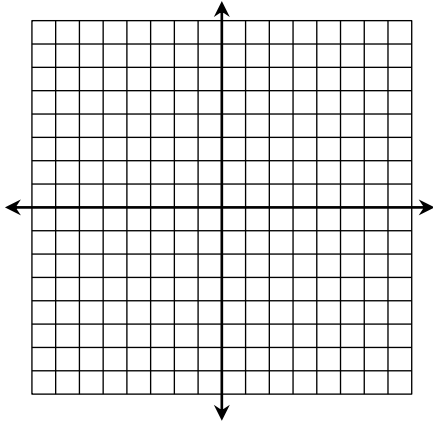
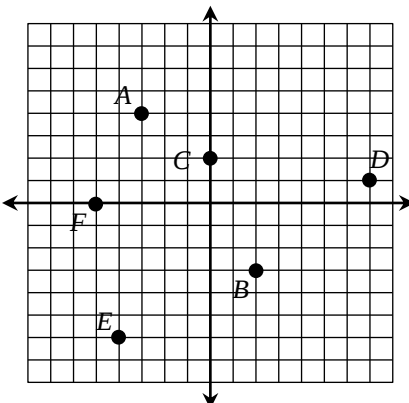


Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples			
COORDINATE PLANE				
PARTS OF THE PLANE	Label the origin, quadrants, x-axis, and y-axis:			
ORDERED PAIR				
NAMING	Identify the ordered pair and quadrant of each point.			
		Point	Ordered Pair	Quadrant
		A		
		B		
		C		
		D		
		E		
		F		
DISCRETE GRAPH				
CONTINUOUS GRAPH				

RELATIONS

Definition:

The set of x -values is called the

The set of y -values is called the

ORDERED PAIRS

TABLE

MAPPING

GRAPH

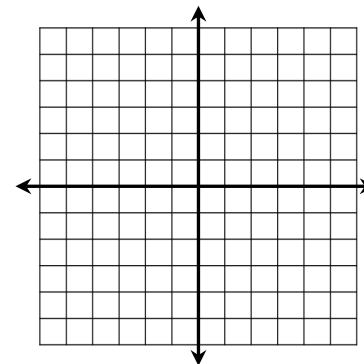
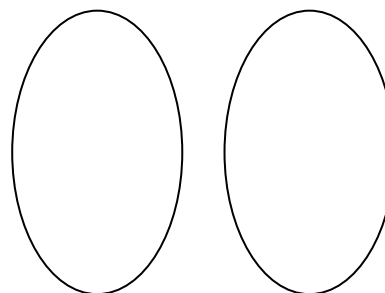
1

$\{(-3, 1), (-2, 0), (1, 2), (3, -4), (-3, 5)\}$

Domain: _____

Range: _____

x	y



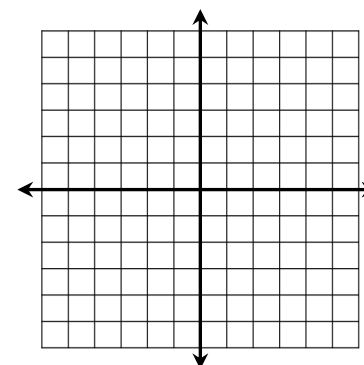
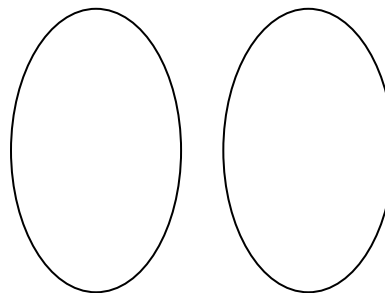
2

$\{(-2, -3), (-1, 4), (0, -2), (2, -4), (5, -1)\}$

Domain: _____

Range: _____

x	y

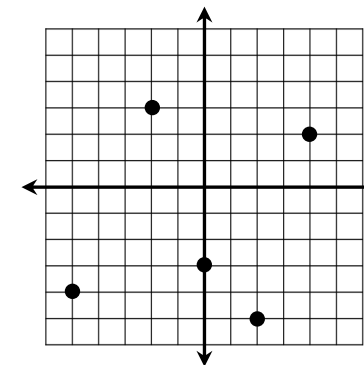
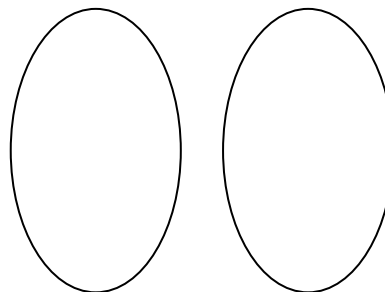


3

Domain: _____

Range: _____

x	y



Representing Relations

Name:

Date:

Topic:

Class:

Main Ideas/Questions

DOMAIN & RANGE

of Continuous Graphs

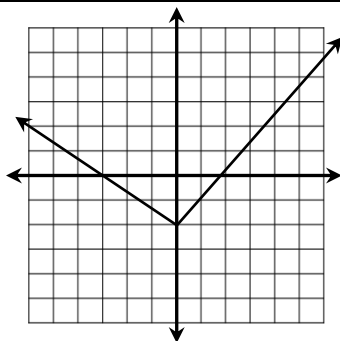
Note: Domain and range of these types of graphs are usually written using inequalities or in interval notation.

Notes/Examples

- For **domain**, scan your pencil _____ to _____ and identify the x-values in which you are "touching" the graph.
- For **range**, scan your pencil _____ and _____ and identify the y-values in which you are "touching" the graph.

Directions: Identify the domain and range of each graph.

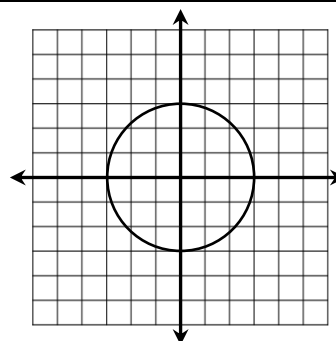
1.



Domain:

Range:

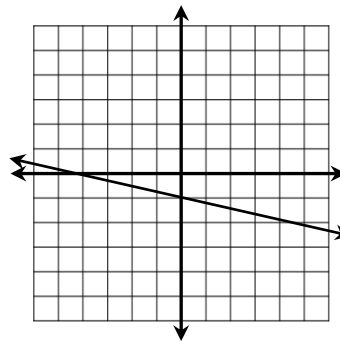
2.



Domain:

Range:

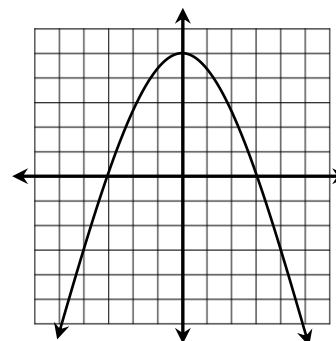
3.



Domain:

Range:

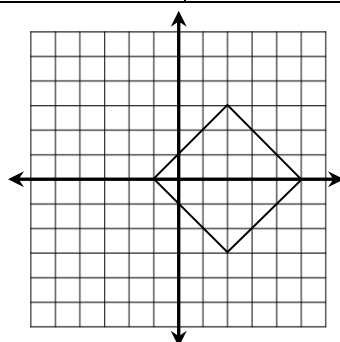
4.



Domain:

Range:

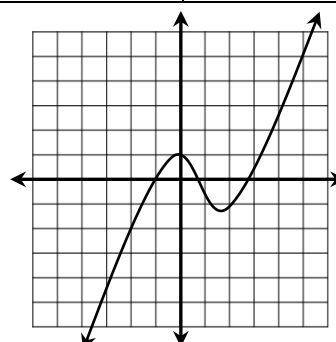
5.



Domain:

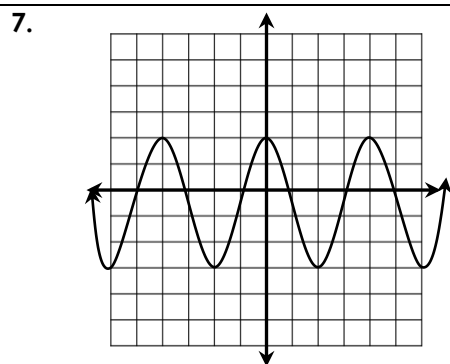
Range:

6.



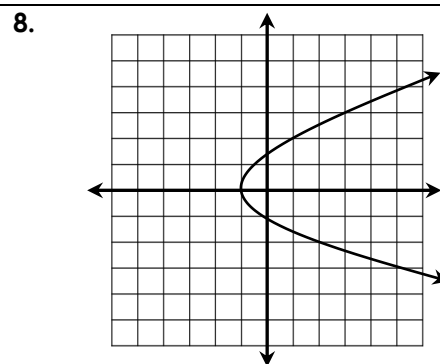
Domain:

Range:



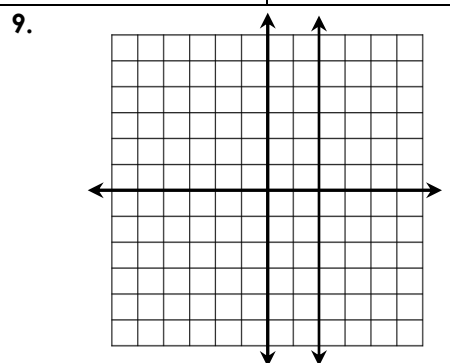
Domain:

Range:



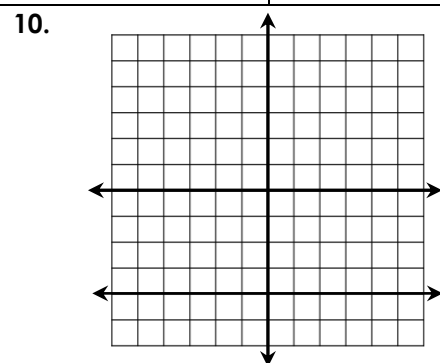
Domain:

Range:



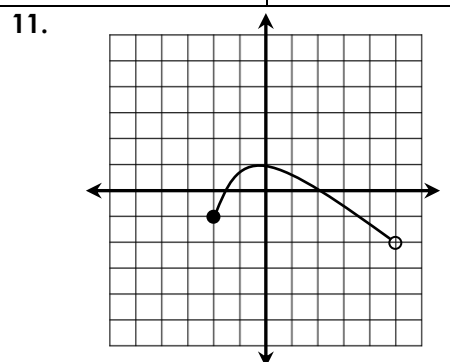
Domain:

Range:



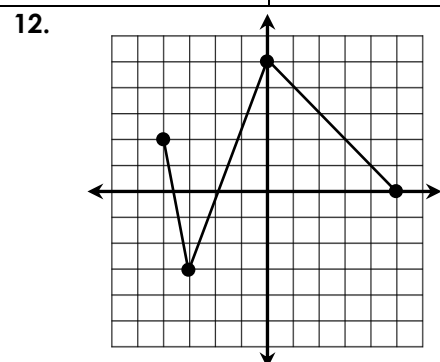
Domain:

Range:



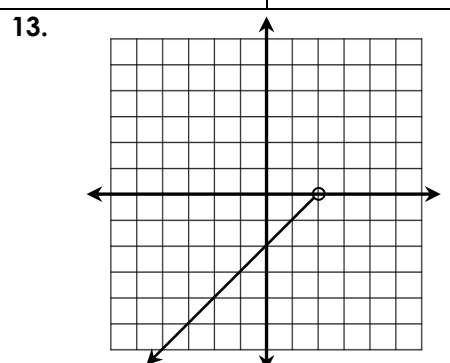
Domain:

Range:



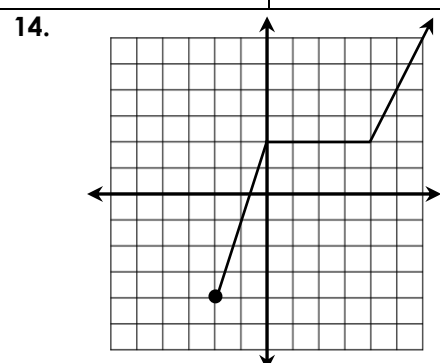
Domain:

Range:



Domain:

Range:



Domain:

Range:

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples																									
FUNCTION																										
	FUNCTION:	NOT A FUNCTION:																								
More Examples	Determine whether the given relation is a function.																									
	1. $\{(5, -2), (3, -5), (2, -5), (0, -2), (-1, -3)\}$	2. $\{(-2, 3), (0, 1), (2, -4), (3, -1), (2, 4)\}$																								
	3. $\{(-4, -1), (-3, -1), (-2, -3), (1, 0), (-3, 2)\}$	4. $\{(1, -5), (2, -3), (3, -1), (4, 0), (5, 2)\}$																								
	5. <table><tr><th>x</th><th>y</th></tr><tr><td>3</td><td>5</td></tr><tr><td>-1</td><td>0</td></tr><tr><td>0</td><td>1</td></tr><tr><td>2</td><td>2</td></tr><tr><td>3</td><td>3</td></tr></table>	x	y	3	5	-1	0	0	1	2	2	3	3	6. <table><tr><th>x</th><th>y</th></tr><tr><td>-4</td><td>3</td></tr><tr><td>-2</td><td>0</td></tr><tr><td>1</td><td>-1</td></tr><tr><td>2</td><td>0</td></tr><tr><td>5</td><td>-2</td></tr></table>	x	y	-4	3	-2	0	1	-1	2	0	5	-2
	x	y																								
	3	5																								
	-1	0																								
0	1																									
2	2																									
3	3																									
x	y																									
-4	3																									
-2	0																									
1	-1																									
2	0																									
5	-2																									
7. <table><tr><th>x</th><th>y</th></tr><tr><td>-5</td><td>3</td></tr><tr><td>-3</td><td>-2</td></tr><tr><td>0</td><td>1</td></tr><tr><td>1</td><td>-2</td></tr><tr><td>2</td><td>3</td></tr></table>	x	y	-5	3	-3	-2	0	1	1	-2	2	3														
x	y																									
-5	3																									
-3	-2																									
0	1																									
1	-2																									
2	3																									
8. <table><tr><th>x</th><th>y</th></tr><tr><td>1</td><td>-4</td></tr><tr><td>4</td><td>-3</td></tr><tr><td>-7</td><td>6</td></tr><tr><td>4</td><td>2</td></tr><tr><td>-1</td><td>0</td></tr></table>	x	y	1	-4	4	-3	-7	6	4	2	-1	0	9. <table><tr><th>x</th><th>y</th></tr><tr><td>-8</td><td>-1</td></tr><tr><td>-4</td><td>-1</td></tr><tr><td>0</td><td>-1</td></tr><tr><td>4</td><td>-1</td></tr><tr><td>8</td><td>-1</td></tr></table>	x	y	-8	-1	-4	-1	0	-1	4	-1	8	-1	
x	y																									
1	-4																									
4	-3																									
-7	6																									
4	2																									
-1	0																									
x	y																									
-8	-1																									
-4	-1																									
0	-1																									
4	-1																									
8	-1																									
10. <table><tr><th>x</th><th>y</th></tr><tr><td>1</td><td>2</td></tr><tr><td>2</td><td>1</td></tr><tr><td>3</td><td>4</td></tr><tr><td>4</td><td>3</td></tr><tr><td>5</td><td>6</td></tr></table>	x	y	1	2	2	1	3	4	4	3	5	6														
x	y																									
1	2																									
2	1																									
3	4																									
4	3																									
5	6																									
11. x y	12. x y																									
13. x y																										

THE VERTICAL LINE TEST

When given the graph of a relation, the **vertical line test** can be used to determine whether the relation is a function. The vertical line test states:

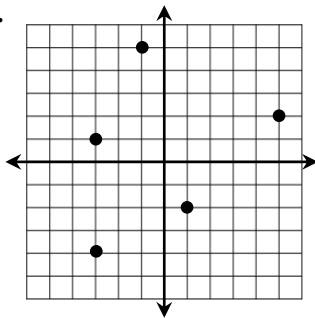
FUNCTION:

NOT A FUNCTION:

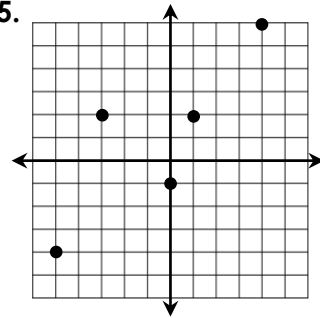
More
Examples

Determine whether the given relation is a function.

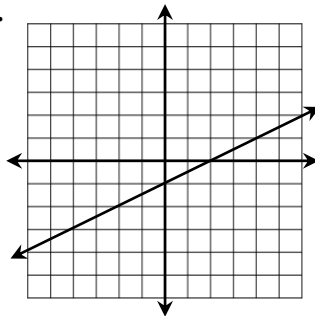
14.



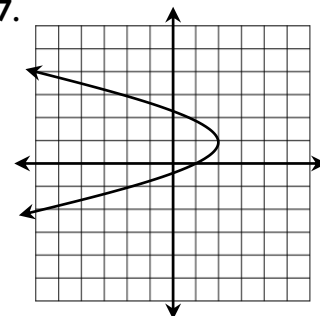
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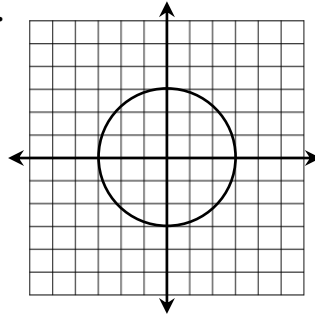
16.



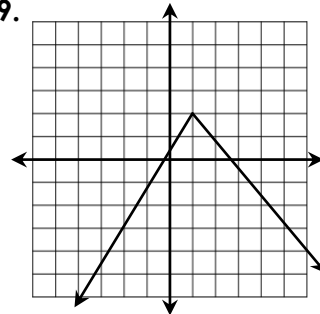
17.



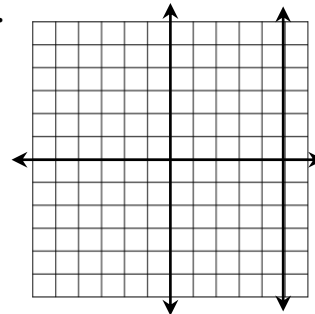
18.



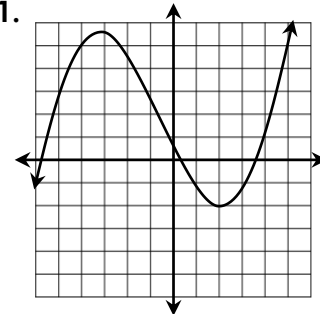
19.



20.



21.



Name:

Date:

Topic:

Class:

Main Ideas/Questions

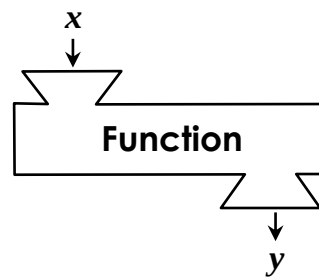
Notes/Examples

EQUATIONS

as Functions

- Functions can also be represented by an _____ (or rule).
- The equation will generate _____ by taking an _____ that results in a certain _____.
- The graph of an equation is the set of all its ordered pairs, which often forms a _____ or a _____.

Example Functions:



Think of a function like a machine that takes an x -value and produces a y -value.

- The **x -value** is called the _____ variable (because you pick it!)
- The **y -value** is called the _____ variable because its value will depend on the value of x .

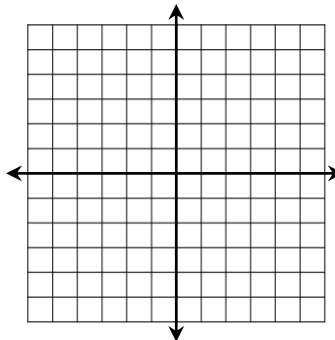
GRAPHING FUNCTIONS

(by Table)

Directions: Complete each function table, then graph the function.

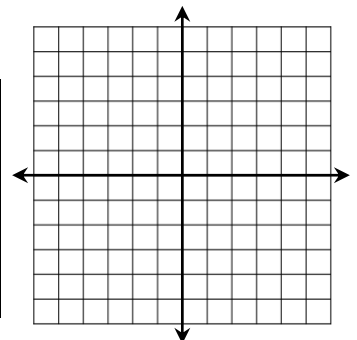
1. $y = x + 4$

x	y
-5	
-4	
-2	
0	



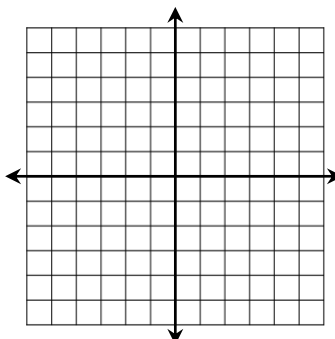
2. $y = \frac{3}{4}x - 2$

x	y
-4	
0	
4	
8	



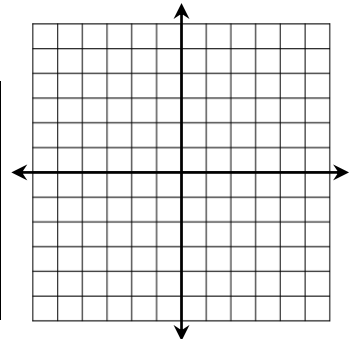
3. $y = 3x$

x	y
-2	
-1	
0	
1	



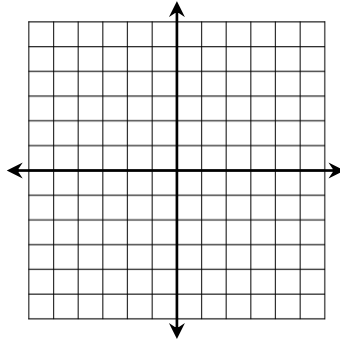
4. $y = -\frac{3}{2}x + 2$

x	y
-2	
0	
2	
4	



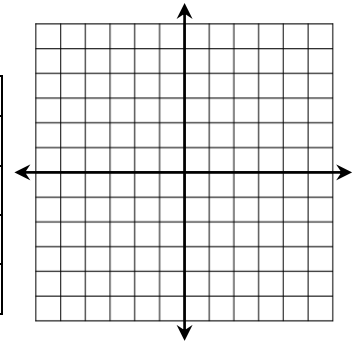
5. $y = -x + 1$

x	y
-3	
-1	
0	
4	



6. $y = 1 - \frac{1}{3}x$

x	y
-3	
0	
3	
6	



Directions: Given each function and domain, find the range values.

7. $y = x - 5$; domain = $\{4, 6, 8\}$

8. $y = 3x + 1$; domain = $\{-1, 0, 1, 4\}$

9. $y = 4 - x$; domain = $\{-2, 3, 5\}$

10. $y = \frac{3}{5}x + 2$; domain = $\{-10, 0, 5\}$

11. $y = 7 - \frac{1}{2}x$; domain = $\{-4, 0, 6\}$

12. $y = -\frac{2}{3}x + 9$; domain = $\{-12, -6, 3\}$

13. $y = 7 - 4x$; domain = $\{-3, -1, 5\}$

14. $y = \frac{1}{4}x - 5$; domain = $\{-8, -4, 12\}$

Ways to Represent RELATIONS

TABLES

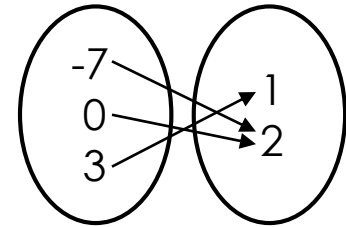
x	y
3	1
-2	-4
0	2
3	6

Domain: _____

Range: _____

Function? _____

MAPPINGS



Domain: _____

Range: _____

Function? _____

ORDERED PAIRS

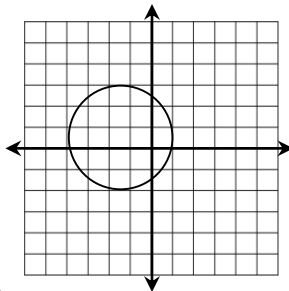
$\{(-1, 2), (0, 5), (2, 7)\}$

Domain: _____

Range: _____

Function? _____

GRAPHS



Domain: _____

Range: _____

Function? _____

EQUATIONS

$$y = x^2 - 1$$

Domain: _____

Range: _____

Function? _____