Name _____ Class _____ Date _____

2-4

The Coordinate Plane

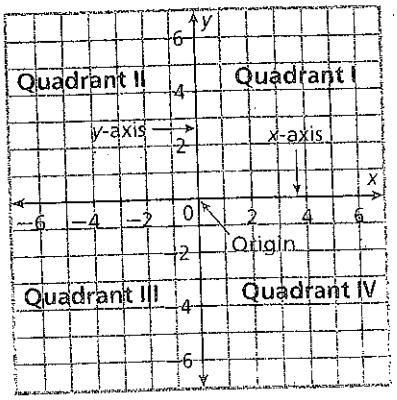
COMMON CORE

CC.6.NS.6b
CC.6.NS.6c
CC.6.NS.8

Essential question: *How do you locate and name points in the coordinate plane?*

A **coordinate plane** is formed by two number lines that intersect at right angles. The point of intersection is the 0 on each number line.

- The two number lines are called the **axes**.
- The horizontal axis is called the **x-axis**.
- The vertical axis is called the **y-axis**.
- The point where the axes intersect is called the **origin**.
- The two axes divide the coordinate plane into four **quadrants**.

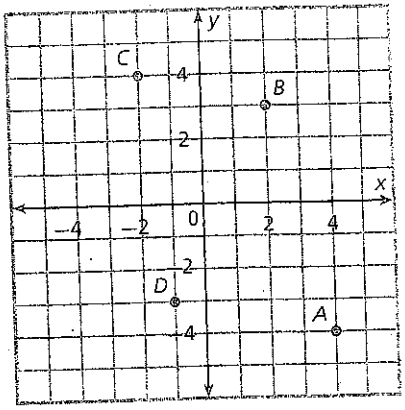


An **ordered pair** is a pair of numbers that gives the location of a point on a coordinate plane. The first number tells how far to the right (positive) or left (negative) the point is located from the origin. The second number tells how far up (positive) or down (negative) the point is located from the origin.

The numbers in an ordered pair are called **coordinates**. The first number is the ***x*-coordinate** and the second number is the ***y*-coordinate**.

1 EXAMPLE Identifying Coordinates and Quadrants

Identify the coordinates of point *D* and name the quadrant where the point is located.



Step 1 Start at the origin. Count horizontally along the *x*-axis until you are directly above point *D*.

How many units did you count? _____

Did you move left (negative) or right (positive) from the origin? _____

The *x*-coordinate of *D* is _____

Step 2 Now count vertically until you reach point *D*.

How many units did you count? _____

Did you move up (positive) or down (negative)? _____

The *y*-coordinate of *D* is _____

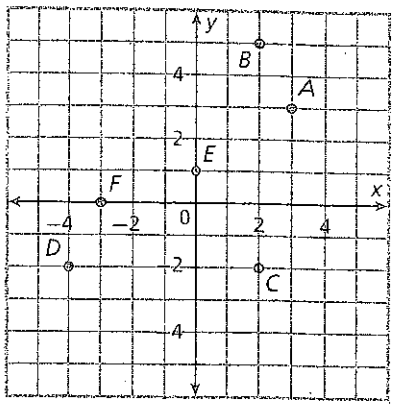
The coordinates of *D* are (,).

D is in Quadrant .

PRACTICE

Use the coordinate plane for 1–10.

Identify the coordinates of each point and name the quadrant in which it is located.



1. A _____ 2. B _____

3. C _____ 4. D _____

5. E _____ 6. F _____

Graph each point on the coordinate plane.

7. $(2, -4)$ 8. $(-4, 4)$

9. $(3, 0)$ 10. $(0, -5)$

11. Circle the point(s) located in Quadrant III.

$(6, 4)$ $(-5, -1)$ $(3.5, -7)$ $(-1, 0)$ $(-2, -4)$ $(-2, 9.1)$

12. a. Choose a point located in Quadrant IV and give its coordinates.

_____

b. Choose a point that is not located in any quadrant and give its coordinates.

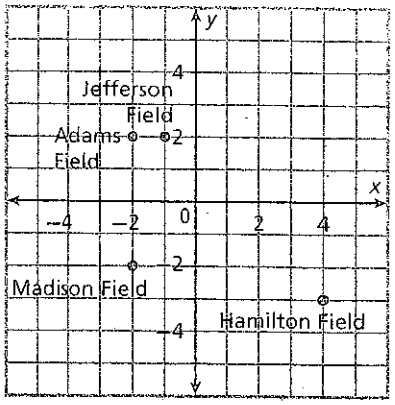
_____

13. The September game schedule for Justin's soccer team is shown. The location of each game is graphed on the coordinate plane.

Hawks' Game Schedule

September

Sept 3 – Hawks vs. Jets, Jefferson Field
Sept 10 – Hawks vs. Mustangs, Madison Field
Sept 17 – Hawks vs. Lions, Hamilton Field
Sept 24 – Hawks vs. Arrows, Adams Field



a. Identify the coordinates of each location.

Jefferson Field _____ Madison Field _____

Hamilton Field _____ Adams Field _____

b. On October 1, the team has a game scheduled at Lincoln Field. The coordinates for Lincoln Field are (4, 4). Graph and label this point on the coordinate plane. What quadrant is Lincoln Field located in? _____