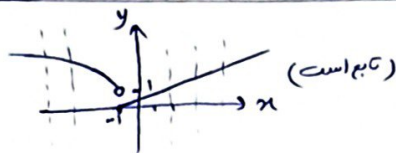


$$x \leq \begin{cases} \omega_{y-1} & y \geq 0 \rightarrow y \leq \frac{1}{\sqrt{x}} + \frac{1}{\sqrt{x}} \\ -y^2 & y > 1 \rightarrow y \leq \pm \sqrt{-x} \end{cases}$$



$$g(x) = \sqrt{\frac{x f(x-r)}{f(x)}} \Rightarrow \frac{0 \leftarrow x f(x-r) \rightarrow -\infty, \omega, v}{-r, \mu, \omega \leftarrow f(x)} \geq 0$$

$$f(x) \text{ ریشه های } = -4, 3, 5 \Rightarrow \frac{f(x)}{f(x-2)} = \frac{f(x-2)}{f(x-2)} \Rightarrow \frac{f(x-2)}{f(x-2)} = -2, 5, 7$$

$\begin{array}{ccccccccc} & -x & -y & & z & & a & & v \\ - & \oplus & + & - & \oplus & - & \oplus & - & + \end{array}$

$$D_g = (-1, -2] \cup [0, 3) \cup [7, +\infty)$$

$$f(x) = \frac{x^2 - 3x + 2}{x^2 - 2x + 1}$$

$$x^3 - 5x$$

$$x(x-2)(x+2) \rightarrow 0, 2, -2$$

$$D_f \subseteq IR - \left\{ \begin{array}{c} \text{شماره های} \\ \text{منفی} \end{array} \right\} = IR - \{0, -2, 2\}$$

الف) راعنی $f(x)$:
ب) راعنی $\sqrt{f(x)}$:

$$\sqrt{\frac{rx^5 - rx + r}{x^5 - rx}} \Rightarrow \frac{rx^5 - rx + r}{x^5 - rx} \geq 0 \rightarrow \left. \begin{matrix} x \in \{ \} \end{matrix} \right\} \oplus \text{value}$$

$$\frac{-r}{-} + \frac{0}{+} - \frac{r}{-} +$$

$$D \subseteq (-r, 0) \cup (r, +\infty)$$

$$\text{الف) } y = \sqrt{\frac{x-2}{x^5 - 2x^2 - 1}} \Rightarrow \frac{x-2 \rightarrow 2}{(x-2)(x+1)(x^2+2)} \geq 0 \rightarrow$$

$$\begin{array}{r} -y \quad (2) \\ \hline -\frac{1}{2} + \frac{1}{2} + \end{array}$$

$$Dy \in (-r, r) \cup (r, +\infty)$$

$$\therefore y = \frac{2x^2 + 1}{x - 2[-x]} \Rightarrow \mathbb{R} - \{\text{نقطه منقطع}\} \Rightarrow \mathbb{R} - (-2, -2) \Rightarrow \boxed{D_y = (-\infty, -2] \cup (-2, +\infty)}$$

$$\{-r[-x] \leq 0 \rightarrow r[-x] \leq f \rightarrow [-x] \leq r \rightarrow -\frac{w}{r}x \leq -\frac{w}{r}f$$

$$\text{الف) } f(x) = \frac{\sqrt{x(x^2-1)}}{\sqrt{|x|+x}} \Rightarrow \begin{cases} x(x^2-1) \geq 0 \rightarrow \frac{-1}{-} \frac{0}{+} \frac{1}{+} \rightarrow x \in [-1, 0] \cup (1, +\infty) \\ |x|+x > 0 \rightarrow |x| > -x \Rightarrow x > 0 \end{cases}$$

$$\Rightarrow D_f = [1, +\infty)$$

$$\rightarrow f(x) = \frac{\sqrt{|x-2|-x^2}}{|x|-1} \Rightarrow \begin{cases} |x-2|-x^2 \geq 0 \Rightarrow |x-2| \geq x^2 \rightarrow \text{graph} \Rightarrow x \in [-2, 1] \\ |x|-1 \neq 0 \rightarrow |x| \neq 1 \Rightarrow x \neq \pm 1 \end{cases}$$

$$D_f \subseteq (-2, -1) \cup (-1, 1)$$

$$\text{الف) } y = \sqrt{(x-2)[x-2]} \rightarrow \underset{22}{(x-2)} \underset{2}{[x-2]} \geq 0$$

$$[n] \leq r \rightarrow r \leq n < r'$$

$$\begin{array}{c} \nu & \mu \\ \hline + & \ominus & \circ & \oplus & + \end{array} \Rightarrow \nu_\nu \leq 1R$$

ب) $y \leq \sqrt{|x-1| [x-2]}$ $\rightarrow |x-1| [x-2] \geq 0$

$$\lceil x \rceil = n \rightarrow n \leq x < n+1$$

$$\textcircled{1} \quad \begin{array}{c} r \\ - \mid - \oplus \oplus + \end{array} \Rightarrow D_y \subseteq [r, +\infty) \cup \{1\}$$

(پس دو کتابی را
مفروضه ۳ را پیش بازنویس)

$$y \leq \frac{1}{|1x-2|-1-k} \Rightarrow D_y \leq \mathbb{R} - \left\{ \begin{array}{l} \text{ریشه های} \\ \text{مفروضه} \end{array} \right\}$$

(k>2)

$$|n-r| - 1 \leq k \rightarrow |n-r| \leq k+1 \quad \wedge \quad n \leq k+r$$

$$|n-r| - |s-k| \rightarrow |n-r|s - k+1 \rightarrow n_s k+1$$

$$k + \frac{1}{2} k + 1 \propto$$

$$-k + 12 - k + 1$$

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$$k + \nu_s - k + 1 \rightarrow \nu_{k+1} \rightarrow k + 1 - \text{GGE} \alpha$$

$$k+1 \geq -k+n \rightarrow p_k \leq r \rightarrow (k \leq 1) \quad \bar{G} \bar{G} \quad \checkmark$$

$$-k+1 \leq k+1 \rightarrow \gamma_k \leq 0 \rightarrow k \leq 0 \quad GG_E \propto$$

$$k + \mu_s \mu - k \rightarrow \nu_k s_0 \rightarrow k s_0 \quad \bar{G}G \propto$$

$$f(x) = \frac{\frac{x^2 + 3x + 2}{x^2 + 3x + 2}}{\frac{x+1}{x-1}}$$

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

$$x^2 - 2x + 1 = 0$$

$$\hookrightarrow x=1 \quad x^2 - 4x + 4 = 0 \rightarrow (x-2)^2 = 0 \Rightarrow x=2$$

(درای
بسی
میانگ است)

$$y = \log_{x+1} \log_x x$$

$$\begin{cases} x+1 > 0 \Rightarrow x > -1 \\ \log_x x > 0 \Rightarrow -\log_x x > 0 \rightarrow 0 < x < 1 \Rightarrow y \leq (0, 1) \\ x+1 \neq 1 \rightarrow x \neq 0 \\ x > 0, x \neq 1 \end{cases}$$

$$x^2 - 1 \xrightarrow{x \geq 0} -1 \leq x^2 - 1 \leq 4 \rightarrow 0 \leq x^2 \leq 5 \Rightarrow x^2 \leq \frac{5}{x} \xrightarrow{(5)} |x| \leq \frac{\sqrt{5}}{\sqrt{x}} \Rightarrow D = \left[-\frac{\sqrt{5}}{\sqrt{x}}, \frac{\sqrt{5}}{\sqrt{x}} \right]$$