

**Section P.8 Graphical Representation of Data**

**Objective:** In this lesson you learned how to plot points in the coordinate plane and find the distance between two points.

Course Number

Instructor

Date

**Important Vocabulary**

Define each term or concept.

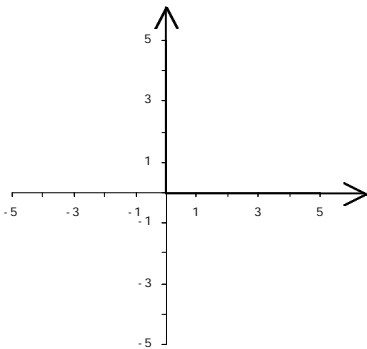
**Rectangular coordinate system****Ordered pair****I. The Cartesian Plane** (Pages 81–82)

On the Cartesian plane, the horizontal real number line is usually called the \_\_\_\_\_, and the vertical real number line is usually called the \_\_\_\_\_. The origin is the \_\_\_\_\_ of these two axes, and the two axes divide the plane into four parts called \_\_\_\_\_.

***What you should learn***

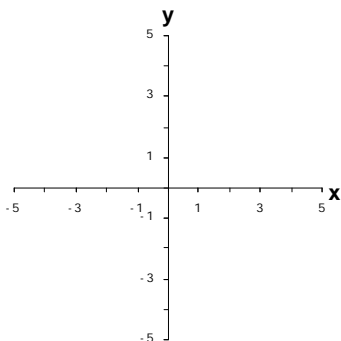
How to plot points in the Cartesian plane

On the Cartesian plane shown below, label the  $x$ -axis, the  $y$ -axis, the origin, Quadrant I, Quadrant II, Quadrant III, and Quadrant IV.



To sketch a **scatter plot** of paired data given in a table, . . .

**Example 1:** Explain how to plot the ordered pair  $(3, -2)$ , and then plot it on the Cartesian plane provided.



## II. The Distance Formula (Pages 83–84)

The **Distance Formula** states that . . .

***What you should learn***  
How to use the Distance Formula to find the distance between two points

**Example 2:** Explain how to use the Distance Formula to find the distance between the points  $(4, 2)$  and  $(5, -1)$ . Then find the distance and round to the nearest hundredth.

## III. The Midpoint Formula (Page 85)

The **midpoint** of a line segment is the point that subdivides the segment into two portions of \_\_\_\_\_ length.

The **Midpoint Formula** gives the midpoint of the segment joining the points  $(x_1, y_1)$  and  $(x_2, y_2)$  as . . .

***What you should learn***  
How to use the Midpoint Formula to find the midpoint of a line segment

**Example 3:** Explain how to find the midpoint of the line segment with endpoints at  $(-8, 2)$  and  $(6, -10)$ . Then find the coordinates of the midpoint.

#### IV. Applications of the Coordinate Plane (Pages 84 and 86)

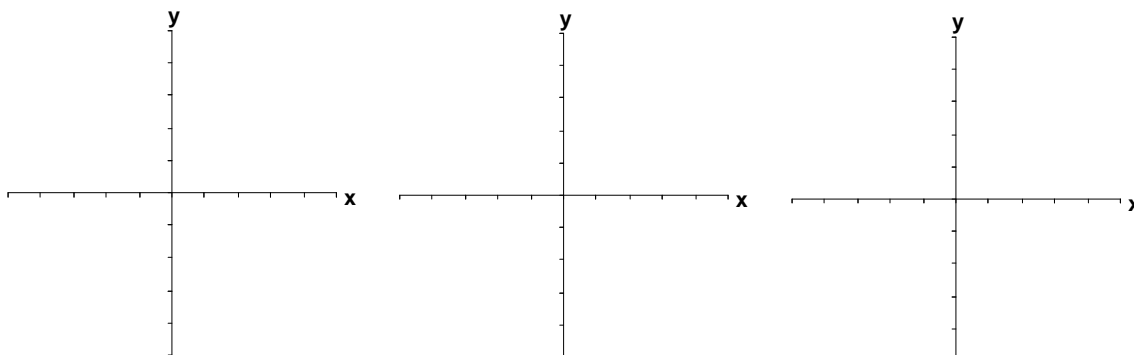
To shift a figure plotted in the rectangular coordinate system by  $a$  units to the left and  $b$  units upward, . . .

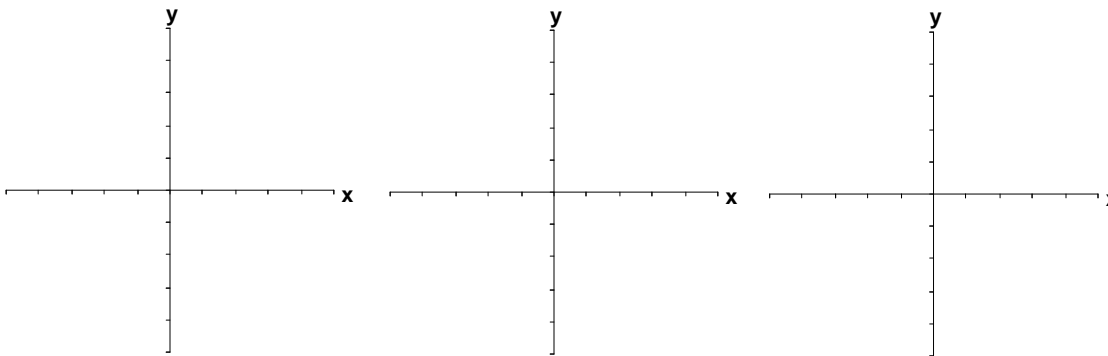
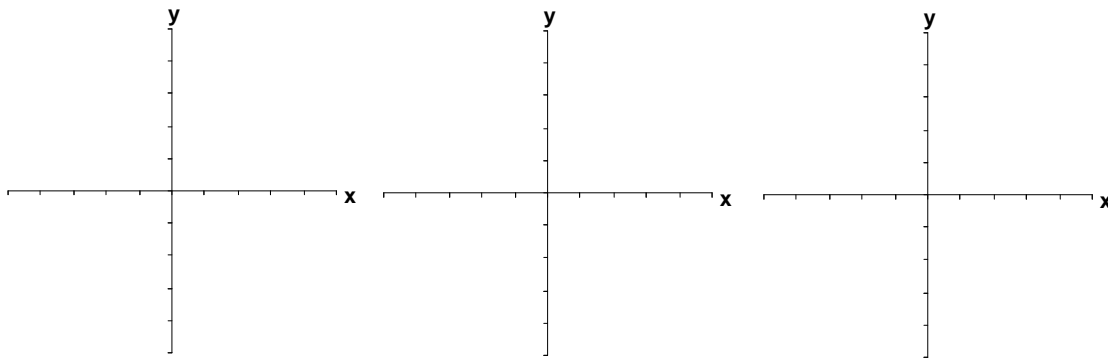
***What you should learn***  
How to use a coordinate plane to model and solve real-life problems

Give two examples of real-life situations in which representing data graphically would be useful.

Describe a real-life situation in which the Distance Formula could be used to solve a problem.

#### Additional notes



**Additional notes****Homework Assignment**

Page(s)

Exercises