

LESSON
18-1

Multiplying Polynomial Expressions by Monomials

Practice and Problem Solving: A/B

Find the product.

1. $5x(2x^4y^3)$

2. $0.5p(-30p^3r^2)$

3. $11ab^2(2a^5b^4)$

4. $-6c^3d^5(-3c^2d)$

5. $4(3a^2 + 2a - 7)$

6. $9x^2(x^3 - 4x^2 - 3x)$

7. $6s^3(-2s^2 + 4s - 10)$

8. $5a^4(6a^4 - 2a^2 - a)$

9. $8pr(-7r^2 - 2pr + 8p)$

10. $2mn^3(3mn^3 + n^2 + 4mn)$

11. $-3x^4y^2(2x^2 + 5xy + 9y^2)$

12. $0.75v^2w^3(12v^3 + 16v^2w - 8w^2)$

13. $-7a^2b^3(4a^2b^3 + ab - 5a^3b)$

14. $2p^4q^2(8p^4q^2 - 3p^3q + 5p^2q)$

Solve.

15. The length of a rectangle is 3 inches greater than the width.

a. Write a polynomial expression that represents

the area of the rectangle.

b. Find the area of the rectangle when the

width is 4 inches.

16. The length of a rectangle is 8 centimeters less than 3 times the width.

a. Write a polynomial expression that represents

the area of the rectangle.

b. Find the area of the rectangle when the

width is 10 centimeters.

LESSON
18-1

Multiplying Polynomial Expressions by Monomials

Practice and Problem Solving: Modified

Multiply. The first one is done for you.

1. $4x^4(8x^2)$

$32x^6$

2. $5p(3p^3)$

3. $11a^2(2a^5b^4)$

4. $-6c^3(-3c^2d)$

5. $9rs^2(5r^3s)$

6. $8x^3y^2(-2x^4y^3)$

Find the product. The first one is done for you.

7. ~~$7(5a^2 + 2a - 4)$~~

$21a^2 + 14a - 49$

8. $9(3x^2 - 4x - 3)$

9. $6s^3(-2s^2 + 4s - 10)$

10. $5a^2(6a^4 - 2a^2 - 1)$

11. $8r(-7r^2 - 2pr + 8p)$

12. $2n^3(3n^3 + m^2n^2 - 4n)$

13. $-3x^4y^2(8x^2 - 5xy + 9y^2)$

14. $5v^2w^3(2v^3 + 4v^2w - w^2)$

Solve. The first one is done for you.

15. The length of a rectangle is 5 inches greater than the width.

a. Write a variable for the width of the rectangle.

w

b. Write an expression for the length of the rectangle.

c. Write a simplified expression for the area of the rectangle.
(area = length \times width)

d. Find the area of the rectangle when the width is 3 inches.

e. Find the area of the rectangle when the length is 9 inches.