WARM-UP

Factores form Distributes form Simplifies form
$$3x(5y-2w) = 3x(5y)-3x(2w) = /5xy-6xw$$

$$2(5x+8y) = 2(5x)+2(8y) = /0x+16y$$

$$5(4a+6) = 5(4a)+5(6) = 20a+56$$

NAME

COEFFICIENTS 3, -2, 4, 6PERIOD 3x - 2y + 4x + 6y = 7x + 4y

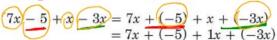
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Lesson 5 Reteach

When a plus or minus sign separates an algebraic expression into parts, each part is called a term. The numerical factor of a term that contains a variable is called the coefficient of the variable. A term without a variable is called a constant. Like terms contain the same variables to the same powers, such as  $3x^2$  and  $2x^2$ .

### Example

1 Identify the terms, like terms, coefficients, and constants in the expression 7x - 5 + x - 3x.



Definition of subtraction Identity Property; x = 1x

The terms are 7x, -5, x, and -3x. The like terms are 7x, x, and -3x. The coefficients are 7, 1, and -3. The constant is -5.

An algebraic expression is in simplest form if it has no like terms and no parentheses.

## **Examples**

Write each expression in simplest form.

$$25x + 3x$$

5x + 3x = (5 + 3)x or 8x

Distributive Property; simplify.

$$3 -2m + 5 + 6m - 3$$

-2m and 6m are like terms. 5 and -3 are also like terms.

$$-2m + 5 + 6m - 3 = -2m + 5 + 6m + (-3)$$
 Definition of subtraction 
$$= -2m + 6m + 5 + (-3)$$
 Commutative Property 
$$= (-2 + 6)m + 5 + (-3)$$
 Distributive Property 
$$= 4m + 2$$
 Simplify.

**Exercises**

$$5 - \boxed{3} = 2$$
 
$$5 + \sqrt{-3} = 2$$

#### **Exercises**

Identify the terms, like terms, coefficients, and constants in each

expression.  

$$-4y + (-3) + 2y$$
  
1.  $-4y - 3 + 2y$   
 $-5g + 3 + 2g + (-|g|)$   
2.  $-5g + 3 + 2g - g$ 

Terms: 
$$-4/y$$
,  $-3$ ,  $2/y$  Terms: Terms: Like terms: Like terms: Coefficients:  $-4/y$ ,  $2/y$  Coefficients: Constants: Co

Constants:

Write each expression in simplest form.

4. 
$$3d + 6d$$

5. 
$$2 + 5s - 4$$

6. 
$$2z + 3 - 9z - 8$$

Constants:

3. 5 + 3a - 4 - a

## **Lesson 5 Skills Practice**

# Simplify Algebraic Expressions

Identify the terms, like terms, coefficients, and constants in each expression.

1. 
$$4e + 7e + 5$$

2. 
$$5a + 2 - 7$$

5. 
$$7 - 5y + 2 + 1$$

6. 
$$2m + 3m - m$$

Write each expression in simplest form.

9. 
$$3t + 6t$$

10. 
$$4r + r$$

11. 
$$7f - 2f$$

15. 
$$8k + 3 + 4k$$

**16.** 
$$7m - 5m - 6$$

17. 
$$9-6x+5$$

**21.** 
$$8b + 6 - 8b + 1$$

**22.** 
$$t-5-2t+5$$

**23.** 
$$4w + 5w + w$$

Write an expression in simplest form that represents the total amount in each situation.

- **27. RUNNING** You run m miles on Friday, the same amount on Saturday, and 4 miles on Sunday.
- **28. READING** Hendrick read *b* books in January, twice that amount in February, and 1 book in March.