EXAMPLE 2 Distribute a negative number

Use the distributive property to write an equivalent expression.

a. $-2(x + 7) = -2(x) + (-2)(7)$ — Distribute -2.

$= -2x - 14$ — Simplify.

b. $(5 - y)(-3y) = 5(-3y) - y(-3y)$ — Distribute $-3y$.

$= -15y + 3y^2$ — Simplify.

c. $-(2x - 11) = (-1)(2x - 11)$ — Multiplicative property of -1

$= (-1)(2x) - (-1)(11)$ — Distribute -1.

$= -2x + 11$ — Simplify.

TERMS AND COEFFICIENTS The parts of an expression that are added together are called **terms**. The number part of a term with a variable part is called the **coefficient** of the term.

READING

Note that $-x$ has a coefficient of -1 even though the 1 isn't written. Similarly, x has a coefficient of 1.

Terms

$-x + 2x + 8$

Coefficients are -1 and 2.

A **constant term** has a number part but no variable part, such as 8 in the expression above. **Like terms** are terms that have the same variable parts, such as $-x$ and $2x$ in the expression above. Constant terms are also like terms.

EXAMPLE 3 Identify parts of an expression

Identify the terms, like terms, coefficients, and constant terms of the expression $3x - 4 - 6x + 2$.

Solution

Write the expression as a sum: $3x + (-4) + (-6x) + 2$

Terms: $3x$, -4, $-6x$, 2

Like terms: $3x$ and $-6x$; -4 and 2

Coefficients: 3, -6

Constant terms: -4, 2

GUIDED PRACTICE for Examples 1, 2, and 3

Use the distributive property to write an equivalent expression.

1. $2(x + 3)$ **2.** $-(4 - y)$ **3.** $(m - 5)(-3m)$ **4.** $(2n + 6)\left(\frac{1}{2}\right)$

5. Identify the terms, like terms, coefficients, and constant terms of the expression $-7y + 8 - 6y - 13$.

COMBINING LIKE TERMS The distributive property allows you to combine like terms that have variable parts. For example, $5x + 6x = (5 + 6)x = 11x$. A quick way to combine like terms with variable parts is to mentally add the coefficients and use the common variable part. An expression is *simplified* if it has no grouping symbols and if all of the like terms have been combined.