

# What You Learned Before

## Commutative and Associative Properties (6.EE.3)

**Example 1** a. Simplify the expression  $6 + (14 + x)$ .

$$\begin{aligned}6 + (14 + x) &= (6 + 14) + x \\&= 20 + x\end{aligned}$$

Associative Property of Addition  
Add 6 and 14.

b. Simplify the expression  $(3.1 + x) + 7.4$ .

$$\begin{aligned}(3.1 + x) + 7.4 &= (x + 3.1) + 7.4 \\&= x + (3.1 + 7.4) \\&= x + 10.5\end{aligned}$$

Commutative Property of Addition  
Associative Property of Addition  
Add 3.1 and 7.4.

c. Simplify the expression  $5(12y)$ .

$$\begin{aligned}5(12y) &= (5 \cdot 12)y \\&= 60y\end{aligned}$$

Associative Property of Multiplication  
Multiply 5 and 12.

### Try It Yourself

Simplify the expression. Explain each step.

1.  $3 + (b + 8)$

2.  $(d + 4) + 6$

3.  $6(5p)$

## Properties of Zero and One (6.EE.3)

**Example 2** a. Simplify the expression  $6 \cdot 0 \cdot q$ .

$$\begin{aligned}6 \cdot 0 \cdot q &= (6 \cdot 0) \cdot q \\&= 0 \cdot q = 0\end{aligned}$$

Associative Property of Multiplication  
Multiplication Property of Zero

b. Simplify the expression  $3.6 \cdot s \cdot 1$ .

$$\begin{aligned}3.6 \cdot s \cdot 1 &= 3.6 \cdot (s \cdot 1) \\&= 3.6 \cdot s \\&= 3.6s\end{aligned}$$

Associative Property of Multiplication  
Multiplication Property of One

### Try It Yourself

Simplify the expression. Explain each step.

4.  $13 \cdot m \cdot 0$

5.  $1 \cdot x \cdot 29$

6.  $(n + 14) + 0$

