

Name \_\_\_\_\_

Date \_\_\_\_\_

## What Is Coordinate Geometry?

### Word Box

coordinate plane

coordinates

ordered pair

abscissa

quadrants

ordinate

x-axis

origin

y-axis

Complete the following sentences.

1) Two perpendicular number lines can be used to form a system for locating points called a \_\_\_\_\_.

2) The horizontal line is called the \_\_\_\_\_.

3) The vertical line is called the \_\_\_\_\_.

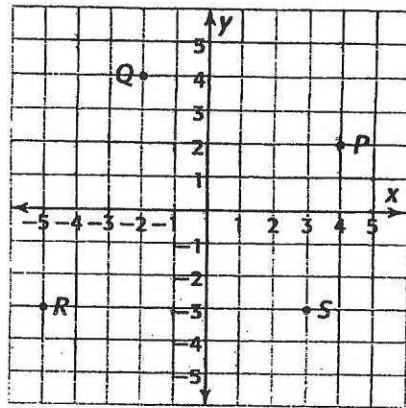
4) The point where the axes cross is called the \_\_\_\_\_, and this point is represented by the \_\_\_\_\_ (0, 0).

5) Other points are represented by ordered pairs according to their distance with respect to each axis. The ordered pair  $(-2, 3)$  corresponds to  $-2$  on the x-axis and  $3$  on the y-axis. Each ordered pair is a set of \_\_\_\_\_ for the point it names.

6) The x-coordinate is called the \_\_\_\_\_.  
The y-coordinate is called the \_\_\_\_\_.  
A point is the graph of its ordered pair.

7) The x-axis and the y-axis divide the graph into four regions called \_\_\_\_\_.  
The signs of the coordinates in each quadrant are:  
Quadrant I: \_\_\_\_\_      Quadrant II: \_\_\_\_\_  
Quadrant III: \_\_\_\_\_      Quadrant IV: \_\_\_\_\_

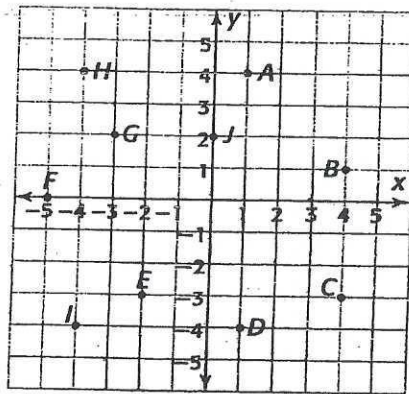
8) Use an ordered pair to name the location of each point.



a. P      b. Q      c. R      d. S

\_\_\_\_\_

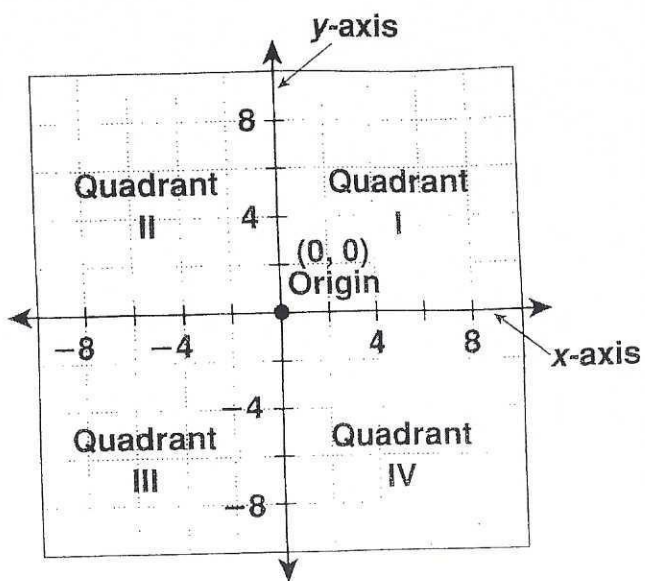
9) Name the point that has the given coordinates. Give the quadrant for each point.



Coordinates	Point	Quadrant
a. (-5, 0)		
b. (4, -3)		
c. (-4, 4)		
d. (0, 2)		
e. (-2, -3)		
f. (4, 1)		

**LESSON**  
**4-1** **Reading Strategies**  
**Using Relevant Information**

Horizontal number lines and vertical number lines form a grid called the **coordinate plane**.



1. What is the name of the horizontal number line? \_\_\_\_\_
2. What is the name of the vertical number line? \_\_\_\_\_
3. The number lines meet at point (0, 0). What is that point called? \_\_\_\_\_
4. What are the four parts that divide the coordinate plane called? \_\_\_\_\_

To locate a point on the coordinate plane, you always start at the origin. You first move either to the right or left along the **x-axis**.

Write "positive" or "negative" to show which direction you are moving from zero.

5. If you move to the right, you are moving in a \_\_\_\_\_ direction.
6. If you move to the left, you are moving in a \_\_\_\_\_ direction.

From your position on the x-axis, you move up or down along the **y-axis**.

Write "positive" or "negative" to show which direction you are moving from zero.

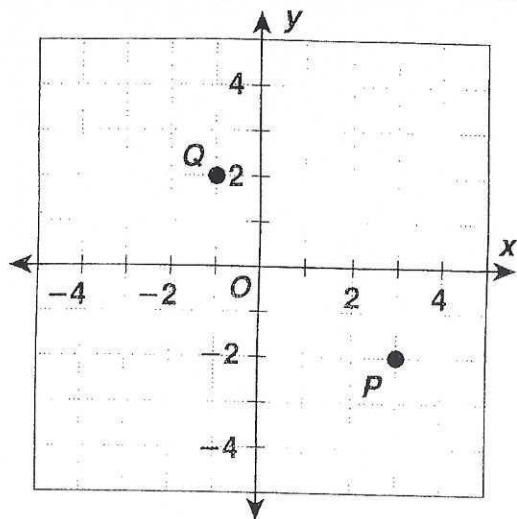
7. If you move up, you are moving in a \_\_\_\_\_ direction.
8. If you move down, you are moving in a \_\_\_\_\_ direction.

**LESSON**

**Reteach**

**4-1 The Coordinate Plane**

Numbers are graphed on a number line. **Ordered pairs** of numbers are graphed on a **coordinate plane**. A coordinate plane has two perpendicular number lines that divide it into **4 quadrants**. The following chart will help you identify the quadrants and the **coordinates** of points on a coordinate plane.



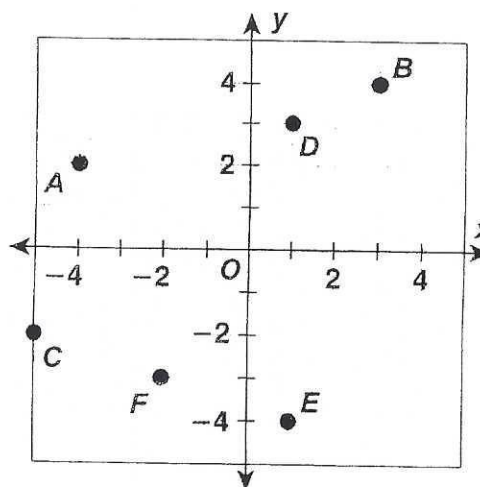
<b>Quadrant II</b> (-, +) (←, ↑)	<b>Quadrant I</b> (+, +) (→, ↑)
<b>Quadrant III</b> (-, -) (←, ↓)	<b>Quadrant IV</b> (+, -) (→, ↓)

To find the coordinates of *P*, start at (0, 0). Move 3 units →, then 2 units ↓. So the coordinates of *P* are (3, -2), and *P* is in quadrant IV.

To plot point *Q* with coordinates (-1, 2), start at (0, 0). Move 1 unit ←, then 2 units ↑. *Q* is in quadrant II.

Identify the quadrant and the coordinates of each point on the coordinate plane at the right.

1. *A* \_\_\_\_\_ 2. *B* \_\_\_\_\_
3. *C* \_\_\_\_\_ 4. *D* \_\_\_\_\_
5. *E* \_\_\_\_\_ 6. *F* \_\_\_\_\_



Plot each point on the coordinate plane above.

7. *G* (-4, -3)      8. *H* (0, -2)      9. *J* (3, -5)      10. *K* (-3, 1)
11. *L* (4, -1)      12. *M* (-3, 4)      13. *N* (-1, 3)      14. *Z* (3, 0)

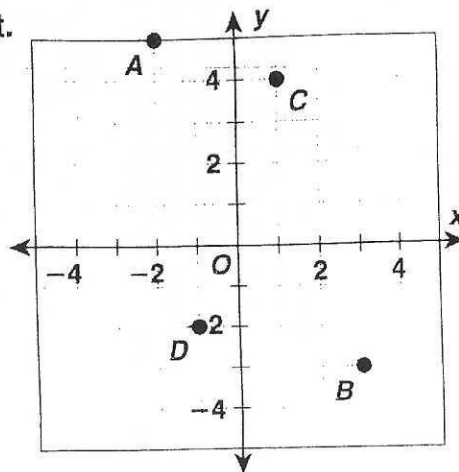
**LESSON**

**Practice C**

**4-1 The Coordinate Plane**

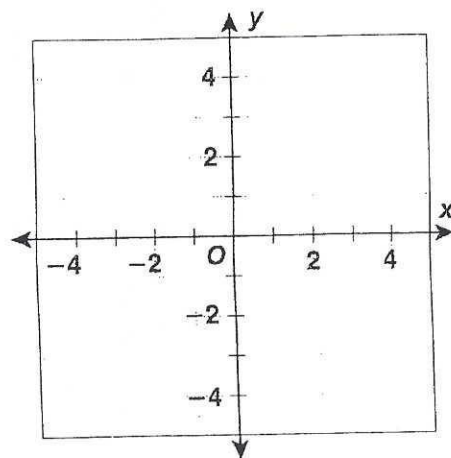
Identify the quadrant that contains each point.  
Give the coordinates of each point.

1. A \_\_\_\_\_
2. B \_\_\_\_\_
3. C \_\_\_\_\_
4. D \_\_\_\_\_



Plot each point on a coordinate plane.

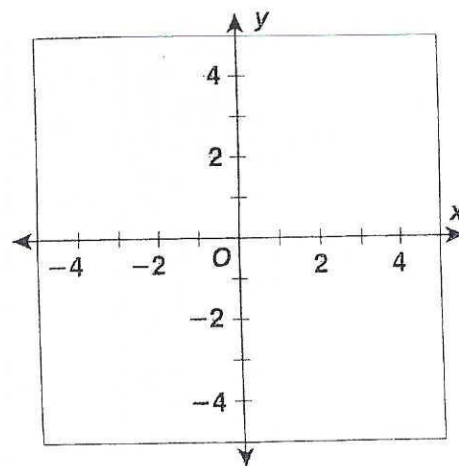
5. E(-2, -2)
6. F(4, -5)
7. G(0, -2)
8. H(-4, 4)
9. I(3, 0)
10. J(-3, 1)



11. Graph the points (3, -2), (-3, -2), (-4, 3) and (2, 3). Connect each point in the order listed. Name the figure and the quadrants in which it is located.

\_\_\_\_\_

\_\_\_\_\_



Name \_\_\_\_\_  
Math; \_\_\_\_\_

Date \_\_\_\_\_  
Period \_\_\_\_\_

### Coordinate Geometry

Directions: Plot the given points. Connect with a straight edge in order. Then find the perimeter and area of each.

1. Plot, label, and connect the points below.

A (3,3)

B (-4,3)

C (-4,-3)

D (3,-3)

Perimeter = \_\_\_\_\_

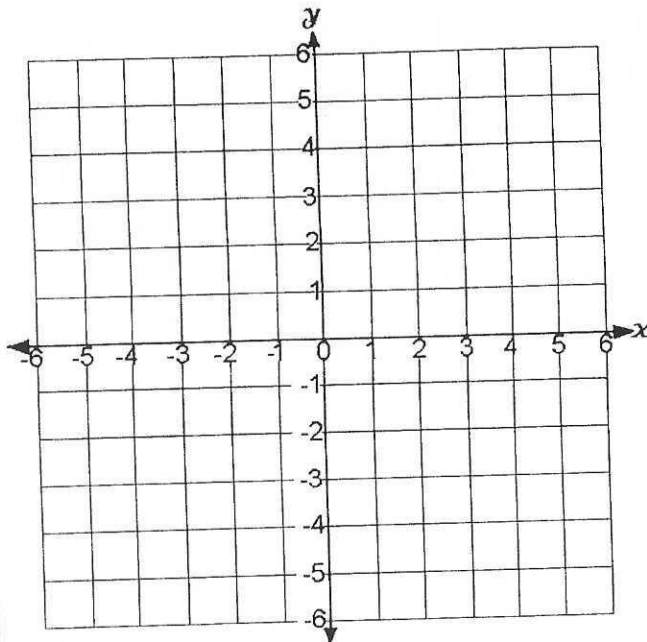
= \_\_\_\_\_

P = \_\_\_\_\_

Area = \_\_\_\_\_

= \_\_\_\_\_

A = \_\_\_\_\_



2. Plot, label, and connect the points below.

E (1,5)

F (-2,5)

G (-2,2)

H (1,2)

Perimeter = \_\_\_\_\_

= \_\_\_\_\_

P = \_\_\_\_\_

Area = \_\_\_\_\_

= \_\_\_\_\_

A = \_\_\_\_\_

