Haverhill High School

Trigonometry

Curriculum Map

Trigonometry

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TERM 1

Topic: **Trigonometric Functions**

> Trigonometric Functions
> Radians, Cofunctions
> Function Values
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> Trigonometric Identities

Addison Wesley: Algebra and Trigonometry - Chapter 17

Learning Standards:

1. Demonstrate an understanding of the trigonometric, exponential, and logarithmic functions. (12.P.4)

2. Solve a variety of equations and inequalities using algebraic, graphical and numerical methods, including the quadratic formula; use technology where appropriate. Include polynomial, exponential, logarithmic, and trigonometric functions; expressions involving absolute values; trigonometric relations; and simple rational expressions. (12.P.8)

3. Solve everyday problems that can be modeled using polynomial, rational, exponential, logarithmic, trigonometric, and step functions, absolute values, and square roots. Apply appropriate graphical, tabular, or symbolic methods to the solution. (12.P.11)

4. Define the sine, cosine, and tangent of an acute angle. Apply to the solution of problems. (12.G.1)

5. Derive and apply basic trigonometric identities and the laws of sines and cosines. (12.G.2)

6. Describe the relationship between degrees and radian measures, and use radian measure in the solution of problems, in particular, problems involving angular velocity and acceleration. (12.M.1)

Instructional Activities:

Addison Wesley - CP

    A. Direct Instruction
    B. Cooperative Learning
    C. Study Guides
    D. Technology Integration
    E. Textbook Activities
    F. Activity Worksheets
    G. Chapter Review
    H. Practice Assessment
    I. Math Skills/Techniques
    J. Spiral Activities

Assessment:

Addison Wesley - CP

    A. Multi-Section Quiz
    B. Chapter Test
    C. Classwork Assessment
    D. Homework Assessment
    E. Project Assessment
    F. Portfolio Assessment

TERM 1

Topic: **Trigonometric Identities and Equations**

        Trigonometric Identities
        Trigonometric Equations
        Inverse Trigonometric Functions

Addison Wesley: Algebra and Trigonometry - Chapter 18

Learning Standards:

        1. Demonstrate an understanding of the trigonometric, exponential, and
logarithmic functions. (12.P.4)

        2. Solve a variety of equations and inequalities using algebraic, graphical,
          and numerical methods, including the quadratic formula; use
technology   where appropriate. Include polynomial, exponential,
logarithmic, and   trigonometric functions; expressions involving
absolute values;   trigonometric relations; and simple rational
expressions. (12.P.8)

        3. Solve everyday problems that can be modeled using polynomial,
rational, exponential, logarithmic, trigonometric, and step functions,
absolute values, and square roots. Apply appropriate graphical, tabular,
or symbolic methods to the solution. (12.P.11)

        4. Define the sine, cosine, and tangent of an acute angle. Apply to the
solution of problems. (12.G.1)

        5. Derive and apply basic trigonometric identities and the laws of sines
and cosines. (12.G.2)

Instructional Activities:

Addison Wesley - CP

A. Direct Instruction
B. Cooperative Learning
C. Study Guides
D. Technology Integration
E. Textbook Activities
F. Activity Worksheets
G. Chapter Review
H. Practice Assessment
I. Math Skills/Techniques
J. Spiral Activities

Assessment:

Addison Wesley - CP

A. Multi-Section Quiz
B. Chapter Test
C. Classwork Assessment
D. Homework Assessment
E. Project Assessment
F. Portfolio Assessment

TERM 2

Topic: **Right Triangle Trigonometry**

Right Triangle Trigonometric Relationships
Trigonometric Values

Addison Wesley: Algebra and Trigonometry - Chapter 18

Learning Standards:

1. Demonstrate an understanding of the trigonometric, exponential, and logarithmic functions. (12.P.4)

2. Solve a variety of equations and inequalities using algebraic, graphical, and numerical methods, including the quadratic formula; use technology where appropriate. Include polynomial, exponential, logarithmic, and trigonometric functions; expressions involving absolute values; trigonometric relations; and simple rational expressions. (12.P.8)

3. Solve everyday problems that can be modeled using polynomial, rational, exponential, logarithmic, trigonometric, and step functions, absolute values, and square roots. Apply appropriate graphical, tabular, or symbolic methods to the solution. (12.P.11)

4. Define the sine, cosine, and tangent of an acute angle. Apply to the solution of problems. (12.G.1)

Instructional Activities:

Addison Wesley - CP

    A. Direct Instruction
    B. Cooperative Learning
    C. Study Guides
    D. Technology Integration
    E. Textbook Activities
    F. Activity Worksheets
    G. Chapter Review
    H. Practice Assessment
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    J. Spiral Activities

Assessment:

Addison Wesley - CP

    A. Multi-Section Quiz
    B. Chapter Test
    C. Classwork Assessment
    D. Homework Assessment
    E. Project Assessment
    F. Portfolio Assessment

TERM 2

Topic: **Right Triangle Trigonometry**

        Law of Sines
        Law of Cosines

Addison Wesley: <u>Algebra and Trigonometry</u> - Chapter 18

Learning Standards:

        1. Demonstrate an understanding of the trigonometric, exponential, and logarithmic functions. (12.P.4)

        2. Solve a variety of equations and inequalities using algebraic, graphical, and numerical methods, including the quadratic formula; use technology where appropriate. Include polynomial, exponential, logarithmic, and trigonometric functions; expressions involving absolute values; trigonometric relations; and simple rational expressions. (12.P.8)

        3. Solve everyday problems that can be modeled using polynomial, rational, exponential, logarithmic, trigonometric, and step functions, absolute values, and square roots. Apply appropriate graphical, tabular, or symbolic methods to the solution. (12.P.11)

        4. Define the sine, cosine, and tangent of an acute angle. Apply to the solution of problems. (12.G.1)

Instructional Activities:

Assessment:

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A. Multi-Section Quiz
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TERM 2

Topic: **Triangle Trigonometric Applications**

Triangle Trigonometric Applications

Addison Wesley: Algebra and Trigonometry - Chapter 18

Learning Standards:

1. Demonstrate an understanding of the trigonometric, exponential, and logarithmic functions. (12.P.4)

2. Solve a variety of equations and inequalities using algebraic, graphical, and numerical methods, including the quadratic formula; use technology where appropriate. Include polynomial, exponential, logarithmic, and trigonometric functions; expressions involving absolute values; trigonometric relations; and simple rational expressions. (12.P.8)

3. Solve everyday problems that can be modeled using polynomial, rational, exponential, logarithmic, trigonometric, and step functions, absolute values, and square roots. Apply appropriate graphical, tabular, or symbolic methods to the solution. (12.P.11)

4. Define the sine, cosine, and tangent of an acute angle. Apply to the solution of problems. (12.G.1)

Instructional Activities: ## Assessment:

Addison Wesley - CP   **Addison Wesley - CP**

A. Direct Instruction   A. Multi-Section Quiz
B. Cooperative Learning   B. Chapter Test
C. Study Guides   C. Classwork Assessment
D. Technology Integration   D. Homework Assessment
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