

<b>Pine Hill Public Schools</b>			
Content Area:		<b>Mathematics</b>	
Course Title:		<b>CP Geometry</b>	
Unit 1:	<b>Foundations of Geometry</b>	Marking Period:	<b>MP 1</b>
Unit 2:	<b>Geometric Reasoning</b>	Marking Period:	<b>MP 1</b>
Unit 3:	<b>Parallel and Perpendicular Lines</b>	Marking Period:	<b>MP 2</b>
Unit 4:	<b>Triangle Congruence</b>	Marking Period:	<b>MP 2</b>
Unit 5:	<b>Properties and Attributes of Triangles</b>	Marking Period:	<b>MP 3</b>
Unit 6:	<b>Polygons and Quadrilaterals</b>	Marking Period:	<b>MP 3</b>
Unit 7:	<b>Similarity</b>	Marking Period:	<b>MP 4</b>
Unit 8:	<b>Right Triangles and Trigonometry</b>	Marking Period:	<b>MP 4</b>
Date Created or Revised:		07/10/2013	
BOE Approval Date:		08/27/2013	

**Pine Hill Public Schools  
Mathematics Curriculum**

<b>Unit Title: Foundations of Geometry</b>		<b>Unit #: 1</b>
<b>Course or Grade Level: CP Geometry</b>		<b>Length of Time: 27 days</b>
<b>Date Created: July 10, 2013</b>		<b>BOE Approval Date:</b>
<b>Pacing</b>	27days 2 day introduction to course 3 days per section, covering all sections in Chapter 1 2 review days 2 summative assessment days	
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>• What are points, lines, segments, rays and planes?</li> <li>• How do we measure line segments and angles?</li> <li>• How do we apply formulas for finding perimeter, area and circumference?</li> <li>• How do we apply and use the midpoint and distance formula?</li> <li>• What are the transformations in the coordinate plane? (reflection, rotation and translation)</li> </ul>	
<b>Content</b>	<ul style="list-style-type: none"> <li>• Points, lines, planes</li> <li>• Angle measure</li> <li>• Formulas, i.e. Perimeter, area and circumference</li> <li>• Midpoint and distance formulas</li> <li>• Transformations</li> </ul>	
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Identify points, lines and planes</li> <li>• Measure and drawing line segments and angles</li> <li>• Identifying special pairs of angles</li> <li>• Calculating segments lengths and angle measure involving algebraic expressions</li> <li>• Using formulas to find perimeter, area and circumference</li> <li>• Using ordered pairs to calculate midpoint and distance of segments in the coordinate plane</li> <li>• Identify basic transformations in the coordinate plane</li> </ul>	
<b>Assessments</b>	Formative: <ul style="list-style-type: none"> <li>• Teacher observation and questioning</li> <li>• Seat and or group work</li> <li>• Homework</li> <li>• Student participation at board</li> </ul>	Summative: <ul style="list-style-type: none"> <li>• Quizzes, tests and benchmark</li> </ul>
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>• Students given handouts of power point notes</li> <li>• Students given access to online textbook</li> <li>• Partner or group work</li> </ul>	
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>• Using algebra to solve problems involving line segments, angles, perimeter and area.</li> </ul>	
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• Holt McDougal Geometry , copyright 2011 – Chapter 1</li> <li>• Power point resources</li> <li>• Textbook practice worksheet</li> <li>• Online textbook ( <a href="http://www.hrw.com">www.hrw.com</a> )</li> <li>• Construction and measuring of segments and angles</li> </ul>	

**Common Core State Standards**

**Grade or Conceptual Category (HS only): Geometry**

**Domain (name and #): Congruence**

**Cluster: Experiment with transformations in the plane.  
Understand congruence in terms of rigid motions.**

**#. Standard:**

**G-CO-1**

**G-CO-2**

**G-CO-3**

**G-CO-4**

**G-CO-5**

**Math Practices:**

**21<sup>st</sup> Century Themes**

	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
--	------------------	--	---	--	----------------	--	-----------------

**21<sup>st</sup> Century Skills**

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

**Pine Hill Public Schools  
Mathematics Curriculum**

<b>Unit Title: Geometric Reasoning</b>		<b>Unit #: 2</b>
<b>Course or Grade Level: CP Geometry</b>		<b>Length of Time: 20 days</b>
<b>Date Created: July 10, 2013</b>		<b>BOE Approval Date:</b>
<b>Pacing</b>	20 days 4 days per section, covering sections 1,2,5,6 in Chapter 2 2 review days 2 summative assessment days	
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>• How is inductive reasoning used to identify patterns and make conjectures?</li> <li>• How do we analyze the truth value of conditional statements?</li> <li>• How do we identify properties of equality and congruence?</li> <li>• How do we use deductive reasoning in proving geometric theorems?</li> </ul>	
<b>Content</b>	<ul style="list-style-type: none"> <li>• Inductive reasoning, conjecture and counterexample</li> <li>• Conditional statement, hypothesis and conclusion</li> <li>• Properties of equality</li> <li>• Algebraic equations</li> </ul>	
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Make a conjecture and find examples and counterexamples</li> <li>• Identify parts of conditional statements</li> <li>• Be able to write the converse and contrapositive of a conditional statement</li> <li>• Identify properties of equality and congruence</li> <li>• Understand the concept of a two column proof</li> </ul>	
<b>Assessments</b>	Formative: <ul style="list-style-type: none"> <li>• Teacher observation and questioning</li> <li>• Seat and or group work</li> <li>• Homework</li> <li>• Student participation at board</li> </ul>	Summative: <ul style="list-style-type: none"> <li>• Quizzes, tests and benchmark</li> </ul>
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>• Students given handouts of power point notes</li> <li>• Students given access to online textbook</li> <li>• Partner or group work</li> </ul>	
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>• Using algebra to solve problems involving properties of equality</li> <li>• Using Biology to make conjectures and counterexamples</li> </ul>	
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• Holt McDougal Geometry , copyright 2011 – Chapter 2, sections 1,2,5,6</li> <li>• Power point resources</li> <li>• Textbook practice worksheet</li> <li>• Online textbook ( <a href="http://www.hrw.com">www.hrw.com</a> )</li> </ul>	

**Common Core State Standards**

**Grade or Conceptual Category (HS only): Geometry**

**Domain (name and #): Congruence**

<b>Cluster: Experiment with transformations in the plane. Understand congruence in terms of rigid motions.</b>	<b>#. Standard:</b>
	<b>G-CO-9</b>

**Math Practices:**

**21<sup>st</sup> Century Themes**

	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
--	------------------	--	---	--	----------------	--	-----------------

**21<sup>st</sup> Century Skills**

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

**Pine Hill Public Schools  
Mathematics Curriculum**

<b>Unit Title: Parallel and Perpendicular Lines</b>		<b>Unit #: 3</b>
<b>Course or Grade Level: CP Geometry</b>		<b>Length of Time: 28 days</b>
<b>Date Created: July 10, 2013</b>		<b>BOE Approval Date:</b>
<b>Pacing</b>	28 days 4 days per section, covering all sections in Chapter 3 2 review days 2 summative assessment days	
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>• What are the differences between parallel, perpendicular and skew lines?</li> <li>• What are the different angle pairs formed by two lines and a transversal?</li> <li>• What is the relationship of angles formed by two parallel lines and a transversal?</li> <li>• How are angles formed by a transversal used to prove that two lines are parallel?</li> <li>• What are the characteristics of perpendicular lines?</li> <li>• How are slopes used to determine whether a line is parallel or perpendicular?</li> <li>• How do you use the equation in point slope form to graph a line?</li> <li>• How do you use the equation in slope intercept form to graph a line?</li> </ul>	
<b>Content</b>	<ul style="list-style-type: none"> <li>• Parallel, perpendicular, skew lines and planes</li> <li>• Transversal, corresponding angles, alternate interior and exterior angles, same side interior angles</li> <li>• Perpendicular lines</li> <li>• Perpendicular bisector</li> <li>• Slopes of lines</li> <li>• Equations of lines in point slope and slope intercept form</li> </ul>	
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Identify parallel, perpendicular and skew lines</li> <li>• Be able to use the different pairs of angles formed by two lines and a transversal</li> <li>• Determine whether lines are parallel by the angles formed with a transversal</li> <li>• Understand all properties of perpendicular lines</li> <li>• Determine the slope of a line</li> <li>• Use the point slope and slope intercept equations to compare lines</li> <li>• To be able to graph equations of lines on a coordinate graph</li> </ul>	
<b>Assessments</b>	Formative: <ul style="list-style-type: none"> <li>• Teacher observation and questioning</li> <li>• Seat and or group work</li> <li>• Homework</li> <li>• Student participation at board</li> </ul>	Summative: <ul style="list-style-type: none"> <li>• Quizzes, tests and benchmark</li> </ul>
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>• Students given handouts of power point notes</li> <li>• Students given access to online textbook</li> <li>• Partner or group work</li> </ul>	
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>• Using algebra to solve problems involving equations of lines and slopes</li> <li>• Using Music to show that instruments have parallel strings</li> </ul>	
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• Holt McDougal Geometry , copyright 2011 – Chapter 3, all sections</li> <li>• Power point resources</li> <li>• Textbook practice worksheet</li> <li>• Online textbook ( <a href="http://www.hrw.com">www.hrw.com</a> )</li> </ul>	

**Common Core State Standards**

**Grade or Conceptual Category (HS only): Geometry**

**Domain (name and #): Congruence**

<b>Cluster: Experiment with transformations in the plane. Understand congruence in terms of rigid motions.</b>	<b>#. Standard:</b>
	G-CO-1
	G-CO-9

G-CO-12

**Domain (name and #) : Expressing Geometric Properties with equations**

<b>Cluster: Use coordinates to prove simple geometric theorems algebraically</b>	G-GPE-5
--	---------

**Math Practices:**

**21<sup>st</sup> Century Themes**

Global Awareness

Financial, Economic,  
Business, and Entrepreneurial  
Literacy

Civic Literacy

Health Literacy

**21<sup>st</sup> Century Skills**

Creativity and  
Innovation

Critical Thinking and Problem  
Solving

Communication and  
Collaboration

Information Literacy

Media Literacy

ICT Literacy

Life and Career Skills

**Pine Hill Public Schools  
Mathematics Curriculum**

<b>Unit Title: Triangle Congruence</b>		<b>Unit #: 4</b>
<b>Course or Grade Level: CP Geometry</b>		<b>Length of Time: 25 days</b>
<b>Date Created: July 10, 2013</b>		<b>BOE Approval Date:</b>
<b>Pacing</b>	25 days 3 days per section, covering sections 1,2,3,4,5,6,8 in Chapter 4 2 review days 2 summative assessment days	
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>• How are triangles classified by their angle measures and side lengths?</li> <li>• What is the relationship between the interior and exterior angle of a triangle?</li> <li>• What makes triangles congruent?</li> <li>• What is side-side-side (SSS) congruence?</li> <li>• What is side-angle-side (SAS) congruence?</li> <li>• What is angle-side-angle (ASA) congruence?</li> <li>• What is angle-angle-side (AAS) congruence?</li> <li>• What is hypotenuse-leg (HL) congruence?</li> <li>• What does CPCTC represent?</li> </ul>	
<b>Content</b>	<ul style="list-style-type: none"> <li>• Acute , Right, Obtuse and equiangular Triangles</li> <li>• Isosceles. Equilateral and scalene triangles</li> <li>• Triangle sum theorem</li> <li>• Exterior angles and remote interior angles</li> <li>• Corresponding angles and sides</li> <li>• Included angles</li> <li>• Included side</li> <li>• Non included side</li> <li>• Isosceles triangles , base angles, legs, vertex angle and base</li> </ul>	
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Identify congruent angles and sides</li> <li>• Classify triangles by angles and sides</li> <li>• Calculate angle measures</li> <li>• Identify congruent triangles</li> <li>• Prove triangles are congruent by SSS, SAS, ASA, AAS and HL</li> <li>• Use corresponding parts of triangles to show congruence of triangles</li> <li>• Identify which theorem to use when proving that triangles are congruent</li> <li>• Identify corresponding parts of triangles</li> </ul>	
<b>Assessments</b>	Formative: <ul style="list-style-type: none"> <li>• Teacher observation and questioning</li> <li>• Seat and or group work</li> <li>• Homework</li> <li>• Student participation at board</li> </ul>	Summative: <ul style="list-style-type: none"> <li>• Quizzes, tests and benchmark</li> </ul>
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>• Students given handouts of power point notes</li> <li>• Students given access to online textbook</li> <li>• Partner or group work</li> </ul>	
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>• Using algebra to solve problems involving missing angles or sides of triangles</li> <li>• Using Astronomy to find distance and angles between planets</li> </ul>	
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• Holt McDougal Geometry , copyright 2011 – Chapter 4, all sections except section 7</li> <li>• Power point resources</li> <li>• Textbook practice worksheet</li> <li>• Online textbook ( <a href="http://www.hrw.com">www.hrw.com</a> )</li> </ul>	



**Common Core State Standards**

**Grade or Conceptual Category (HS only): Geometry**

**Domain (name and #): Congruence**

<b>Cluster: Understand congruence in terms of rigid motions.</b>  <b>Prove geometric theorems</b>	<b>#. Standard:</b>
	G-CO-6
	G-CO-7
	G-CO-8
	G-CO-9
	G-CO-10

**Domain (name and #) :** Similarity, right triangles and trigonometry

**Cluster: Prove theorems involving similarity**      G-SRT-5

**Math Practices:**

[21<sup>st</sup> Century Themes](#)

Global Awareness	Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
------------------	---	----------------	-----------------

[21<sup>st</sup> Century Skills](#)

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

**Pine Hill Public Schools  
Mathematics Curriculum**

<b>Unit Title: Properties and Attributes of Triangles</b>		<b>Unit #: 5</b>
<b>Course or Grade Level: CP Geometry</b>		<b>Length of Time: 25 days</b>
<b>Date Created: July 10, 2013</b>		<b>BOE Approval Date:</b>
<b>Pacing</b>	25 days 3 days per section, covering sections 1,2,3,4,5,7,8 in Chapter 5 2 review days 2 summative assessment days	
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>• Given a problem how would you know which theorem to use?</li> <li>• What is a perpendicular bisector and how do they differ from angle bisectors?</li> <li>• How are medians used to determine measures of a triangle?</li> <li>• What is a midsegment of a triangle?</li> <li>• How is the Pythagorean Theorem used to find measurements of the sides of a triangle?</li> <li>• What are special right triangles?</li> </ul>	
<b>Content</b>	<ul style="list-style-type: none"> <li>• Perpendicular and angle bisectors</li> <li>• Bisectors of triangles</li> <li>• Medians and altitudes of triangles</li> <li>• The triangle midsegment theorem</li> <li>• Inequalities in one triangle</li> <li>• Finding simplest radical form</li> <li>• The Pythagorean Theorem</li> <li>• Applying special right triangles</li> </ul>	
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Identify perpendicular lines</li> <li>• Determine the measure of an angle bisector</li> <li>• Know the properties of perpendicular and angle bisectors of triangles</li> <li>• Draw and identify medians of triangles</li> <li>• Know how to simplify radicals</li> <li>• Know the difference between the two special right triangles (30-60-90; 45-45-90)</li> <li>• Know how to use the triangle inequality theorem</li> <li>• Determine the lengths of the sides of a triangle using the Pythagorean Theorem</li> <li>• Be able to find the longest side of a triangle by using the Pythagorean inequality theorem</li> </ul>	
<b>Assessments</b>	Formative: <ul style="list-style-type: none"> <li>• Teacher observation and questioning</li> <li>• Seat and or group work</li> <li>• Homework</li> <li>• Student participation at board</li> </ul>	Summative: <ul style="list-style-type: none"> <li>• Quizzes, tests and benchmark</li> </ul>
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>• Students given handouts of power point notes</li> <li>• Students given access to online textbook</li> <li>• Partner or group work</li> </ul>	
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>• Show how the Pythagorean Theorem can be used in real world applications.</li> </ul>	
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• Holt McDougal Geometry , copyright 2011 – Chapter 5, all sections except section 5 (indirect proof) &amp; section 6</li> <li>• Power point resources</li> <li>• Textbook practice worksheet</li> <li>• Student drawing of triangles</li> <li>• Scientific calculator</li> <li>• Online textbook ( <a href="http://www.hrw.com">www.hrw.com</a> )</li> </ul>	

**Common Core State Standards**

**Grade or Conceptual Category (HS only): Geometry**

**Domain (name and #): Congruence**

**Cluster: Prove geometric theorems**

**#. Standard:**

**G-CO-10**

**G-CO-13**

- Math Practices:**
1. Make sense of problems and persevere in solving them.
  3. Construct viable arguments and critique the reasoning of others.
  4. Model with mathematics.
  5. Use appropriate tools strategically.

**21<sup>st</sup> Century Themes**

Global Awareness	Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
------------------	---	----------------	-----------------

**21<sup>st</sup> Century Skills**

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

**Pine Hill Public Schools  
Mathematics Curriculum**

<b>Unit Title: Polygons and Quadrilaterals</b>		<b>Unit #: 6</b>
<b>Course or Grade Level: CP Geometry</b>		<b>Length of Time: 22 days</b>
<b>Date Created: July 10, 2013</b>		<b>BOE Approval Date:</b>
<b>Pacing</b>	22 days 3 days per section, covering all sections in Chapter 6 2 review days 2 summative assessment days	
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>• What determines the polygon?</li> <li>• What are the special names given to certain polygons?</li> <li>• How can the angle sum of any triangle be determined?</li> <li>• How are interior and exterior angles of a polygon related?</li> <li>• How are the angles and diagonals used to determine whether a quadrilateral is a parallelogram?</li> <li>• What are the similarities and differences between a parallelogram and a rhombus?</li> <li>• How do kites and trapezoids differ from parallelograms?</li> </ul>	
<b>Content</b>	<ul style="list-style-type: none"> <li>• Properties and attributes of polygons</li> <li>• Properties of parallelograms</li> <li>• Conditions of parallelograms</li> <li>• Properties of special parallelograms</li> <li>• Conditions of special parallelograms</li> <li>• Properties of kites and trapezoids</li> </ul>	
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Identify a polygon by number of sides</li> <li>• Calculate the interior angles of a polygon</li> <li>• Know the properties of parallelograms</li> <li>• How to prove that a quadrilateral is a parallelogram</li> <li>• Know the properties and conditions of special parallelograms</li> <li>• Be able to draw all quadrilaterals including parallelograms, rectangles, rhombuses, trapezoids, and kites</li> </ul>	
<b>Assessments</b>	Formative: <ul style="list-style-type: none"> <li>• Teacher observation and questioning</li> <li>• Seat and or group work</li> <li>• Homework</li> <li>• Student participation at board</li> </ul>	Summative: <ul style="list-style-type: none"> <li>• Quizzes, tests and benchmark</li> </ul>
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>• Students given handouts of power point notes</li> <li>• Students given access to online textbook</li> <li>• Partner or group work</li> </ul>	
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>• Use photography and how it relates to quadrilateral shapes.</li> <li>• Construction and the different quadrilateral shapes.</li> </ul>	
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• Holt McDougal Geometry , copyright 2011 – Chapter 6, all sections</li> <li>• Power point resources</li> <li>• Textbook practice worksheet</li> <li>• Student drawing of polygons and quadrilaterals</li> <li>• Scientific calculator</li> <li>• Online textbook ( <a href="http://www.hrw.com">www.hrw.com</a> )</li> </ul>	

**Common Core State Standards**

**Grade or Conceptual Category (HS only): Geometry**

**Domain (name and #): Congruence**

**Cluster: Prove geometric theorems**

**#. Standard:**

**G-CO-11**

- Math Practices:**
- 4. Model with mathematics
  - 5. Use appropriate tools strategically
  - 7. Look for and make use of structure

**21<sup>st</sup> Century Themes**

Global Awareness	Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
------------------	---	----------------	-----------------

**21<sup>st</sup> Century Skills**

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

**Pine Hill Public Schools  
Mathematics Curriculum**

<b>Unit Title: Similarity</b>		<b>Unit #: 7</b>
<b>Course or Grade Level: CP Geometry</b>		<b>Length of Time: 24 days</b>
<b>Date Created: July 10, 2013</b>		<b>BOE Approval Date:</b>
<b>Pacing</b>	24 days 4 days per section, covering sections 1, 2, 3, 4, 5 in Chapter 7 2 review days 2 summative assessment days	
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>• What is a ratio?</li> <li>• What is a proportion?</li> <li>• How many ways can a ratio be written?</li> <li>• How do you use proportions to see whether triangles are similar?</li> <li>• What are the means and extremes and how they are used?</li> <li>• How are sides and angles used to determine triangle similarity?</li> <li>• Explain how you would draw a picture to scale.</li> <li>• How is an angle bisector used to find measurements of the sides of a triangle?</li> <li>• How do we use proportions in determining whether items are drawn to scale?</li> <li>• How are ratios used to determine the slope of a line?</li> </ul>	
<b>Content</b>	<ul style="list-style-type: none"> <li>• Ratio and proportion</li> <li>• Ratios in similar polygons</li> <li>• Triangle similarity: AA, SSS, SAS</li> <li>• Applying properties of similar triangles</li> <li>• Using proportional relationships</li> </ul>	
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Simplifying ratios</li> <li>• Solve proportions</li> <li>• Write proportions representing similar figures</li> <li>• Identifying similar figures</li> <li>• Identifying similar triangles by using AA, SAS, SSS</li> <li>• Use the triangle similarity theorem to determine whether triangles are similar</li> <li>• Use ratios to determine the slope of a line</li> <li>• Find missing measures using indirect measurement</li> </ul>	
<b>Assessments</b>	Formative: <ul style="list-style-type: none"> <li>• Teacher observation and questioning</li> <li>• Seat and or group work</li> <li>• Homework</li> <li>• Student participation at board</li> </ul>	Summative: <ul style="list-style-type: none"> <li>• Quizzes, tests and benchmark</li> </ul>
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>• Students given handouts of power point notes</li> <li>• Students given access to online textbook</li> <li>• Partner or group work</li> </ul>	
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>• Geography and the scales of maps</li> <li>• History and populations – ratios and proportions used</li> </ul>	
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• Holt McDougal Geometry , copyright 2011 – Chapter 6, all sections</li> <li>• Power point resources</li> <li>• Textbook practice worksheet</li> <li>• Student drawing of polygons and quadrilaterals</li> <li>• Scientific calculator</li> <li>• Online textbook ( <a href="http://www.hrw.com">www.hrw.com</a> )</li> </ul>	

**Common Core State Standards**

**Grade or Conceptual Category (HS only):** Geometry

**Domain (name and #):** Similarity, right triangles, and trigonometry

**Cluster: Prove geometric theorems**

**#. Standard:**

**G-SRT-2, 3, 4, 5**

**Math Practices:** 1. Make sense of problems and perseverance in solving them  
 4. Model with mathematics  
 6. Attend to precision

**21<sup>st</sup> Century Themes**

Global Awareness	Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
------------------	---	----------------	-----------------

**21<sup>st</sup> Century Skills**

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

**Pine Hill Public Schools  
Mathematics Curriculum**

<b>Unit Title: Right Triangles and Trigonometry</b>		<b>Unit #: 8</b>
<b>Course or Grade Level: CP Geometry</b>		<b>Length of Time: 24 days</b>
<b>Date Created: July 10, 2013</b>		<b>BOE Approval Date:</b>
<b>Pacing</b>	24 days 4 days per section, covering sections 1, 2, 3, 4, 5 in Chapter 8 2 review days 2 summative assessment days	
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>• How is the geometric mean used to determine side lengths of a triangle?</li> <li>• How are the trigonometric ratios similar and different?</li> <li>• How are the trigonometric ratios used to determine sides and angles of a right triangle?</li> <li>• How do you determine which trigonometric ratio to use in working with right triangles?</li> <li>• How are the angles of elevation and angle of depression used to determine missing information on a problem?</li> <li>• Are all trigonometric ratios greater than zero?</li> </ul>	
<b>Content</b>	<ul style="list-style-type: none"> <li>• Similarity in right triangles</li> <li>• Trigonometric ratios</li> <li>• Solving right triangles</li> <li>• Angles of elevations and depression</li> <li>• Laws of sines and cosines</li> </ul>	
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Determine what right triangles are similar</li> <li>• Calculate the geometric mean</li> <li>• Use trigonometric ratios to solve problems</li> <li>• Find missing measured of right triangles using trigonometric ratios</li> <li>• Solve problems using angle of elevation and angle of depression</li> <li>• Know how to and when to use the inverse of sine, cosine, and tangent</li> <li>• Know how to find the trigonometric ratios using a scientific calculator</li> <li>• Use the law of sines and cosines to solve problems</li> </ul>	
<b>Assessments</b>	Formative: <ul style="list-style-type: none"> <li>• Teacher observation and questioning</li> <li>• Seat and or group work</li> <li>• Homework</li> <li>• Student participation at board</li> </ul>	Summative: <ul style="list-style-type: none"> <li>• Quizzes, tests and benchmark</li> </ul>
<b>Interventions / differentiated instruction</b>	<ul style="list-style-type: none"> <li>• Students given handouts of power point notes</li> <li>• Students given access to online textbook</li> <li>• Partner or group work</li> </ul>	
<b>Inter-disciplinary Connections</b>	<ul style="list-style-type: none"> <li>• Survey and construction – use the trigonometric functions to find angles and sides</li> </ul>	
<b>Lesson resources / Activities</b>	<ul style="list-style-type: none"> <li>• Holt McDougal Geometry , copyright 2011 – Chapter 6, all sections</li> <li>• Power point resources</li> <li>• Textbook practice worksheet</li> <li>• Student drawing of polygons and quadrilaterals</li> <li>• Scientific calculator</li> <li>• Online textbook ( <a href="http://www.hrw.com">www.hrw.com</a> )</li> </ul>	



**Common Core State Standards**

**Grade or Conceptual Category (HS only): Geometry**

**Domain (name and #): Similarity, right triangles, and trigonometry**

**Cluster: Define trigonometric ratios and solve problems involving right triangles.**

**Cluster: Apply trigonometric to general triangles.**

**#. Standard:**

**G-SRT-6,7,8**

**G-SRT-10,11**

- Math Practices:**
- 1. Make sense of problems and perseverance in solving them
  - 4. Model with mathematics
  - 5. Attend to precision
  - 7. Look for and make use of structure

**21<sup>st</sup> Century Themes**

Global Awareness	Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
------------------	---	----------------	-----------------

**21<sup>st</sup> Century Skills**

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