Section 7.3: Simplifying Radical Expressions

Multiplication and Division Properties of Radicals

Let a and b represent real numbers such that $\sqrt[n]{a}$ and $\sqrt[n]{b}$ are both real. Then,

1. $\sqrt[n]{ab} = \sqrt[n]{a} \cdot \sqrt[n]{b}$ Multiplication property of radicals

2. $\sqrt[n]{\dfrac{a}{b}} = \dfrac{\sqrt[n]{a}}{\sqrt[n]{b}}$ where $b \neq 0$.   Division property of radicals

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Example 1: Use the product rule to simplify.

Example 2: Use the quotient rule to simplify.