04 Topic: Rational Expressions & Complex Numbers

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

Standards

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

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

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

Simplify rational expressions

Add rational expressions

Subtract rational expressions

Multiply rational expressions

Divide rational expressions

Complex rational expressions

Transfer Goals

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

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

Resources

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