

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

Example 2: Law of Exponents

Problem

Simplify five a to the zero power times b to the negative two power times c cubed over twenty-five a squared times b times c by using the Laws of Exponents.

Solution

First take care of any negative and zero exponents.

a to the zero is equal to one and b to the negative two power becomes one over b squared.

This yields five c cubed over twenty-five times a squared times b times b squared times c.

Next simplify the constants.

Five over twenty-five simplifies to one over 5.

This yields c cubed over five a squared times b times b squared times c.

Finally use the Laws of Exponents.

b times b squared is b cubed. c cubed over c is c squared.

This yields a final answer of c squared over five times a squared times b cubed.