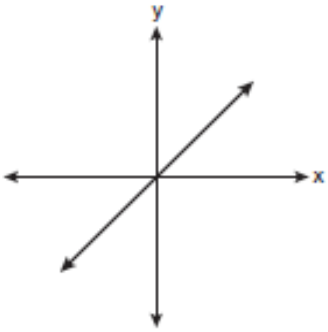
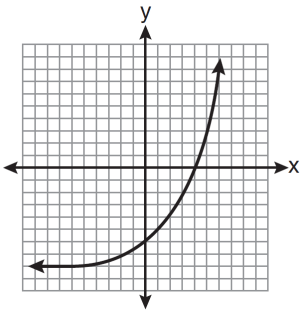
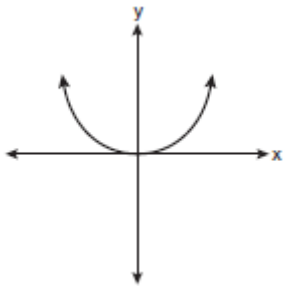
Name: _____ Date: _____

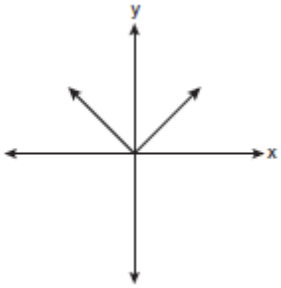
UNIT 6 **LESSON 3**

Do Now: Given the diagrams below identify each types of function

A. 

B. 

C. 

D. 

Aim: WHAT IS A FUNCTION?

Relation: is a set of ordered pairs.

Ex: a) {(1,2), (-3,5), (8,4)}

b) {(Feb, 2), (Jan, 18)}

Domain: is the set of all of the _____

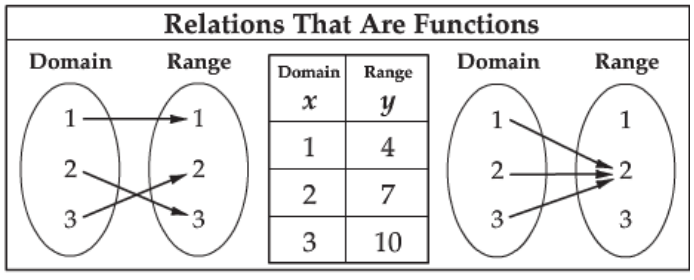
Ex: a)

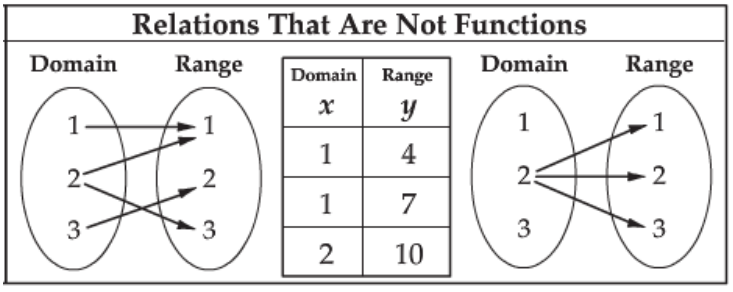
b)

Range: is the set of all of the _____

Ex: a)

b)





Function:

1. State if the ordered points represent a function and explain your answer.

a) { (1,2) (3,4) (5,6) (7,8) (9,10) }

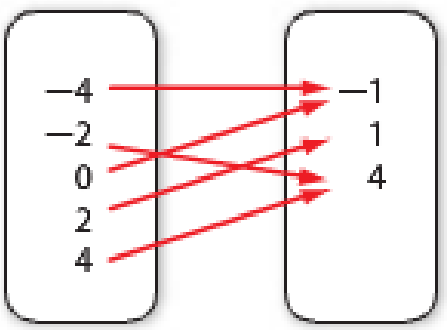
b) { (5,7) (6,3) (-8,1) (-4,2) (-8,-4) }

2. Mapping – "Arrow Diagram"

   a) Domain:

   b) Range:

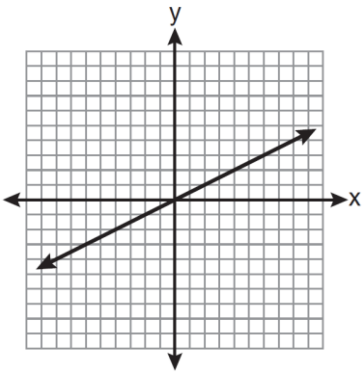
   c) Function?



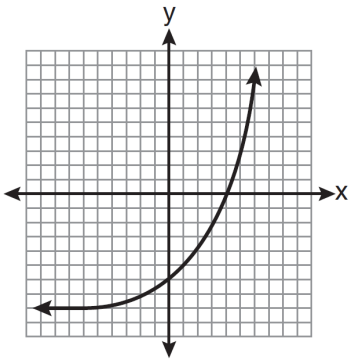
Vertical Line Test: if the vertical line touches the graph at only one point, the graph is a function.

3. Directions-For each of the graphs below determine if it is a function.

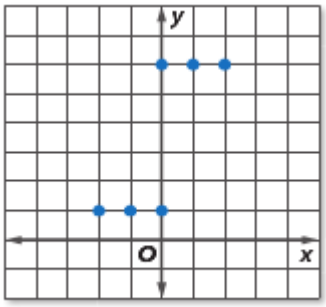
a)



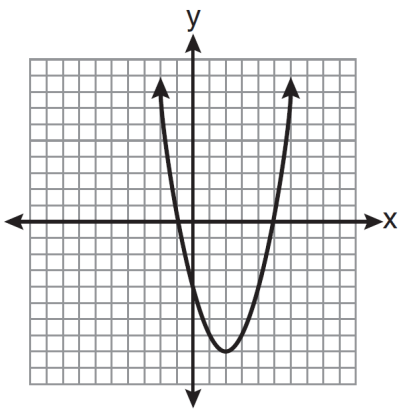
b)



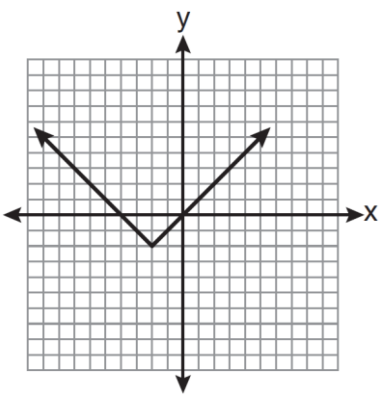
c)



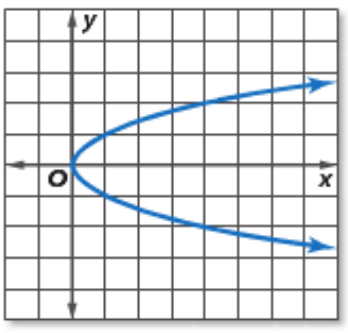
d)



e)



f)



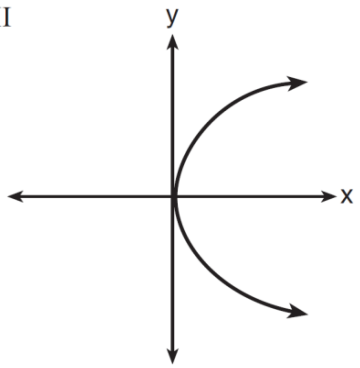
4. Which representations are functions?

1) I and II
2) II and IV
3) III, only
4) IV, only

I

x	y
2	6
3	–12
4	7
5	5
2	–6

III



II $\{(1,1),(2,1),(3,2),(4,3),(5,5),(6,8),(7,13)\}$

IV $y = 2x + 1$

5. If included in the table, which ordered pair, $(-4,1)$ or $(1,-4)$, would result in a relation that is no longer a function? Explain your answer.

x	f(x)
–4	2
–1	–4
0	–2
3	16

6. Which equation does *not* represent a function?

(1) $x = \pi$ (2) $y = 4$ (3) $y = |x|$ (4) $y = x^2 + 5x$

7. Which relation is *not* a function?

(1) {(1,5), (2,6), (3,6), (4,7)}

(2) {(-1,6), (1,3), (2,5), (1,7)}

(3) {(4,7), (2,1), (-3,6), (3,4)}

(4) {(-1,2), (0,5), (5,0), (2-1)}

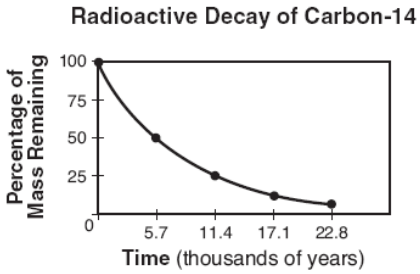
8. Which type of function could be used to model the data shown in the accompanying graph?

(1) exponential

(2) quadratic

(3) trigonometric

(4) linear



9. Which table represents a function?

1)

x	2	4	2	4
f(x)	3	5	7	9

2)

x	0	−1	0	1
f(x)	0	1	−1	0

3)

x	3	5	7	9
f(x)	2	4	2	4

4)

x	0	1	−1	0
f(x)	0	−1	0	1

10. Which table of values represents a linear relationship?

1)

x	f(x)
−1	−3
0	−2
1	1
2	6
3	13

2)

x	f(x)
−1	$\frac{1}{2}$
0	1
1	2
2	4
3	8

3)

x	f(x)
−1	−3
0	−1
1	1
2	3
3	5

4)

x	f(x)
−1	−1
0	0
1	1
2	8
3	27

Name: _____ Date: _____

UNIT 6 **HW#____** **LESSON 3**

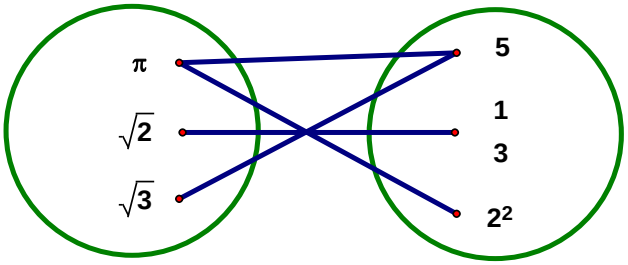
1. Which set of ordered pairs is *not* a function?

[A] {(4,1), (5,1), (6,1), (7,1)}
[B] {(0,0), (1,1), (2,2), (3,3)}
[C] {(3,1), (2,1), (1,2), (3,2)}
[D] {(1,2), (3,4), (4,5), (5,6)}

2. Which of the following is a function?

[A] {(2, 5), (5, 2), (0, 0)}
[B] {2, 5, –9, 0}
[C] {(2, 5), (–9, 0), (–9, 2), (0, –9)}
[D] {(2, 5), (5, –9), (2, 0)}

3. Determine if the following is a function. Explain why or why not.



4. Given: Relation B = {(5,2), (7,4), (9,10), (x,5)}. Which of the following values for x will make relation B a function?

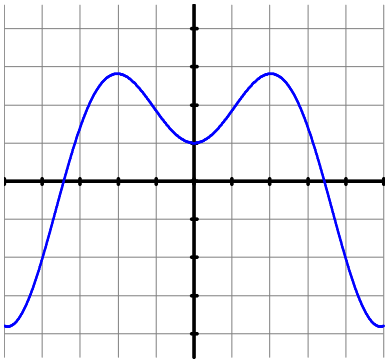
a) 7

b) 9

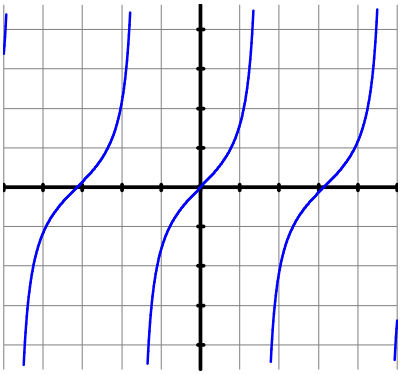
c) 4

Directions: Determine if the following are functions. Explain your answer.

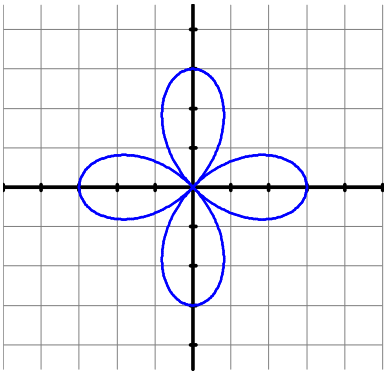
5.



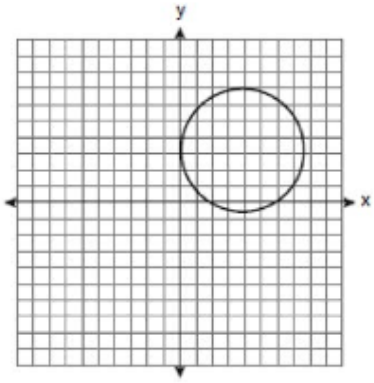
6.



7.



8. Which statement is true about the relation shown on the graph to the right?



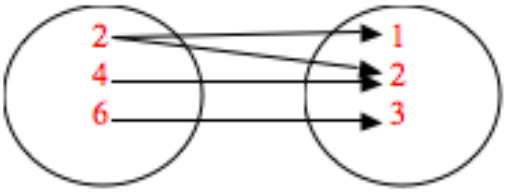
a) It is a function because there exists one x-coordinate for each y-coordinate.

b) It is a function because there exists one y-coordinate for each x-coordinate.

c) It is not a function because there are multiple y-values for a given x-value.

d) It is not a function because there are multiple x-values for a given y-value.

9. Based on the diagram below answer the following questions:



a. Write the relation as a set of ordered pairs. _____

b. State the domain of the relation. _____

c. State the range of the relation. _____

d. State whether or not the mapping is a function. Explain why or why not._____

_____

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