Name _____ Period _____ Date _____

WORKSHEET DIVIDING MONOMIALS

Use the property of exponents for division, $\frac{x^m}{x^n} = x^{m-n}$, where $x \neq 0$ to divide monomials. Follow these steps:

1. Simplify powers of powers, if necessary.
2. Simplify the quotients of the coefficients by dividing.
3. Identify common bases. Divide by subtracting the exponent in the denominator from the exponent in the numerator of each common base. If the exponents are the same, the quotient of those common bases is equal to 1.

EXAMPLE

Divide $\frac{(2x^3)^3}{2x^7}$.

Simplify powers of powers. $\frac{(2x^3)^3}{2x^7} = \frac{8x^9}{2x^7}$

Simplify the coefficients. $\frac{8x^9}{2x^7} = 4\frac{x^9}{x^7}$

Divide common bases by subtracting the exponents. $4\frac{x^9}{x^7} = 4x^2$

DIRECTIONS: Divide.

1. $\frac{6x^2}{3x}$
2. $\frac{21x^5}{3x^4}$
3. $\frac{(10a^2)^3}{4a}$
4. $\frac{8a^3b^3}{(2ab)^3}$
5. $\frac{x^2y^4z^3}{x^2y^4z}$
6. $\frac{15a^8}{5a}$