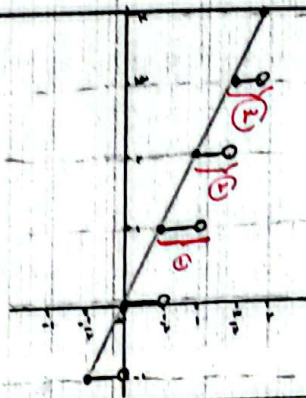


$$y = [x] + [x + \frac{1}{p}] \Rightarrow y = [2x]$$

$$[x] + [x + \frac{1}{p}] = [2x]$$

$$[\frac{1}{p}, 2)$$

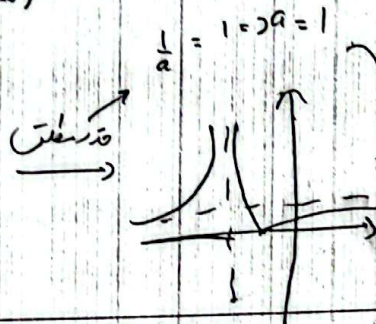
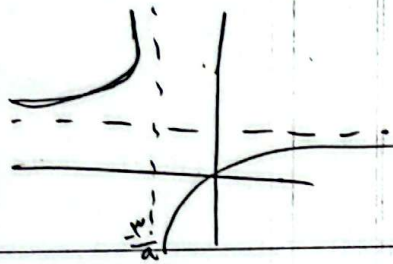
۳ باره خط



$$y = \left| \frac{x+1}{ax+3} \right| \quad D_f = (b, +\infty)$$

• هنگامی که محاسب امتحان بلا ترا = y باشد

داشته به ترمیمی که سوال داده نمی شود و محاسب محاسب تمام باید از دانه حذف شود.

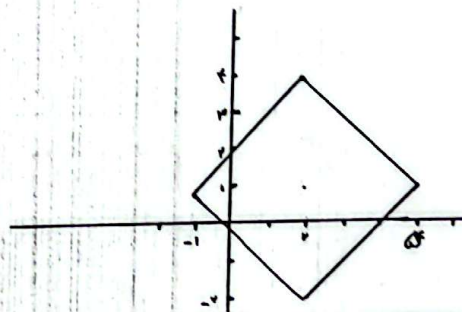


$$\left| \frac{x+1}{ax+3} \right|$$

$$\Rightarrow b = -3 \quad a - b = 1 + 3 = 4$$

$$\begin{array}{l|l} |y-1| = x+1 & |y-1| = 3-x \\ \hookrightarrow y = x+2 & \hookrightarrow y = 4-x \\ \hookrightarrow y = -x & \hookrightarrow y = x-4 \end{array}$$

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

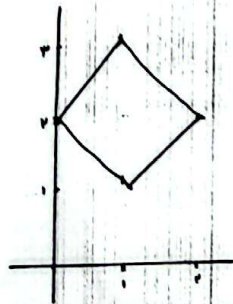


$$|x-1| + |y-2| = 1$$

نمودار مربع

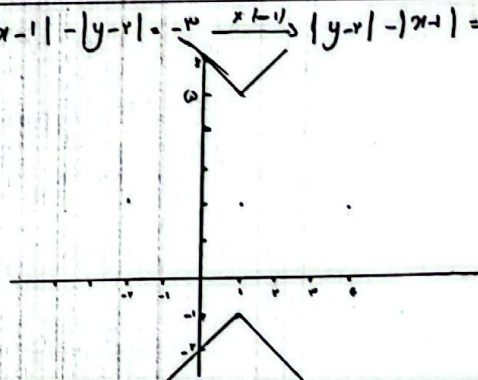
$$\hookrightarrow \text{مربع} : 1/4$$

$$\hookrightarrow \text{نصف} : 1$$



$$(b) |x-1| - |y-2| = 3 \xrightarrow{x-1=y-2} |y-2| - |x-1| = 3$$

نمودار مربع



$$y = mx + |ax+b|$$

$$x+1 > 0 \Rightarrow a < -3 \Rightarrow (-3, 3)$$

$$x-1 > 0 \Rightarrow 3 > a$$

$$x+1 < 0 \Rightarrow a < -3$$

$$x-1 < 0 \Rightarrow 3 < a$$

نخستین

$$\rightarrow a \in (-3, 3)$$

بسیار است که R = R

بسیار در دسترس است

هر دو منفی باشد.

$f(x+1) + f(x+2) = 3x + f(x)$ $f(x) = ax + b$: خطی

$x=1 \rightarrow f(2) + f(3) = 3 + f(1) \Rightarrow f(1) = 1 \Rightarrow f(x+1) + f(x+2) = 3x + 1$

$f(ax+b) \rightarrow rax + a + b + ax + ra + b = 3x + 1 \Rightarrow 3ax + 3a + 1 = 3x + 1 \Rightarrow a=1, b=0, f(x)=x$

$y = \sqrt{-x^2 + x} \xrightarrow{y \geq 0} \sqrt{1 - 4x + 4x^2} \rightarrow D_f = [0, \frac{1}{4}]$

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

$x^2 - 2x \rightarrow x=1 \rightarrow R_f = [-1, +\infty)$
 $\rightarrow y, x=-1 \rightarrow D_f = [-1, 1]$

$x^2 - 2x \neq 1 \Rightarrow x^2 - 2x - 1 \neq 0 \Rightarrow (x-1)(x+1) \neq 0 \Rightarrow x \neq \{1, -1\} \Rightarrow a=1, b=-1$

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

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

$\rightarrow y = \sqrt[3]{(x-1)^3} = \sqrt[3]{x^3 - 3x^2 + 3x - 1} \Rightarrow y = x - 1, D_f: [-1, 1]$

$x=-1 \rightarrow y=-1$

$x=1 \rightarrow y=1$

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

$D_f = \{1\} \Rightarrow y_f \neq 1 \Rightarrow 1 \neq \frac{ax^2 + 1}{x^2 + b} \Rightarrow ax^2 + b \neq x^2 - 1$

$\Rightarrow a \neq 1, b \neq -1$

$\Rightarrow a + b \neq 0$

$y = \frac{[x]}{x} + \frac{|x|}{x} \quad D_f = [1, 1] - \{0\}$

$-1 \leq x < 0 \rightarrow y = -\frac{1}{x} - 1$

$0 < x < 1 \rightarrow y = 1$

$x=1 \rightarrow y=2$

