

3.6 #9

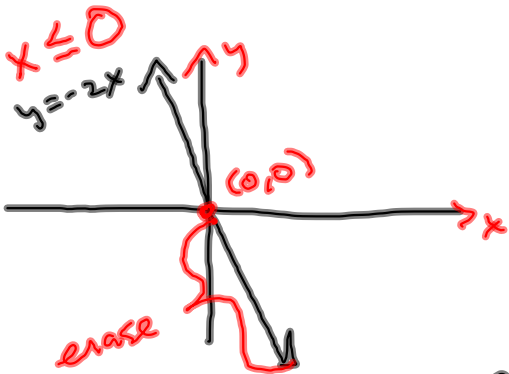
$$f(x) = \begin{cases} -2x & \text{if } x \leq 0 \\ 2x+3 & \text{if } x > 0 \end{cases}$$

if $x \leq 0$
if $x > 0$

$x=0! -2(0)=0 \rightarrow (0,0) \bullet$

$x=0! 2(0)+3 \rightarrow (0,3) \circ$

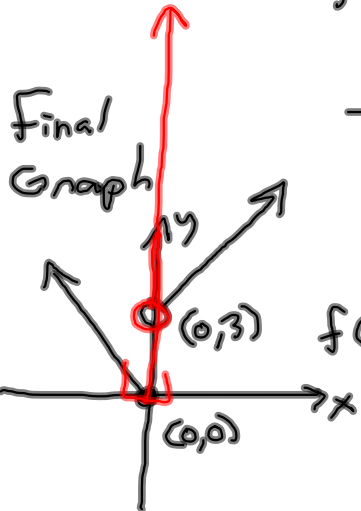
$x \leq 0$ or $x > 0$



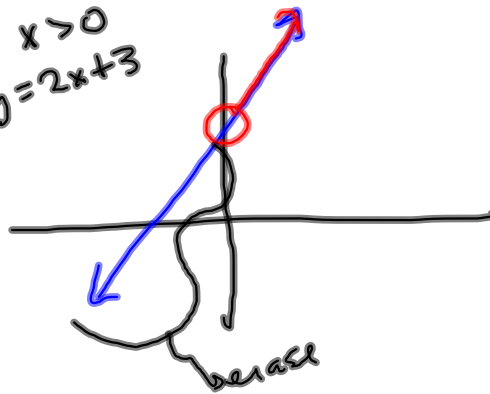
$$(-\infty, 0] \cup (0, \infty)$$

$$= (-\infty, \infty)$$

$y = -2x + 0$



$x > 0$
 $y = 2x+3$



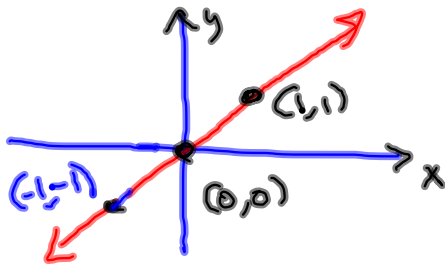
$$\mathcal{D} = (-\infty, \infty)$$

$$\mathcal{R} = [0, \infty)$$

Shifting functions

Common Functions

$$f(x) = x$$

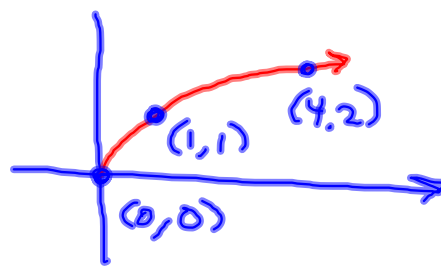


Jackie.

$$\mathcal{D} = (-\infty, \infty)$$

$$\mathcal{R} = (-\infty, \infty)$$

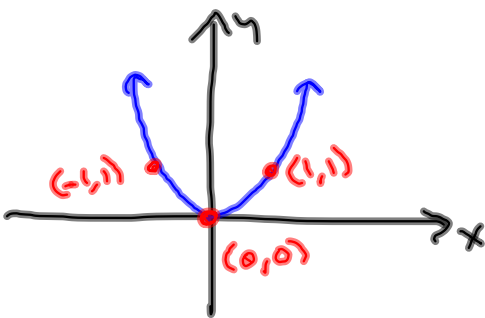
$$f(x) = \sqrt{x}$$



$$\mathcal{D} = [0, \infty)$$

$$\mathcal{R} = [0, \infty)$$

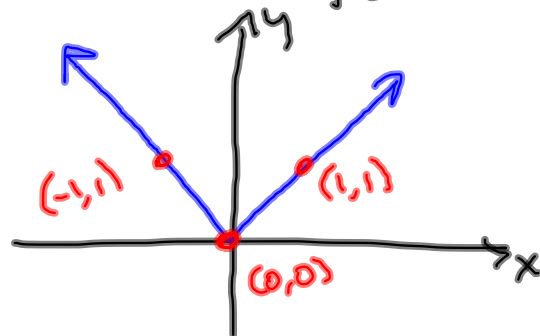
$$f(x) = x^2 = x \cdot x$$



$$\mathcal{D} = (-\infty, \infty)$$

$$\mathcal{R} = [0, \infty)$$

$$f(x) = |x|$$



$$\mathcal{D} = (-\infty, \infty)$$

$$\mathcal{R} = [0, \infty)$$

Vertical $k > 0$
 $f(x) + k$ up k add k to y -values
 $f(x) - k$ Down .. Subtract .. from ..

Horizontal
Shift.

$f(x+k)$ Left k , Advance

$f(x-k)$ Right k , Delay

3.6 I Due Monday

3.6 II Due Tuesday

Read 3.7 Take Notes.

I'm lecturing to an audience that HAS done this preparation. If you haven't, please don't blame me. 😊