Lesson 15
The Coordinate Plate

NAME:

Start by navigating to the Online Lesson for instructions.

Objectives

- Name each quadrant and axis of the coordinate plane
- Plot ordered pairs (x, y) in any quadrant of the coordinate plane
- Determine the horizontal or vertical distance between ordered pairs (points) on the coordinate plane

Why?

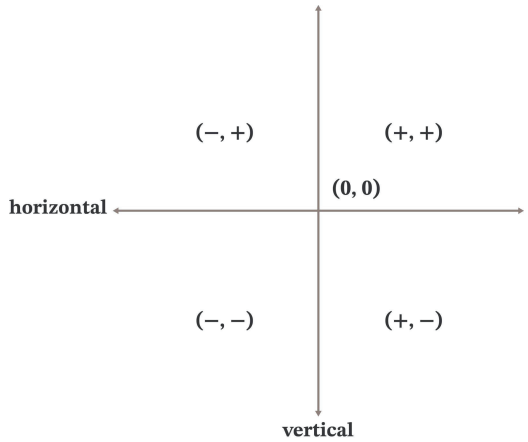
We use the coordinate plane to show exact locations and see how numbers describe position. Knowing the axes and quadrants helps us plot and read points, just like using a map. These skills help us with graphing, geometry, maps, games, and even computer graphics.

Explore

The Coordinate Plane

Fill in the notes as you watch the video in the Online Lesson.

- The _____ is made up of a horizontal number line and a vertical number line.
- The horizontal number line is the _____.
- The vertical number line is the _____.
- The _____ $(0, 0)$ is the name of the point where the x- and y-axes intersect.
- The axes separate the coordinate plane into four quadrants. Label each quadrant and identify the x and y axes.
- Quadrant I : $(+x, +y)$
- Quadrant II: $(-x, +y)$
- Quadrant III: $(-x, -y)$
- Quadrant IV: $(+x, -y)$



- An x- and y-coordinate written as a pair (x, y), form a single _____ on the coordinate plane.
- To plot a point on the coordinate plane:
- Locate where the x-coordinate and y-coordinate _____.
- Mark the location with a _____.

Example 1

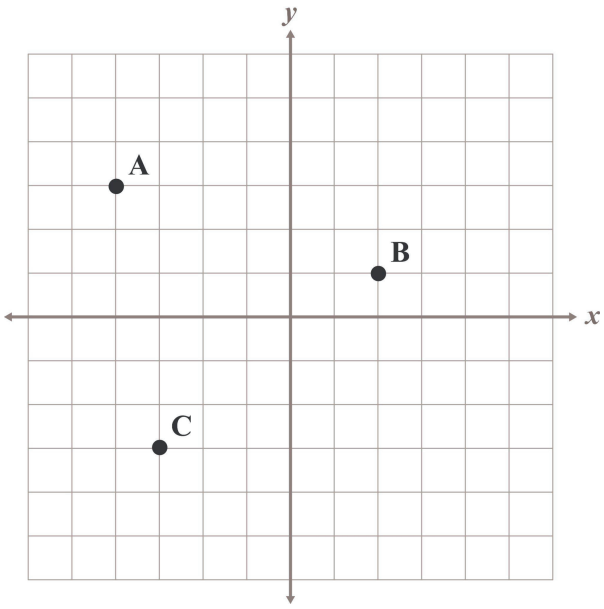
Complete the example as you watch the video in the Online Lesson.

A) Name the coordinates of each point.

A

B

C



B) Plot the points.

D $(1, -2)$

E $(2, -3)$

F $(4, 0)$

G $(0, 4)$

C) Find the distance between points B and E.

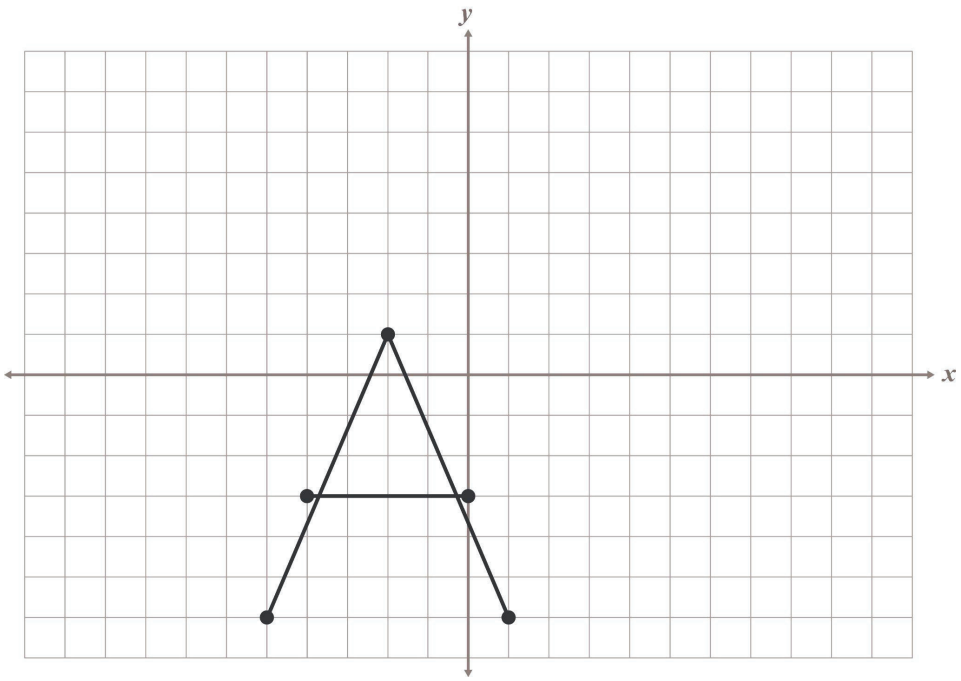
D) Find the distance between points C and E.

Practice

1) Identify the coordinate pairs for the marked points that form the letter "A" on the coordinate plane.

2) Determine the distance between the connected horizontal points in the letter "A."

Using the coordinate plane with "A" on it, finish the message by completing items 3, 4, and 5. Graph the points in order. Connect the points with line segments until you reach the word STOP. Each step is a separate figure, so the message will have four images including the "A".



3) $(-8, 7)$
$(-8, 2)$
$(-7, 0)$
$(-5, 0)$
$(-4, 2)$
$(-4, 7)$
STOP

4) $(2, 0)$
$(2, 7)$
$(6, 7)$
$(7, 6)$
$(7, 5)$
$(6, 4)$
$(7, 0)$
STOP

5) $(2, 4)$
$(6, 4)$
STOP

6) $(6, -6)$
$(8, 0)$
$(10, -6)$
$(5, -2)$
$(10, -2)$
$(6, -6)$
STOP

To continue, return to the Online Lesson.