**Name: Date:**

**Topic: 5.1-Nth Roots, Radicals, and Rational Exponents (Class Notes)**

**Essential Question:**

 Questions/Key Ideas Notes/Problems/Work

Powers & Roots

Rational Exponents

Example 1 Convert between radical and exponential form. Simplify. Find the value on the calculator if possible.

 $\left(a\right) 2^{\frac{5}{3}} \left(b\right) 6^{\frac{3}{2}} $

 $\left(d\right)\sqrt[3]{2} \left(c\right)\left(\sqrt[4]{5}\right)^{5}$

Questions/Key Ideas Notes/Problems/Work

Example 2 Convert between radical and exponential forms. Do not simplify.

1.  (b) 

 (c)  (d) 

Simplify Radicals

Example 3 Simplify the following radical expressions. Use absolute values where appropriate.

 $\left(a\right) \sqrt{48a^{2}b^{4}}$ $ \left(b\right) \sqrt[3]{32x^{5}y^{6}z}$

 (c) $2\sqrt[3]{54y^{6}z^{8}}$ $\left(d\right) 5\sqrt{80x^{3}yz^{8}}$

Summary (Address EQ):