Algebra 2

5-02A Properties of Rational Exponents and Simplifying Radicals

Properties of Rational Exponents

- $x^m \cdot x^n = x^{m+n}$
- $(xy)^m = x^m y^m$
- $(x^m)^n = x^{mn}$
- $\frac{x^m}{x^n} = x^{m-n}$
- $\left(\frac{x}{y}\right)^m = \frac{x^m}{y^m}$
- $x^{-m} = \frac{1}{x^m}$

$6^{\frac{1}{2}} \cdot 6^{\frac{1}{3}}$

$\left(27^{\frac{1}{3}} \cdot 6^{\frac{1}{4}}\right)^2$

$(4^3 \cdot w^3)^{-\frac{1}{3}}$

$\frac{t}{t^{\frac{3}{4}}}$

Simplifying Radicals

Remove any _____ roots

Rationalize _____

$\sqrt[4]{64}$

$\sqrt[3]{625x^5}$

$\sqrt[4]{\frac{7}{8}}$

$\sqrt[5]{\frac{x^5}{y^8}}$

$\frac{1}{\sqrt{7}-2}$

$\frac{2}{3+\sqrt{5}}$

242 #1, 3, 5, 7, 9, 19, 21, 23, 25, 27, 29, 45, 47, 49, 95 = 15