

COURSE OF STUDY MATHEMATICS

Name of Course: Trigonometry

Length of Course: 180 Days

Course Number: 353

Type of Offering: Academic/Elective

Grade Level: 11/12

Credit Value: 1 credit

Prerequisite/s: Algebra 2

Minutes: 7200

COURSE DESCRIPTION:

*Prerequisite: Algebra 2

This course helps students develop a solid understanding of trigonometric functions and the applications of these concepts to real world situations. It is for the academic or honors students who as successfully completed Algebra II and who will not be majoring in a math intensive field in college; or a math elective.

TEXBOOK/S (if applicable)

Title: Trigonometry by Jerome D. Hayden and Bettye C. Hall

Publisher: Pearson Addison Wesley

Copyright: 2005

OTHER RESOURCES: Textbook Ancillary Materials

Teacher Generated Materials

Calculator Applications

Computer Software Applications

Internet-Based Applications

12/13/10

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Trigonometric Functions

Instructional Time: 800 minutes

Anchor & Academic Standard (Eligible Content)	Content	Teaching Method(s)	Materials & Resources	Assessment
<p>Standards: 2.3.11.B Measure and compare angles in degrees and radians. 2.9.8.B. Draw, label, measure and list the properties of complementary, supplementary and vertical angles. Anchor: M11.B.2.1 Use and/or compare measurements of angles.</p>	<p>Angles</p>	<ul style="list-style-type: none"> -Lecture and Demonstration -Question and Answer -Brainstorming -Discussion -Journal -Cooperative Learning -Exercises -Practice and Application 	<ul style="list-style-type: none"> -Textbook- <u>Trigonometry</u>, Pearson Addison Wesley, 2005 -Teacher Generated Materials -Calculator Applications -Computer Applications -Internet-Based Applications 	<ul style="list-style-type: none"> -Homework -Tests -Quizzes -Projects
<p>Standards: 2.9.5.B Classify and compare triangles and quadrilaterals according to sides or angles. 2.9.11.B Prove that two triangles or two polygons are congruent or similar using algebraic, coordinate and deductive proofs. Anchor:</p>	<p>Angle Relationships and Similar Triangles</p>			

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Trigonometric Functions

Instructional Time: 800 minutes

<p>M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standard: 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem.</p> <p>Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standard: 2.10.11.B Identify, create and solve practical</p>	<p>Trigonometric Functions</p> <p>Using the Definitions of the Trigonometric Functions</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Trigonometric Functions

Instructional Time: 800 minutes

<p>problems involving right triangles using the trigonometric functions and the Pythagorean Theorem. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>				
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Acute Angles and Right Triangles

Instructional Time: 800 minutes

Anchor & Academic Standard (Eligible Content)	Content	Teaching Method(s)	Materials & Resources	Assessment
<p>Standard: 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem.</p> <p>Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>Trigonometric Functions of Acute Angles</p>	<p>-Lecture and Demonstration -Question and Answer -Brainstorming -Discussion -Journal -Cooperative Learning -Exercises -Practice and Application</p>	<p>-Textbook- <u>Trigonometry</u>, Pearson Addison Wesley, 2005 -Teacher Generated Materials -Calculator Applications -Computer Applications -Internet-Based Applications</p>	<p>-Homework -Tests -Quizzes -Projects</p>
<p>Standard: 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem.</p> <p>Anchor: M11.C.1 Analyze</p>	<p>Trigonometric Functions of Non-Acute Angles</p>			

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Acute Angles and Right Triangles

Instructional Time: 800 minutes

<p>characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem.</p> <p>Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>Finding Trigonometric Function Values Using a Calculator</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Acute Angles and Right Triangles

Instructional Time: 800 minutes

<p>Standard: 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem.</p> <p>Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>Solving Right Triangles</p>			
<p>Standard: 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem.</p> <p>Anchor: M11.C.1 Analyze characteristics and properties of two- and</p>	<p>Further Applications of Right Triangles</p>			

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Acute Angles and Right Triangles

Instructional Time: 800 minutes

three- dimensional geometric shapes and demonstrate understanding of geometric relationships.				
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Radian Measure and Circular Functions

Instructional Time: 800 minutes

Anchor & Academic Standard (Eligible Content)	Content	Teaching Method(s)	Materials & Resources	Assessment
<p>Standards: 2.3.11.B Measure and compare angles in degrees and radians. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchor: M11.B.2.1 Use and/or compare measurements of angles.</p> <p>Standards: 2.3.11.B Measure and compare angles in degrees and radians. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchor: M11.B.2.1 Use and/or compare measurements of angles.</p>	<p>Radian Measure</p> <p>Applications of Radian Measure</p>	<p>-Lecture and Demonstration -Question and Answer -Brainstorming -Discussion -Journal -Cooperative Learning -Exercises -Practice and Application</p>	<p>-Textbook- <u>Trigonometry</u>, Pearson Addison Wesley, 2005 -Teacher Generated Materials -Calculator Applications -Computer Applications -Internet-Based Applications</p>	<p>-Homework -Tests -Quizzes -Projects</p>

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Radian Measure and Circular Functions

Instructional Time: 800 minutes

<p>Standards: 2.3.11.B Measure and compare angles in degrees and radians. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>The Unit Circle and Circular Functions</p>			
<p>Standards: 2.9.11.I Model situations geometrically to formulate and solve problems. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchor: M11.C.1 Analyze</p>	<p>Linear and Angular Speed</p>			

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Radian Measure and Circular Functions

Instructional Time: 800 minutes

characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.				
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Graphs of the Circular Functions

Instructional Time: 800 minutes

Anchor & Academic Standard (Eligible Content)	Content	Teaching Method(s)	Materials & Resources	Assessment
<p>Standards: 2.9.11.I Model situations geometrically to formulate and solve problems. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.9.11.H Construct a geometric figure and its image using various transformations. 2.9.11.I Model situations geometrically to formulate and solve problems.</p>	<p>Graphs of the Sine and Cosine Functions</p> <p>Translations of the Graphs of the Sine and Cosine Functions</p>	<p>-Lecture and Demonstration -Question and Answer -Brainstorming -Discussion -Journal -Cooperative Learning -Exercises -Practice and Application</p>	<p>-Textbook- <u>Trigonometry</u>, Pearson Addison Wesley, 2005 -Teacher Generated Materials -Calculator Applications -Computer Applications -Internet-Based Applications</p>	<p>-Homework -Tests -Quizzes -Projects</p>

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Graphs of the Circular Functions

Instructional Time: 800 minutes

<p>2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.9.11.I Model situations geometrically to formulate and solve problems. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and</p>	<p>Graphs of the Other Circular Functions</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Graphs of the Circular Functions

Instructional Time: 800 minutes

<p>demonstrate understanding of geometric relationships.</p> <p>Standards: 2.9.11.I Model situations geometrically to formulate and solve problems. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs.</p> <p>Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>Harmonic Motion</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Trigonometric Identities

Instructional Time: 800 minutes

Anchor & Academic Standard (Eligible Content)	Content	Teaching Method(s)	Materials & Resources	Assessment
<p>Standards: 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.10.11.A Use graphing calculators to display periodic and circular functions; describe</p>	<p>Fundamental Identities</p> <p>Verifying Trigonometric Identities</p>	<p>-Lecture and Demonstration -Question and Answer -Brainstorming -Discussion -Journal -Cooperative Learning -Exercises -Practice and Application</p>	<p>-Textbook- <u>Trigonometry</u>, Pearson Addison Wesley, 2005 -Teacher Generated Materials -Calculator Applications -Computer Applications -Internet-Based Applications</p>	<p>-Homework -Tests -Quizzes -Projects</p>

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Trigonometric Identities

Instructional Time: 800 minutes

<p>properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean</p>	<p>Sum and Difference Identities for Cosine</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Trigonometric Identities

Instructional Time: 800 minutes

<p>Theorem. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and</p>	<p>Sum and Difference Identities for Sine and Tangent</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Trigonometric Identities

Instructional Time: 800 minutes

<p>demonstrate understanding of geometric relationships.</p> <p>Standards: 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem.</p> <p>Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.10.11.A Use graphing calculators to display</p>	<p>Double-Angle Identities</p> <p>Half-Angle Identities</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Trigonometric Identities

Instructional Time: 800 minutes

<p>periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>				
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Inverse Circular Functions and Trigonometric Equations

Instructional Time: 800 minutes

Anchor & Academic Standard (Eligible Content)	Content	Teaching Method(s)	Materials & Resources	Assessment
<p>Standard: 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs.</p> <p>Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean</p>	<p>Inverse Circular Functions</p> <p>Trigonometric Equations I</p>	<ul style="list-style-type: none"> -Lecture and Demonstration -Question and Answer -Brainstorming -Discussion -Journal -Cooperative Learning -Exercises -Practice and Application 	<ul style="list-style-type: none"> --Textbook- <u>Trigonometry</u>, Pearson Addison Wesley, 2005 -Teacher Generated Materials -Calculator Applications -Computer Applications -Internet-Based Applications 	<ul style="list-style-type: none"> -Homework -Tests -Quizzes -Projects

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Inverse Circular Functions and Trigonometric Equations

Instructional Time: 800 minutes

<p>Theorem. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and</p>	<p>Trigonometric Equations II</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Inverse Circular Functions and Trigonometric Equations

Instructional Time: 800 minutes

<p>demonstrate understanding of geometric relationships.</p> <p>Standards: 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem.</p> <p>Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>Equations Involving Inverse Trigonometric Functions</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Applications of Trigonometry and Vectors

Instructional Time: 800 minutes

Anchor & Academic Standard (Eligible Content)	Content	Teaching Method(s)	Materials & Resources	Assessment
<p>Standards: 2.9.11.B Prove that two triangles or two polygons are congruent or similar using algebraic, coordinate and deductive proofs. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>Oblique Triangles and the Law of Sines</p>	<p>-Lecture and Demonstration -Question and Answer -Brainstorming -Discussion -Journal -Cooperative Learning -Exercises -Practice and Application</p>	<p>-Textbook- <u>Trigonometry</u>, Pearson Addison Wesley, 2005 -Teacher Generated Materials -Calculator Applications -Computer Applications -Internet-Based Applications</p>	<p>-Homework -Tests -Quizzes -Projects</p>

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Applications of Trigonometry and Vectors

Instructional Time: 800 minutes

<p>Standards: 2.9.11.B Prove that two triangles or two polygons are congruent or similar using algebraic, coordinate and deductive proofs. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem. Anchor: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>The Ambiguous Case of the Law of Sines</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Applications of Trigonometry and Vectors

Instructional Time: 800 minutes

<p>Standards: 2.9.11.B Prove that two triangles or two polygons are congruent or similar using algebraic, coordinate and deductive proofs. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem. Anchors: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>The Law of Cosines</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Applications of Trigonometry and Vectors

Instructional Time: 800 minutes

<p>Standards: 2.9.11.B Prove that two triangles or two polygons are congruent or similar using algebraic, coordinate and deductive proofs. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem. Anchors: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>Vectors, Operations and the Dot Product</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Applications of Trigonometry and Vectors

Instructional Time: 800 minutes

<p>Standards: 2.9.11.B Prove that two triangles or two polygons are congruent or similar using algebraic, coordinate and deductive proofs. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. 2.10.11.B Identify, create and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem.</p> <p>Anchors: M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>Applications of Vectors</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Complex Numbers, Polar Equations, and Parametric Equations

Instructional Time: 800 minutes

Anchor & Academic Standard (Eligible Content)	Content	Teaching Method(s)	Materials & Resources	Assessment
<p>Standards: 2.1.11.A Use operations (e.g., opposite, reciprocal, absolute value, raising to a power, finding roots, finding logarithms). 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchors: M11.A.2.2 Use exponents, roots and/or absolute value to solve problems. M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.1.11.A Use operations (e.g., opposite, reciprocal, absolute value, raising to a</p>	<p>Complex Numbers</p> <p>Trigonometric (Polar) Form of Complex Numbers</p>	<p>-Lecture and Demonstration -Question and Answer -Brainstorming -Discussion -Journal -Cooperative Learning -Exercises -Practice and Application</p>	<p>-Textbook- <u>Trigonometry</u>, Pearson Addison Wesley, 2005 -Teacher Generated Materials -Calculator Applications -Computer Applications -Internet-Based Applications</p>	<p>-Homework -Tests -Quizzes -Projects</p>

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Complex Numbers, Polar Equations, and Parametric Equations

Instructional Time: 800 minutes

<p>power, finding roots, finding logarithms). 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchors: M11.A.2.2 Use exponents, roots and/or absolute value to solve problems. M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.1.11.A Use operations (e.g., opposite, reciprocal, absolute value, raising to a power, finding roots, finding logarithms). 2.10.11.A Use graphing calculators to display</p>	<p>The Product and Quotient Theorems</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Complex Numbers, Polar Equations, and Parametric Equations

Instructional Time: 800 minutes

<p>periodic and circular functions; describe properties of the graphs. Anchors: M11.A.2.2 Use exponents, roots and/or absolute value to solve problems. M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.1.11.A Use operations (e.g., opposite, reciprocal, absolute value, raising to a power, finding roots, finding logarithms). 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchors: M11.A.2.2 Use exponents, roots and/or absolute value</p>	<p>DeMoivre's Theorem; Powers and Roots of Complex Numbers</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Complex Numbers, Polar Equations, and Parametric Equations

Instructional Time: 800 minutes

<p>to solve problems. M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.1.11.A Use operations (e.g., opposite, reciprocal, absolute value, raising to a power, finding roots, finding logarithms). 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs.</p> <p>Anchors: M11.A.2.2 Use exponents, roots and/or absolute value to solve problems. M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and</p>	<p>Polar Equations and Graphs</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Complex Numbers, Polar Equations, and Parametric Equations

Instructional Time: 800 minutes

<p>demonstrate understanding of geometric relationships.</p> <p>Standards: 2.1.11.A Use operations (e.g., opposite, reciprocal, absolute value, raising to a power, finding roots, finding logarithms). 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs.</p> <p>Anchors: M11.A.2.2 Use exponents, roots and/or absolute value to solve problems. M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>	<p>Parametric Equations, Graphs and Applications</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Exponential and Logarithmic Functions

Instructional Time: 800 minutes

Anchor & Academic Standard (Eligible Content)	Content	Teaching Method(s)	Materials & Resources	Assessment
<p>Standards: 2.8.11.N Solve linear, quadratic and exponential equations both symbolically and graphically. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchors: M11.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs. M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.8.11.N Solve linear, quadratic and exponential</p>	<p>Exponential Functions</p> <p>Logarithmic Functions</p>	<ul style="list-style-type: none"> -Lecture and Demonstration -Question and Answer -Brainstorming -Discussion -Journal -Cooperative Learning -Exercises -Practice and Application 	<ul style="list-style-type: none"> -Textbook- <u>Trigonometry</u>, Pearson Addison Wesley, 2005 -Teacher Generated Materials -Calculator Applications -Computer Applications -Internet-Based Applications 	<ul style="list-style-type: none"> -Homework -Tests -Quizzes -Projects

TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Exponential and Logarithmic Functions

Instructional Time: 800 minutes

<p>equations both symbolically and graphically. 2.10.11.A Use graphing calculators to display periodic and circular functions; describe properties of the graphs. Anchors: M11.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs. M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p> <p>Standards: 2.8.11.N Solve linear, quadratic and exponential equations both symbolically and graphically. 2.10.11.A Use graphing calculators to display</p>	<p>Evaluating Logarithms; Equations and Applications</p>			
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TUNKHANNOCK AREA SCHOOL DISTRICT

Course: Trigonometry

Grade Level: 11-12

Unit of Study: Exponential and Logarithmic Functions

Instructional Time: 800 minutes

<p>periodic and circular functions; describe properties of the graphs. Anchors: M11.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs. M11.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.</p>				
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