

1-6

Study Guide and Intervention

Ordered Pairs and Relations

In mathematics, a **coordinate system** is used to locate points. The horizontal number line is called the **x-axis** and the vertical number line is called the **y-axis**. The point where the two axes intersect is the **origin** (0, 0). An **ordered pair** of numbers is used to locate points in the coordinate plane. The point (4, 3) has an **x-coordinate** of 4 and a **y-coordinate** of 3.

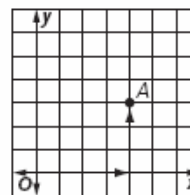
Example 1

Graph $A(4, 3)$ on the coordinate system.

Step 1 Start at the origin.

Step 2 Since the x -coordinate is 4, move 4 units to the right.

Step 3 Since the y -coordinate is 3, move 3 units up. Draw a dot.

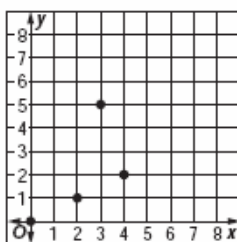


A set of ordered pairs is called a **relation**. The set of x -coordinates is called the **domain**. The set of y -coordinates is called the **range**.

Example 2

Express the relation $\{(0, 0), (2, 1), (4, 2), (3, 5)\}$ as a table and as a graph. Then determine the domain and range.

x	y
0	0
2	1
4	2
3	5



The domain is $\{0, 2, 4, 3\}$, and the range is $\{0, 1, 2, 5\}$.

Exercises

Graph each point on the coordinate system.

1. $A(4,1)$

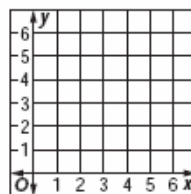
2. $B(2,0)$

3. $C(1,3)$

4. $D(5,2)$

5. $E(0,3)$

6. $F(6,4)$



7. Express the relation $\{(4,6), (0,3), (1,4)\}$ as a table and a graph. Then determine the domain and range.

x	y

