

Simplifying Radical Expressions

An ADE Mathematics Lesson

Days 36-40

Author	ADE Content Specialists
Grade Level	9 th grade
Duration	Five days

Aligns To	Connects To
<p>Mathematics HS:</p> <p>Strand 1: Number and Operations</p> <p>Concept 1: Number Sense</p> <p>PO 1. Justify with examples the relation between the number system being used (natural numbers, whole numbers, integers, rational numbers and irrational numbers) and the question of whether or not an equation has a solution in that number system.</p> <p>Concept 2: Numerical Operations</p> <p>PO 1. Solve word problems involving absolute value, powers, roots, and scientific notation.</p> <p>PO 3. Calculate powers and roots of rational and irrational numbers.</p> <p>Concept 3: Estimation</p> <p>PO 1. Determine rational approximations of irrational numbers.</p> <p>PO 4. Estimate the location of the rational or irrational numbers on a number line.</p> <p>Strand 3: Patterns, Algebra, and Functions</p> <p>Concept 3: Algebraic Representations</p> <p>PO 8. Simplify and evaluate polynomials, rational expressions, expressions containing absolute value, and radicals.</p> <p>Strand 5: Structure and Logic</p> <p>Concept 2: Logic, Reasoning, Problem Solving, and Proof</p> <p>PO 2. Solve problems by formulating one or more strategies, applying the strategies, verifying the solution(s), and communicating the reasoning used to obtain the solution(s).</p>	<p>Mathematics HS:</p> <p>Strand 1: Number and Operations</p> <p>Concept 2: Number Sense</p> <p>PO 2. Solve word problems involving absolute value, powers, roots, and scientific notation.</p> <p>Concept 3: Estimation</p> <p>PO 2. Use estimation to determine the reasonableness of a solution.</p> <p>PO 3. Determine when an estimate is more appropriate than an exact answer.</p>

Overview

Many algebraic expressions contain radicals. These radicals may contain numbers and/or variables. Some of these radicals can be simplified prior to simplifying the entire algebraic expression. The value of some radicals needs to be estimated in order to solve problems that are in a contextual format.