5-7 Rational Exponents

<u>Objective</u>: Write expressions with rational exponents in radical from and vice versa.

Simplify expressions in exponential or radical form.

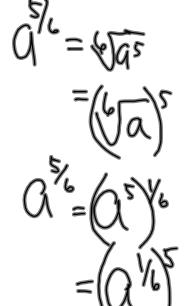


Key Ideas

$$b^{1/n=n}\sqrt{b}$$

$$b^{m/n} = n \sqrt{b^m} = (n \sqrt{b})^m$$

$$bm/n=(b^m)^{1/n}=(b^{1/n})^m$$



<u>I. Radical Form</u>-Write each expression in radical form.

EX 3.
$$m^{3/2}$$

II. Exponential Form -Write each radical using rational exponents.

EX 5.
$$\sqrt{\mathbf{w}^5}$$

EX 6.
$$8\sqrt{c^3}$$

EX 7.
$$49^{-1/2} = 49^{-1/2} = \sqrt{49^{-1/2}}$$

EX 8.
$$32^{2/5} = \sqrt[5]{3} = (\sqrt[3]{3})^2 = ($$

EX 9.
$$243^{3/5} = \sqrt{343} = (5) + 3 = (27)$$

