Name _____ Date _____ Class _____

LESSON 1-6

Practice C

Relations and Functions

Give the domain and range of each relation and make a mapping diagram.

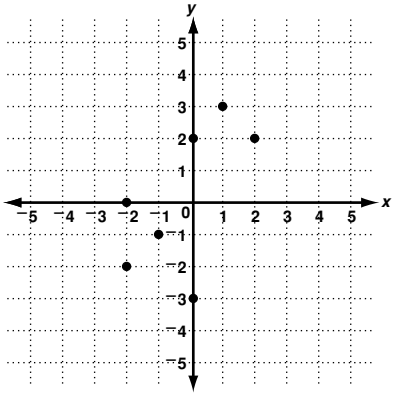
1. $\{(1, 4), (-2, -3), (6, -3), (3, 4)\}$

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

3.

Basketball Scoring Record	
Game	**Points Scored**
1	37
2	44
3	38
4	59

4.



Determine whether the relation from A to B is a function, the relation from B to A is a function, or both are functions.

	A	B	A→B	B→A
5.	Date of getting a driver's license	Person		
6.	Fishing contest participants	Number of fish caught		
7.	Zip code	State		
8.	Age of a tree	Type of tree		
9.	Type of bird	Month bird migrates		
10.	Number of days in birth month	Person		

LESSON 1-6

Practice A

Relations and Functions

Complete each sentence to make a true statement.

1. The domain of a relation corresponds to the ___x___-values in the ordered pairs.
2. The range of a relation corresponds to the ___y___-values in the ordered pairs.

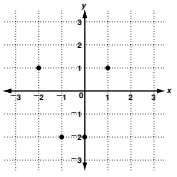
Give the domain and range for each relation.

3.

Daily CD Sales	
Day	**CDs Sold**
Mon	287
Tue	395
Wed	128
Thu	326
Fri	649

Domain: {Mon, Tue, Wed, Thu, Fri};
Range: {287, 395, 128, 326, 649}

4.



Domain: {−2, −1, 0, 1};
Range: {1, −2}

Determine whether each relation is a function. Write *yes* or *no*.

5. {(2, 3), (5, 4), (0, 3), (4, 1)}

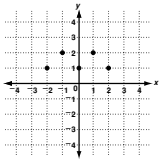
This is a function.

6.

This is not a function.

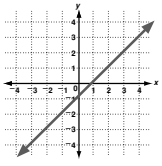
Determine whether each relation is a function. Write *yes* or *no*. Use the vertical-line test.

7.



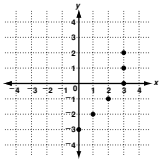
yes

8.



yes

9.



no

LESSON 1-6

Practice B

Relations and Functions

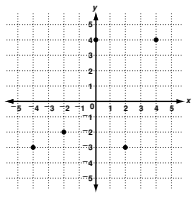
Give the domain and range for each relation. Then determine whether each relation is a function.

1.

Average High Temperatures	
Month	**Temperature**
Jun	82°
Jul	88°
Aug	93°
Sep	82°

Domain: {Jun, Jul, Aug, Sep};
Range: {82°, 88°, 93°};
this is a function.

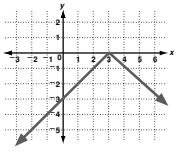
2.



Domain: {−4, −2, 0, 2, 4};
Range: {−3, −2, 4};
this is a function.

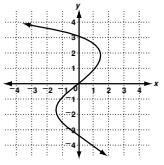
Use the vertical-line test to determine whether each relation is a function. If not, identify two points a vertical line would pass through.

3.



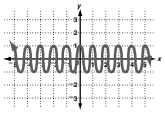
This is a function.

4.



This is not a function;
(1, 1) (1, −4)

5.



This is a function.

Explain whether each relation is a function.

6. {(1, 1), (2, 2), (3, 3), (4, 4)}

Yes, each value of *x* is associated with only 1 value of *y*.

7. from the model of car to the car's ID number

No, each car model is manufactured as many individual cars.

8. from the dates James took math tests to his test scores

Yes, there is only 1 score associated with each test date.

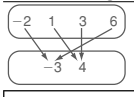
LESSON 1-6

Practice C

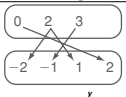
Relations and Functions

Give the domain and range of each relation and make a mapping diagram.

1. {(1, 4), (−2, −3), (6, −3), (3, 4)}
Domain: {−2, 1, 3, 6};
Range: {−3 , 4}



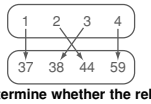
2. {(3, −1), (2, −2), (0, 2), (2, 1)}
Domain: {0, 2, 3};
Range: {−2, −1, 1, 2}



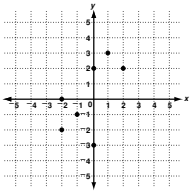
3.

Basketball Scoring Record	
Game	**Points Scored**
1	37
2	44
3	38
4	59

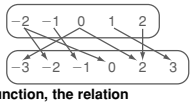
Domain: {1, 2, 3, 4};
Range: {37, 38, 44, 59}



4.



Domain: {−2, −1, 0, 1, 2};
Range: {−3, −2, −1, 0, 2, 3}



Determine whether the relation from A to B is a function, the relation from B to A is a function, or both are functions.

	A	B	A→B	B→A
5.	Date of getting a driver's license	Person	not a function	function
6.	Fishing contest participants	Number of fish caught	function	not a function
7.	Zip code	State	function	not a function
8.	Age of a tree	Type of tree	not a function	not a function
9.	Type of bird	Month bird migrates	function	not a function
10.	Number of days in birth month	Person	not a function	function

LESSON 1-6

Reteach

Relations and Functions

A **relation** pairs input values (*x*) and output values (*y*).

Domain
Set of input values or *x*-coordinates

Range
Set of output values or *y*-coordinates

List domain and range elements from least to greatest.

Soccer Registration					
Year	1996	1998	2000	2002	2004
Number of Players	56	82	95	136	212

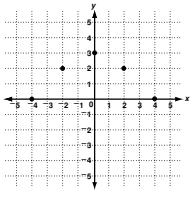
Domain: {1996, 1998, 2000, 2002, 2004} Set of *x*-coordinates

Range: {56, 82, 95, 136, 212} Set of *y*-coordinates

The domain of a set of ordered pairs is the *x*-coordinates. The range is the *y*-coordinates. Each value is listed only once.

For the graph at right:

Domain: {−4, −2, 0, 2, 4}; Range: {0, 2, 3}



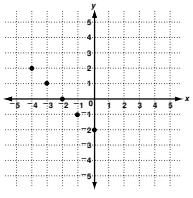
Give the domain and range for each relation.

1.

Concert Ticket Price					
Year	2001	2002	2003	2004	2005
Price ($)	25	28	35	42	46

Domain: {2001, 2002, 2003, 2004, 2005}
Range: {25, 28, 35, 42, 46}

2.



Domain: {−4, −3, −2, −1, 0}
Range: {−2, −1, 0, 1, 2}