

NAME \_\_\_\_\_

**Module 11** Simplifying Algebraic Expressions  
with Polynomials

**Lesson 6** Dividing Polynomials by Monomials

**guided  
notes**

**Lesson Objectives**

- Divide a monomial by a monomial.
- Divide a binomial or a trinomial by a monomial.

To divide a monomial by a monomial, first divide the **numbers** \_\_\_\_\_.

Then, divide the **variables** \_\_\_\_\_ with the same base, using the  
**division** \_\_\_\_\_ rule for exponents.

*Division rule for exponents:*

$$\frac{a^m}{a^n} = \underline{a^{m-n}}$$

$$a \neq 0$$

**1** Simplify:  $\frac{-b^5d^2}{b^3d}$

**$-b^2d$**

**2** Simplify:  $\frac{35s^4t^4}{14st^{-2}}$

**$\frac{5s^3t^6}{2}$  or  $\frac{5}{2}s^3t^6$**

To divide a polynomial by a monomial, divide **each term** \_\_\_\_\_ of the  
polynomial by the monomial.

**3** Simplify:  $\frac{16c^2d - 8cd^2}{4cd}$

**$4c - 2d$**

