**Algebra 2 7.0 Properties of Exponents Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Examples: Simplify each expression. Write each answer using only *positive* exponents.

**Algebra 2 7.1 Roots and Radical Expressions Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 *n*th root if then is the *n*th root of

 so is a 4th root of

 so is a 4th root of

 Number of real *n*th Number of real *n*th

 Type of number roots when *n* is even roots when *n* is odd

 Positive 2 1

 0 1 1

 Negative 0 1

Ex: Find all the real roots

 The cube roots of

 The cube roots of

 The cube roots of

 The fourth roots of

 The fourth roots of

 The fourth roots of

**Finding Real Roots**

***n*th root of**

 when *n* is even

Ex:

Ex:

Ex:

**Algebra 2 7.2 Multiplying/Dividing Radical Expressions Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Multiplying Radical Expressions** (if and are real numbers)

 Ex:

 Ex:

 Ex:

**Simplifying Radical Expressions**

**Multiplying Radical Expressions (assume all variables represent positive numbers)**

Ex:

Ex:

**Dividing Radical Expressions**

 If and are real numbers, then

Ex: Divide. (assume that all variables represent positive numbers)

**Rationalizing the Denominator** – rewrite the expression so there is no radical sign in the denominator

Ex:

Ex:

Ex:

Ex:

Ex:

**Algebra 2 7.3 Binomial Radical Expressions Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Adding and Subtracting Radical Expressions**

 Like Radicals – radicals with the same index and same radicand

To add/subtract like radicals use the Distributive Property

Examples:

Simplify before adding or subtracting radicals so you can find all the like radicals

**Multiplying Binomial Radical Expressions**

**Rationalizing Binomial Radical Denominators**

**Summary of Properties of Rational Exponents**

Simplifying Numbers with Radical Exponents

Examples:

Writing Expressions in Simplest Form

Examples: