

# Lesson 1 Reteach

## Algebraic Expressions

To evaluate an algebraic expression you replace each variable with its numerical value, then use the order of operations to simplify.

### Example 1

Evaluate  $6x - 7$  if  $x = 8$ .

$$\begin{aligned} 6x - 7 &= 6(8) - 7 && \text{Replace } x \text{ with } 8. \\ &= 48 - 7 && \text{Use the order of operations.} \\ &= 41 && \text{Subtract 7 from 48.} \end{aligned}$$

### Example 2

Evaluate  $5m - 3n$  if  $m = 6$  and  $n = 5$ .

$$\begin{aligned} 5m - 3n &= 5(6) - 3(5) && \text{Replace } m \text{ with } 6 \text{ and } n \text{ with } 5. \\ &= 30 - 15 && \text{Use the order of operations.} \\ &= 15 && \text{Subtract 15 from 30.} \end{aligned}$$

### Example 3

Evaluate  $\frac{a}{b}$  if  $a = 7$  and  $b = 6$ .

$$\begin{aligned} \frac{a}{b} &= \frac{7}{6} && \text{Replace } a \text{ with } 7 \text{ and } b \text{ with } 6. \\ &= \frac{7}{6} && \text{The fraction bar is like a grouping symbol.} \\ &= 1\frac{1}{6} && \text{Divide.} \end{aligned}$$

### Example 4

Evaluate  $x^3 + 4$  if  $x = 3$ .

$$\begin{aligned} x^3 + 4 &= 3^3 + 4 && \text{Replace } x \text{ with } 3. \\ &= 27 + 4 && \text{Use the order of operations.} \\ &= 31 && \text{Add 27 and 4.} \end{aligned}$$

### Exercises

Evaluate each expression if  $a = 4$ ,  $b = 2$ , and  $c = 7$ .

1.  $3ac$

2.  $5b^3$

3.  $abc$

4.  $5 + 6c$

5.  $\frac{a}{b}$

6.  $2a - 3b$

7.  $\frac{a}{c}$

8.  $c - a$

9.  $20 - bc$

10.  $2bc$

11.  $ac - 3b$

12.  $6a^2$

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**13.**  $7c$

**14.**  $6a - b$

**15.**  $ab - c$