

LESSON
5-1

Multiplying Polynomial Expressions by Monomials

Reteach

To multiply monomial expressions, multiply the constants, and then multiply variables with the same base.

Example

Multiply $(3a^2b)(4ab^3)$.

$$(3a^2b)(4ab^3)$$

$$(3 \cdot 4)(a^2 \cdot a)(b \cdot b^3)$$

Rearrange so that the constants and the variables with the same bases are together.

$$12a^3b^4$$

Multiply.

To multiply a polynomial expression by a monomial, distribute the monomial to each term in the polynomial.

Example

Multiply $2x(x^2 + 3x + 7)$.

$$2x(x^2 + 3x + 7)$$

$$(2x)x^2 + (2x)3x + (2x)7$$

Distribute.

$$2x^3 + 6x^2 + 14x$$

Multiply.

Multiply.

1. $(-5x^2y^3)(2xy)$

2. $(2xyz)(-4x^2yz)$

3. $(3x)(x^2y^3)$

Fill in the blanks below. Then complete the multiplication.

4. $4(x - 5)$

$(\quad)x - (\quad)5$

5. $3x(x + 8)$

$(\quad)x + (\quad)8$

6. $2x(x^2 - 6x + 3)$

$(\quad)x^2 - (\quad)6x + (\quad)3$

Multiply.

7. $5(x + 9)$

8. $-4x(x^2 + 8)$

9. $3x^2(2x^2 + 5x + 4)$

10. $-3(5 - x^2 + 2)$

11. $(5a^3b)(2ab)$

12. $5y(-y^2 + 7y - 2)$
