Name _____ Class _____ Date _____

Puzzle 7-1

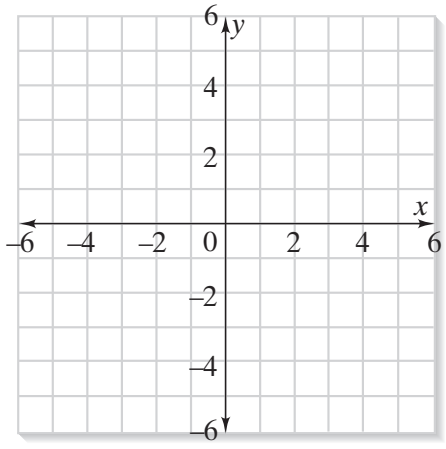
Points in the Coordinate Plane

For Exercises 1 and 2, use the coordinates given below each blank to locate the correct letter on the graph. Write the letter on the blank to answer the riddles.

1. The capital of Nebraska is named after which U.S. President?

_____	_____	_____	_____	_____	_____	_____
(−4, 5)	**(4, 4)**	**(−1,−1)**	**(−4, 5)**	**(−5, −4)**	**(−4, 5)**	**(−1, 1)**

_____	_____	_____	_____	_____	_____	_____
(1, 2)	**(2, 1)**	**(−4,−1)**	**(5, −1)**	**(5, −5)**	**(1, 2)**	**(−4, −1)**



2. Write your own riddle. Fill in the graph with the letters you need to answer your riddle. Throw in a few extra letters just for fun. Then write down the **ordered pairs** below the answer line so the corresponding letters will give the answer to your riddle. Exchange with a friend and solve each other's riddles.

Riddle: _____

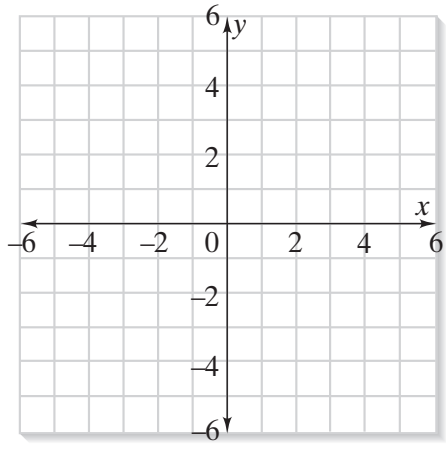
_____

_____

Answer: _____

_____

_____

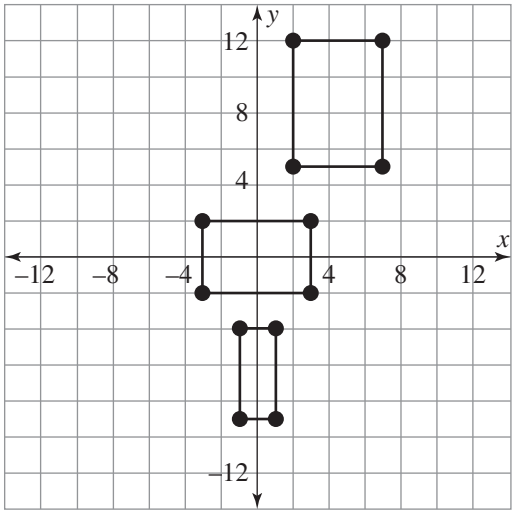


Name _____ Class _____ Date _____

Puzzle 7-2

Polygons in the Coordinate Plane

Answer each riddle using the graph below.



1. The coordinates of this rectangle are reflected across the *x*-axis and *y*-axis. What are the coordinates of this rectangle?

_____

2. What is the perimeter of the rectangle you found in Question 1?

_____

3. The coordinates of this rectangle are all positive numbers. What are the coordinates of this rectangle?

_____

4. What is the perimeter of the rectangle you found in Question 3?

_____

5. The coordinates of this rectangle are reflected across the *y*-axis only. What are the coordinates of this rectangle?

_____

6. What is the perimeter of the rectangle you found in Question 5?

_____

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Puzzle 7-3

Functions

Complete the tables.

1.

Input	Ouput
−3	15
1	
4	−20

2.

Input	Ouput
−2	
5	−4
10	−4

3.

Input	Ouput
4	14
5	15
6	

4.

Input	Ouput
−5	19
5	−21
10	

Match each table to the equation it represents.

$y = 10 + x$ _____

$y = -4$ _____

$y = -4x - 1$ _____

$y = -5x$ _____

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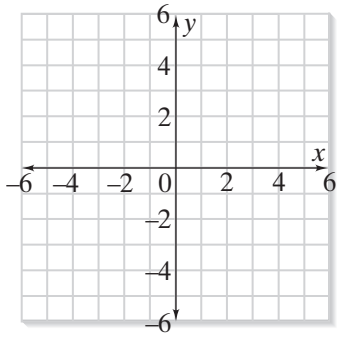
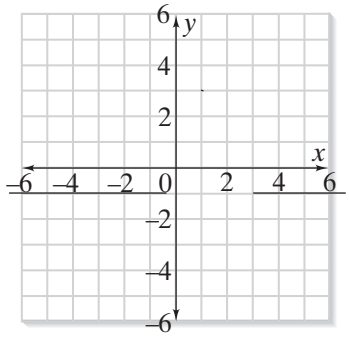
Puzzle 7-4

Graphing Functions

Complete the tables. Graph the four functions on the left in the first grid and the three functions on the right in the second grid. Use your graphs to find the abbreviation of the state that is the answer to the puzzle.





$y = -2x - 6$

x	y
−4	2
−2	
0	
2	

$y = 2x + 2$

x	y
−4	
−2	
0	
2	6

$y = -2x + 5$

x	y
0	
1	
2	1
3	

$y = -3x + 2$

x	y
−2	
0	
2	−4
4	

$y = 4x - 12$

x	y
2	
3	0
4	
5	

$y = -1$

x	y
−4	
−2	−1
0	
2	

$y = 3x$

x	y
−1	
0	
1	
2	6

_____ is home to the first revolving restaurant in the U.S., built in 1961!

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Puzzle 7-5

Functions in the Real World

Match each equation with the situation that it represents.

1. Riding a bicycle at 11 miles per hour for 2 hours. _____
2. Selling magazines at $3.50 per magazine. _____
3. Building birdhouses at 2 per hour for 7.50 hours. _____
4. Delivery fee of $5 per order. _____
5. Reading at a constant rate of 30 pages per hour. _____
6. Working for 12 hours at $7.50 per hour. _____
7. Helping four customers per hour. _____
8. Sending 20 text messages at $0.10 per text message. _____

A. $y = 7.50(12)$ **B.** $y = 20(0.10)$ **C.** $y = 11(2)$

D. $y = 30x$ **E.** $y = 2(7.50)$ **F.** $y = 3.50x$

G. $y = 5x$ **H.** $y = 4x$