

Unit 10 Objective 4 Remediation

Multiplying a Monomial and a Polynomial

Example One

Simplify $-3(2x + 3y - 2)$

Distribute the term in the front of the parenthesis to all of the terms in the parenthesis.

$$(-3)2x + (-3)3y - (-3)2$$

Multiply each term by the term in the front.

Answer: $-6x - 9y + 6$

Example Two

Simplify $2x^2(-2x^2 + 3x - 5)$

Distribute the term in the front of the parenthesis to all of the terms in the parenthesis.

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

Multiply each term by the term in the front. Multiply the coefficients. Also, remember when you multiply the same bases, you add the powers.

Answer: $-4x^4 + 6x^3 - 10x^2$

Example Three

Simplify $3ab^2(6a^2 - ab + 7b^2)$

Distribute the term in the front of the parenthesis to all of the terms in the parenthesis.

$$(3ab^2)6a^2 - (3ab^2)ab + (3ab^2)7b^2$$

Multiply each term by the term in the front. Multiply the coefficients. Also, remember when you multiply the same bases, you add the powers.

Answer: $18a^3b^2 - 3a^2b^3 + 21ab^4$

What Did the Boy Measuring Stick Say When He Saw the Girl Measuring Stick?

Simplify the product, then cross out the letter pair next to the correct answer.
For each letter pair that you DON'T cross out, write the upper case letter in the
box containing the lower case letter.

1 $7(2m^2 + 5)$

2 $-3(8m^2 - 4m)$

3 $2m(m^3 + 9)$

4 $m^2(-5m - 6)$

Answers 1-4 **j • O** $-5m^4 - 6m$

b • L $2m^4 + 18m$

g • V $14m^2 + 35$

o • E $-24m^2 - 12$

m • F $-5m^3 - 6m^2$

e • A $2m^4 + 18m^2$

p • U $-24m^2 + 12m$

5 $9(4a^2 - a + 2)$

6 $3a(12 + 5a - a^2)$

7 $-4a^2(7a^2 + 15a - 1)$

8 $2a^3(6a^2 - 2a + 3)$

Answers 5-8 **g • T** $-28a^4 - 60a^3 - 4a$

i • L $36a + 15a^2 - 3a^3$

d • H $12a^5 - 4a^4 + 6a^3$

f • T $36a^2 - 9a + 18$

b • I $12a^5 - 8a^4 - 6a^3$

a • S $-28a^4 - 60a^3 + 4a^2$

m • E $36a^2 + 15a + 18$

9 $x^2y(x^2 - y^2)$

10 $-5xy^2(-x^3y + 4xy^3)$

11 $9xy(2x^2y + 9xy - 4xy^2)$

12 $-x^2y^2(5x^2 - 8xy + y^2)$

Answers 9-12 **i • T** $-5x^4y^3 + 8x^3y^3 - 2x^2y^3$

n • D $x^4y - x^2y^3$

c • S $-5x^4y^2 + 8x^3y^3 - x^2y^4$

p • R $18x^3y^2 + 81xy^2 - 36x^2y^2$

l • B $18x^3y^2 + 81x^2y^2 - 36x^2y^3$

d • W $x^4y + xy^3$

k • N $5x^4y^3 - 20x^2y^5$

13 $3cd^4(2c^4 - 5c^2d^2 - 18d^4)$

14 $8c^2d^2(3c^4d^3 + 10c^3d^4 + 11)$

15 $-9c^7d^3(16c^5d^2 - 5c^2d^5)$

16 $4c^5(3c^2 - 20cd - 3d^2)$

Answers 13-16 **c • S** $24c^6d^5 + 80c^5d^6 + 88c^2d^2$

n • T $6c^5d^4 - 15c^2d^6 + 54cd^8$

h • A $-144c^{12}d^5 + 45c^9d^8$

k • R $6c^5d^4 - 15c^3d^6 - 54cd^8$

f • N $24c^6d^5 + 80c^2d^6 + 88cd^2$

q • S $12c^7 - 80c^6d - 12c^5d^2$

l • M $-144c^{12}d^6 + 45c^5d^8$

a b c d e f g h i j k l m n o p q