Section %% Rectangular Coordinateg··········

Course Number
Instructor
Date

Objective: In this lesson you learned how to plot points in the coordinate plane and use the Distance and Midpoint Formulas.

Important Vocabulary   Define each term or concept.

Rectangular coordinate system

Ordered pair

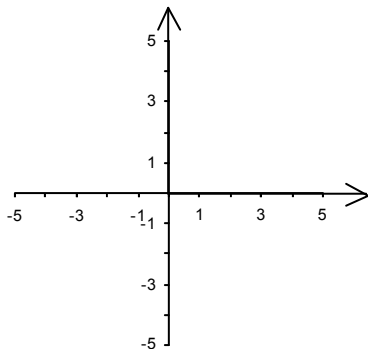**I. The Cartesian Plane** (Pages 4- 5)

The **Cartesian plane,** named after the French mathematician René Descartes, is formed by . . .

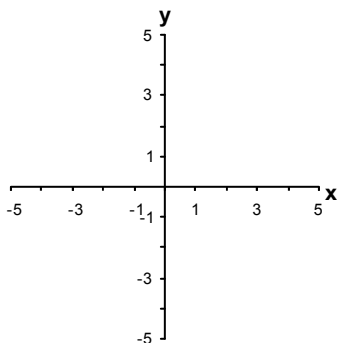| **What you should learn** |
|---|
| How to plot points in the Cartesian plane |

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 _____.

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: Explain how to plot the ordered pair (3, −2), and then plot
it on the Cartesian plane provided.

II. The Distance Formula (Pages 6-5)

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

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

Example: 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 5)

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: 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   (Pages 8-9)

To shift a figure plotted in the rectangular coordinate system by a units to the left and b units upward, . . .
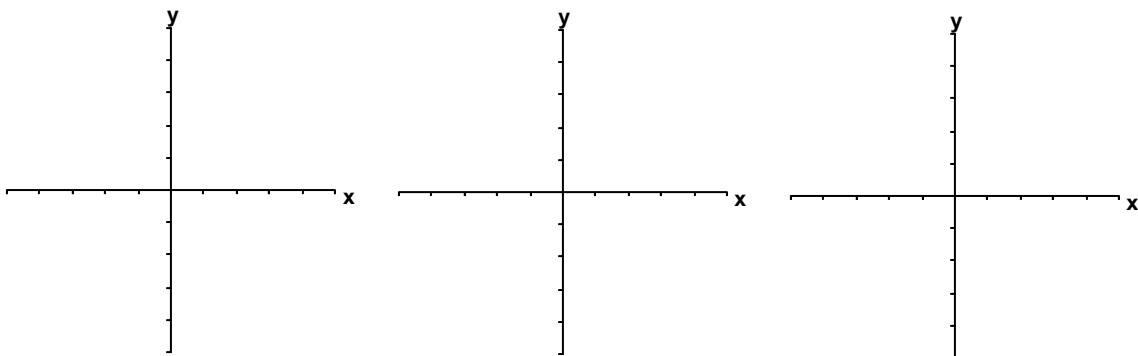
> **What you should learn**
> How to use a coordinate plane to model and solve real-life problems

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

Homework Assignment

Page(s)

Exercises

...