

## II. Practice

Simplify.

1.  $8x^5(3x)$

2.  $-90x^3(5x^5)$

3.  $-5x^3(3x^7)$

4.  $15x^4(3x^9)$

5.  $10x^2y^5(9x^3y)$

6.  $-100x^2y^4(5x^{10}y^9)$

7.  $-8x^6y^{10}(-5x^6y^8)$

8.  $10x^{20}y(x^3y^{90})$

9.  $9x^2y^9(8x^{10}y^9)$

10.  $-11x^2(11x^6y^{10})$

11.  $\frac{30x^{10}}{5x^3}$

12.  $\frac{32x^{12}}{2x^{10}}$

13.  $\frac{55x^6}{11x^2}$

14.  $\frac{16y^5}{8y^3}$

15.  $\frac{80x^5y^7}{4x^2y^3}$

16.  $\frac{-25x^7y^9}{5x^2y^7}$

17.  $\frac{-70x^8y^{10}}{10x^3y^7}$

18.  $\frac{60x^9y^5}{4x^6y^4}$

19.  $\frac{10x^8y^5}{4x^2y^5}$

20.  $\frac{6x^5y^5}{12x^4y}$

21.  $\frac{20x^3y^8}{30x^3y^7}$

22.  $\frac{144x^5y^{18}}{12x^4y^2}$

### III. Challenge Problems

**23.** What is the area of a rectangle with length  $7xy^2$  inches and width  $(8x^2y)$  inches? Write your answer as an expression in terms of  $x$  and  $y$ .

**24.** Use  $\frac{x^2}{x^2}$  and the rules of dividing monomials to explain why  $x^0 = 1$ .

**25. Correct the Error**

There is an error in the student work shown below:

Question: Simplify  $\frac{80x^9}{16x^4}$ .

Solution:

$$\begin{aligned} & \frac{80x^9}{16x^4} \\ &= \frac{64x^9}{x^4} \\ &= 64x^5 \end{aligned}$$

What is the error? Explain how to solve the problem.

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