quad x > 0 \quad (3)$$

$$x+1 \neq 1 \rightarrow x \neq 0 \quad (2) \quad x \neq 1 \quad (4)$$

$$(1) \cap (2) \cap (3) \cap (4) = D = (0, +\infty) - \{1\}$$

$$-5 \leq 3x^2 - 1 \leq 3 \rightarrow -5 \leq 3x^2 - 1 \rightarrow -4 \leq 3x^2$$



$$3x^2 - 1 \leq 3 \rightarrow 3x^2 \leq 4 \rightarrow x^2 \leq \frac{4}{3} \Rightarrow -\frac{2}{\sqrt{3}} \leq x \leq \frac{2}{\sqrt{3}}$$

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