

Algebra 2
Unit: Radical Functions
Section: Roots and Properties of Exponents

Laws of Exponents

Product of Powers Property

$$a^m a^n = a^{m+n}$$

Quotient of Powers Property

$$\frac{a^m}{a^n} = a^{m-n}$$

Power of a Power Property

$$(a^m)^n = a^{mn}$$

Power of a Product Property

$$(ab)^m = a^m b^m$$

Power of a Quotient Property

$$\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$$

Zero Exponents

If $a \neq 0$, then $a^0 = 1$

Negative Exponent

If n is a natural number, then $a^{-n} = \frac{1}{a^n}$