03 Topic: Factoring

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

Standards

MA.A-SSE.A.1a	Interpret parts of an expression, such as terms, factors, and coefficients.
MA.A-SSE.A.2	Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.
MA.A-SSE.B.3	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.
MA.A-SSE.B.3a	Factor a quadratic expression to reveal the zeros of the function it defines.
MA.K-12.7	Look for and make use of structure.

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

How will students decide which method to use to factor and solve polynomials?

How will students solve quadratic equations and inequalities?

Knowledge and Skills

Use appropriate factoring methods

Factor with the greatest common factor

Factor quadratic trinomials with a leading coefficient of one and not one

Special factoring: difference of squares, difference of cubes, sum of cubes, perfect square trinomials

Factor by grouping

Solve quadratic equations and inequalities

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