

$$Ax + By = C$$

$$m = -\frac{A}{B} = \frac{2}{5}$$

$$-2x + 5y = -16 \quad 3.5 \text{ I}$$

using slope & y-int.

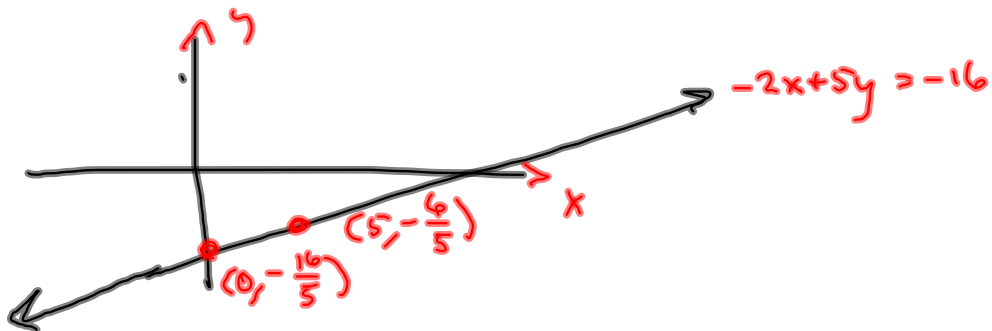
$$5y = 2x - 16$$

$$y = \frac{2x - 16}{5} = \frac{2x}{5} - \frac{16}{5}$$

$$m = \frac{2}{5} = \frac{\text{up 2}}{\text{right 5}}$$

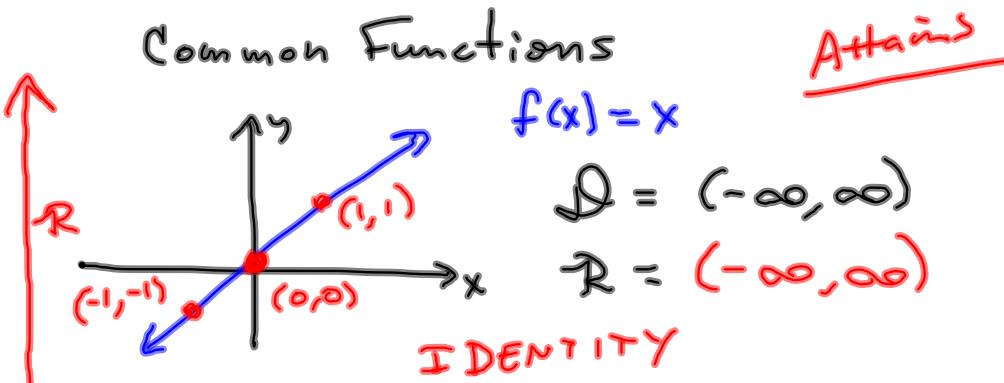
$$\text{y-int: } (0, -\frac{16}{5})$$

$$\begin{aligned} \text{2nd point } (0 + 5, -\frac{16}{5} + 2) \\ = (5, -\frac{6}{5}) \end{aligned}$$

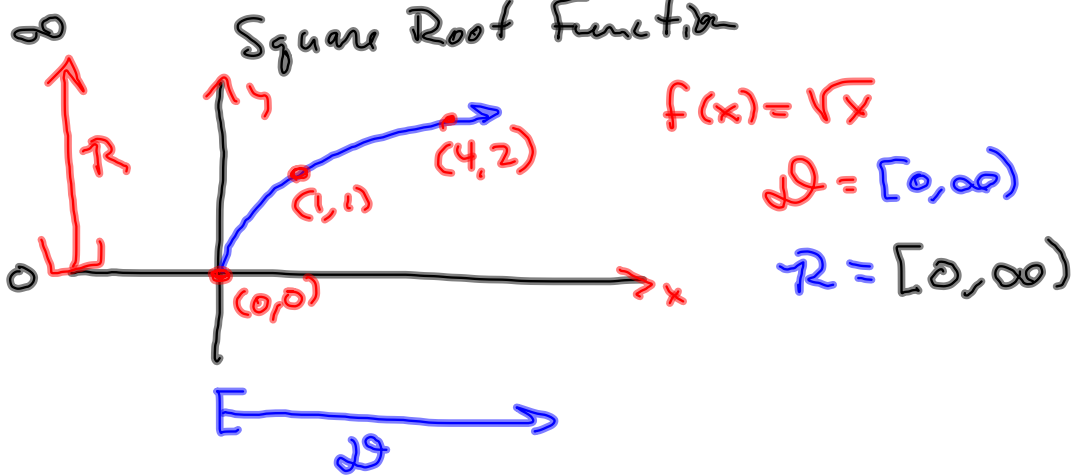


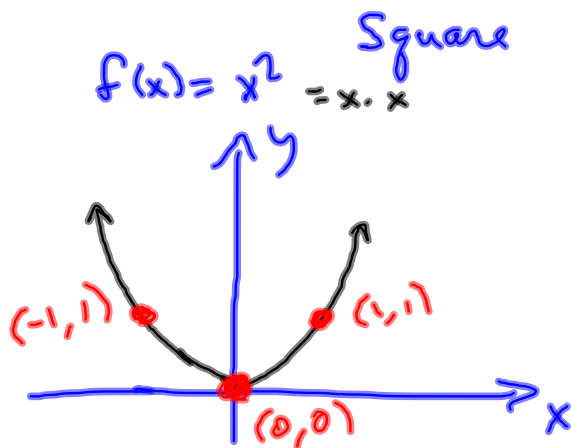
S3.6 II

Common Functions



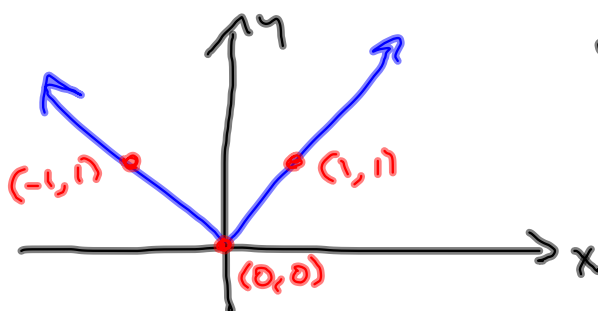
Square Root Function





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

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



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

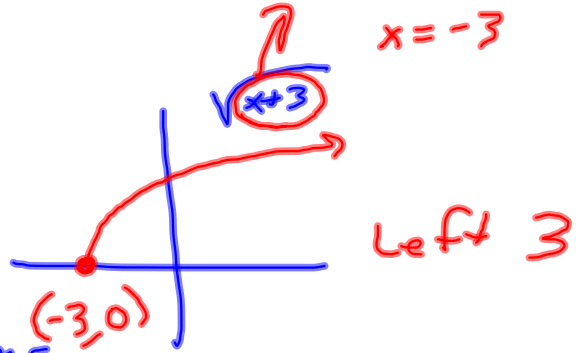
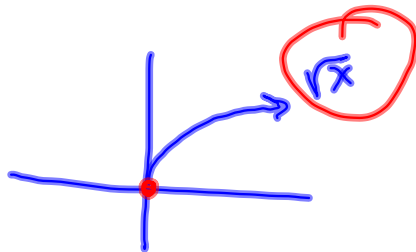
$$\mathcal{R} = [0, \infty)$$

$$f(x) = |x| = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$$

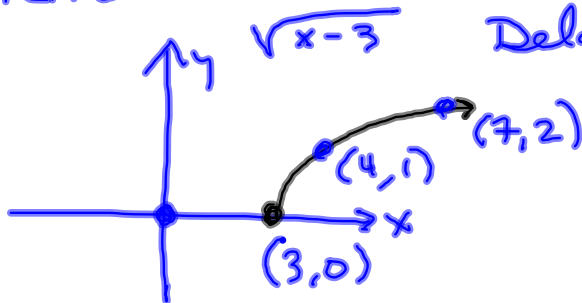
Let $K > 0$

$f(x) + K$ up K units. Add K to y -values
 $f(x) - K$ down K units. Subtract K from y -values.

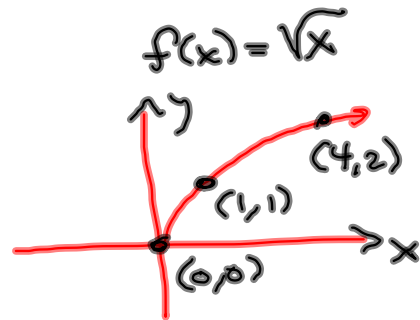
$f(x+K)$ Left K Subtract K from x -values
 $f(x-K)$ Right K Add K to x -values
 $x=0 \rightarrow \sqrt{0} = 0$ $x+3=0$ when $x=-3$



RIGID Transformations



$f(x-3) = \sqrt{x-3}$



§3.6 II Due Tuesday
 Come with questions Monday.

In your 3.7 readings, there's one thing I do differently. I scratch out the bad stuff... *The book does the opposite.*

Graph $3x + 2y \leq 6$

- ① Graph the line $3x + 2y = 6$
- ② Pick a point off the line as test.
- ③ Shade accordingly.

$3x + 2y = 6$	
x	y
0	3 $\rightsquigarrow (0, 3)$
2	0 $\rightsquigarrow (2, 0)$



Test (0,0):
 $3x + 2y \leq 6$
 $3(0) + 2(0) \leq 6$
 $0 \leq 6?$
 x Yes.
 (0,0) good,

Always show the "Good" & "Bad" on your graph, to clear up any confusion!

Stuff on other side from (0,0) is BAD.
 Scratch it out...

3.7 #5