

Lesson 8.3- SWBAT determine the domain and range of functions.

Kick off-

1) Solve by completing the square: $x^2 + 14x - 15 = 0$

$+15 +15$

$\frac{1}{2}(14) = 7$

$x^2 + 14x + 49 = 15 + 49$

$x^2 + 14x + 49 = 64$

$(x+7)(x+7) = 64$

$\sqrt{(x+7)^2} = \sqrt{64}$

$x+7 = \pm 8$

$x+7 = -8$ $x+7 = 8$

$-7 -7$ $-7 -7$

$x = -15$ $x = 1$

2) $\{(1, -2), (3, 9), (8, 6), (-6, 4), (-8, 4)\}$

a. Domain: $1, 3, 8, -6, -8$

b. Range: $-2, 9, 6, 4, 4$

c. Function? **Yes!**

No domains repeat!

Definitions:

Ordered Pair- point (x, y)

Relation- when you write an ordered pair.

Domain- x-values!!

Range- y-values!!

Function- No x-values repeat. ***Vertical line test***

crosses once.

Determining Domain and Range of a Graph:

Domain- hold your pen vertically and scan left to right.

Range- hold pen horizontally scan down to up.

Example:

1)

$D: [0, 7]$

$R: [-2, 4]$

function!

2)

$D: [-6, 6]$

$R: [0, 6]$

function

***Always ()**

3)

$D: (-\infty, \infty)$

$R: [-1, \infty)$

function

Determine if the graph is a function, then state the domain and range.

13.

Domain: $[-5, 7]$

Range: $[-9, 9]$

Function: **yes**

14.

Domain: $(-\infty, \infty)$

Range: $[2, \infty)$

Function: **yes**

15.

Domain: _____

Range: _____

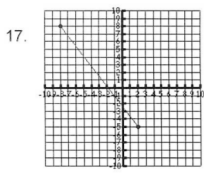
Function: _____

16.

Domain: _____

Range: _____

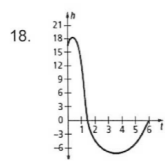
Function: _____



Domain: _____

Range: _____

Function: _____



Domain: _____

Range: _____

Function: _____