

CARLSTADT-EAST RUTHERFORD REGIONAL HIGH SCHOOL DISTRICT
MATHEMATICS DEPARTMENT
ALGEBRA 2 RC
Algebra 2 RC Curriculum Guide

Pacing Guide

Algebra 2 RC is a full year course that meets on a rotating basis for three (3) 55-minute blocks and one (1) 40-minute block for every five (5) day cycle.

Unit A: (Chapters 1-3) Expressions Equations and Inequalities 25 days

Unit 1 (Chapter 4): Quadratic Functions. 20 days

Unit 2 (Chapter 5): Polynomials and Polynomial Functions. 22 days,

Unit 3 (Chapter 6): Powers, Roots, and Radicals. 15 days

Unit 4 (Chapter 7): Exponential and Logarithmic Functions. 15 days

Unit 5 (Chapter 8): Rational Equations and Functions. 18 days

Unit 6 (Chapter 11): Data Analysis and Statistics. 10 days

Unit 7 (Chapter 12): Sequences and Series. 15 days

Unit 8 (Chapter 9): Quadratic Relations and Conic Sections. 18 days

Unit 9 (Chapter 14): Trig. Graphs, Identities, and Equations. 15 days

Unit 10 (Chapter 13): Trigonometric Ratios and Functions. 12 days

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21st Century Skills Standards: 9.1 Personal Finance Literacy 9.2 Career Awareness	 9.1.12.D.3: Summarize how investing builds wealth and assists in meeting long-and short-term financial goals. 9.1.12.D.5: Justify the use of savings and investment options to meet targeted goals. 9.1.12.D.10: Differentiate among various investment products and savings vehicles and how to use them most effectively. 9.2.12.C.1: Review career goals and determine steps necessary for attainment. 9.2.12.C.4: Analyze how economic conditions and social changes influence employment trends and future education.
Technology Standards	8.1.12.A.CS1 - Understand and use technology systems.
Interdisciplinary Connections	SCIENCE HS-LS2-1. Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales. ENGLISH LANGUAGE ARTS WHST.9-12.9 Draw evidence from informational texts to support analysis, reflection, and research.

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<p>NJSLS Mathematical Practices – These practices are demonstrated throughout the curriculum.</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.
<p>NJSLS Career Ready Practices – These practices are demonstrated throughout the curriculum</p>	<p>CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP9. Model integrity, ethical leadership and effective management. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.</p>

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Differentiation/Accommodations/Modifications

Note: Each district should review the various strategies noted below and determine which are applicable for their population within varied grade levels and languages and make edits where needed.

Gifted and Talented	English Language Learners	Students with Disabilities	Students at Risk of School Failure
<p><i>(content, process, product and learning environment)</i></p> <p>Extension Activities:</p> <ul style="list-style-type: none"> • Conduct research and provide presentation of mathematical topics. • Design surveys to generate and analyze data to be used in discussion. • Use of higher level questioning techniques. • Provide assessments at a higher level of thinking. 	<p>Modifications for Classroom:</p> <p>Modifications for Homework/Assignments</p> <ul style="list-style-type: none"> • Modified assignments. • Extended time for assignment completion as needed. • Use graphing calculator. • Highlight formulas. 	<p><i>(appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team)</i></p> <p>Modifications for Classroom:</p> <ul style="list-style-type: none"> • Ask students to restate information, directions, and assignments. • Repetition and practice. • Model skills / techniques to be mastered. • Extended time to complete class work. • Provide copy of classnotes. • Preferential seating to be mutually determined by the student and teacher. • Students may request books online, on tape/CD, as available and appropriate. • Assign peer helper in the class setting. • Provide regular parent / school communication • Provide oral reminders and check student work during independent 	<p>Modifications for Classroom:</p> <ul style="list-style-type: none"> • Ask students to restate information, directions, and assignments. • Repetition and practice. • Model skills / techniques to be mastered. • Extended time to complete class work. • Provide copy of classnotes. • Preferential seating to be mutually determined by the student and teacher. • Students may request books online, on tape/CD, as available and appropriate. • Assign peer helper in the class setting. • Provide oral reminders and check student work during independent work time. • Assist student with long and short term planning of assignments • Provide regular parent / school communication. • Assign peer helper in the class setting.

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		<p>work time.</p> <ul style="list-style-type: none"> Assist student with long and short term planning of assignments <p>Modifications for Homework</p> <ul style="list-style-type: none"> Extended time to complete assignments. Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases. Provide the student with clearly stated (written) expectations and grading criteria for assignments. <p>Modification for Assessments</p> <ul style="list-style-type: none"> Extended time on classroom tests and quizzes. Student may take / complete tests in an alternate setting as needed. Restate, reread, and clarify directions/questions. Distribute study guide for classroom tests. Establish procedures for accommodations / modifications for assessments. 	<ul style="list-style-type: none"> Provide oral reminders and check student work during independent work time. Assist student with long and short term planning of assignments <p>Modifications for Homework</p> <ul style="list-style-type: none"> Extended time to complete assignments. Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases. Provide the student with clearly stated (written) expectations and grading criteria for assignments. <p>Modification for Assessments</p> <ul style="list-style-type: none"> Extended time on classroom tests and quizzes. Student may take / complete tests in an alternate setting as needed. Restate, reread, and clarify directions/questions. Distribute study guide for classroom tests. Establish procedures for accommodations / modifications for assessments.
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CONTENT: Chapter 1-3			
Theme: Expressions, Equations and Inequalities			
Essential Questions: How are rules for solving linear inequalities similar to those for solving linear equations? How do linear equations and their graphs help us interpret events that occur in the world around us? What Methods can be used to solve systems of equations? How did you represent functions as graphs?			
Content (<i>As a result of this learning segment, students will know...</i>) 1.2 Algebraic Expressions 1.3 Solving Linear Equations 1.6 Solving Linear Inequalities 1.7 Solving Absolute Value Equations and Inequalities 1.8 Represent Functions as Graphs 2.2 Find Slope and Rate of Change 2.3 Quick Graphs of Linear Equations 2.4 Writing Equations of Lines 3.1 Solve Linear Systems by Graphing 3.2 Solving Linear Systems Algebraically 3.3 Graph Systems of Linear Inequalities	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Students will be able evaluate and simplify algebraic expressions. • Solve Linear Equations • Solve simple and compound Inequalities. • Solve Absolute Value Equations and Inequalities. • Represent functions as graphs • Find slope and classify parallel and perpendicular lines • Graph using slope intercept and standard form. • Write equations including standard form • Graph and solve Linear Systems in two variables • Apply and use algebraic methods to solve linear systems • Graph Solutions of Linear Inequalities in two variables as half planes 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSL MA 9-12 N.Q.1, N.Q. 3 A.SSE.1 A.CED.1, A.CED.2 F.IF.4, F.IF.6 REI.12
			Time Frame: Algebra 2RC: 25 day
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 4				
Theme: Quadratic Functions				
Essential Questions: How do we graph and write the equation of quadratic functions? How do we solve and find the zeros of a quadratic function? How can factoring be used to solve quadratic equations				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 4.1 Graphing Quadratic Functions 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Students will be able to Know the role of a, b and c in the graphing of a quadratic function. Graph by finding the axis of symmetry, vertex, Y intercept and image point. Find the minimum and maximum points. Graph the quadratic functions when given in vertex or intercept forms of the quadratic 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N.CN.2 RREI.4b	
			Time Frame: Algebra 2 RC: 3 days	
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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CONTENT: Chapter 4				
Theme: Quadratic Functions				
Essential Questions: How do we graph and write the equation of quadratic functions? How do we solve and find the zeros of a quadratic function? How do we work with radicals and complex numbers?				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 4.3: Graph Quadratic Functions by Factoring 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to solve a quadratic equation in the form of x^2+bx+c form by factoring and applying the zero product rule. Be able to solve a quadratic equation in the form of ax^2+bx+c form by factoring and applying the zero product rule. Be able to solve a quadratic equation in the form of by factoring with special patterns. 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards 8.1.12.A.CS1 NJSL MA 9-12 A-REI 4	
			Time Frame: Algebra 2RC : 3 day	
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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CONTENT: Chapter 4			
Theme: Quadratic Functions			
Essential Questions: How do you square roots to solve quadratic equations?			
<p>Content <i>(As a result of this learning segment, students will know...)</i></p> <ul style="list-style-type: none"> Section 4.5 Solving Quadratic Equations by Finding Square Roots. 	<p>Skills <i>(As a result of this learning segment, students will be able to...)</i></p> <ul style="list-style-type: none"> Be able to solve a quadratic equation in the form of $x^2 = k$ by using properties of square roots. 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLs MA 9-12 N.CN.REI 4b</p> <hr/> <p>Time Frame: Algebra 2 RC : 2 day</p> <hr/> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 4			
Theme: Quadratic Functions			
Essential Questions: How do you perform operations on complex numbers?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 4.6 Complex Numbers 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Understand what a pure imaginary number is compared to a complex number. Be able to add, subtract, multiply, divide and find the absolute value of complex numbers. 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N-CN 1-7</p>
			<p>Time Frame: Algebra 2RC: 3 day</p>
			<p>Materials: Textbook: 2004 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 4			
Theme: Quadratic Functions			
Essential Questions: How do we graph and write the equation of quadratic functions? How is the process of completing the square used to solve quadratic equations?			
<p>Content <i>(As a result of this learning segment, students will know...)</i></p> <ul style="list-style-type: none"> Section 4.7 Completing the Square 	<p>Skills <i>(As a result of this learning segment, students will be able to...)</i></p> <ul style="list-style-type: none"> Be able to completing the square as a technique for solving quadratics equations that cannot be factored and solved. 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N-CN 3, 7 A-SSE 3 A-CED 1 A-REI 4b, 12</p> <hr/> <p>Time Frame: Algebra 2 RC: 3 day</p> <hr/> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 4			
Theme: Quadratic Functions			
Essential Questions: How do you use the quadratic formula and the discriminant?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 4.8 The Quadratic Formula and the Discriminant. 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to use the quadratic formula as a technique for solving quadratic equations that cannot factored and solved. 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-REI 4b
			Time Frame: Algebra 2 RC : 3 day
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CONTENT: Chapter 4			
Theme: Quadratic Functions			
Essential Questions:			
How did you solve quadratic inequalities in one variable?			
<p>Content <i>(As a result of this learning segment, students will know...)</i></p> <ul style="list-style-type: none"> Section 4.9 Graphing and Solving Quadratic Inequalities. 	<p>Skills <i>(As a result of this learning segment, students will be able to...)</i></p> <ul style="list-style-type: none"> Be able to graph quadratic inequalities. 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-CED 1 A-REI 4</p> <p>Time Frame: Algebra 2 RC : 3 day</p> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 5			
Theme: Polynomials and Polynomial Functions			
Essential Questions: How do we graph a polynomial function? How do we add, subtract, multiply or divide a polynomial? How do we solve a polynomial expression?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 5.1 Using Properties of Exponents. 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to simplify expressions involving exponents utilizing the rules of exponents. Be able to use scientific notation. 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N-RN.1
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CONTENT: Chapter 5			
Theme: Polynomials and Polynomial Functions			
Essential Questions: How do we graph a polynomial function? How do we add, subtract, multiply or divide a polynomial? How do we solve a polynomial expression?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 5.2 Evaluating and Graphing Polynomial Functions 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Be able to identify if an expression is a polynomial. Be able to evaluate a function using synthetic division. Be able to figure out the shape of a polynomial graph based on its end behavior. 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N-Q 1 A-SSE 1 A-CED 2, 3 F-IF 7</p> <p>Time Frame: Algebra 2 RC: 3 day</p> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 5			
Theme: Polynomials and Polynomial Functions			
Essential Questions: How do we graph a polynomial function? How do we add, subtract, multiply or divide a polynomial? How do we solve a polynomial expression?			
<p>Content <i>(As a result of this learning segment, students will know...)</i></p> <ul style="list-style-type: none"> Section 5.3 Adding, Subtracting and Multiplying Polynomials. 	<p>Skills <i>(As a result of this learning segment, students will be able to...)</i></p> <ul style="list-style-type: none"> Be able to add, subtract, multiply and divide polynomials. 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-SSE 1, 2 A-APR 1 F-IF 7 G-GMD 3</p> <p>Time Frame: Algebra 2 RC: 2 day</p> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 5			
Theme: Polynomials and Polynomial Functions			
Essential Questions: How do we graph a polynomial function? How do we add, subtract, multiply or divide a polynomial? How do we solve a polynomial expression? How can you solve a higher –degree polynomial equations?			
<p>Content <i>(As a result of this learning segment, students will know...)</i></p> <ul style="list-style-type: none"> Section 5.4 Factoring and Solving Polynomial Equations. 	<p>Skills <i>(As a result of this learning segment, students will be able to...)</i></p> <ul style="list-style-type: none"> Be able to factor a polynomial and solve for its zeros using grouping, difference of square and cubes, sum of two cubes and quadratics. 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N-Q 1, 2 A-SSE 1, 2 A-APR 3, 4 A-CED 1</p> <p>Time Frame: Algebra 2 RC: 2 day</p> <p>Materials: Textbook: 2004 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 5			
Theme: Polynomials and Polynomial Functions			
Essential Questions: How do we graph a polynomial function? How do we add, subtract, multiply or divide a polynomial? How do we solve a polynomial expression?			
<p>Content <i>(As a result of this learning segment, students will know...)</i></p> <ul style="list-style-type: none"> Section 5.5 The Remainder and Factor Theorems. 	<p>Skills <i>(As a result of this learning segment, students will be able to...)</i></p> <ul style="list-style-type: none"> Be able to apply the factor theorem to a polynomial in order to factor by using long and synthetic division. 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-APR 1-3, 6 G-GMD 3</p> <hr/> <p>Time Frame: Algebra 2 RC : 3 day</p> <hr/> <p>Materials: Textbook: 2004 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 5				
Theme: Polynomials and Polynomial Functions				
Essential Questions: How do we graph a polynomial function? How do we add, subtract, multiply or divide a polynomial? How do we solve a polynomial expression?				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 5.6 The Rational Zeros. 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to use the factor theorem in order to factor and solve 3rd degree or higher polynomial for rational roots. 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N-Q 2 A-SSE 1 A-APR 2, 3 A-CED 1 A-REI 11	
			Time Frame: Algebra 2 RC: 3 day	
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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CONTENT: Chapter 5			
Theme: Polynomials and Polynomial Functions			
Essential Questions: How do we graph a polynomial function? How do we add, subtract, multiply or divide a polynomial? How do we solve a polynomial expression?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 5.7 Using the Fundamental Theorem of Algebra. 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to apply the fundamental theorem of algebra to determine the possible number of positive, negative and imaginary zeros. 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N-CN 8, 9 Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

CARLSTADT-EAST RUTHERFORD REGIONAL HIGH SCHOOL DISTRICT
 MATHEMATICS DEPARTMENT
 ALGEBRA 2 RC

CONTENT: Chapter 5			
Theme: Polynomials and Polynomial Functions			
Essential Questions: How do we graph a polynomial function? How do we add, subtract, multiply or divide a polynomial? How do we solve a polynomial expression?			
<p>Content <i>(As a result of this learning segment, students will know...)</i></p> <ul style="list-style-type: none"> Section 5.8 Analyzing Graphs of Polynomials Functions. 	<p>Skills <i>(As a result of this learning segment, students will be able to...)</i></p> <ul style="list-style-type: none"> Be able to tell when a polynomial has a local minimum or local maximum by finding the turning points of a polynomial graph. 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-APR 3 F-IF 4, 5, 7c</p> <hr/> <p>Time Frame: Algebra 2 RC : 2 day</p> <hr/> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 6				
Theme: Powers, Roots, and Radicals.				
Essential Questions: How do we work with rational exponents? How do we perform function operations? How do we graph and solve radical expressions?				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 6.1 n^{th} Root and Rational Exponents. 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to change from radical to exponential form. Be able to solve n^{th} root problems. 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N-RN 1 A-REI 2	
			Time Frame: Algebra 2 RC: 3 day	
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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 MATHEMATICS DEPARTMENT
 ALGEBRA 2 RC

CONTENT: Chapter 6			
Theme: Powers, Roots, and Radicals.			
Essential Questions: How do we work with rational exponents? How do we perform function operations? How do we graph and solve radical expressions?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 6.2 Properties of Rational Exponents. 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to expand students' knowledge of exponents from integral exponents to rational exponents. 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N-RN 1, 2
			Time Frame: Algebra 2 RC: 3 day
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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 ALGEBRA 2 RC

CONTENT: Chapter 6			
Theme: Powers, Roots, and Radicals.			
Essential Questions: How do we work with rational exponents? How do we perform function operations? How do we graph and solve radical expressions?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 6.3 Power Functions and Function Operations. 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to perform operations on a pair of functions to obtain a third function. Be able to find the composition of a function. 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-CED 2 F-BF 1
			Time Frame: Algebra 2 RC: 3 day
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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 ALGEBRA 2 RC

CONTENT: Chapter 6			
Theme: Powers, Roots, and Radicals.			
Essential Questions: How do we work with rational exponents? How do we perform function operations? How do we graph and solve radical expressions?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 6.4 Inverse Functions. 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Be able to find an inverse function. • Be able to tell whether two functions are inverses of each other. 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-CED 4 F-IF 5 F-BF 4 Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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 ALGEBRA 2 RC

CONTENT: Chapter 6			
Theme: Powers, Roots, and Radicals.			
Essential Questions: How do we work with rational exponents? How do we perform function operations? How do we graph and solve radical expressions?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 6.6 Solving Radical Equations. 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Be able to solve radical equations. • Be able to identify apparent solutions. 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N-RN 2 A-REI 2, 11 Time Frame: Algebra 2 RC: 5 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

CARLSTADT-EAST RUTHERFORD REGIONAL HIGH SCHOOL DISTRICT
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 ALGEBRA 2 RC

CONTENT: Chapter 7			
Theme: Exponential and Logarithmic Functions			
Essential Questions: How do we graph an exponential or logarithmic function? How do we solve an exponential or logarithmic function?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 7.1 Exponential Growth. 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Be able to identify an exponential growth graph Be able to solve a growth problem Model exponential growth in real-life by calculating compound interest. 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1</p> <p>NJSLS MA 9-12 A-SSE 1 F-IF 4, 7, 8 F-BF 3 F-LE 5 9.1.12.D.3, 9.1.12.D.5 9.2.12.C.4, 9.3.ST-SM.2</p> <p>Time Frame: Algebra 2 RC : 3 day</p> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 7			
Theme: Exponential and Logarithmic Functions			
Essential Questions: How do we graph an exponential or logarithmic function? How do we solve an exponential or logarithmic function?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 7.2 Exponential Decay 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Be able to identify an exponential decay graph • Be able to solve a decay problem 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-SSE 1 F-IF 4, 7, 8 F-BF 3 Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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 ALGEBRA 2 RC

CONTENT: Chapter 7			
Theme: Exponential and Logarithmic Functions			
Essential Questions: How do we graph an exponential or logarithmic function? How do we solve an exponential or logarithmic function?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 7.3 The Number e 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Understand the base e and able to graph Identify the difference between exponential growth and exponential decay 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 9.1.12.D.5, 9.1.12.D.10 9.2.12.C.1, 9.3.ST-SM.2 NJSLS MA 9-12 A-SSE 1 F-IF 4, 7, 8 F-BF 3</p> <p>Time Frame: Algebra 2 RC: 3 day</p> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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 ALGEBRA 2 RC

CONTENT: Chapter 7			
Theme: Exponential and Logarithmic Functions			
Essential Questions: How do we graph an exponential or logarithmic function? How do we solve an exponential or logarithmic function?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 7.4 Logarithmic Functions 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Understand the relationship between exponential and logarithmic functions. • Be able to evaluate logs. 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-IF 7e F-BF 3 Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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 ALGEBRA 2 RC

CONTENT: Chapter 7				
Theme: Exponential and Logarithmic Functions				
Essential Questions: How do we graph an exponential or logarithmic function? How do we solve an exponential or logarithmic function?				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 7.5 Properties of Logarithms 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to rewrite, expand and condense logarithmic equations in order to solve. Be able to use the change of base formula 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-SSE 1, 3	
			Time Frame: Algebra 2 RC: 3 day	
			Materials: Textbook: 2004 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

CARLSTADT-EAST RUTHERFORD REGIONAL HIGH SCHOOL DISTRICT
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 ALGEBRA 2 RC

CONTENT: Chapter 8			
Theme: Rational Equations and Functions			
Essential Questions: How do we graph rational expressions? How do we solve rational expressions? How do we operate on rational expressions?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 8.1 Inverse and Joint Variation 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Be able to distinguish between direct, inverse and joint variation 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 N-Q 1 A-CED 2, 4 Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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 ALGEBRA 2 RC

CONTENT: Chapter 8			
Theme: Rational Equations and Functions			
Essential Questions: How do we graph rational expressions? How do we solve rational expressions? How do we operate on rational expressions?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 8.2 Graph Simple Rational Functions 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Be able to graph a rational function in the form of $f(x) = p(x) / q(x)$ 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1</p> <p>NJSLS MA 9-12 A-CED 2 F-IF 4, 5, 7d+ F-BF 3</p> <hr/> <p>Time Frame: Algebra 2 RC: 3 days</p> <hr/> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 8			
Theme: Rational Equations and Functions			
Essential Questions: How do we graph rational expressions? How do we solve rational expressions? How do we operate on rational expressions?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 8.3 Graphing General Rational Functions 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Know the steps necessary in order to graph a general rational function 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-CED 2, 4 F-IF 4, 7d+</p> <p>Time Frame: Algebra 2 RC: 3 day</p> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 8			
Theme: Rational Equations and Functions			
Essential Questions: How do we graph rational expressions? How do we solve rational expressions? How do we operate on rational expressions?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 8.4 Multiply and Divide Rational Expressions 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Be able to simplify, multiply and divide rational expressions 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLs MA 9-12 A-APR 7+ Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 8			
Theme: Rational Equations and Functions			
Essential Questions: How do we graph rational expressions? How do we solve rational expressions? How do we operate on rational expressions?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 8.5 Addition, Subtraction, and Complex Fractions 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to add and subtract rational expressions 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-APR 7+
			Time Frame: Algebra 2 RC: 3 day
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 8			
Theme: Rational Equations and Functions			
Essential Questions: How do we graph rational expressions? How do we solve rational expressions? How do we operate on rational expressions?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 8.6 Solving Rational Equations 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Know the steps involved and be able to solve a rational expression 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-CED 1 A-REI 1, 2, 11 Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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 ALGEBRA 2 RC

CONTENT: Chapter 11			
Theme: Data Analysis and Statistics			
Essential Questions: What is a combination? How do we use the normal distribution to help us find probabilities? What is the difference between a survey, an experiment and an observational study?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 11.2 Combinations and the Binomial Theorem 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to evaluate combinations. Be able to use combinations to find the number of possible outcomes to given situations 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-APR 5+
			Time Frame: Algebra 2 RC: 3 day
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

CARLSTADT-EAST RUTHERFORD REGIONAL HIGH SCHOOL DISTRICT
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 ALGEBRA 2 RC

CONTENT: Chapter 11			
Theme: Data Analysis and Statistics			
Essential Questions: What is a combination? How do we use the normal distribution to help us find probabilities? What is the difference between a survey, an experiment and an observational study?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 12.6 Construct and Interpret Binomial Distributions 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Be able to evaluate combinations. • Be able to use combinations to find the number of possible outcomes to given situations 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-APR 5+ S-MD 3+ S-MD 7+ Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 11			
Theme: Data Analysis and Statistics			
Essential Questions: What is a combination? How do we use the normal distribution to help us find probabilities? What is the difference between a survey, an experiment and an observational study?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 11.3 Normal Distributions 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Be able to estimate the range of data based upon a normal curve • Be able to find percentiles using the normal distribution 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 S-ID 4 S-MD 7+ Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2004 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 11			
Theme: Data Analysis and Statistics			
Essential Questions: What is a combination? How do we use the normal distribution to help us find probabilities? What is the difference between a survey, an experiment and an observational study?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> 11.4 Supplementary: Select and Draw Conclusions from Samples 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Be able to explain how to find a simple random sample Be able to tell what the purpose of a good sample is 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 S-IC 1. 3. 4 S-MD 6+ 9.3.ST.2 9.3.ST-SM.4</p> <p>Time Frame: Algebra 2 RC: 3 day</p> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

CARLSTADT-EAST RUTHERFORD REGIONAL HIGH SCHOOL DISTRICT
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 ALGEBRA 2 RC

CONTENT: Chapter 11			
Theme: Data Analysis and Statistics			
Essential Questions: What is a combination? How do we use the normal distribution to help us find probabilities? What is the difference between a survey, an experiment and an observational study?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Supplementary: Compare Surveys, Experiments, and Observational Studies 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Be able to explain how to collect accurate data from a population Be able to explain the difference between experiments and observational studies 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 S-IC 1. 3. 6 S-MD 6+, 7+ 9.2.12.C.1 9.3.12.BM.1</p> <p>Time Frame: Algebra 2 RC: 3 day</p> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 12			
Theme: Sequences and Series			
Essential Questions: How can you generate a rule for a number sequence that has a common difference or ratio? How can you find the sum of these sequences?			
<p>Content <i>(As a result of this learning segment, students will know...)</i></p> <ul style="list-style-type: none"> Section 7.1 An Introduction to Sequences and Series 	<p>Skills <i>(As a result of this learning segment, students will be able to...)</i></p> <ul style="list-style-type: none"> Be able to use and understand notation of sequences Recognize and write rules for number patterns 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1</p> <p>NJSLS MA 9-12 F-IF 3 F-BF 1, 2</p> <hr/> <p>Time Frame: Algebra 2 RC: 3 day</p> <hr/> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 12			
Theme: Sequences and Series			
Essential Questions: How can you generate a rule for a number sequence that has a common difference or ratio? How can you find the sum of these sequences?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 12.2 Arithmetic Sequences and Series 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Be able to identify a sequence as an arithmetic sequence • Be able to write a general equation for an arithmetic sequence • Be able to find the sum of an arithmetic sequence 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-BF 2 F-LE 2, 5 Time Frame: Algebra 2 RC : 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 12				
Theme: Sequences and Series				
Essential Questions: How can you generate a rule for a number sequence that has a common difference or ratio? How can you find the sum of these sequences?				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 12.3 Geometric Sequences and Series 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to identify a sequence as a geometric sequence Be able to write a general equation for a geometric sequence Be able to find the sum of a geometric sequence 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-SSE 4 F-BF 2 F-LE 2, 5	
			Time Frame: Algebra 2 RC : 3 day	
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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CONTENT: Chapter 12			
Theme: Sequences and Series			
Essential Questions: How can you generate a rule for a number sequence that has a common difference or ratio? How can you find the sum of these sequences?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 12.4 Infinite Geometric Series 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Be able to find the sum of an infinite geometric series 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-SSE 3 Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2004 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 12			
Theme: Sequences and Series			
Essential Questions: How can you generate a rule for a number sequence that has a common difference or ratio? How can you find the sum of these sequences?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 12.5 Recursive Rules for Sequences 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Be able to write the equation of an arithmetic sequence Be able to write the equation of a geometric sequence Be able to use recursive rules for sequences. 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-IF 3 F-BF 1, 2 F-LE 1, 5</p> <hr/> <p>Time Frame: Algebra 2 RC: 3 day</p> <hr/> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 9				
Theme: Quadratic Relations and Conic Sections				
Essential Questions: How can we graph the various conic sections? How do write the equation of a conic? How do we solve a system of quadratics?				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 9.1 The Distance and Midpoint Formulas 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to use the midpoint, distance and slope formula Be able to find the center and radius of a circle 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 G-GPE 4, 7	
			Time Frame: Algebra 2 RC: 3 day	
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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 ALGEBRA 2 RC

CONTENT: Chapter 9			
Theme: Quadratic Relations and Conic Sections			
Essential Questions: How can we graph the various conic sections? How do write the equation of a conic? How do we solve a system of quadratics?			
Content <i>(As a result of this learning segment, students will know...)</i> <ul style="list-style-type: none"> • Section 9.3 Circles 	Skills <i>(As a result of this learning segment, students will be able to...)</i> <ul style="list-style-type: none"> • Be able to write the equation of a circle • Be able to graph a circle 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-CED 2, 3 A-REI 10 G-GPE 1 Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 9			
Theme: Quadratic Relations and Conic Sections			
Essential Questions: How can we graph the various conic sections? How do we write the equation of a conic? How do we solve a system of quadratics?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 9.4 Ellipses 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Be able to graph an ellipse identifying major and minor axis and focus points • Be able to write the equation of an ellipse given vertices and focus points 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-SSE 3 A-CED 2 A-REI 10 G-GPE 3+ Time Frame: Algebra 2 RC : 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 9			
Theme: Quadratic Relations and Conic Sections			
Essential Questions: How can we graph the various conic sections? How do write the equation of a conic? How do we solve a system of quadratics?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 9.2 Parabolas 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Be able to graph a parabola and identify vertex, focus and directrix Be able to write the equation of a parabola given the vertex, focus and directrix 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1</p> <p>NJSLS MA 9-12 A-CED 3, 4 A-REI 10 G-GPE 2</p> <p>Time Frame: Algebra 2 RC : 3 day</p> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 9			
Theme: Quadratic Relations and Conic Sections			
Essential Questions: How can we graph the various conic sections? How do we write the equation of a conic? How do we solve a system of quadratics?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 9.5 Hyperbola 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to graph a hyperbola and identify transverse axis, focus and center Be able to write the equation of a hyperbola given the transverse axis, focus and center 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-SSE 3 A-CED 2 A-REI 10 G-GPE 3+ Time Frame: Algebra 2 RC: 3 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 9			
Theme: Quadratic Relations and Conic Sections			
Essential Questions: How can we graph the various conic sections? How do write the equation of a conic? How do we solve a system of quadratics?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 9.6 Translate Graphing and Classifying Conics 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Be able to classify and graph various conic sections Be able to translate conic sections 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-SSE 3 G-GPE 1, 2, 3+</p> <p>Time Frame: Note: Section9.6 will be covered as part of 9.2, 9.3, 9.4, 9.5</p> <p>Materials: Textbook: 2004 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 9			
Theme: Quadratic Relations and Conic Sections			
Essential Questions: How can we graph the various conic sections? How do write the equation of a conic? How do we solve a system of quadratics?			
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 9.7 Solving Quadratic Systems 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to solve a system of quadratic functions using graphing, substitution and addition techniques 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-REI 7
			Time Frame: Algebra 2 RC: 2 day
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 14			
Theme: Trigonometric Graphs, Identities, and Equations			
Essential Questions: How can we graph, translate and reflect trigonometric functions? How do we write the equation of a trigonometric function? How do we solve a trigonometric equation?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 14.1 Graphing Sine, Cosine, and Tangent Functions. Section 14.2 Translations and Reflections of Trigonometric Graphs. 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Be able to graph sine, cosine, and tangent functions Be able to translate and reflect sine and cosine graphs 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-IF 4, 7e F-BF 3 F-TF 4, 5+</p> <hr/> <p>Time Frame: Algebra 2 RC: 4 day</p> <hr/> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 14				
Theme: Trigonometric Graphs, Identities, and Equations				
Essential Questions: How can we graph, translate and reflect trigonometric functions? How do write the equation of a trigonometric functions? How do we solve a trigonometric equation?				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 14.3 Verifying Trigonometric Identities 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to prove the Pythagorean identity of $\sin^2x + \cos^2x = 1$ Be able to verify various trigonometric identities 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-TF 2 G-SRT 7	
			Time Frame: Algebra 2 RC: 2 day	
			Materials: Textbook: 2004 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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CONTENT: Chapter 14			
Theme: Trigonometric Graphs, Identities, and Equations			
Essential Questions: How can we graph, translate and reflect trigonometric functions? How do write the equation of a trigonometric functions? How do we solve a trigonometric equation?			
<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 14.4 Solving Trigonometric Equations 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Be able to solve trigonometric equations 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 A-REI 11 F-TF 7+, 8</p> <p>Time Frame: Algebra 2 RC: 2 day</p> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 14			
Theme: Trigonometric Graphs, Identities, and Equations			
Essential Questions: How can we graph, translate and reflect trigonometric functions? How do write the equation of a trigonometric functions? How do we solve a trigonometric equation?			
Content <i>(As a result of this learning segment, students will know...)</i> <ul style="list-style-type: none"> • Section 14.5 Modeling with Trigonometric Functions 	Skills <i>(As a result of this learning segment, students will be able to...)</i> <ul style="list-style-type: none"> • Be able to model data by using the sine and cosine functions 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-TF 5 F-IF 4 S-ID 6 Time Frame: Algebra 2 RC: 2 day Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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CONTENT: Chapter 14				
Theme: Trigonometric Graphs, Identities, and Equations				
Essential Questions: How can we graph, translate and reflect trigonometric functions? How do write the equation of a trigonometric functions? How do we solve a trigonometric equation?				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 14.6 Using Sum and Difference Formulas 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to use the sum and difference formulas to evaluate angles Be able to use the sum and difference formulas to evaluate and simplify an equation 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-TF 7+, 9+	
			Time Frame: Algebra 2 RC: 2 day	
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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CONTENT: Chapter 14				
Theme: Trigonometric Graphs, Identities, and Equations				
Essential Questions: How can we graph, translate and reflect trigonometric functions? How do write the equation of a trigonometric functions? How do we solve a trigonometric equation?				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 14.7 Using Double-and Half-Angle Formulas 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to use double and half angle formulas to evaluate angles Be able to use double and half angles to evaluate and simplify an equation 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-TF 7+, 9+	
			Time Frame: Algebra 2 RC: 3 day	
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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CONTENT: Chapter 13				
Theme: Trigonometric Ratios and Functions				
Essential Questions: How can we graph a trig function? How can we find angles and lengths of sides using trigonometry? How can we use trig concepts to help us solve real life situations?				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 13.1 Right Triangle Trigonometry 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to name the six trig functions of an angle Be able to find the special angles for the six trig ratios Use right triangle trig to find missing parts of triangles 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 G-SRT 6, 8	
			Time Frame: Algebra 2 RC: 2 day	
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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 MATHEMATICS DEPARTMENT
 ALGEBRA 2 RC

CONTENT: Chapter 13			
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Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> • Section 13.2 General Angles and Radian Measure 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> • Be able to sketch an angle in standard form • Be able to convert from degrees to radians and radians to degrees 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> • Homework • Warm up exercises • Exit Tickets • Group activities • Section quizzes • Chapter tests • Cumulative tests • Projects / Presentations • Midterm exam • Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-TF 1, 2, 3+ G-C 5 Time Frame: Algebra 2 RC: 2 day Materials: Textbook: 2004 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.

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Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 13.3 Trigonometric Functions of Any Angle 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to evaluate angles of any size Be able to sketch an angle and find its reference angle 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-TF 2, 3+	
			Time Frame: Algebra 2 RC: 2 day	
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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CONTENT: Chapter 13			
Theme: Trigonometric Ratios and Functions			
Essential Questions: How can we graph a trig function? How can we find angles and lengths of sides using trigonometry? How can we use trig concepts to help us solve real life situations?			
<p>Content <i>(As a result of this learning segment, students will know...)</i></p> <ul style="list-style-type: none"> Section 13.4 Inverse Trigonometric Functions 	<p>Skills <i>(As a result of this learning segment, students will be able to...)</i></p> <ul style="list-style-type: none"> Be able to find angles given the values of trigonometric functions 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1</p> <p>NJSLS MA 9-12 F-BF 4D+ F-TF 6+, 7+</p> <hr/> <p>Time Frame: Algebra 2 RC: 2 day</p> <hr/> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>

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CONTENT: Chapter 13				
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Essential Questions: How can we graph a trig function? How can we find angles and lengths of sides using trigonometry? How can we use trig concepts to help us solve real life situations?				
Content (<i>As a result of this learning segment, students will know...</i>) <ul style="list-style-type: none"> Section 13.5 Law of Sines 	Skills (<i>As a result of this learning segment, students will be able to...</i>) <ul style="list-style-type: none"> Be able to solve triangles that do not have a right angle given the conditions of AAS, ASA, and SSA 	Assessments (The above Essential Questions will be assessed with the following formative and summative measures:) <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-TF 7+ G-SRT 9, 10, 11+	
			Time Frame: Algebra 2 RC: 3 day	
			Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2 Graphing calculators: Ti-83/84 plus. Smart board, internet research and activities, graph papers, color pencils.	

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CONTENT: Chapter 13			
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<p>Content (<i>As a result of this learning segment, students will know...</i>)</p> <ul style="list-style-type: none"> Section 13.6 Law of Cosine 	<p>Skills (<i>As a result of this learning segment, students will be able to...</i>)</p> <ul style="list-style-type: none"> Be able to solve triangles that do not have a right angle given the conditions of SSS, and SAS 	<p>Assessments (The above Essential Questions will be assessed with the following formative and summative measures:)</p> <ul style="list-style-type: none"> Homework Warm up exercises Exit Tickets Group activities Section quizzes Chapter tests Cumulative tests Projects / Presentations Midterm exam Final Exam 	<p>Standards: 8.1.12.A.CS1 NJSLS MA 9-12 F-TF 7+ G-SRT 10, 11+</p> <hr/> <p>Time Frame: Algebra 2 RC: 2 day</p> <hr/> <p>Materials: Textbook: 2007 <i>McDougal Littell</i> Algebra 2 by Larson, ISBN-13: 978-0-618-25020-2</p> <p>Graphing calculators: Ti-83/84 plus.</p> <p>Smart board, internet research and activities, graph papers, color pencils.</p>