

1-10 Study Guide and Intervention**Algebra: Equations and Functions**

The solution of an equation with two variables consists of two numbers, one for each variable that makes the equation true. When a relationship assigns exactly one output value for each input value, it is called a function. Function tables help to organize input numbers, output numbers, and function rules.

Example 1 Complete a function table for $y = 5x$. Then state the domain and range.

Choose four values for x . Substitute the values for x into the expression. Then evaluate to find the y value.

| x | $5x$ | y |
|-----|--------|-----|
| 0 | $5(0)$ | 0 |
| 1 | $5(1)$ | 5 |
| 2 | $5(2)$ | 10 |
| 3 | $5(3)$ | 15 |

The domain is $\{0, 1, 2, 3\}$. The range is $\{0, 5, 10, 15\}$.

Exercises

Complete the following function tables. Then state the domain and range.

1. $y = x + 4$

| x | $x + 4$ | y |
|-----|---------|-----|
| 0 | $0+4$ | 4 |
| 1 | $1+4$ | 5 |
| 2 | $2+4$ | 6 |
| 3 | $3+4$ | 7 |

domain: $\{0, 1, 2, 3\}$

range: $\{4, 5, 6, 7\}$

2. $y = 10x$

| x | $10x$ | y |
|-----|---------|-----|
| 1 | $10(1)$ | 10 |
| 2 | $10(2)$ | 20 |
| 3 | $10(3)$ | 30 |
| 4 | $10(4)$ | 40 |

domain: $\{1, 2, 3, 4\}$

range: $\{10, 20, 30, 40\}$

3. $y = x - 1$

| x | $x - 1$ | y |
|-----|---------|-----|
| 2 | $2-1$ | 1 |
| 3 | $3-1$ | 2 |
| 4 | $4-1$ | 3 |
| 5 | $5-1$ | 4 |

domain: $\{2, 3, 4, 5\}$

range: $\{1, 2, 3, 4\}$

4. $y = 3x$

| x | $3x$ | y |
|-----|---------|-----|
| 10 | $3(10)$ | 30 |
| 11 | $3(11)$ | 33 |
| 12 | $3(12)$ | 36 |
| 13 | $3(13)$ | 39 |

domain: $\{10, 11, 12, 13\}$

range: $\{30, 33, 36, 39\}$