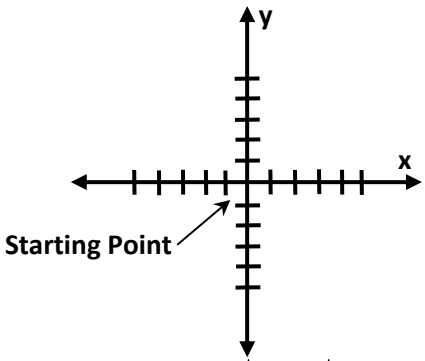
Pg. 74 1.7 - Transformations of Functions

Shifting Rule:

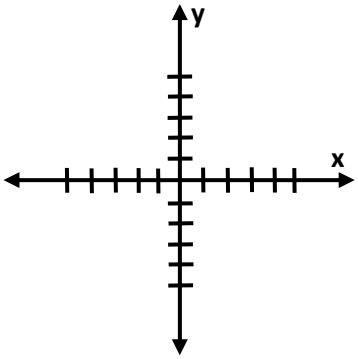
If the number is inside, then shift the starting point _____ _____.

If the number is outside, then shift the starting point _____.

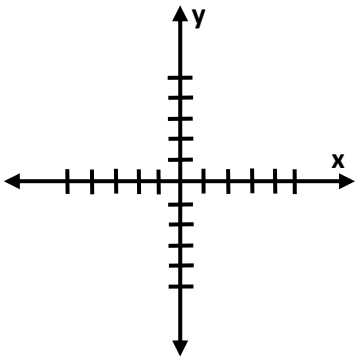
$f(x) = |x|$



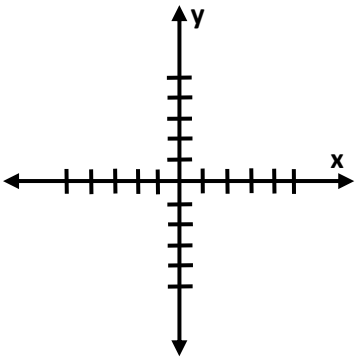
$f(x) = |x| - 1$



$f(x) = |x + 2|$



$f(x) = |x + 2| - 1$

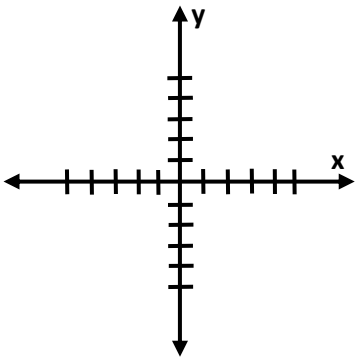


Reflecting Rule:

Negative Outside

Reflects over the _____ line passing through the starting point.

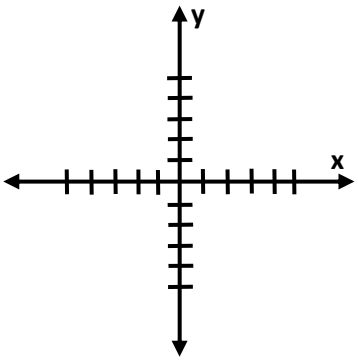
$f(x) = -\sqrt{x}$



Negative Inside

Reflects over the _____ line passing through the starting point.

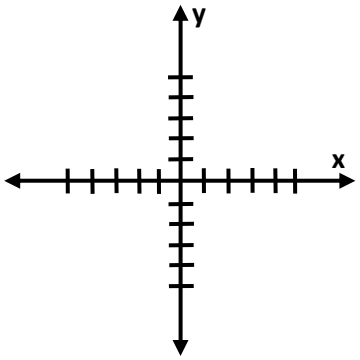
$f(x) = \sqrt{-x}$



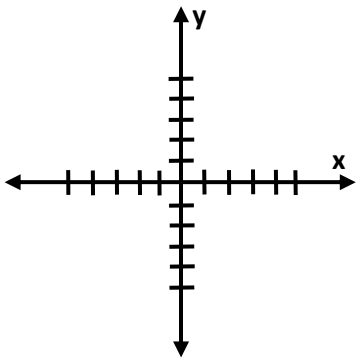
Transformation Rules:

When graphing, first _____, then _____.

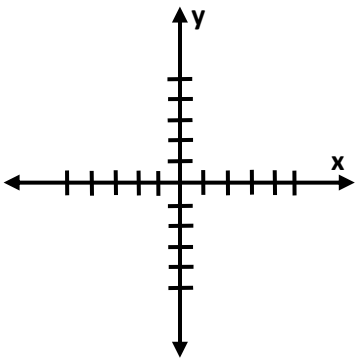
$f(x) = (x+2)^2 + 3$



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



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



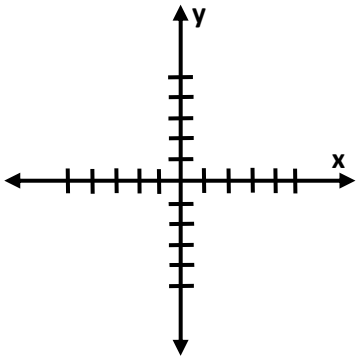
Nonrigid Transformations : $g(x) = x^2$

$f(x) = c \bullet g(x)$

Vertical Stretch c > 1

$f(x) = 2x^2$

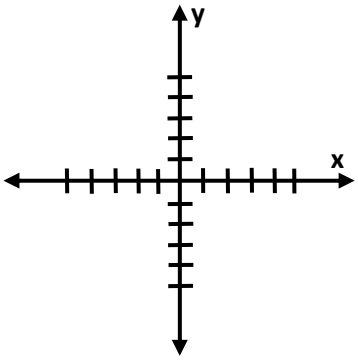
x	y



Vertical Shrink 0 < c < 1

$f(x) = \frac{1}{2}x^2$

x	y

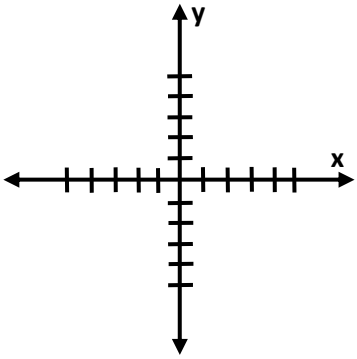


$f(x) = g(cx)$

Horizontal Shrink c > 1

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

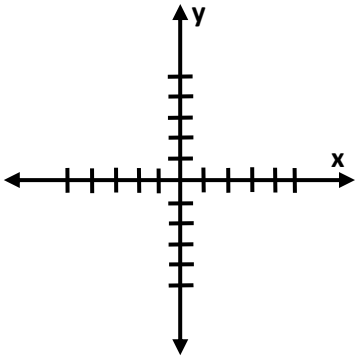
x	y



Horizontal Stretch 0 < c < 1

$f(x) = \left(\frac{1}{2}x\right)^2$

x	y



Assignment 1.7

Pg. 79 Vocab #'s 1-6 ALL Problem Set #'s 1,3, 7-59 ODD

Note: Graph for #7 is on following page