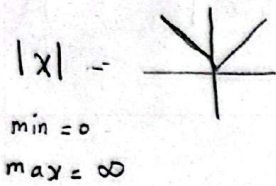


نام و نام خانوادگی: حسن بنیادین پاسخنامه تشریحی تکلیف شماره ۵۵ کلاس: دوازدهم B

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



* غرض توانایی منفرشتن
لا دارد $\leftarrow$ خارج

$\rightarrow y = \frac{x^2+1}{|x|}$

$R = [2, +\infty)$

$\frac{x^2+1}{|x|} \geq x + \frac{1}{x}$
 $\frac{x^2+1}{x} \geq x + \frac{1}{x}$
 $\frac{x^2+1}{x} - x - \frac{1}{x} \geq 0$
 $\frac{x^2+1-x^2-1}{x} \geq 0$
 $\frac{0}{x} \geq 0$
 $0 \geq 0$
 $\Rightarrow R = [2, +\infty)$

$y = \frac{x^2+2x-2}{x+3} \Rightarrow yx+3y = x^2+2x-2 \Rightarrow x^2+(2-y)x-2-3y = 0$

$\Rightarrow \Delta \geq 0 \Rightarrow (2-y)^2 - 4(1)(-2-3y) \geq 0 \Rightarrow 4+y^2-4y+8+12y \geq 0 \Rightarrow y^2+8y+12 \geq 0$

$y^2+8y+12 \geq 0 \rightarrow (y+4)(y+2) \geq 0$
 $R = (-\infty, -4] \cup [-2, +\infty)$

الف) $y = \sqrt{-x^2+4x-1}$

$-x^2+4x-1$

$\left| \begin{matrix} x_s \\ y_s \end{matrix} \right| = \left| \begin{matrix} 2 \\ 3 \end{matrix} \right| \Rightarrow R = (-\infty, 3] = [0, \sqrt{3}]$

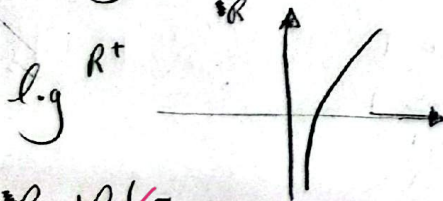
$\Rightarrow y = \sqrt{2x^2-11x}$

$2x^2-11x$

$\left| \begin{matrix} x_s \\ y_s \end{matrix} \right| = \left| \begin{matrix} 2 \\ -1 \end{matrix} \right| \Rightarrow R = [-1, +\infty)$

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

الف) $y = \log(x^2-x+11)$



$R = R^+$

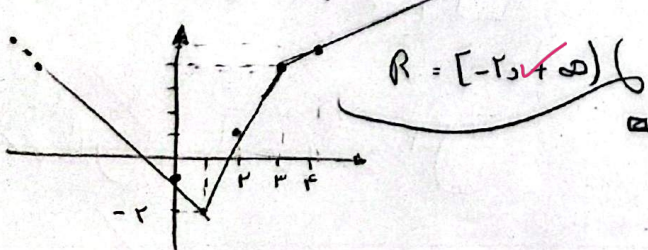
$\rightarrow y = \log_r \left(\frac{x^2+1}{x} \right) \rightarrow \frac{x+1}{x}$

$y = \log_r A$

$A \geq r$

$R = [1, +\infty)$

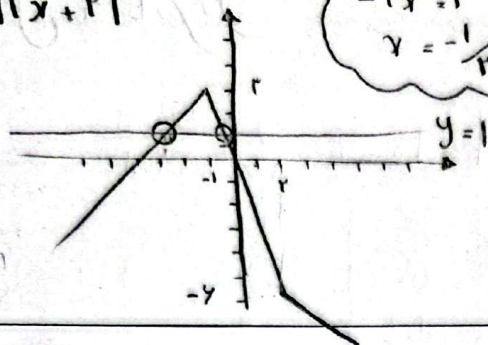
الف) $y = |2x-2| - |x-3|$



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



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



$$\begin{aligned} -3x &= 1 & x+4 &= 1 \\ x &= -\frac{1}{3} & x &= -3 \end{aligned}$$

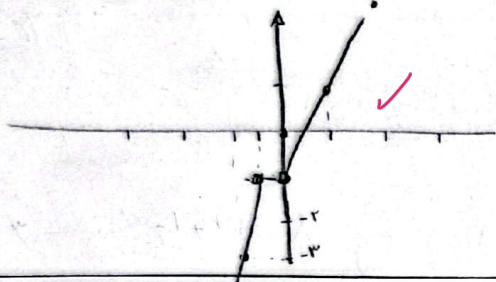
بازه بندی

$$(-\infty, -1] \cup [\frac{1}{2}, +\infty)$$

۲

✓

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



$$R = \mathbb{R}$$

۲

✓

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

$$\begin{aligned} x \in \mathbb{Z} &\Rightarrow y = 3 \\ x \notin \mathbb{Z} &\Rightarrow y = 2 \end{aligned}$$

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

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

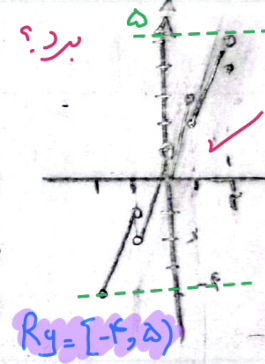
$$-2 < x < -1 \Rightarrow [x] = -2$$

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

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

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

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



۱.۵

✓

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

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

$$\begin{aligned} 1 &\rightarrow 1 \\ -1 &\rightarrow 3 \\ \frac{-b}{2a} &= \frac{1}{2} \rightarrow \frac{3}{4} \end{aligned}$$

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

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

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

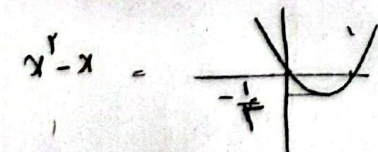
$$\begin{aligned} 1 &\rightarrow 3 \\ 0 &\rightarrow 1 \end{aligned} \Rightarrow R = [1, 3]$$

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

۲

✓

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



$$\begin{aligned} +\infty &\rightarrow 1 \\ -\frac{1}{x} &\rightarrow 0 \end{aligned} \Rightarrow [0, 1]$$

۱.۵

✓

$$D_f = \mathbb{R} \text{ دافنه؟ مخرج همواره مثبت}$$

توجه: مطابق شکل می توانستیم بپایان: داخل

خیلی غرضخواهی می کنم (پرسش جانداختم میبوشم) شماره سوالات در عرض کنم