

# 4-6 Study Guide and Intervention

## Functions

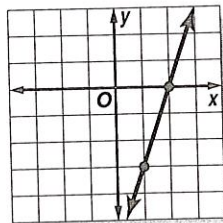
**Identify Functions** Relations in which each element of the domain is paired with exactly one element of the range are called **functions**.

**Example 1** Determine whether the relation  $\{(6, -3), (4, 1), (7, -2), (-3, 1)\}$  is a function. Explain.

Since each element of the domain is paired with exactly one element of the range, this relation is a function.

**Example 2** Determine whether  $3x - y = 6$  is a function.

Since the equation is in the form  $Ax + By = C$ , the graph of the equation will be a line, as shown at the right.

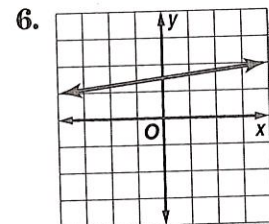
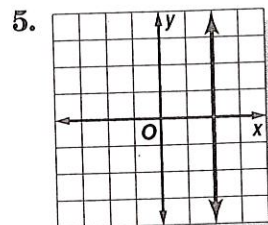
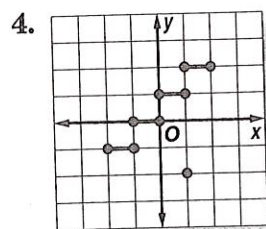
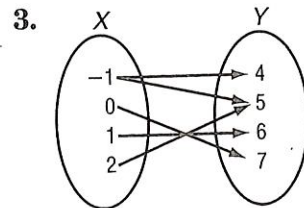
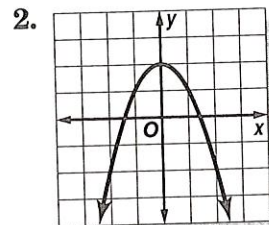
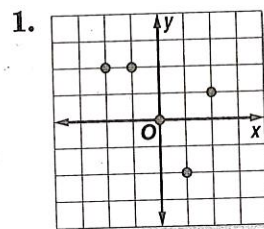


If you draw a vertical line through each value of  $x$ , the vertical line passes through just one point of the graph. Thus, the line represents a function.

Lesson 4-6

### Exercises

Determine whether each relation is a function.



7.  $\{(4, 2), (2, 3), (6, 1)\}$

8.  $\{(-3, -3), (-3, 4), (-2, 4)\}$

9.  $\{(-1, 0), (1, 0)\}$

10.  $-2x + 4y = 0$

11.  $x^2 + y^2 = 8$

12.  $x = -4$