Pine Hill Public Schools			
Content Area:	**Mathematics**		
Course Title/ Grade Level:	**Advanced Algebra 2 / Grade 10-11**		
Unit 1:	**Foundations for Functions**	Duration:	**2 weeks**
Unit 2:	**Quadratic Functions**	Duration:	**4 weeks**
Unit 3:	**Polynomial Functions**	Duration:	**4 weeks**
Unit 4:	**Rational and Radical Functions**	Duration:	**4 weeks**
Unit 5:	**Exponential and Logarithmic Functions**	Duration:	**4 weeks**
Unit 6:	**Properties and Attributes of Functions**	Duration:	**4 weeks**
Unit 7:	**Conic Sections**	Duration:	**4 weeks**
Unit 8:	**Probability and Statistics**	Duration:	**4 weeks**
Unit 9:	**Sequences and Series**	Duration:	**2 weeks**
Unit 10:	**Trigonometric Functions**	Duration:	**2 weeks**
BOE Approved Revision:			
BOE Initial Adoption Date:	June 20, 2017		

Pine Hill Public Schools Mathematics Curriculum			
Unit Title: Foundations for Functions			**Unit #: 1**
Course or Grade Level: Algebra 2		**Length of Time: 7 days**	
Pacing	**September** 7 days, 2 day introduction to course, Chapter 1, sections 1-1 and 1-3 only, 1 summative assessment day		
Essential Questions	● What are the various sets of numbers and how do you differentiate them? ● What are the essential rules when performing basic operations and simplification of square roots?		
Content	● Review Properties of Real Numbers ● Simplifying and Operations of Square Roots		
Skills	● Identifying Properties of Real Numbers ● Simplifying Square Roots and perform Operations on Square Roots		
Assessments	Formative: ● Teacher observation and questioning ● Seat and or group work ● Homework ● Student participation at board	Summative: ● Quizzes, tests and benchmark	
Interventions / differentiated instruction	● Students given handouts of power point notes ● Students given access to online textbook ● Partner or group work		
Inter-disciplinary Connections	● Using coordinate geometry to solve problems		
Lesson resources / Activities	● Holt McDougal Algebra 2, copyright 2011 – Chapter 1 ● Power point resources ● Textbook practice worksheet ● Online textbook (www.hrw.com) ● Construction and measuring of segments and angles ● Scientific calculators		
New Jersey Student Learning Standards for Mathematics			
Standard(s) for Mathematical Practice:		**Standard(s) for Mathematical Content:**	
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		N-RN A-SSE F-IF	
21st Century Themes			
Global Awareness	Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
21st Century Skills			

Creativity and Innovation	Critical Thinking and Problem Solving	Communication and Collaboration	Information Literacy
Media Literacy	ICT Literacy	Life and Career Skills	
8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.			
Strand: **C**	**Content Statement:** Students interact, collaborate with peers using variety of media and formats.	**Indicator:** **8.1.12.C.1**	

Pine Hill Public Schools Mathematics Curriculum		
Unit Title: Quadratic Functions		**Unit #: 2**
Course or Grade Level: Algebra 2	**Length of Time: 19 days**	
Pacing	**September/October** 19 days, Chapter 5, skip sections 5-7 to 5-9, 2 review days and 2 summative assessment days	
Essential Questions	● What does the graph of a quadratic function look like? ● What are the properties of a quadratic function and how do they effect its' graph? ● How can factoring be used to solve quadratic functions? ● How can completing the square be used to solve quadratic functions? ● What are complex numbers and how can they be simplified? ● What is the quadratic formula and how can it be used to solve quadratic functions?	
Content	● Quadratic Functions ● Quadratic Equations in Vertex Form ● Complex Numbers ● Operations of Complex Numbers ● Quadratic Formula	
Skills	● Graphing Quadratic Functions ● Finding the Maximum or Minimum value of a Function ● Finding the Zeroes of a Function ● Solve Quadratic Equations by Completing the Square ● Simplifying Complex Numbers ● Perform the Operations on Complex Numbers ● Using the Quadratic Formula to solve Quadratic Equations	
Assessments	Formative: ● Teacher observation and questioning ● Seat and or group work ● Homework ● Student participation at board	Summative: ● Quizzes, tests and benchmark
Interventions / differentiated instruction	● Students given handouts of power point notes ● Students given access to online textbook ● Partner or group work	
Inter-disciplinary Connections	● Using coordinate geometry to solve problems	
Lesson resources / Activities	● Holt McDougal Algebra 2, copyright 2011 – Chapter 5 ● Power point resources ● Textbook practice worksheet ● Online textbook (www.hrw.com) ● Scientific calculators	
New Jersey Student Learning Standards for Mathematics		
Standard(s) for Mathematical Practice:		**Standard(s) for Mathematical Content:**
1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable		N-CN A-SSE

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.	A-CED A-REI F-IF

21st Century Themes			
X Global Awareness	X Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy

21st Century Skills			
X Creativity and Innovation	X Critical Thinking and Problem Solving	X Communication and Collaboration	Information Literacy
Media Literacy	ICT Literacy	X Life and Career Skills	

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Strand:	Content Statement:	Indicator:
C	Students interact, collaborate with peers using variety of media and formats.	**8.1.12.C.1**

Pine Hill Public Schools Mathematics Curriculum		
Unit Title: Operations with Polynomials		**Unit #: 3**
Course or Grade Level: Algebra 2	**Length of Time: 20 days**	
Pacing	**October** 20 days, Chapter 6, skip sections 6-6 to 6-9, 2 review days and 2 summative assessment days	
Essential Questions	● What are Polynomials and how can they be written in standard form? ● How do you multiply polynomials? ● How do you divide polynomials using the long division algorithm? ● What procedure is used to factor a polynomial? ● How can the real roots of a polynomial equation be found?	
Content	● Degree of a Polynomial ● Polynomials in Standard Form ● Products of Polynomials ● Quotients of Polynomials ● Factors of Polynomials ● Real Roots of Polynomial Equations ● Fundamental Theorem of Algebra ● Graphs of Polynomial Functions ● Transforming Polynomials Functions	
Skills	● Finding the Degree of a Polynomial ● Writing Polynomials in Standard Form and Simplifying Polynomials ● Review Adding, Subtracting, and Multiplying polynomials ● Dividing Polynomials (Long Division and Synthetic Division) ● Finding factors of Polynomials, emphasize Multi-Step Factoring ● Finding real roots of Polynomial Equations ● Create Polynomial Equations by their zeros ● Graph and determine the zeros of a Polynomial Function ● Transform the graphs of Polynomial Functions	
Assessments	Formative: ● Teacher observation and questioning ● Seat and or group work ● Homework ● Student participation at board	Summative: ● Quizzes, tests and benchmark
Interventions / differentiated instruction	● Students given handouts of power point notes ● Students given access to online textbook ● Partner or group work	
Inter-disciplinary Connections	● Biology example 4 page 408	
Lesson resources / Activities	● Holt McDougal Algebra 2, copyright 2011 – Chapter 6 ● Power point resources ● Textbook practice worksheet ● Online textbook (www.hrw.com) ● Scientific calculators	

New Jersey Student Learning Standards for Mathematics	
Standard(s) for Mathematical Practice:	**Standard(s) for Mathematical Content:**
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.	N-CN A-APR A-REL F-IF

21st Century Themes			
X Global Awareness	X Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
21st Century Skills			
X Creativity and Innovation	X Critical Thinking and Problem Solving	X Communication and Collaboration	Information Literacy
Media Literacy	ICT Literacy	X Life and Career Skills	

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Strand:	**Content Statement:**	**Indicator:**
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Pine Hill Public Schools Mathematics Curriculum		
Unit Title: Rational and Radical Functions		**Unit #: 4**
Course or Grade Level: Algebra 2	**Length of Time: 22 days**	
Pacing	**November/December** 22 days, Chapter 8, skip sections 8.1 & 8.4, 2 review days and 2 summative assessment days	
Essential Questions	● What is a rational expression? ● How is a rational expression simplified? ● How do you find the LCD of a rational expression? ● How can you write a complex fraction as a division problem? ● How can you tell whether a solution to a rational equation is extraneous?	
Content	● Rational Expressions ● Operations with Rational Expressions ● Rational Equations ● Radical Functions ● Graph Radical Functions	
Skills	● Simplify Rational Expressions ● Factor Polynomial Expressions ● Multiply, Divide, Add, and Subtract Rational Expressions ● Determine the LCD for Rational Expressions ● Simplify Complex Fractions ● Solve Rational Equations ● Determine the Extraneous Roots of a Rational Equation ● Find the zeros of a Rational Expression	
Assessments	Formative: ● Teacher observation and questioning ● Seat and or group work ● Homework ● Student participation at board	Summative: ● Quizzes, tests and benchmark
Interventions / differentiated instruction	● Students given handouts of power point notes ● Students given access to online textbook ● Partner or group work	
Inter-disciplinary Connections	● Music: example 5 page 613	
Lesson resources / Activities	● Holt McDougal Algebra 2, copyright 2011 – Chapter 8 ● Power point resources ● Textbook practice worksheet ● Online textbook (www.hrw.com) ● Scientific calculators	
New Jersey Student Learning Standards for Mathematics		
Standard(s) for Mathematical Practice:	**Standard(s) for Mathematical Content:**	

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.	F-IF – 1 F-IF – 7c

21st Century Themes			
X Global Awareness	X Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
21st Century Skills			
X Creativity and Innovation	X Critical Thinking and Problem Solving	X Communication and Collaboration	Information Literacy
Media Literacy	ICT Literacy	X Life and Career Skills	

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Pine Hill Public Schools Mathematics Curriculum		
Unit Title: Exponential and Logarithmic Functions		**Unit #: 5**
Course or Grade Level: Algebra 2	**Length of Time: 23 days**	
Pacing	**December/January** 23 days, Chapter 7, skip sections 7.2, 7.6-7.8, 2 review days and 2 summative assessment days	
Essential Questions	● How can you differentiate between exponential growth and exponential decay? ● What is a logarithm and how is it related to exponents? ● How do the properties of logarithms relate to the basic arithmetic operations? ● How can you tell when you can write both sides of an equation using the same base?	
Content	● Exponential Functions, Growth and Decay ● Logarithmic Functions ● Properties of Logarithms ● Exponential and Logarithmic Equations	
Skills	● Identify and evaluate Exponential Expressions ● Write Exponential Expressions ● Graph Exponential Functions and identify their Range ● Write Logarithmic Equations • Write Exponential Equations as Logarithmic Equations and vice versa ● Evaluate and Graph Exponential and Logarithmic Functions ● Use properties to simplify Logarithmic Expressions (adding, subtracting, multiplying, dividing and raising to a power) ● Solve Logarithmic and Exponential Equations	
Assessments	Formative: ● Teacher observation and questioning ● Seat and or group work ● Homework ● Student participation at board	Summative: ● Quizzes, tests and benchmark
Interventions / differentiated instruction	● Students given handouts of power point notes ● Students given access to online textbook ● Partner or group work	
Inter-disciplinary Connections	● Environmental Science: example 5 page 508	
Lesson resources / Activities	● Holt McDougal Algebra 2, copyright 2011 – Chapter 7 ● Power point resources ● Textbook practice worksheet ● Online textbook (www.hrw.com) ● Scientific calculators	
New Jersey Student Learning Standards for Mathematics		
Standard(s) for Mathematical Practice:	**Standard(s) for Mathematical Content:**	

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	F-IF – 7e F-IF– 8b F-TF – 1,2,5,8

21st Century Themes			
X Global Awareness	X Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
21st Century Skills			
X Creativity and Innovation	X Critical Thinking and Problem Solving	X Communication and Collaboration	Information Literacy
Media Literacy	ICT Literacy	X Life and Career Skills	

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Pine Hill Public Schools Mathematics Curriculum		
Unit Title: Properties and Attributes of Functions		**Unit #: 6**
Course or Grade Level: Algebra 2	**Length of Time: 20 days**	
Pacing	**February** 20 days, Chapter 9, skip sections 9.3 and 9.5, 2 review days and 2 summative assessment days	
Essential Questions	● What are the three predominate ways to represent a function? ● How can each representation of a given function be interpreted? ● Given a problem, how do you decide which representation to use? ● What is a piecewise function?	
Content	● Multiple representations of Functions: Equations, Graphs and Tables ● Piecewise Functions ● Operations with Functions ● Composite Functions ● Introduction to Parent Functions ● Mathematical Models	
Skills	● Translate between various representations of Functions ● Solve problems using the various representations of Functions ● Write and graph Piecewise Functions ● Use Piecewise Functions to describe Real-World situations ● Evaluate Piecewise Functions ● Write and Evaluate Composite Functions ● Apply Functions to problem situations ● Determine the appropriate parent function of a given data set ● Use Mathematical Models to make predictions	
Assessments	Formative: ● Teacher observation and questioning ● Seat and or group work ● Homework ● Student participation at board	Summative: ● Quizzes, tests and benchmark
Interventions / differentiated instruction	● Students given handouts of power point notes ● Students given access to online textbook ● Partner or group work	
Inter-disciplinary Connections	● Zoology: example 2, page 700.	
Lesson resources / Activities	● Holt McDougal Algebra 2, copyright 2011 – Chapter 9 ● Power point resources ● Textbook practice worksheet ● Online textbook (www.hrw.com)	

	● Scientific calculators

New Jersey Student Learning Standards for Mathematics	
Standard(s) for Mathematical Practice:	**Standard(s) for Mathematical Content:**
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21st Century Themes			
X Global Awareness	X Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
21st Century Skills			
X Creativity and Innovation	X Critical Thinking and Problem Solving	X Communication and Collaboration	Information Literacy
Media Literacy	ICT Literacy	X Life and Career Skills	

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Strand:	**Content Statement:**	**Indicator:**
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Pine Hill Public Schools Mathematics Curriculum		
Unit Title: Conic Sections		**Unit #: 7**
Course or Grade Level: Algebra 2	**Length of Time: 25 days**	
Pacing	**February/March** 25 days, Chapter 10, skip 10-7, 2 review days and 2 summative assessment days	
Essential Questions	● What are conic sections? ● How does a tangent line relate to a circle? ● Given an equation, how do you differentiate between the conic sections? ● Why is it essential to use the technique of completing the square to write the equation for circles, ellipses and hyperbolas?	
Content	● Definitions of Conic Sections ● Equation of a Circle ● Distance and Midpoint of Line Segment ● Equation of a Tangent Line ● Equation of Ellipse ● Major and Minor Axes, and Vertices of the Ellipse ● Equation of Hyperbola ● Vertices of Hyperbola ● Equation of Parabola	
Skills	● Writing Equations of Circles in Standard Form ● Given their Equation, graphing Circles on the Coordinate Plane ● Write Equations of Ellipses in Standard Form ● Graph Ellipses from a given Equation ● Write Equations of Hyperbolas in Standard Form ● Given the Equation, graph Hyperbola on the Coordinate Plane ● Write Equations of Parabolas in Standard Form ● Graph Parabolas given their Equations ● Identify each Conic Section given their Equation	
Assessments	Formative: ● Teacher observation and questioning ● Seat and or group work ● Homework ● Student participation at board	Summative: ● Quizzes, tests and benchmark
Interventions / differentiated instruction	● Students given handouts of power point notes ● Students given access to online textbook ● Partner or group work	
Inter-disciplinary Connections	● Engineering, Physics: example 4, page 739.	

Lesson resources / Activities	● Holt McDougal Algebra 2, copyright 2011 – Chapter 10 ● Power point resources ● Textbook practice worksheet ● Online textbook (www.hrw.com) ● Scientific calculators

New Jersey Student Learning Standards for Mathematics	
Standard(s) for Mathematical Practice:	**Standard(s) for Mathematical Content:**
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	F-IF – 7a,c F-IF – 8a F-IF – 9

21st Century Themes			
X Global Awareness	X Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
21st Century Skills			
X Creativity and Innovation	X Critical Thinking and Problem Solving	X Communication and Collaboration	Information Literacy
Media Literacy	ICT Literacy	X Life and Career Skills	

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Pine Hill Public Schools Mathematics Curriculum		
Unit Title: Probability and Statistics		**Unit #: 8**
Course or Grade Level: Algebra 2	**Length of Time: 16 days**	
Pacing	**April** 16 days, Chapter 11, skip 11-6, 2 review days and 2 summative assessment days	
Essential Questions	● How can I use probability and statistics to make predictions and decisions that will benefit me in life? ● How should I interpret statistical information that I see in the news? ● What is the bell curve, why does it appear in many aspects of society, and why is understanding it so important to our society?	
Content	● Permutations and Combinations ● Theoretical and Experimental Probability ● Independent and Dependent Events ● Compound Events ● Measures of Central Tendency and Variation	
Skills	● Solve problems involving Permutations and Combinations ● Find the Theoretical and Experimental Probability of an event ● Find the probability of Independent and Dependent Events ● Find the probability of Mutually Exclusive and Inclusive Events ● Find measures of Central Tendency and measures of variation for statistical data.	
Assessments	Formative: ● Teacher observation and questioning ● Seat and or group work ● Homework ● Student participation at board	Summative: ● Quizzes, tests and benchmark
Interventions / differentiated instruction	● Students given handouts of power point notes ● Students given access to online textbook ● Partner or group work	
Inter-disciplinary Connections	● Genetics, Biology: example 25, page 823.	
Lesson resources / Activities	● Holt McDougal Algebra 2, copyright 2011 – Chapter 13 ● Power point resources ● Textbook practice worksheet ● Online textbook (www.hrw.com) ● Scientific calculators	
New Jersey Student Learning Standards for Mathematics		
Standard(s) for Mathematical Practice:	**Standard(s) for Mathematical Content:**	

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	S-ID.B S-ID.C

21st Century Themes			
X Global Awareness	X Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
21st Century Skills			
X Creativity and Innovation	X Critical Thinking and Problem Solving	X Communication and Collaboration	Information Literacy
Media Literacy	ICT Literacy	X Life and Career Skills	

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Pine Hill Public Schools Mathematics Curriculum		
Unit Title: Sequences and Series		**Unit #: 9**
Course or Grade Level: Algebra 2	**Length of Time: 15 days**	
Pacing	**April/May** 15 days, Chapter 12, skip 12-5, 2 review days and 2 summative assessment days	
Essential Questions	● What kinds of patterns commonly arise in our world? ● Why is it sometimes desirable to describe a pattern mathematically? ● When we notice a real-world or mathematical pattern, what are some different ways which we can describe it?	
Content	● Introduction to Sequences ● Series and Summation ● Arithmetic Sequences and Series ● Geometric Sequences and Series	
Skills	● Find the *n*th term of a Sequence ● Write rules for Sequences ● Evaluate the sum of a series expressed in Sigma Notation ● Find the indicated terms and sums of an Arithmetic Sequence ● Find the terms of a Geometric Sequence, including Geometric Means ● Find the sums of Geometric Series	
Assessments	Formative: ● Teacher observation and questioning ● Seat and or group work ● Homework ● Student participation at board	Summative: ● Quizzes, tests and benchmark
Interventions / differentiated instruction	● Students given handouts of power point notes ● Students given access to online textbook ● Partner or group work	
Inter-disciplinary Connections	● Physics: example 44, page 885	
Lesson resources / Activities	● Holt McDougal Algebra 2, copyright 2011 – Chapter 13 ● Power point resources ● Textbook practice worksheet ● Online textbook (www.hrw.com) ● Scientific calculators	
New Jersey Student Learning Standards for Mathematics		

Standard(s) for Mathematical Practice:	**Standard(s) for Mathematical Content:**
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	A-SSE.B F-BF.A

21st Century Themes			
X Global Awareness	X Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
21st Century Skills			
X Creativity and Innovation	X Critical Thinking and Problem Solving	X Communication and Collaboration	Information Literacy
Media Literacy	ICT Literacy	X Life and Career Skills	

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Strand:	**Content Statement:**	**Indicator:**
C	Students interact, collaborate with peers using variety of media and formats.	**8.1.12.C.1**

Pine Hill Public Schools Mathematics Curriculum		
Unit Title: Trigonometric Functions		**Unit #: 10**
Course or Grade Level: Algebra 2	**Length of Time: 14 days**	
Pacing	**May/June** 14 days, Chapter 13.1, 13.5, and 13.6 only, 2 review days and 2 summative assessment days	
Essential Questions	● What are the three main trigonometric functions? ● How do the trigonometric functions relate to the right triangle? ● How is trigonometry useful in solving real world problems? ● What determines the use of the Law of Sines or the Law of Cosines?	
Content	● Definitions of Trigonometric Ratios: Sine, Cosine and Tangent ● Reciprocal Trigonometric Ratios: Cosecant, Secant, and Cotangent ● Trigonometric Ratios of Special Right Triangles ● Angle of Elevation ● Angle of Depression ● Law of Sines ● Law of Cosines	
Skills	● Understand and use Trigonometric Relationships of Acute Angles in Triangles ● Find side lengths of triangles by applying Trigonometric Ratios ● Draw angles in Standard Position ● Determine values of Trigonometric Functions for angles in Standard Position ● Apply the Law of Sines ● Apply the Law of Cosines	
Assessments	Formative: ● Teacher observation and questioning ● Seat and or group work ● Homework ● Student participation at board	Summative: ● Quizzes, tests and benchmark
Interventions / differentiated instruction	● Students given handouts of power point notes ● Students given access to online textbook ● Partner or group work	
Inter-disciplinary Connections	● Geology: page 931 example 4.	

Lesson resources / Activities	● Holt McDougal Algebra 2, copyright 2011 – Chapter 13 ● Power point resources ● Textbook practice worksheet ● Online textbook (www.hrw.com) ● Scientific calculators

New Jersey Student Learning Standards for Mathematics	
Standard(s) for Mathematical Practice:	**Standard(s) for Mathematical Content:**
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	F-TF

21st Century Themes			
X Global Awareness	X Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy

21st Century Skills			
X Creativity and Innovation	X Critical Thinking and Problem Solving	X Communication and Collaboration	Information Literacy
Media Literacy	ICT Literacy	X Life and Career Skills	

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.		
Strand: **C**	**Content Statement:** Students interact, collaborate with peers using variety of media and formats.	**Indicator:** **8.1.12.C.1**