

# 7.1 A Square Root Functions finished

<b>Parent Function: <math>y = \sqrt{x}</math></b> <table border="1"> <thead> <tr><th>X</th><th>Y</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td></tr> <tr><td>4</td><td>2</td></tr> <tr><td>9</td><td>3</td></tr> </tbody> </table> Starting Point: $(0,0)$ Domain: $x \geq 0$ Range: $y \geq 0$ Circle: Increasing Decreasing		X	Y	0	0	1	1	4	2	9	3		<b>Graph: <math>y = -\sqrt{x}</math></b> <table border="1"> <thead> <tr><th>X</th><th>Y</th></tr> </thead> <tbody> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table> Starting Point: Domain: Range: Circle: Increasing Decreasing	X	Y								
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Apr 24-10:28 AM

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Apr 24-8:12 AM

## 7.1 A Square Root Functions finished

**7.1AB Graphing Square Root Functions**  
 LT 7.1: I can graph square root and cube root functions and demonstrate understanding of the significant features of its graph.

Name: \_\_\_\_\_

**Graph:**  $y = \sqrt{x-3} + 5$

X	Y
3	5
4	6
7	7
12	8

Starting Point: (3,5)

Domain:  $x \geq 3$

Range:  $y \geq 5$

Circle: Increasing Decreasing

**Graph:**  $y = -\sqrt{x-3} + 5$

X	Y
3	5
4	4
7	3
12	2

Starting Point: (3,5)

Domain:  $x \geq 3$

Range:  $y \leq 5$

Circle: Increasing Decreasing

**Reflection:**

1. What did you notice between the graphs  $y = \sqrt{x+2}$  and  $y = \sqrt{x-2}$  compared to the parent function??
2. What did you notice between the graphs  $y = \sqrt{x+2}$  and  $y = \sqrt{x-2}$  compared to the parent function??
3. What did you notice between the graphs  $y = \sqrt{x-3} + 5$  and  $y = -\sqrt{x-3} + 5$  compared to the parent function??

Apr 24-8:13 AM

# Learning Target 7.1

I can graph square root and cube root functions and understand significant features of its graph.

Jan 14-1:51 PM

# 7.1

## Square Root Function:

A function which contains a square root of a variable.

### General Form

$$y = a\sqrt{x - h} + k$$

*Is it a square root function???*

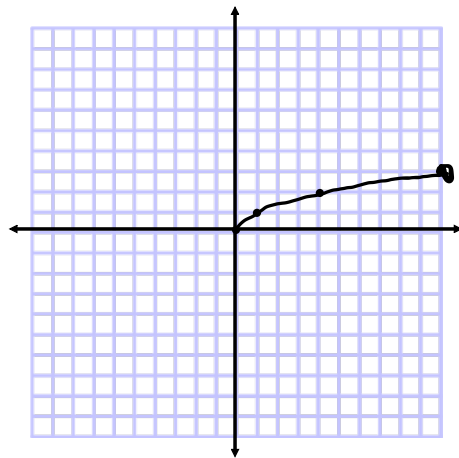
$$y = 3\sqrt{x} + 5$$

$$y = x\sqrt{2} + 7$$

Feb 24-9:01 AM

### Parent Function

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



### Starting Point

The point at which a square root function begins based on its domain and range.

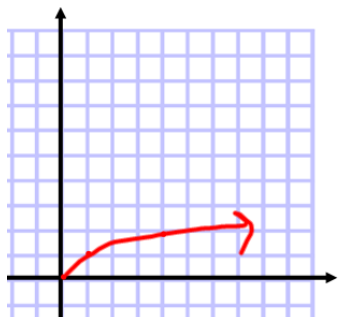
$(0, h, k)$

Feb 21-8:54 PM

## 7.1 A Square Root Functions finished

Graph:

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



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



What changed?

How can we tell from the equation?

Feb 23-8:02 PM

# 7.1

General Form

$$y = a\sqrt{x - h} + k$$



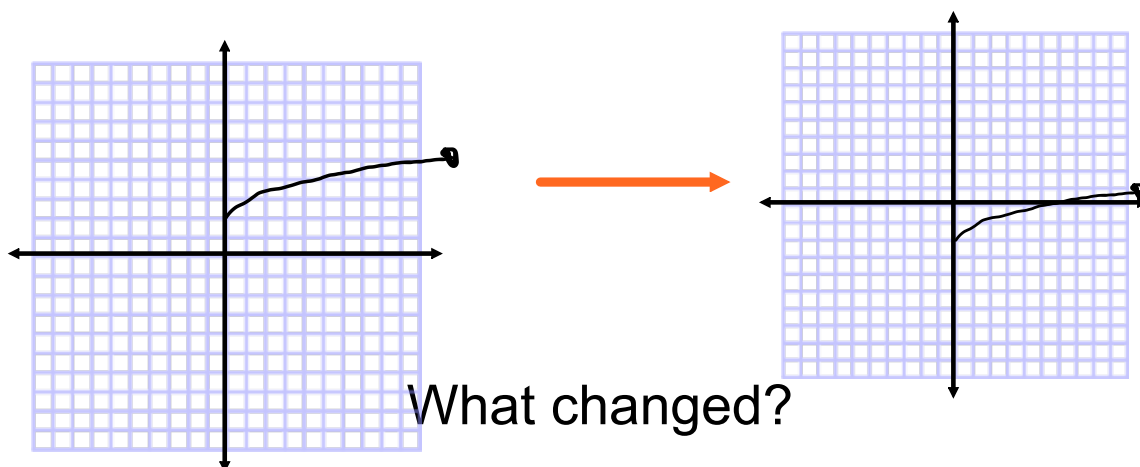
So what does a negative a do?

Feb 24-9:01 AM

## 7.1 A Square Root Functions finished

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

$$f(x) = \sqrt{x} - 2$$



How can we tell from the equation?

Feb 23-8:02 PM

# 7.1

General Form

$$y = a\sqrt{x - h} + k$$

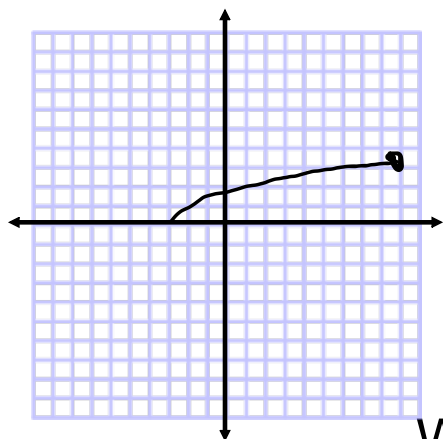
So what does **k** do?

Feb 24-9:01 AM

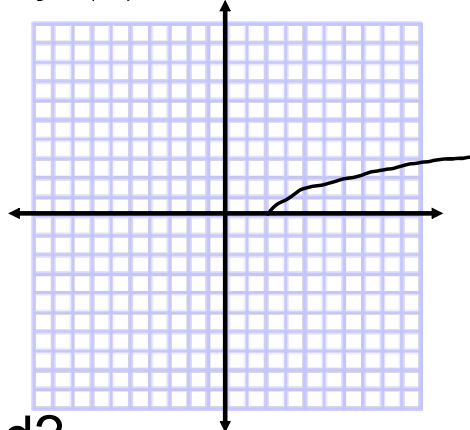
## 7.1 A Square Root Functions finished

Graph:

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



$$f(x) = \sqrt{x-2}$$



What changed?

How can we tell from the equation?

Feb 23-8:02 PM

# 7.1

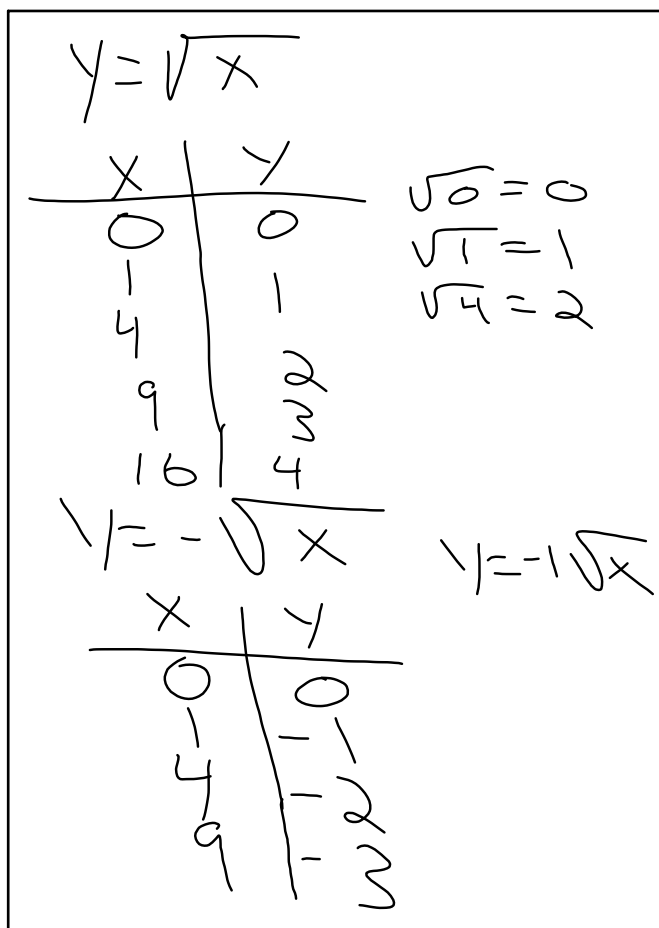
General Form

$$y = a\sqrt{x-h} + k$$

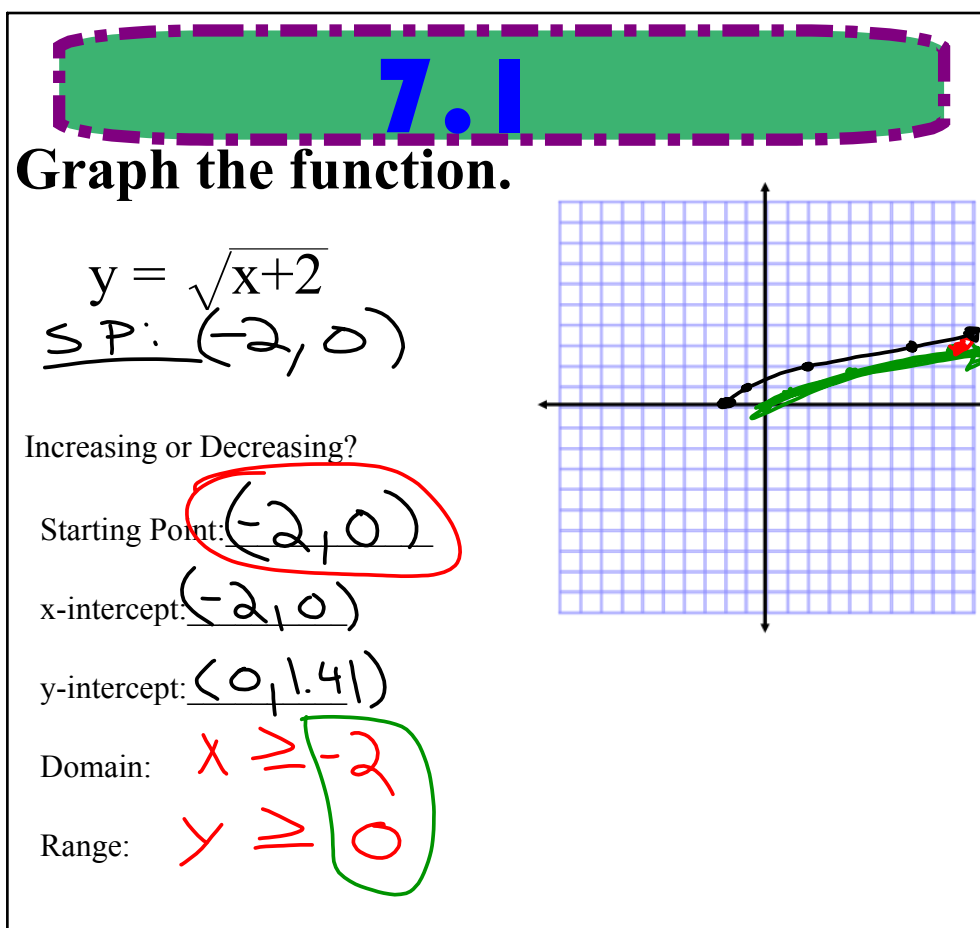
So what does **h** do?

Feb 24-9:01 AM

## 7.1 A Square Root Functions finished



Apr 25-11:01 AM



Jan 13-2:02 PM

## 7.1 A Square Root Functions finished

# 7.1

Graph the equation.

$$y = -\sqrt{x-3} + 4$$

Increasing or Decreasing?

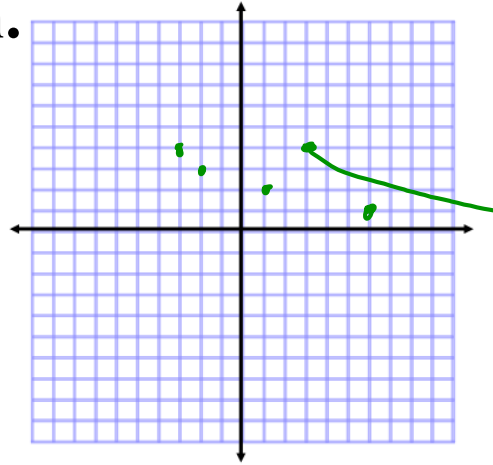
Starting Point:  $(3, 4)$

x-intercept:  $(19, 0)$

y-intercept: \_\_\_\_\_

Domain:  $x \geq 3$

Range:  $y \leq 4$



Feb 24-6:49 PM

# 7.1

Graph:

$$f(x) = \sqrt{x-1} + 3$$

Increasing or Decreasing?

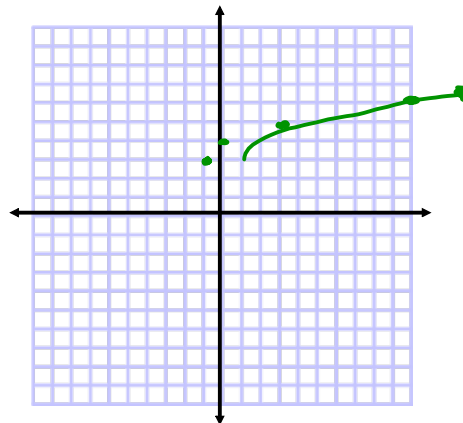
Starting Point:  $(1, 3)$

x-intercept: \_\_\_\_\_

y-intercept: \_\_\_\_\_

Domain:  $x \geq 1$

Range:  $y \geq 3$



May 7-9:55 AM



## 7.1 A Square Root Functions finished

# 7.1

Graph:

$$f(x) = -\sqrt{x+4} - 2$$

Increasing or Decreasing?

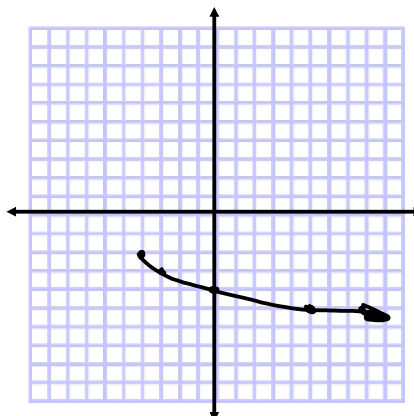
Starting Point:  $(-4, -2)$

x-intercept:         

y-intercept:  $(0, -4)$

Domain:  $x \geq -4$

Range:  $y \leq -2$



May 7-9:55 AM

# 7.1

**Domain**-The set of all inputs  
(x-coordinates)

**Range**- The set of all outputs  
(y-coordinates)

Sep 24-9:03 PM

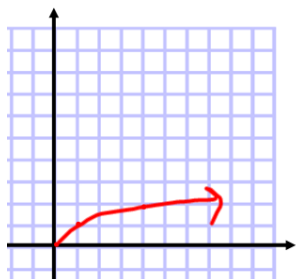
## 7.1 A Square Root Functions finished

# 7.1

Find Domain and

Range

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



**What x's will we have?**

**What y's will we have?**

General Form

$$y = a\sqrt{x - h} + k$$

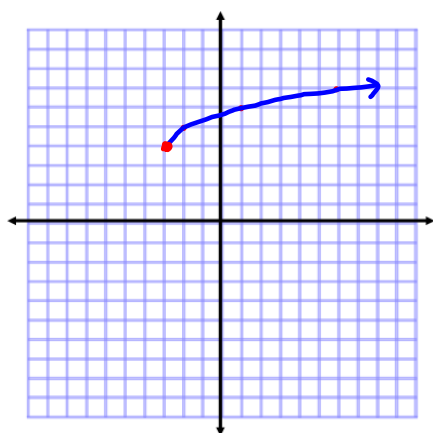
Starting point (h, k)

**Domain: use h value**

**Range: use k value**

Jan 14-2:00 PM

# 7.1



Domain:

Range:

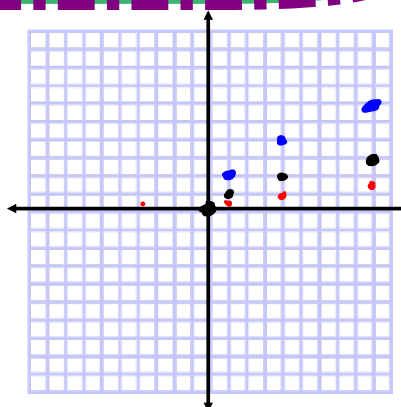
Jan 14-1:55 PM

## 7.1 A Square Root Functions finished

# 7.1

Graph:

$$f(x) = 2\sqrt{x}$$



Starting Point:

Increasing or Decreasing?

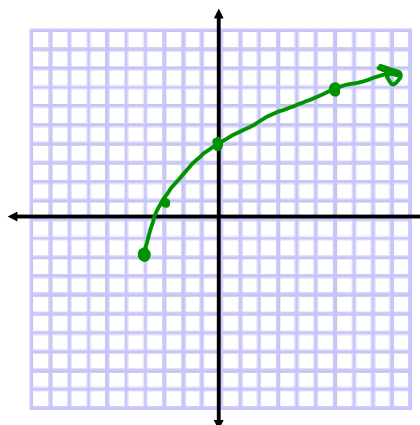
Domain:

Range:

Feb 23-8:02 PM

# 7.1

$$f(x) = 3\sqrt{x+4} - 2$$



Starting Point:

$(-4, -2)$

Increasing or Decreasing?

Domain:

$x \geq -4$

Range:

$y \geq -2$

Feb 23-8:02 PM

## 7.1 A Square Root Functions finished

# 7.1

$$y = \sqrt{x + 3} + 4$$

Domain:

Range:

Oct 7-4:11 PM

# 7.1

**Come up with the equation that has the given domain and range:**

Domain:  $x \geq 3$       Range:  $y \geq -6$

*Hints: Where is the starting point???*  
*Sketch a picture!*

Oct 7-4:11 PM

7.1 A Square Root Functions finished

P-81 #1, 4-7, 12-13, 16-17

Apr 24-12:36 PM

Apr 25-11:21 AM