

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

Example 1: Law of Exponents

Problem

Simplify two x squared times the quantity negative three x squared to the third by using the Laws of Exponents.

Solution

First use the Power of a Power Property.

Negative three x squared to the third power is equal to negative twenty-seven x to the sixth.

This will yield two x squared times negative twenty-seven x to the sixth.

Next multiply the constants.

Two times negative twenty-seven is equal to negative fifty-four.

This will yield negative fifty-four times x squared times x to the sixth.

Finally use the Product of Powers Property.

x squared times x to the sixth is x to the eighth since we add the exponents.

This yields a final answer of negative fifty-four times x to the eighth.