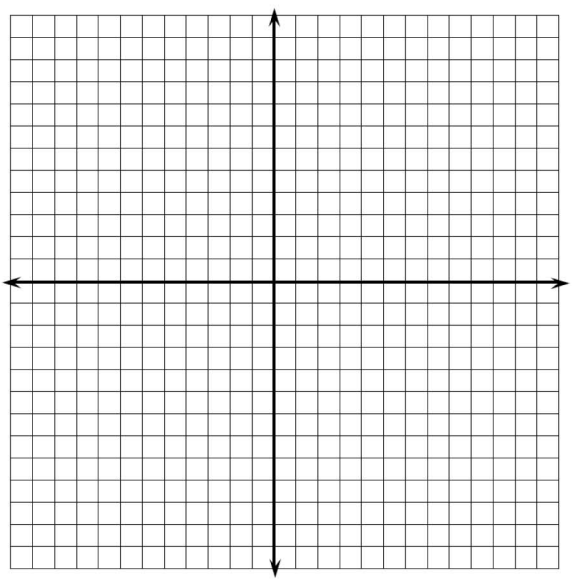
Name_____ Date_____

Locating Ordered Pairs on the Coordinate Plane



1. Label the second quadrant on the coordinate plane, and then answer the following questions:
   a. Write the coordinates of one point that lies in the second quadrant of the coordinate plane.

   b. What must be true about the coordinates of any point that lies in the second quadrant?

2. Label the third quadrant on the coordinate plane, and then answer the following questions:
   a. Write the coordinates of one point that lies in the third quadrant of the coordinate plane.

   b. What must be true about the coordinates of any point that lies in the third quadrant?

3. An ordered pair has coordinates that have the same sign. In which quadrant(s) could the point lie? Explain.

4. Another ordered pair has coordinates that are opposites. In which quadrant(s) could the point lie? Explain.

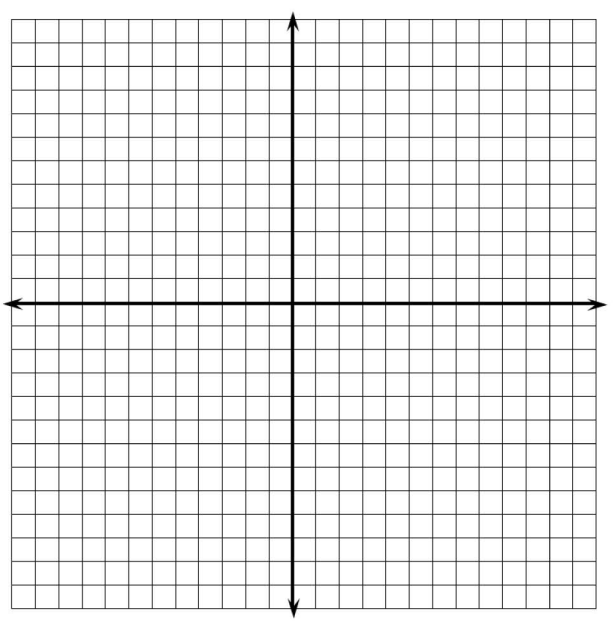
1. Name the quadrant in which each of the points lies. If the point does not lie in a quadrant, specify which axis the point lies on.

   a. $(-2, 5)$
   b. $(9.2, 7)$
   c. $(0, -4)$
   d. $(8, -4)$
   e. $(-1, -8)$

2. Jackie claims that points with the same x- and y-coordinates must lie in Quadrant I or Quadrant III. Do you agree or disagree? Explain your answer.

3. Locate and label each set of points on the coordinate plane. Describe similarities of the ordered pairs in each set, and describe the points on the plane.

   a. $\{(-2, 5), (-2, 2), (-2, 7), (-2, -3), (-2, 0.8)\}$
   b. $\{(-9, 9), (-4, 4), (-2, 2), (1, -1), (3, -3), (0, 0)\}$
   c. $\{(-7, -8), (5, -8), (0, -8), (10, -8), (-3, -8)\}$

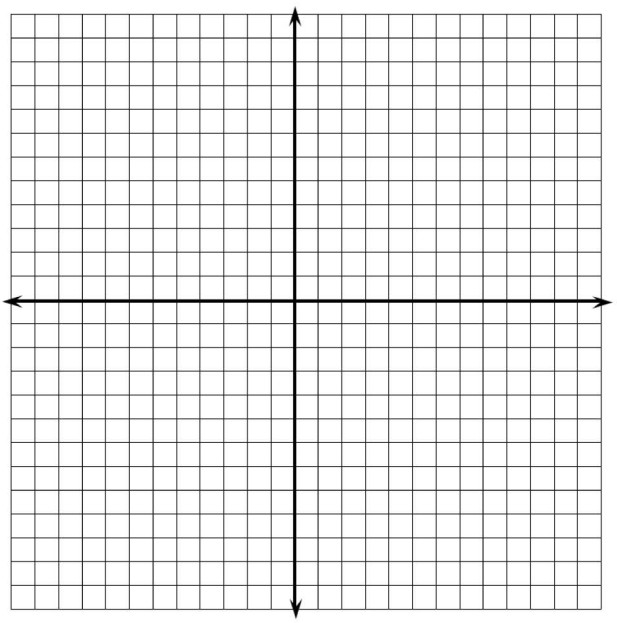


4. Locate and label at least five points on the coordinate plane that have an x-coordinate of 6.

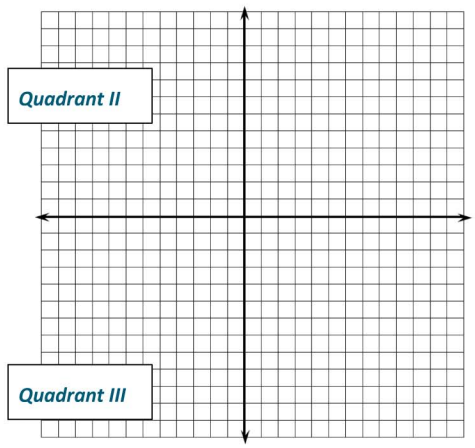
   a. What is true of the y-coordinates below the x-axis?

   b. What is true of the y-coordinates above the x-axis?

   c. What must be true of the y-coordinates on the x-axis?



1. Label the second quadrant on the coordinate plane, and then answer the following questions:



   a. Write the coordinates of one point that lies in the second quadrant of the coordinate plane.

      Answers will vary.

   b. What must be true about the coordinates of any point that lies in the second quadrant?

      The x-coordinate must be a negative value, and the y-coordinate must be a positive value.

2. Label the third quadrant on the coordinate plane, and then answer the following questions:

   a. Write the coordinates of one point that lies in the third quadrant of the coordinate plane.

      Answers will vary.

   b. What must be true about the coordinates of any point that lies in the third quadrant?

      The x- and y-coordinates of any point in the third quadrant must both be negative values.

3. An ordered pair has coordinates that have the same sign. In which quadrant(s) could the point lie? Explain.

   The point would have to be located either in Quadrant I where both coordinates are positive values or in Quadrant III where both coordinates are negative values.

4. Another ordered pair has coordinates that are opposites. In which quadrant(s) could the point lie? Explain.

   The point would have to be located in either Quadrant II or Quadrant IV because those are the two quadrants where the coordinates have opposite signs. The point could also be located at the origin $(0, 0)$ since zero is its own opposite.

1. Name the quadrant in which each of the points lies. If the point does not lie in a quadrant, specify which axis the point lies on.

   a. $(-2, 5)$

      Quadrant II

   b. $(9.2, 7)$

      Quadrant I

   c. $(0, -4)$

      None; the point is not in a quadrant because it lies on the y-axis.

   d. $(8, -4)$

      Quadrant IV

   e. $(-1, -8)$

      Quadrant III

2. Jackie claims that points with the same x- and y-coordinates must lie in Quadrant I or Quadrant III. Do you agree or disagree? Explain your answer.

Disagree; most points with the same x- and y-coordinates lie in Quadrant I or Quadrant III, but the origin $(0, 0)$ is on the x- and y-axes, not in any quadrant.

3. Locate and label each set of points on the coordinate plane. Describe similarities of the ordered pairs in each set, and describe the points on the plane.

a. $\{(-2, 5), (-2, 2), (-2, 7), (-2, -3), (-2, 0.8)\}$

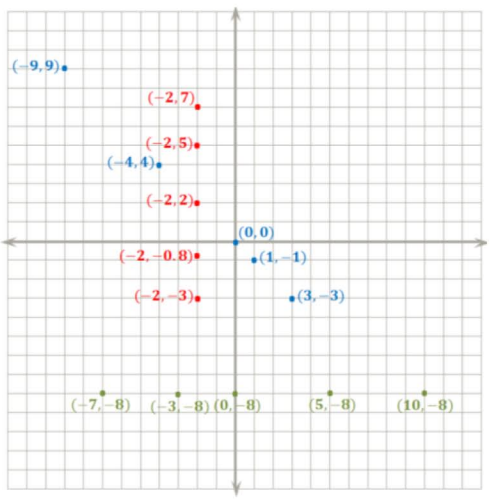
The ordered pairs all have x-coordinates of -2, and the points lie along a vertical line above and below -2 on the x-axis.

b. $\{(-9, 9), (-4, 4), (-2, 2), (1, -1), (3, -3), (0, 0)\}$

The ordered pairs each have opposite values for their x- and y-coordinates. The points in the plane line up diagonally through Quadrant II, the origin, and Quadrant IV.

c. $\{(-7, -8), (5, -8), (0, -8), (10, -8), (-3, -8)\}$

The ordered pairs all have y-coordinates of -8, and the points lie along a horizontal line to the left and right of -8 on the y-axis.



4. Locate and label at least five points on the coordinate plane that have an x-coordinate of 6.

a. What is true of the y-coordinates below the x-axis?

The y-coordinates are all negative values.

b. What is true of the y-coordinates above the x-axis?

The y-coordinates are all positive values.

c. What must be true of the y-coordinates on the x-axis?

The y-coordinates on the x-axis must be 0.