Name: Teacher Date: _____

Multiplying and Dividing Monomials

Multiplying Monomials

To multiply a monomial by a constant, multiply the coefficient by the constant.

Examples:

1. $5(3x^2) = 5 \cdot 3x^2 = 15x^2$

2. $-2(-4x^4y^5) = 8x^4y^5$

To multiply a monomial by another monomial, we multiply the coefficients and add the exponents of the same variable.

Examples:

1. $3x \cdot 2x = 6x^{1+1} = 6x^2$

2. $4b \times -8c = -32bc$

Dividing Monomials

Dividing a monomial by a non-zero constant, we divide the coefficient by the constant OR we reduce the fraction.

Examples:

1. $\frac{12x^2}{3} = 4x^2$

2. $\frac{4y^2}{20} = \frac{y^2}{5}$

3. $\frac{15ab^3}{5} = 3ab^3$