

# Graphing Points in the First Quadrant

Grade 5 Math • Section 10.2

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 12

## Quick Review and Helpful Hints

**Steps to plot  $(x, y)$ :** (1) Start at the origin. (2) Move  $x$  units right. (3) Move  $y$  units up. (4) Mark and label the point.

**Reading a point:** Find how far right ( $x$ -value) and how far up ( $y$ -value) from the origin.

**Always list the  $x$ -coordinate first, then the  $y$ -coordinate.**

**Example:** Plot the points  $A(1, 4)$ ,  $B(5, 2)$ , and  $C(3, 0)$  and describe their positions.

$A$ : right 1, up 4.  $B$ : right 5, up 2.  $C$ : right 3, up 0 (on the  $x$ -axis). Note that  $C$  lands right on the  $x$ -axis because its  $y$ -coordinate is 0.

**Answer:**  $A(1, 4)$ ,  $B(5, 2)$ ,  $C(3, 0)$

## Practice Problems

Write the ordered pair for each point, or plot the given points.

- Point at right 2, up 6: \_\_\_\_\_
- Point at right 8, up 1: \_\_\_\_\_
- Point at right 0, up 4: \_\_\_\_\_
- Point at right 5, up 5: \_\_\_\_\_
- Which axis does  $(0, 3)$  sit on? \_\_\_\_\_
- Which axis does  $(7, 0)$  sit on? \_\_\_\_\_
- Plot  $D(4, 6)$  and  $E(6, 4)$ . Are they the same point? \_\_\_\_\_
- Plot  $F(0, 0)$ ,  $G(3, 0)$ ,  $H(3, 4)$ ,  $I(0, 4)$ . What shape do they form? \_\_\_\_\_
- A point is 3 units right of the origin and 9 units up. Write the ordered pair. \_\_\_\_\_
- Name a point that is on both axes. \_\_\_\_\_

## Word Problems

- A treasure map uses a grid. The treasure is 6 units east and 8 units north of the origin. Write the location as an ordered pair. If a clue is at  $(6, 3)$ , how many units north must you still go to reach the treasure? \_\_\_\_\_
- Four corners of a rectangle are at  $(1, 2)$ ,  $(5, 2)$ ,  $(5, 6)$ , and  $(1, 6)$ . What is the length, width, and area of the rectangle? \_\_\_\_\_



## Answer Keys

- |              |                     |
|--------------|---------------------|
| 1. (2, 6)    | 7. No               |
| 2. (8, 1)    | 8. rectangle        |
| 3. (0, 4)    | 9. (3, 9)           |
| 4. (5, 5)    | 10. (0, 0)          |
| 5. $y$ -axis | 11. (6, 8); 5 units |
| 6. $x$ -axis | 12. 4, 4, 16        |

### Step-by-Step Explanations

- Start with the main idea. For graphing points in the first quadrant, right 2, up 6 is (2, 6). The first coordinate tells how far to move right, and the second tells how far to move up.
- Keep the work tidy. For graphing points in the first quadrant, right 8, up 1 is (8, 1). Switching the coordinates usually changes the point, so order matters.
- Look at what the numbers mean. For graphing points in the first quadrant, right 0, up 4 is (0, 4). A table of ordered pairs makes a graphing pattern much easier to follow.
- Use the setup first. For graphing points in the first quadrant, right 5, up 5 is (5, 5). The first coordinate tells how far to move right, and the second tells how far to move up.
- Check the size of the answer. For graphing points in the first quadrant, a point with  $x = 0$  lies on the  $y$ -axis. Switching the coordinates usually changes the point, so order matters.
- Match the operation to the words. For graphing points in the first quadrant, a point with  $y = 0$  lies on the  $x$ -axis. A table of ordered pairs makes a graphing pattern much easier to follow.
- Write the important values first. For graphing points in the first quadrant,  $D(4, 6)$  and  $E(6, 4)$  switch coordinates, so they are different points. The first coordinate tells how far to move right, and the second tells how far to move up.
- Follow the pattern carefully. For graphing points in the first quadrant, the points form a rectangle with horizontal and vertical sides. Switching the coordinates usually changes the point, so order matters.
- Start with the main idea. For graphing points in the first quadrant, right 3 and up 9 gives (3, 9). A table of ordered pairs makes a graphing pattern much easier to follow.
- Keep the work tidy. For graphing points in the first quadrant, the origin lies on both axes. The first coordinate tells how far to move right, and the second tells how far to move up.
- Look at what the numbers mean. For graphing points in the first quadrant, the treasure is at (6, 8); from (6, 3) to (6, 8) is 5 units north. Switching the coordinates usually changes the point, so order matters.
- Use the setup first. For graphing points in the first quadrant, length is  $5 - 1 = 4$ , width is  $6 - 2 = 4$ , and area is  $4 \times 4 = 16$ . A table of ordered pairs makes a graphing pattern much easier to follow.



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