

Name _____

Understand Ordered Pairs

I Can identify and plot points.

CONNECT Locating a point on a coordinate plane is similar to describing directions using North-South and West-East. The horizontal number line on the plane is the **x-axis**. The vertical number line on the plane is the **y-axis**.

Each point on the coordinate plane can be described by an **ordered pair** of numbers. The **x-coordinate** is the first number in the ordered pair. It is the horizontal location, or the distance the point is from 0 in the direction of the x-axis. The **y-coordinate** is the second number in the ordered pair. It is the vertical location, or the distance the point is from 0 in the direction of the y-axis.

(x, y)
 ↑ ↑
 x-coordinate y-coordinate

The x-axis and the y-axis intersect at the point $(0, 0)$, called the **origin**.

Florida's B.E.S.T.

- **Geometric Reasoning** 5.GR.4.1, 5.GR.4.2
- **Mathematical Thinking & Reasoning**
MTR.1.1, MTR.2.1, MTR.3.1, MTR.4.1,
MTR.5.1, MTR.6.1, MTR.7.1



UNLOCK the Problem Real World

Write the ordered pairs for the locations of the arena and the aquarium.

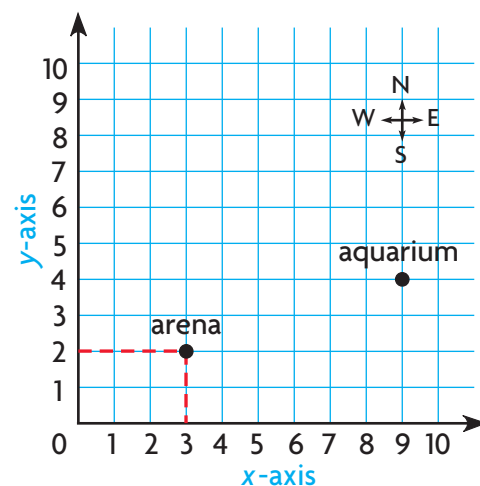
Locate the point for which you want to write an ordered pair.

Look below at the x-axis to identify the point's horizontal distance from 0, which is its x-coordinate.

Look to the left at the y-axis to identify the point's vertical distance from 0, which is its y-coordinate.

So, the ordered pair for the arena is $(3, 2)$ and the ordered pair for the aquarium

is $(\quad, \quad)$.



- Describe the path you would take to get from the origin to the aquarium, using horizontal, then vertical movements.

Math Talk

MTR 3.1 Complete tasks with mathematical fluency.

Use the x- and y-coordinates to describe the distance of the point $(3, 2)$ from the x- and y-axes.

Example 1 Use the graph.

A point on a coordinate plane can be labeled with an ordered pair, a letter, or both.

1. Plot the point $(5, 7)$ and label it J .

From the origin, move right 5 units and then up 7 units.

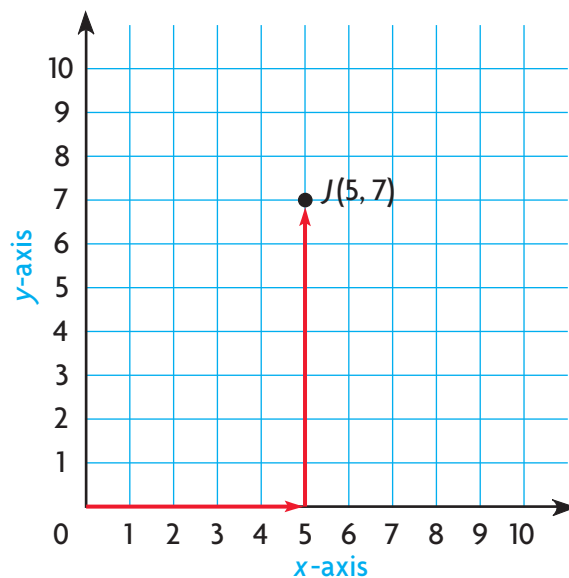
Plot and label the point.

2. Plot the point $(8, 0)$ and label it S .

From the origin, move right _____ units and

then up _____ units.

Plot and label the point.



Example 2 Find the distance between two points.

You can find the distance between two points when the points are along the same horizontal or vertical line.

- Draw a line segment to connect point A and point B .
- Count vertical units between the two points.

There are _____ units between points A and B .

1. Points A and B form a vertical line segment and have the same x -coordinates. How can you use subtraction to find the distance between the points?

2. Graph the points $(3, 2)$ and $(5, 2)$. Explain how you can use subtraction to find the horizontal distance between these two points.

