Daily Agenda

Learning Target:

I can graph a common function using transformations and reflections.

Homework
6.3 Day 2 Worksheet

Assessments
Unit 6 Test 12/13
Skills Test 12/14
Final Exam 12/20

Life is either a daring adventure or nothing.
-Helen Keller

Nov 15-8:24 PM

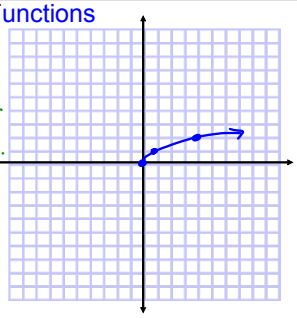
6.3 Graphs of Irrational Functions

Graph the function and find the Domain and Range.

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

[,] incl.
(,) not incl.

D: $x \geq 0$
Domain $[0, \infty)$
R: $y \geq 0$
Range $[0, \infty)$



Jan 23-9:48 AM

Transformations

Vertical Shift
- Outside the radical
- Same direction

Horizontal Shift
- Inside the radical
- Opposite direction

Reflect over x-axis
- Negative outside the radical

Reflect over y-axis
- Negative inside the radical
- Make sure to factor out if horizontal shift

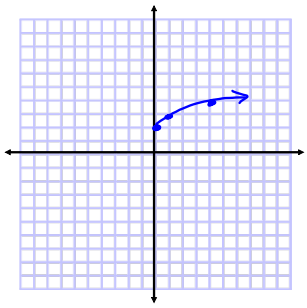
Vertical Stretch/Compression
- Outside the radical
- Same
- Multiplies y values by factor

Dec 8-10:25 AM

Graph the function and find the Domain and Range.

$g(x) = 2 + \sqrt{x}$

D: $[0, \infty)$
R: $[2, \infty)$



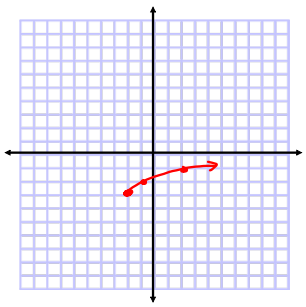
Jan 23-9:48 AM

Graph the function and find the Domain and Range.

$h(x) = \sqrt{x+2} - 3$

↓3 ←2

D: $[-2, \infty)$
R: $[-3, \infty)$

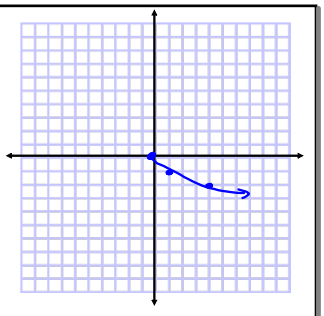


Jan 23-9:48 AM

Graph the function and find the Domain and Range.

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

D: $[0, \infty)$
R: $(-\infty, 0]$



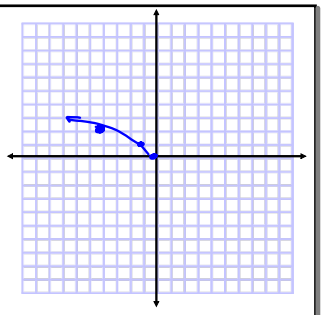
Jan 23-9:48 AM

Graph the function and find the Domain and Range.

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

D: $(-\infty, 0]$

R: $[0, \infty)$



Jan 23-9:48 AM

When graphing with multiple transformations and reflections, do the reflections first. If negative inside grouping symbols, factor it out.

$y = \sqrt{-x+4}$

$= \sqrt{-(x-4)}$

reflect over y → 4

Jan 23-9:56 AM

Graph the function and find the Domain and Range.

$h(x) = -\sqrt{-x+2}+1$

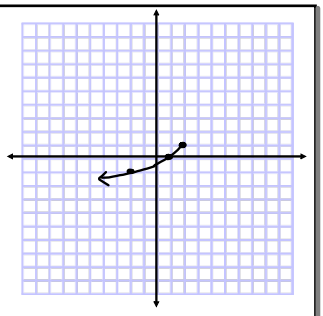
$= -\sqrt{-(x-2)}+1$

reflect over x, y

→ 2 ↑ 1

D: $(-\infty, 2]$

R: $(-\infty, 1]$



Jan 23-9:48 AM

Dec 8-11:32 AM