


Planned Course: Algebra II		Course Number: M305	Department: Mathematics
Unit: Exponential Expressions		Grade Level: 8-12	
Estimated Time: 20 days		Level/Track:	Date Approved: 7/15/08
PA Academic Standards	 Core Concepts (in question format) <ul style="list-style-type: none"> • Skills/Knowledge 	Activities/Strategies/Study Skills (identify some activities as remedial or enrichment activities)	Assessments (include types and topics)

<p>ASSESSMENT ANCHOR</p> <p>M11.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.</p> <p>M11.A.2.2 Use exponents, roots and/or absolute value to solve problems.</p> <p>M11.A.2.2.1 Simplify/evaluate expressions involving positive and negative exponents, roots and/or absolute value (may contain all types of real numbers - exponents should not exceed power of 10).</p> <p>M11.A.2.2.2 Simplify/evaluate expressions involving multiplying with exponents (e.g. $x^6 * x^7 = x^{13}$), powers of powers (e.g., $(x^6)^7 = x^{42}$) and powers of products $(2x^2)^3 = 8x^6$ (positive exponents only).</p> <p>M11.A.2.2.1 Simplify/evaluate expressions involving positive and negative exponents, roots and/or absolute value (may contain all types of real numbers - exponents should not exceed power of 10).</p> <p>M11.A.2 Understand the meanings of operations, use operations and understand how</p>	<ul style="list-style-type: none"> • Students will be able to use properties of exponents to evaluate and simplify exponential expressions. • Students will be able to develop real life models that contain variables raised to a power. • Students will be able to use the compound interest formula and the exponential growth and decay formulas. • Students will be able to evaluate the nth roots of real numbers using radical notation and rational exponential notation. • Students will be able to use properties of roots to evaluate and simplify 	<ol style="list-style-type: none"> 1. Students will multiply power by adding exponents of power with equal powers. 2. Students will divide powers by subtracting exponents of powers with equal bases. 3. Students will calculate compound interest given APR, Principal, Compounding periods, and term. 4. Students will calculate monthly mortgage payment. 5. Students will graph functions of exponential growth and decay and verify these with graphing calculator. 	<ul style="list-style-type: none"> • Graded Homework • Classroom Observation • Online Quiz/Test • In Class Quiz/Test • Participation • Graded Class work • Projects
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