MATH 0482

Chapter 5.4 Multiplying and Dividing Radical Expressions

RECALL: $\sqrt[N]{A} \cdot \sqrt[N]{B} = \sqrt[N]{A \cdot B}$

MULTIPLY.

$\sqrt[3]{12} \cdot \sqrt[3]{6}$

$3\sqrt{6} \cdot 5\sqrt{2}$

$-3\sqrt[3]{4y^2} \cdot 5\sqrt[3]{16y}$

$5\sqrt{2x}\left(3\sqrt{x} - \sqrt{2x}\right)$

$\sqrt[3]{6x^2y}\left(\sqrt[3]{9x^2y^2}-5\sqrt[3]{4xy}\right)$

$(\sqrt{x}-5\sqrt{y})^2$

$(\sqrt{10}+\sqrt{3})(\sqrt{10}-\sqrt{3})$

RECALL: $\frac{\sqrt[N]{A}}{\sqrt[N]{B}} = \sqrt[N]{\frac{A}{B}}$

DIVIDE.

$\frac{\sqrt[3]{96}}{\sqrt[3]{6}}$

$\frac{\sqrt{50x^6y^4}}{\sqrt{8x^3y}}$

RATIONALIZING THE DENOMINATOR

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

RATIONALIZE THE DENOMINATOR.

$\frac{\sqrt{2}}{\sqrt{5x}}$

$\frac{3a\sqrt{2}}{\sqrt{6ab}}$

$$\frac{\sqrt[3]{2}}{\sqrt[3]{25}}$$

$$\sqrt[3]{\frac{27a}{2b^2}}$$

$$\frac{2x\sqrt[5]{5}}{\sqrt[5]{4x^3y}}$$

$$\frac{1}{\sqrt{5}-\sqrt{3}}$$

$$\frac{\sqrt{10}}{\sqrt{2}+\sqrt{6}}$$

$$\frac{\sqrt{x}-\sqrt{y}}{\sqrt{x}+\sqrt{y}}$$