Rules of Radicals

Product Rule

$$\sqrt[n]{x}\sqrt[n]{y}=\sqrt[n]{xy}$$

Quotient Rule

$$\sqrt[n]{\frac{x}{y}}=\frac{\sqrt[n]{x}}{\sqrt[n]{y}}$$

Rational Exponents

$$x^{\frac{m}{n}}=\sqrt[n]{x^m}=\left(\sqrt[n]{x}\right)^m$$

Rules of Radicals

Rationalizing the Denominator

$$\frac{a}{b+\sqrt{c}} = \frac{a}{b+\sqrt{c}} \bullet \frac{b-\sqrt{c}}{b-\sqrt{c}} = \frac{a\left(b-\sqrt{c}\right)}{b^2-c^2}$$