

Relations and Functions

Determine if each set of ordered pairs represents a function. Write function or not a function.

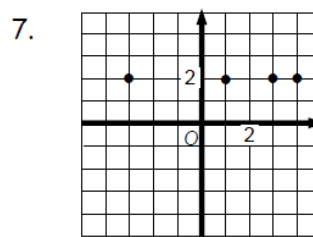
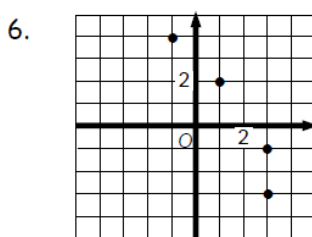
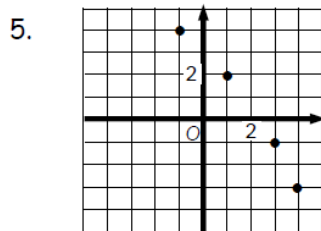
1. $\{(0, 4), (-2, 2), (-4, 0)\}$

2. $\{(0, 4), (-2, 2), (0, 0)\}$

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

4. $\{(0, 4), (0, 5), (0, 6)\}$

Determine if the ordered pairs graphed below represent a function. Write function or not a function.



Complete the table below by filling in the missing information for each functional relationship.

	List	Table	Mapping	Description								
8.	$\{(0, 2), (1, 3), (2, 4)\}$											
9.		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>x</td> <td>-1</td> <td>2</td> <td>5</td> </tr> <tr> <td>y</td> <td>-4</td> <td>8</td> <td>20</td> </tr> </table>	x	-1	2	5	y	-4	8	20		
x	-1	2	5									
y	-4	8	20									
10.												
11.				The y-values for the set are 3 times the corresponding x-values.								

Is it a Function?

Determine whether each relation is or is not a function.

If the relation is not a function, justify your answer with words and by creating an example using one of the representations (table, mapping, ordered pairs, graph)

If it is a function, write the relation in function notation.

1. (Money earned, hours worked)

2. (National League, Mets)
(American League, Rangers)
(National League, Astros)
(American League, Tigers)

3. (Height, age)

4. (Age of car, car value)

5. (number of days in a month, number of the month (ex. Jan = 1))

6. (x , $3x$)

COMPARE AND CONTRAST FUNCTION VS. NON-FUNCTION

	FUNCTION	NON-FUNCTION	How Do You Know?
ORDERED PAIRS			
TABLE			
GRAPH			
MAPPING			

DEFINITIONS:

DOMAIN: A list of every **x-value** in a table, graph, mapping, or set of ordered pairs.

RANGE: A list of every **y-value** in a table, graph, mapping, or set of ordered pairs.

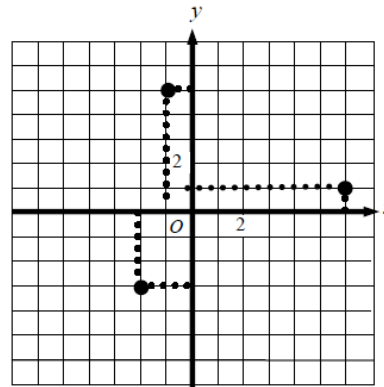
Example 1:

x	y
3	-4
-1	7
-6	-8
1	11
4	13

The DOMAIN is $x:\{-6, -1, 1, 3, 4\}$

The RANGE is $y:\{-8, -4, 7, 11, 13\}$

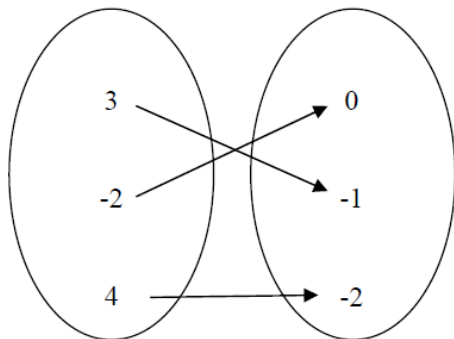
Example 2:



The DOMAIN is $x:\{-2, -1, 6\}$

The RANGE is $y:\{-3, 1, 5\}$

EXAMPLE 3:



The DOMAIN is $x:\{-2, 3, 4\}$

The RANGE is $y:\{0, -1, -2\}$

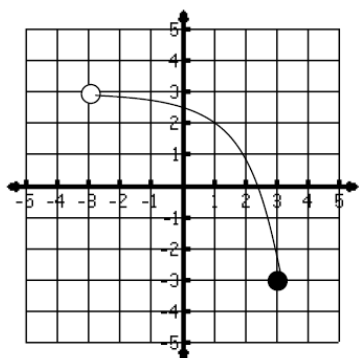
EXAMPLE 4:

$\{(-1, 9), (5, 9), (2.3, 7), (4, -2)\}$

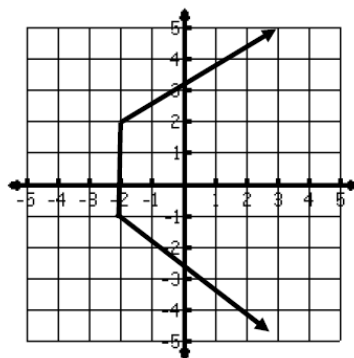
The DOMAIN is $x:\{-1, 5, 2.3, 4\}$

The RANGE is $y:\{9, 7, -2\}$

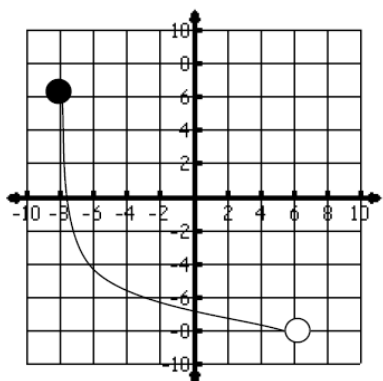
Example 5: Using inequality symbols, what is the domain of the function graphed below?



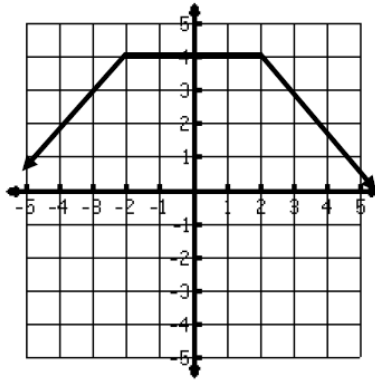
Example 7: Using inequality symbols, what is the domain of the following graph?



Example 6: Using inequality symbols, what is the range of the function graphed below?



Example 8: Using inequality symbols, what is the range of the following graph?

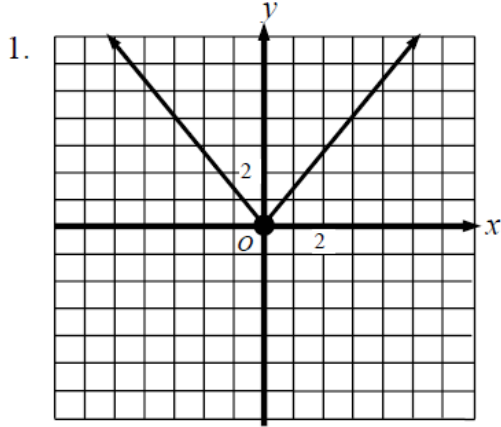


Assignment:

Activity 1-3: Domain and Range Practice

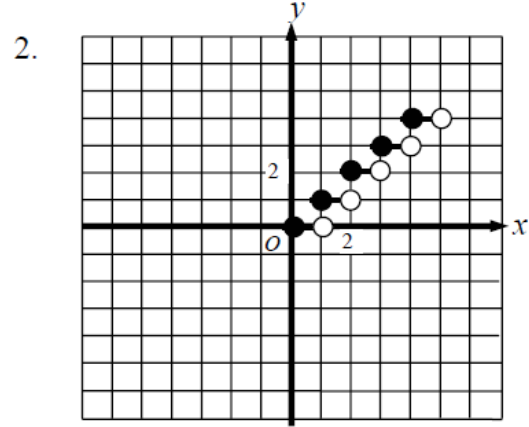
Domain and Range Practice

DIRECTIONS: Given the following, find the domain and range for each.



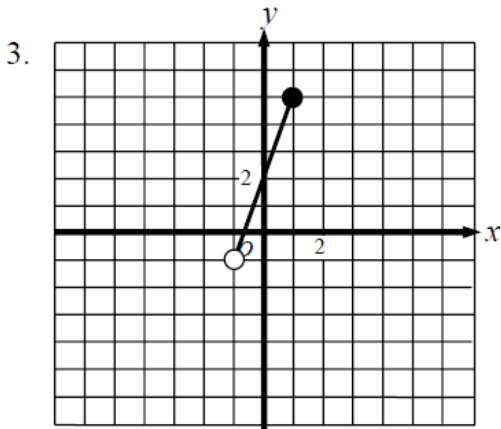
Domain: _____

Range: _____



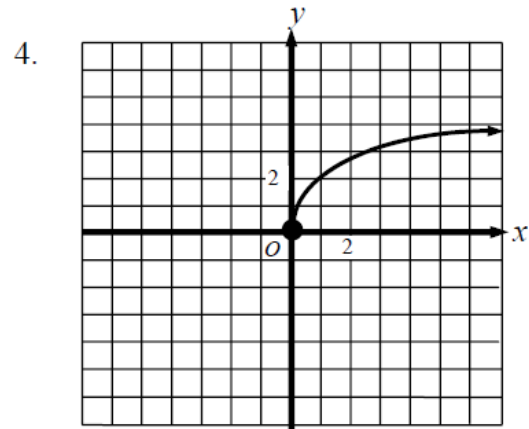
Domain: _____

Range: _____



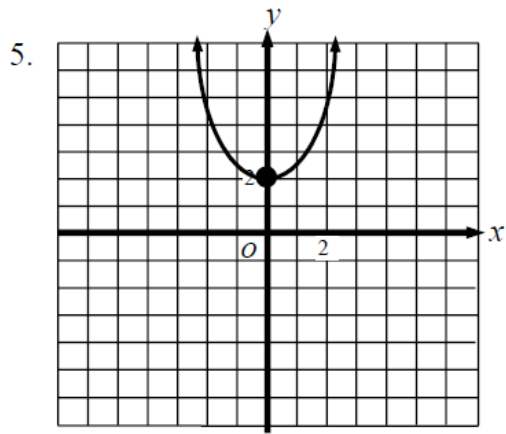
Domain: _____

Range: _____



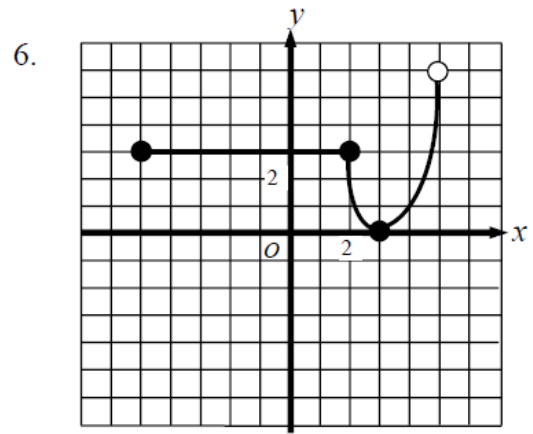
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Range: _____



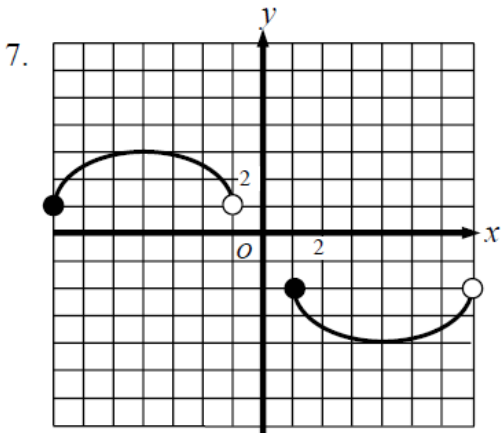
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Range: _____



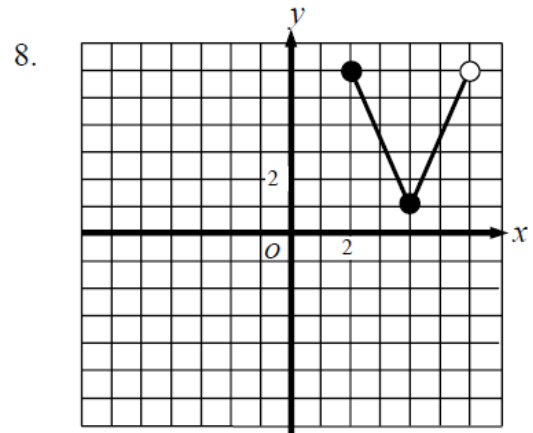
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Range: _____



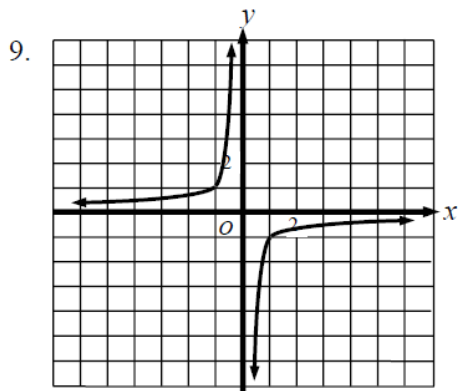
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Range: _____



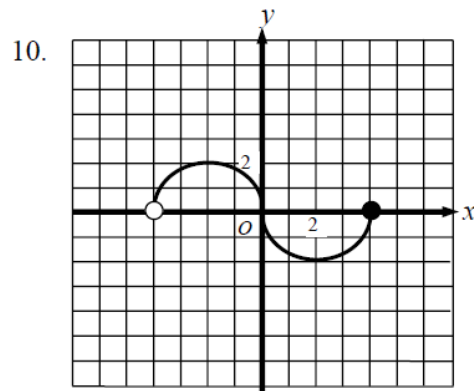
Domain: _____

Range: _____



Domain: _____

Range: _____



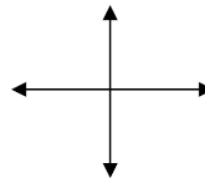
Domain: _____

Range: _____

DIRECTIONS: Graph the equation and then find the domain and range.

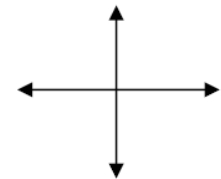
11. $y = 3x$ Domain: _____

Range: _____



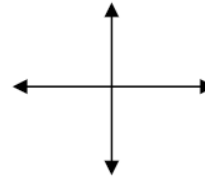
12. $f(x) = 7x + 1$ Domain: _____

Range: _____



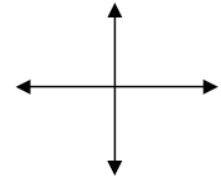
13. $f(x) = 4x - 2$ Domain: _____

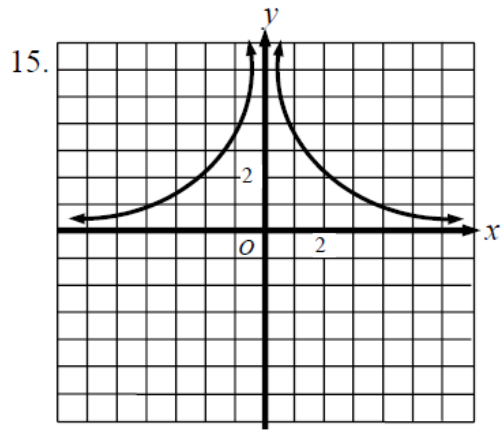
Range: _____



14. $y = -2x - 7$ Domain: _____

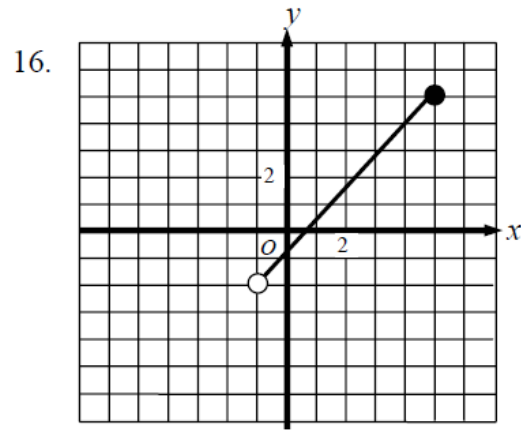
Range: _____





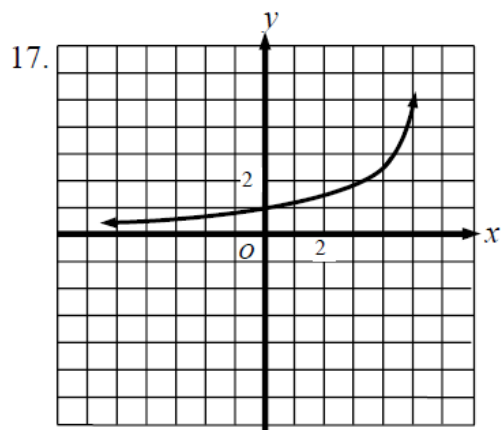
Domain: _____

Range: _____



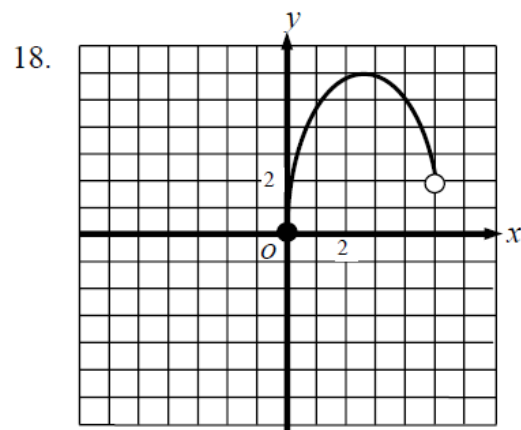
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Range: _____



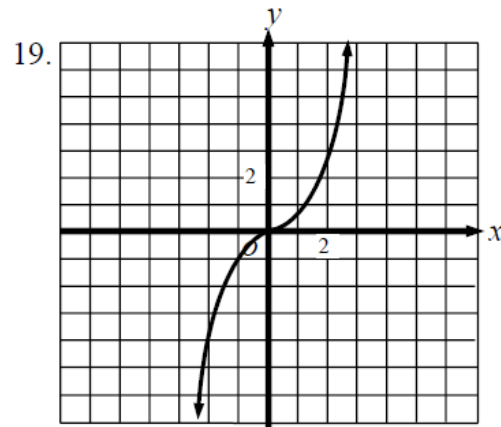
Domain: _____

Range: _____



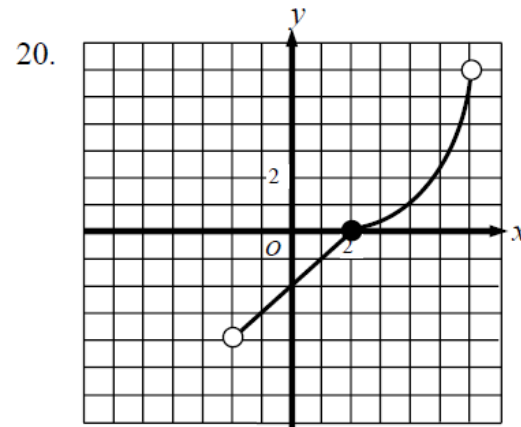
Domain: _____

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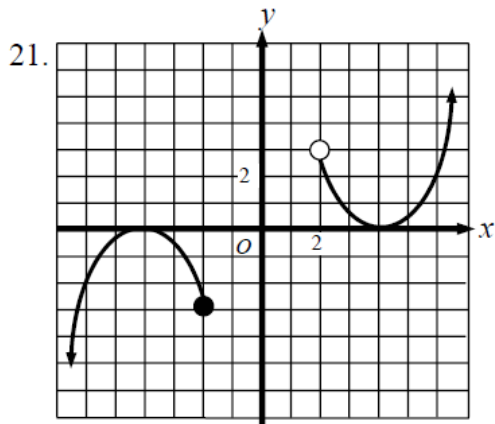
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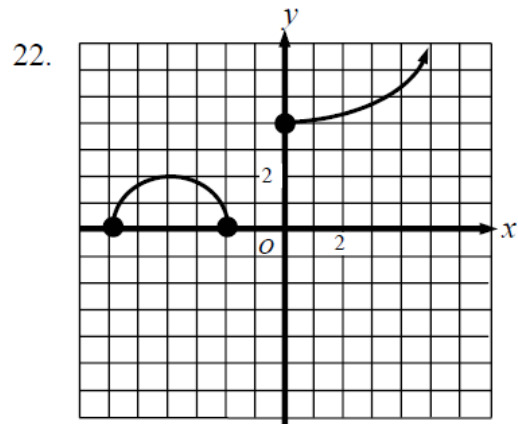
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Range: _____



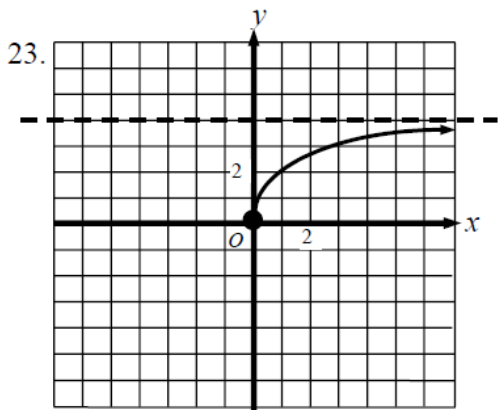
Domain: _____

Range: _____



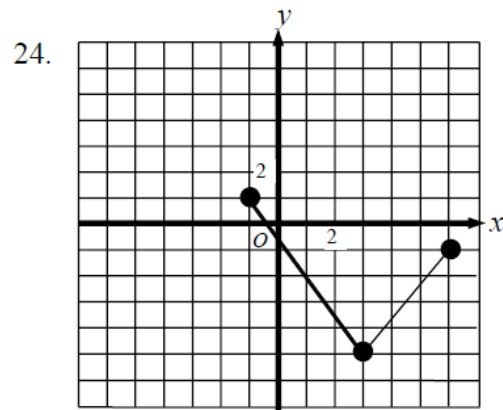
Domain: _____

Range: _____



Domain: _____

Range: _____



Domain: _____

Range: _____

DIRECTIONS: Find the range that corresponds to the given domain.

25. $y = x$ Domain: $\{0, 1, 2\}$ Range: _____

26. $f(x) = \frac{1}{2}x - 4$ Domain: $\{0, 2, 4\}$ Range: _____

27. $y = -4x$ Domain: $\{-1, 0, 1\}$ Range: _____

28. $y = -\frac{3}{4}x + 2$ Domain: $\{0, 4, 8\}$ Range: _____