

الف) $\frac{|x|+1}{|x|-2}$ $\rightarrow R = (-\infty, -\frac{1}{2}] \cup (1, +\infty)$ $\rightarrow y = \frac{x^2+1}{|x|}$ $R = [2, +\infty)$

$|x| = \begin{cases} x & x \geq 0 \\ -x & x < 0 \end{cases}$ $\min = 0$ $\max = \infty$

مجموع توانی منفرشتن
لا دارد $\leftarrow$ تابع

$\frac{x^2+1}{-x}$ $\frac{x^2+1}{x}$ $x + \frac{1}{x}$ $A \geq 2$

B $\frac{x^2+1}{x} \geq 2 \Rightarrow x^2+1 \geq 2x \Rightarrow x^2-2x+1 \geq 0 \Rightarrow (x-1)^2 \geq 0$ $\Rightarrow x \geq 1$

$y = \frac{x^2+2x-2}{x+2} \Rightarrow yx+2y = x^2+2x-2 \Rightarrow x^2+(2-y)x-2-2y = 0$

$\Rightarrow \Delta \geq 0 \Rightarrow (2-y)^2 - 4(1)(-2-2y) \geq 0 \Rightarrow y^2-4y+4+8+16y \geq 0 \Rightarrow y^2+12y+12 \geq 0$

$y^2+12y+12 \geq 0 \rightarrow (y+6)(y+2) \geq 0$ $R = (-\infty, -6] \cup [-2, +\infty)$

الف) $y = \sqrt{-x^2+4x-1}$ $\Rightarrow y = \sqrt{2x^2-4x}$

$-x^2+4x-1$ $2x^2-4x$

$\begin{cases} x \leq 2 \\ y \geq 1 \end{cases} \Rightarrow R = (-\infty, 2] = [0, \sqrt{3}]$ $\begin{cases} x \leq 2 \\ y \geq -1 \end{cases} \Rightarrow R = [-1, +\infty)$

$\sqrt{[-1, +\infty)} = [-2, +\infty)$

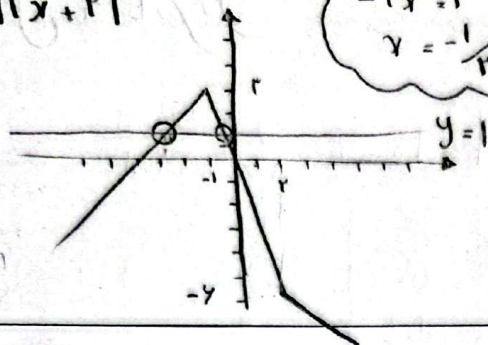
الف) $y = \log(x^2-x+1)$ $\rightarrow y = \log_r(\frac{x^2+1}{x}) \rightarrow \frac{x+1}{x}$

$\log R^+$ $y = \log_r A$ $A \geq r$ $R = [1, +\infty)$

الف) $y = |2x-2| - |x-3|$ $\rightarrow y = |x-3| + |x+1|$

$R = [-2, +\infty)$ $R = [2, +\infty)$

$$y = |x-2| - |2x+2|$$



$$-3x = 1$$

$$x = -\frac{1}{3}$$

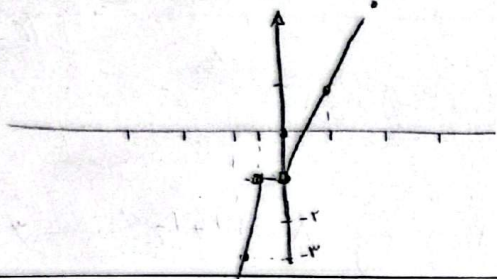
$$x + 4 = 1$$

$$x = -3$$

بازه شد

$$(-\infty, -3] \cup [-\frac{1}{3}, +\infty)$$

$$y = 3x - |2x+1| + |x|$$



$$R = \mathbb{R}$$

$$y = [x] + [3-x] = [x] + [-x] + 3$$

$$x \in \mathbb{Z} = 0 \xrightarrow{+3} 3 \quad A$$

$$x \notin \mathbb{Z} = -1 \xrightarrow{+3} 2$$

$$R = \{2, 3\}$$

$$y = 3x - [x]$$

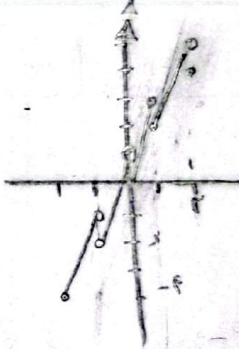
$$-2 < x < -1 \Rightarrow [x] = -2$$

$$-1 < x < 0 \Rightarrow [x] = -1$$

$$0 < x < 1 \Rightarrow [x] = 0$$

$$1 < x < 2 \Rightarrow [x] = 1$$

$$x = 2 \Rightarrow [x] = 2$$



$$y = \sin^2 x - \sin x + 1$$

$$-1 \leq \sin x \leq 1$$

$$1 \rightarrow 1$$

$$-1 \rightarrow 3$$

$$\frac{-b}{2a} = \frac{1}{2} \rightarrow \left(\frac{3}{2}\right)$$

$$R = \left[\frac{3}{4}, 3\right]$$

$$y = \sin^2 x + \sin^2 x + 1$$

$$0 \leq \sin^2 x \leq 1$$

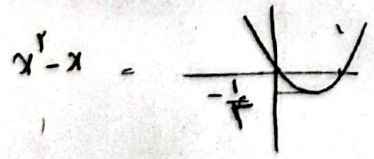
$$1 \rightarrow 3$$

$$0 \rightarrow 1$$

$$\Rightarrow R = [1, 3]$$

$$\frac{-b}{2a} = -\frac{1}{2} \rightarrow \text{غیر}$$

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



$$[0, 1]$$

تجربہ مطابق شکل فی تواند مندرجہ ذیل

خیلی غرضخواهی می کنم (پرسنال جاندا ختم میور شد) شماره سوالات در عرض کنم