## Unit 7 Lesson 14: Distances on a Coordinate Plane

### 1 Coordinate Patterns (Warm up)

#### Student Task Statement

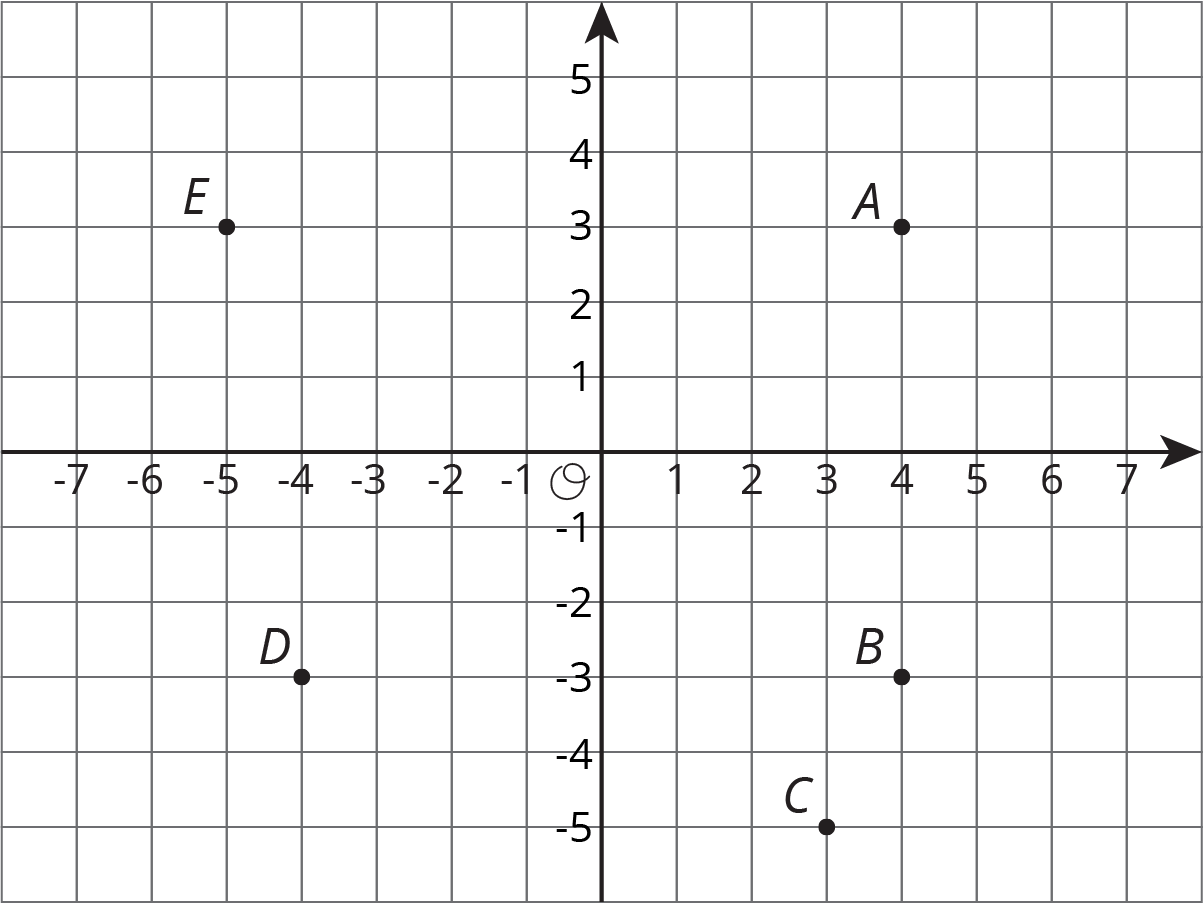
Plot points in your assigned quadrant and label them with their coordinates.



### 2 Signs of Numbers in Coordinates

#### Student Task Statement

1. Write the coordinates of each point.

* 

1. Answer these questions for each pair of points.
   * How are the coordinates the same? How are they different?
   * How far away are they from the y-axis? To the left or to the right of it?
   * How far away are they from the x-axis? Above or below it?
   1. and
   2. and
   3. and

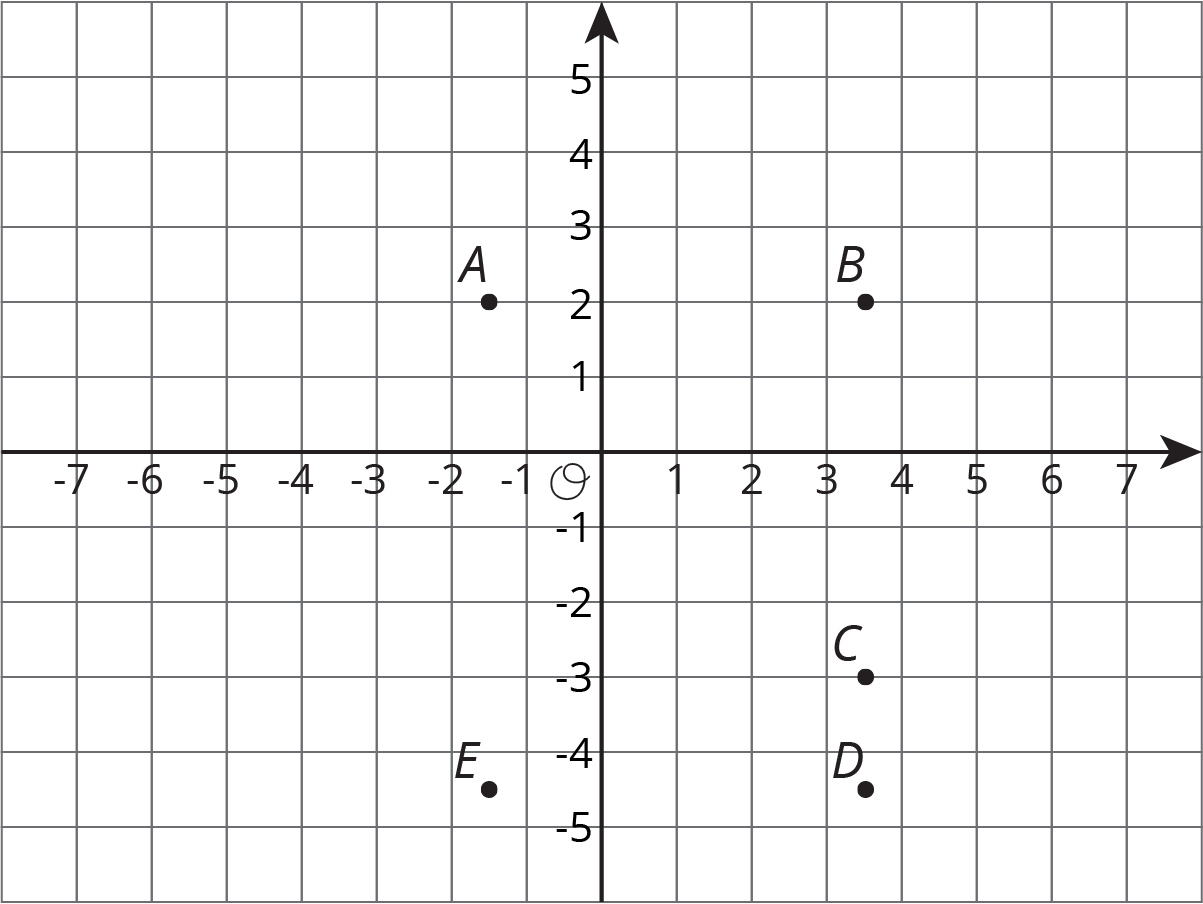
* Pause here for a class discussion.

1. Point has the same coordinates as point , except its -coordinate has the opposite sign.
   1. Plot point on the coordinate plane and label it with its coordinates.
   2. How far away are and from the -axis?
   3. What is the distance between and ?
2. Point has the same coordinates as point , except its -coordinate has the opposite sign.
   1. Plot point on the coordinate plane and label it with its coordinates.
   2. How far away are and from the -axis?
   3. What is the distance between and ?
3. Point has the same coordinates as point , except its *both* coordinates have the opposite sign. In which quadrant is point ?

### 3 Finding Distances on a Coordinate Plane

#### Student Task Statement

1. Label each point with its coordinates.

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1. Find the distance between each of the following pairs of points.
   1. Point and
   2. Point and
   3. Point and
2. Which of the points are 5 units from ?
3. Which of the points are 2 units from ?
4. Plot a point that is both 2.5 units from and 9 units from . Label that point and write down its coordinates.



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