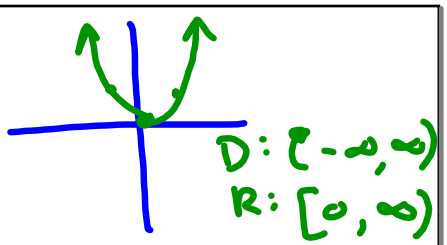
1.2

SHIFTS, REFLECTIONS & TRANSFORMATIONS OF GRAPHS of FUNCTIONS

Jul 30-7:42 AM

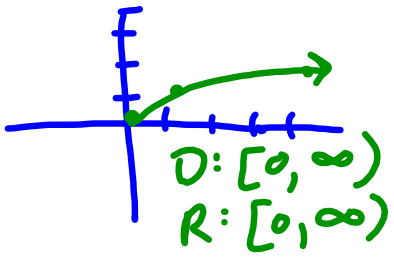
$f(x) = x^2$

x	y
-1	1
0	0
1	1



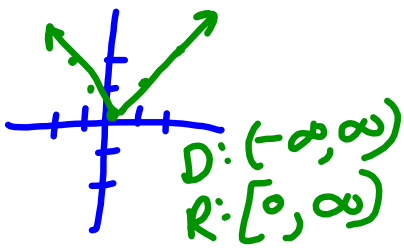
$f(x) = \sqrt{x}$

x	y
0	0
1	1
4	2



$f(x) = |x|$

x	y
-1	1
0	0
1	1
-2	2
2	2



Jul 30-7:53 AM

VERTICAL & HORIZONTAL SHIFTS

$h(x) = f(x-c)$ right c units

$= f(x+c)$ left c units

$= f(x) - c$ down c units

$= f(x) + c$ up c units

Jul 30-7:58 AM

REFLECTIONS OF GRAPHS

$h(x) = -f(x)$ reflect about x-axis

$= f(-x)$ reflects about y-axis

Jul 30-8:02 AM

Ex1) Describe the tranformation of $f(x)$ to $g(x)$

a.) $f(x) = x^2$
$g(x) = (x-2)^2 - 3$
right 2
down 3

b.) $f(x) = x + 2$
$g(x) = -x + 2$
reflect about y-axis

c.) $f(x) = \sqrt{x}$
$g(x) = -\sqrt{x-3}$
right 3
reflect x-axis

Jul 30-8:05 AM

Ex2) Given $f(x) = x^3 + 3$

DESCRIBE REFLECTIONS

a.) $g(x) = -x + 3$ reflecting about y-axis

b.) $g(x) = -x^3 - 3$ reflect about x-axis

Jul 30-8:12 AM