

**Bell Ringer - Solve the equation.**

$$\frac{3}{2}(3m - 7) = -15$$

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$$\frac{2}{3} \cdot \frac{3}{2} (3m - 7) = -15 \cdot \frac{2}{3}$$

$$3m - 7 = -10$$

$$+7 \quad +7$$

$$3m = -3$$

$$m = -1$$

## Chapter 12-1 Functions with Square Roots Notes Day 1

**Function:** A rule that shows a relationship between two quantities.

**Example**  $y = x + 3$

Here the  $y$ -value is three more than the  $x$ -value

**Domain:** the set of  $x$ -values in a function; also called the input(s)

**Range:** the set of  $y$ -values in a function; also called the output(s)

**Considerations:**

- 1) A square root cannot be negative.
- 2) All nonnegative numbers is a possible answer for a domain/range.
- 3) Use a table of values when graphing. Choose easy numbers when taking a square root.

Find the set of domain and range values for each function.

$$1) y = 7\sqrt{x}$$

Domain: all nonnegative numbers.  
 $x \geq 0$

Range: all nonnegative numbers.  
 $y \geq 0$

Find the set of domain and range values for each function.

$$2) y = \sqrt{x - 4}$$

Domain: all numbers greater than or equal to 4  
 $x \geq 4$

Range: all nonnegative numbers  
 $y \geq 0$

Find the set of domain and range values for each function.  
Create a table of values for graphing the function.

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

Domain: all nonnegative numbers  
 $x \geq 0$

Range: all numbers greater than or equal to 4  
 $y \geq 4$

x	y
0	4
1	5
4	6

Find the set of domain and range values for each function.  
Create a table of values for graphing the function.

$$4) y = \sqrt{2x + 5}$$

$$2x + 5 = 0$$

$$2x = -5$$

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

Domain:  $x \geq -\frac{5}{2}$

Range: all nonnegative #s

x	y
$-\frac{5}{2}$	0
2	3
$-\frac{1}{2}$	2
$\frac{11}{2}$	4
-2	1