NAME _____ DATE _____

1-5 The Distributive Property (Pages 26–30)

Distributive Property	The sum of two addends multiplied by a number is the sum of the product of each addend and the number. So, for any numbers a, b, and c, $a(b + c) = ab + ac$ and $(b + c)a = ba + ca$.

An expression such as $5x + 7x$ has two **terms**. These terms are called **like terms** because they have the same variable. You can use the distributive property to simplify expressions that have like terms. An expression is in its **simplest form** when it has no like terms and no parentheses.

EXAMPLES

Simplify each expression.

A $87q + 10q$

$87q + 10q = (87 + 10)q$ *Distributive property*

$= 97q$

B $s + 7(s + 1)$

$s + 7(s + 1) = s + 7s + 7$ *Distributive property*

$= (1 + 7)s + 7$ *Distributive property*

$= 8s + 7$

Try These Together

Restate each expression using the distributive property. Do not simplify.

1. $2x + 2y$ **2.** $n(6 + 4m)$ **3.** $2(10 + 11)$

PRACTICE

Restate each expression using the distributive property. Do not simplify.

4. $z + 6z$ **5.** $(6 + 10)p$ **6.** $4t + 8t - 3$

7. $s + 3s + 6s$ **8.** $4c + 7d + 11d$ **9.** $2d + 18d$

Simplify each expression.

10. $x + 3x + 10$ **11.** $2x + 4x + 6y$ **12.** $7(x + 2)$

13. $a + 2b + 7b$ **14.** $5(6x + 8) + 4x$ **15.** $y + 2y + 8(y + 7)$

16. **Standardized Test Practice** Restate the expression $3(x + 2y)$ by using the distributive property.

A $3x + 6y$ **B** $3x + 2y$ **C** $x + 6y$ **D** $6xy$

Answers: **1.** $2(x + y)$ **2.** $6n + 4mn$ **3.** $2(10) + 2(11)$ **4.** $(1 + 6)z$ **5.** $6p + 10p$ **6.** $(4 + 8)t - 3$ **7.** $(1 + 3 + 6)s$ **8.** $4c + (7 + 11)d$ **9.** $(2 + 18)d$ **10.** $4x + 10$ **11.** $6x + 6y$ **12.** $7x + 14$ **13.** $a + 9b$ **14.** $34x + 40$ **15.** $11y + 56$ **16.** A