

$$R_f: [1^3, 1^2]$$

به گفته یینا در عصر است →

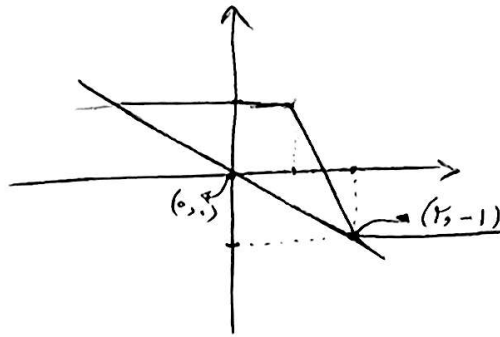
$$R_f: [0, K]$$

$$\frac{r_b + c}{1} = 1$$

$$|x-2| - |x-1| = kx$$

	1	P
+1	$2x-2$	-1

$$\text{شیب: } \frac{-1-0}{2-0} = \boxed{\frac{-1}{2} = k}$$



الف) $y = x[x]$

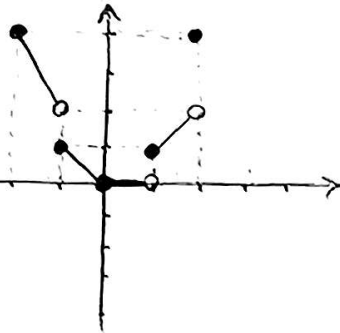
$x=2 \Rightarrow y=2x$

$1 \leq x < 2 \Rightarrow y=x$

$0 \leq x < 1 \Rightarrow y=0$

$-1 \leq x < 0 \Rightarrow y=-x$

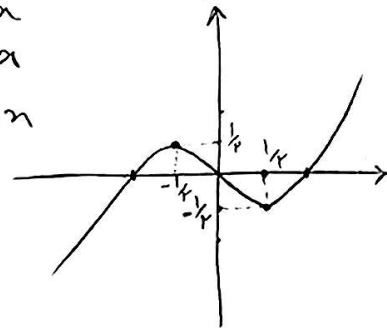
$-2 \leq x < -1 \Rightarrow y=-2x$



ب) $y = x|x| - x$

$x \geq 0 \Rightarrow y = x^2 - x$

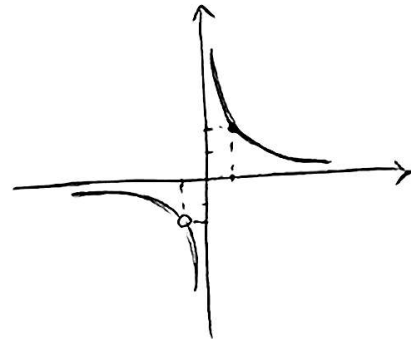
$x \leq 0 \Rightarrow y = -x^2 - x$



$y = \frac{1}{x} + \frac{1}{x+1} + \frac{1}{x^2+x}$ $Rf: \mathbb{R} - \{a, b\}$

$\downarrow \frac{x+1+x+1}{x^2+x} \rightarrow \frac{2x+2}{x^2+x} \rightarrow \frac{2(x+1)}{x(x+1)} = \frac{2}{x}$

$Rf: \mathbb{R} - \{-1, 0\} \Rightarrow a+b = -1+0 = -1$



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

$\rightarrow \sqrt{x}-3 = y\sqrt{x}-y \rightarrow \sqrt{x}(1-y) = 3+y \rightarrow \sqrt{x} = \frac{3+y}{1-y} \rightarrow x = \left(\frac{3+y}{1-y}\right)^2$

$Rf: \mathbb{R} - \{1\}$

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

$f(x) = \frac{(x+1)(x^2+x-2)}{(x+1)(x-1)} \rightarrow f(x) = \frac{(x+1)(x-1)}{(x-1)} = x+1$ $Rf: \mathbb{R} - \{1, 2\}$

$1+2=3$