

UNIT OF STUDY

Title: “As A Matter of Factor, It Is!” (Unit 17) **Subject/Course:** Integrated Algebra B Part 2 **Length:** 2½ weeks
Topic: Classifying, Simplifying, & Factoring Polynomials **Grade:** 9 **Designer:** Foresee/Phipps

UNIT GOALS AND EXPECTATIONS

<p>IMPORTANT CONCEPTS/UNDERSTANDINGS:</p> <ul style="list-style-type: none"> • Like terms can be combined to simplify an expression • The degree of a polynomial is not necessarily the first term • The constant is not necessarily the last term • If the same variable has different exponents, then they are separate terms • Terms cannot be combined unless they are alike • Everything beside (multiplying) a set of parentheses is distributed to everything inside of the parentheses • The two factors of a trinomial when multiplied together will give you that trinomial • If there is a common factor in every term of a polynomial it must first be divided out 	<p>ESSENTIAL QUESTIONS:</p> <ul style="list-style-type: none"> • How do I find the degree and constant of a polynomial? • How do I classify a polynomial? • How do I differentiate between terms • What happens to the exponent when I combine like terms? • What needs to be done first when factoring a polynomial? • How do I write a polynomial in ascending/descending order? • Why do I write a polynomial in ascending/descending order?
<p>STUDENT LEARNING EXPECTATIONS:</p> <ul style="list-style-type: none"> • LA.1.AI.5 Perform <i>polynomial</i> operations (addition, subtraction, multiplication) with and without manipulatives 	<ul style="list-style-type: none"> • NLF.3.AI.1 Factoring polynomials <ul style="list-style-type: none"> ○ greatest common factor ○ <i>binomials</i> (difference of squares) ○ <i>trinomials</i>
<p>SPECIFIC DECLARATIVE KNOWLEDGE – What I know Vocabulary</p> <ul style="list-style-type: none"> • Binomial • Constant • Degree of a Polynomial • Difference of Perfect Squares • Factor • FOIL • Leading Coefficient • Monomial • Perfect Squares • Polynomial • Trinomial • Variable • Term • Distribute • Simplify • Area • “AC Method” for Factoring 	<p>SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do</p> <ul style="list-style-type: none"> • Classify Polynomials • Write a polynomial from given information • Simplify multi-term expressions • Represent areas as polynomials • To factor polynomials you must have two factors of the constant term that add together to give you the coefficient in the middle term

UNIT ASSESSMENTS

(Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy)	
<ul style="list-style-type: none"> • 2 Open Response prompt involving factoring of polynomials • 1 Open Response prompts requiring students to simplify polynomials 	
Traditional Assessments: <ul style="list-style-type: none"> • Multiple Choice Quizzes over: describing polyn, simplifying polyn, factoring polyn • Vocabulary Test • Warm-Up Quizzes • Unit Test 	Other Evidence of Learning: <ul style="list-style-type: none"> • "Homelearning" • Classwork • Warm-up exercises

ACTIVITIES AND LEARNING EXPERIENCES	Resources
<ul style="list-style-type: none"> • Introduce Vocabulary using 4-Step Vocabulary Strategy • Use Mastery Math materials to practice concepts • "Sum & Product Pre-Factoring Puzzles" • "Special Binomials with Patterns" PwrPnt • "GCF and Factoring" PwrPnt • "Cutout – Factoring" Puzzle 	<ul style="list-style-type: none"> • 4-Step Vocabulary Worksheet • Vocabulary list • Mastery Math materials • www.ilovemath.org/index.php?option=com_docman&task=cat_view&gid=51 • (same url for "Special Binomials with Patterns" PwrPnt) • (same url page 2 for "GCF and Factoring" PwrPnt) • (same url page 2 for "Cutout – Factoring" Puzzle)

Career Connections
Construction, Architects, NASA, Engineering, Agriculture, Physicists