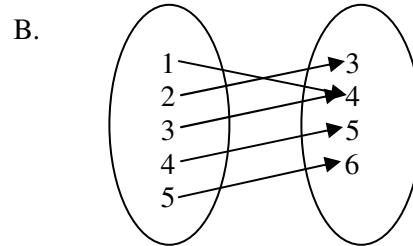
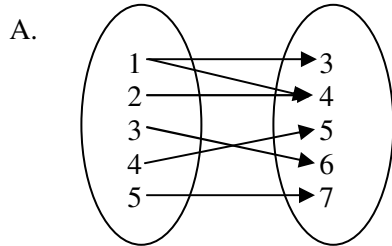


Accelerated Algebra II  
**2.3 Day One Worksheet**

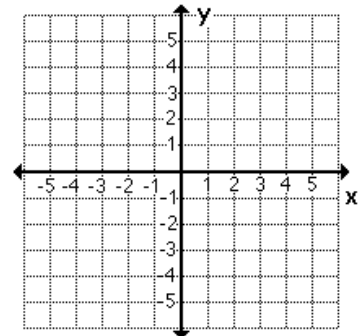
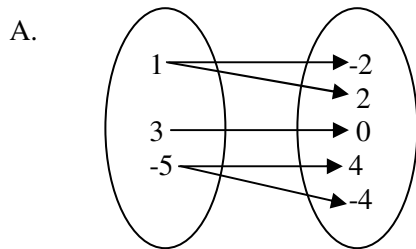
Name: \_\_\_\_\_

1. Describe the difference between a relation and a function.

2. Does the mapping diagram represent a function? Explain.



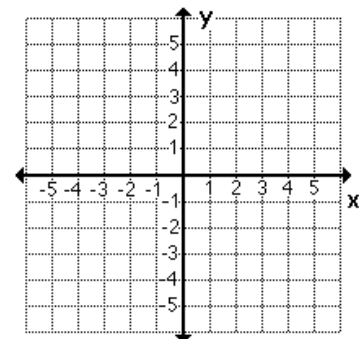
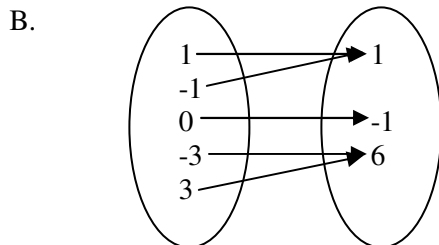
3. Sketch a graph of the relation. Is the relation a function?



Domain:

Range:

Function?

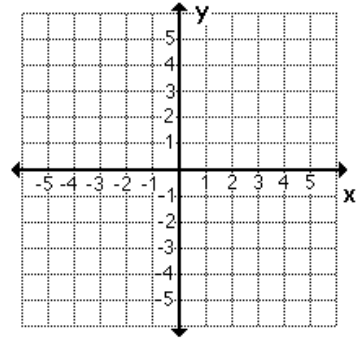
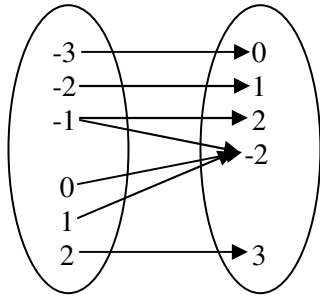


Domain:

Range:

Function?

C.



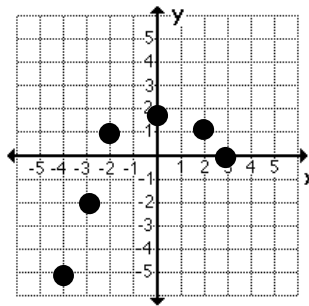
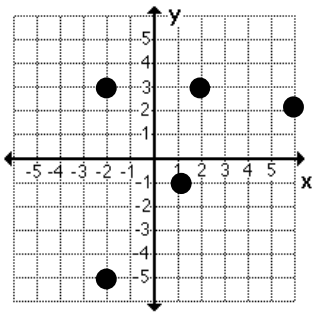
Domain:

Range:

Function?

4. Use a table to describe the relation.

5. Use a mapping diagram to describe the relation.



Is the relation a function?

Is the relation a function?

6. Determine whether the relation is a function. If it is not a function, circle the ordered pairs that cause it not to be a function.

A. Yes No  $\{(-2, 2), (0, 5), (1, 6), (1, 7), (2, -1), (3, 2)\}$

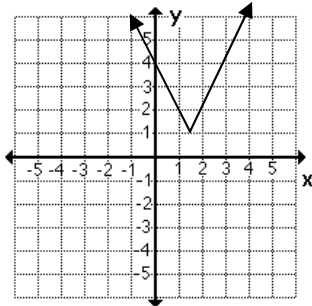
B. Yes No  $\{(0, 1), (2, -1), (3, 2), (4, 2), (5, 3), (-5, 1)\}$

C. Yes No  $\{(0, -5), (1, 3), (2, 2), (0, 4), (-5, 6), (3, 4)\}$

7. If the domain of  $f(x) = -x^2$  is integer values of  $x$  such that  $-3 \leq x < 0$ , find the range.

8. Which of the following graphs represent functions? Circle your answers. If it is a function, state the domain and range. If the graph is not included, make a table and graph the function by hand.

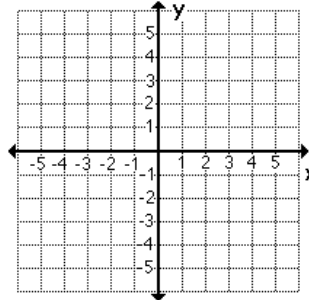
A.  $y = |2x - 3| + 1$



Domain:

Range:

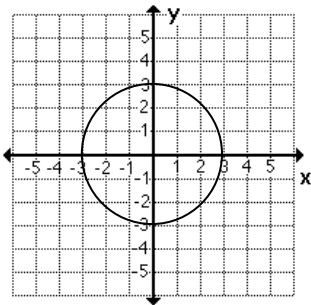
B.  $y = x^2 - 2x + 1$



Domain:

Range:

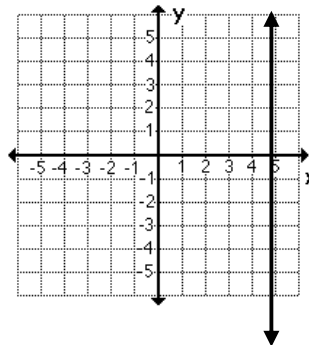
C.  $x^2 + y^2 = 9$



Domain:

Range:

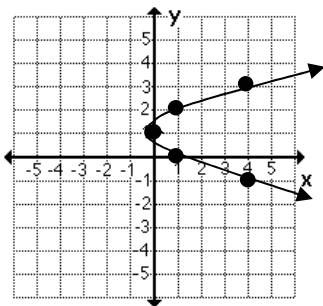
D.  $x = 5$



Domain:

Range:

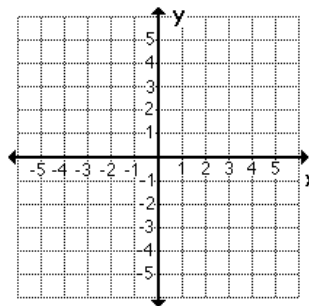
E.  $x = y^2 - 2y + 1$



Domain:

Range:

F.  $y = \sqrt{x + 5}$



Domain:

Range:

9. Let P represent residents in Phoenix, Arizona who have telephone service. Let T represent telephone numbers in Phoenix, Arizona. Is the relationship between P and T a function or merely a relation? Explain your reasoning.

10. Describe the difference between a discrete graph and a continuous graph.

Determine the domain and range for each of the following functions. Put your answers in interval notation if possible. **Be careful!**

$$11. f(x) = \frac{1}{|x|}$$

Domain:

Range:

$$12. y = \sqrt{2x + 5}$$

Domain:

Range:

$$13. y = \sqrt{x^2 - 9}$$

Domain:

Range:

$$14. y = \frac{1}{3x + 4}$$

Domain:

Range:

$$15. y = 3x^2 - 2$$

Domain:

Range:

$$16. y = \sqrt{2x + 1} - 3$$

Domain:

Range:

**Some Answers: Remember, I don't guarantee my answers. Ask if you have a question.**

2A. Not a function

2B. yes

3A. Not a function D:  $\{-5, 1, 3\}$  R:  $\{-4, -2, 0, 2, 4\}$

4. Not a function

6C. No

8A. D:  $(-\infty, \infty)$  R:  $[1, \infty)$

8C. Not a function

8E. Not a function

9. Relation

12. D:  $[-2.5, \infty)$  R:  $[0, \infty)$

14. D:  $\{x/x \neq -4/3\}$  R:  $\{y/y \neq 0\}$

16. D:  $[-0.5, \infty)$  R:  $[-3, \infty)$