

I. Model Problems

A **monomial** is an expression that is a number, variable or product of a number and variables.

Examples of monomials: -3 , $4x$, $5xy$, y^2

To multiply monomials, multiply all the coefficients and all the variables.

Example Simplify $3x^2(5x^3)$.

$$= 15x^2x^3$$

Multiply the coefficients.

$$= 15x^5$$

Multiply variables.

The answer is $15x^5$.

II. Practice

Simplify.

1. $2x^2(3x)$

2. $-9x^7(8x^5)$

3. $-4x^3(2x^7)$

4. $10x^5(8x^8)$

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

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

7. $-4x^2(3x^{10})$

8. $15x^4(3x^9)$

9. $7x^2y^5(9x^3y)$

10. $-8x^2y^4(3x^3y^{10})$

11. $-9x^2y^9(-10x^3y^{10})$

12. $9x^2y(x^3y^9)$

13. $5x^2y^9(7x^7y^5)$

14. $-14x^2(3x^{10}y^3)$