

$$f(2x+1) + f(x^2) = 3x + f(3)$$

$$x=1 \Rightarrow f(3) + f(3) = 3 + f(3)$$

$$\Rightarrow f(3) = 3 \Rightarrow f(x) = x$$

$$\rightarrow R_f = [0, \frac{1}{2}]$$

$$y = \sqrt{x-x^2} \Rightarrow -\frac{b}{2a} \Rightarrow \frac{1}{2} \Rightarrow y = \sqrt{\frac{1}{2} - \frac{1}{4}} \Rightarrow y = \sqrt{\frac{1}{4}} = \frac{1}{2}$$

$$f(x) = \frac{x^3 - 4x}{x+2} \Rightarrow \frac{x(x-2)(x+2)}{x+2} = x(x-2) \rightarrow D_f = R - \{-2, 4\}$$

$$R_f = (-1, +\infty) - \{8\} \Rightarrow \text{از آنجایی که } \min_{x \in R} f(x) = \frac{b}{2a} \Rightarrow x=1 \rightarrow R_f = [-1, +\infty)$$

۳/۴ نقای $A \mid \frac{1}{8} - \frac{2}{8}$ $\Rightarrow$ $a=4$
 $\Rightarrow b=4 \Rightarrow f(\frac{4}{4}) \Rightarrow f(1)$
 $c=-1 \Rightarrow f(-1)=3$
 هم حرف شده است

$$y = \sqrt[3]{x^3 - ax^2 + bx - 1} \Rightarrow (ax+b)^3 \Rightarrow x^3 - ax^2 + bx - 1$$

$$\Rightarrow a=1, b=-2 \Rightarrow (x-2)^3 \Rightarrow x^3 - 6x^2 + 12x - 8 \Rightarrow D_f = [-4, 12]$$

$$f(-4) = -1, f(12) = 10 \Rightarrow R_f = [-1, 10]$$

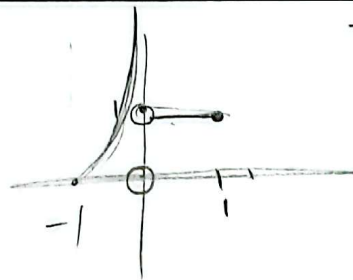
$$y_1 = \left(\frac{x+1}{1-x}\right)^{\frac{1}{5}} \Rightarrow \frac{x+1}{1-x} \geq 0 \Rightarrow \frac{-1}{-1+1} \Rightarrow D_f = [-1, 1]$$

$$y_2 = \frac{ax^2 - 1}{x^2 + b} \Rightarrow x^2 = \frac{by+1}{-y+a} \Rightarrow x = \sqrt{\frac{by+1}{-y+a}} \Rightarrow R_f = [-1, 1]$$

$$by+1=0, y=-1 \Rightarrow -b+1=0 \Rightarrow b=1, y+a=0, y=1 \Rightarrow 1+a=0 \Rightarrow a=-1$$

$$y = \left[\frac{x}{a} \right] + \frac{\ln y}{x}$$

$$D_f = [-1, 1]$$



$$-1 \leq x \leq 0 \Rightarrow \frac{-1}{x} + \frac{-x}{x}$$

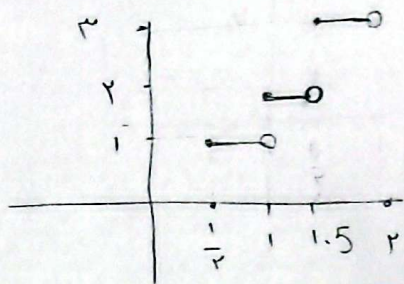
$$\hookrightarrow \frac{-1}{x} - 1 \Rightarrow -\frac{(x+1)}{x}$$

$$0 \leq x \leq 1 \Rightarrow \frac{0}{x} + \frac{x}{x}$$

$$\Rightarrow 1$$

$$y = [a] + [a + \frac{1}{y}]$$

$$O_f = \left[\frac{1}{r}, r \right)$$



5

الآن که ایما اثر a مثبت بر اساس شکل ۱ در $-$ می شود و اثر a منفی بر اثر a مثبت که شکل ۲ می شود و در نتیجه ما از (۱) و (۲) داریم:

$$\left| \frac{x+1}{a n+3} \right| < y = 1$$

$$\rightarrow \frac{n+1}{n+r}$$

$$n = +\infty \Rightarrow \left| \frac{1}{a} \right| \leq 1 \Rightarrow |a| \geq 1$$

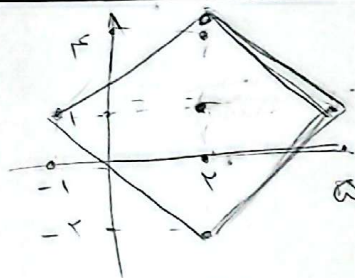
$$\Rightarrow a-b \Rightarrow \boxed{1-(-1)=2} \quad \rightarrow (b, +\infty) \Rightarrow \boxed{b=-1} \Rightarrow (-1, +\infty)$$



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

$$\left\{ \begin{array}{l} x \geq 1 \Rightarrow x - 1 + y - 1 \Rightarrow y = 4 - x \\ y \leq 1 \Rightarrow x - 2 - y + 1 = 0 \Rightarrow y = x - 1 \end{array} \right.$$

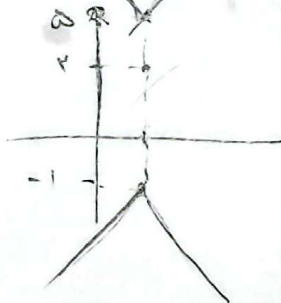
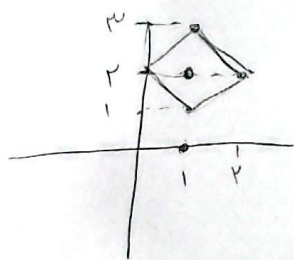
$$x \leq y \Rightarrow \begin{cases} y \geq 1 \Rightarrow -n + y - 1 = 1 \Rightarrow y = n + 1 \\ y \leq 1 \Rightarrow -n + y - 1 = -1 \Rightarrow y = -n \end{cases}$$



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$$\text{الف) } \|x-1\| + \|y-2\| = 1$$

$$(\rightarrow) |x-1| - |y-2| = -4 \Rightarrow |y-2| - |x-1| = 4$$



9

$y = \rho_0 + |ax + b| \Rightarrow$ $a \neq 0, 0 < \rho_0 \leq |a|$ (منحنى)

و نه هين ترستم ار ۵۰۰ اسر

۵۰، ۱۰۰ $\Leftarrow a$ (۳۰۰) است و مادر اینج فقو به خوا

محمودى آغا، رانبر چاه و بخش چنانى ندارد برائى ايله هي اعداد در برد فارس