

## Lesson Summary

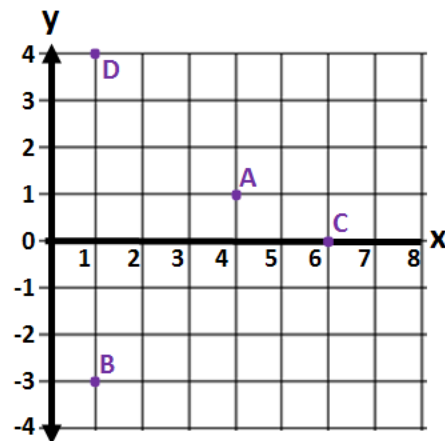
- The order of numbers in an ordered pair is important because the ordered pair should describe one location in the coordinate plane.
- The first number (called the *first coordinate*) describes a location using the horizontal direction.
- The second number (called the *second coordinate*) describes a location using the vertical direction.

## Problem Set

1. Use the set of ordered pairs below to answer each question.

$$\{(4, 20), (8, 4), (2, 3), (15, 3), (6, 15), (6, 30), (1, 5), (6, 18), (0, 3)\}$$

- Write the ordered pair(s) whose first and second coordinate have a greatest common factor of 3.
  - Write the ordered pair(s) whose first coordinate is a factor of its second coordinate.
  - Write the ordered pair(s) whose second coordinate is a prime number.
2. Write ordered pairs that represent the location of points  $A$ ,  $B$ ,  $C$ , and  $D$ , where the first coordinate represents the horizontal direction, and the second coordinate represents the vertical direction.



Extension:

3. Write ordered pairs of integers that satisfy the criteria in each part below. Remember that the origin is the point whose coordinates are  $(0, 0)$ . When possible, give ordered pairs such that (i) both coordinates are positive, (ii) both coordinates are negative, and (iii) the coordinates have opposite signs in either order.
- These points' vertical distance from the origin is twice their horizontal distance.
  - These points' horizontal distance from the origin is two units more than the vertical distance.
  - These points' horizontal and vertical distances from the origin are equal but only one coordinate is positive.