

# 04 Topic: Rational Expressions & Complex Numbers

Content Area: **Mathematics**  
Course(s): **Algebra 2**  
Time Period: **Semester 1**  
Length: **2-3 weeks**  
Status: **Published**

## Standards

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MA.N-CN.A.1	Know there is a complex number $i$ such that $i^2 = -1$ , and every complex number has the form $a + bi$ with $a$ and $b$ real.
MA.N-CN.A.2	Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
MA.N-CN.C.7	Solve quadratic equations with real coefficients that have complex solutions.
MA.A-APR.D.7	Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.

## Enduring Understandings

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1. Mathematics is a language consisting of symbols and rules.
2. The same mathematical ideas can be represented concretely or symbolically.
3. There can be different strategies to solve a problem, but some are more effective and efficient than others.

## Essential Questions

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What methods will students use to understand Rational Expressions and Complex Numbers?

What methods will students use to apply mathematical operations to Rational Expressions & Complex Numbers?

## Knowledge and Skills

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Simplify rational expressions

Add rational expressions

Subtract rational expressions  
Multiply rational expressions  
Divide rational expressions  
Complex rational expressions

### **Transfer Goals**

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Using mathematical reasoning and strategic thinking can allow for practical solutions of many problems.

Often unique vocabulary and implementation methods are needed to solve problems.

### **Resources**

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1. McDougal/Littell - Algebra & Trigonometry Structure & Method Book 2
2. Aufmann/Barker/Lockwood - Intermediate Algebra with Applications Sixth Edition
3. Houghton/Mifflin/Harcourt - On Core Mathematics Algebra 2
4. Holt - Algebra 2 with Trigonometry
5. Larson/Boswell - Big Ideas Math: Algebra 2 Texas Edition
6. [Khan Academy](#)
7. [PurpleMath](#)
8. [KutaSoftware](#)
9. [CK-12](#)
10. [Quizlet](#)
11. [Albert I/O](#)
12. [Desmos](#)
13. [Problem Attic](#)

