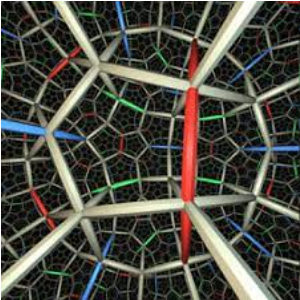
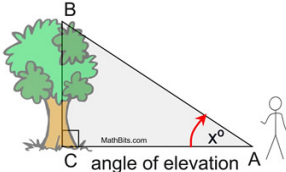

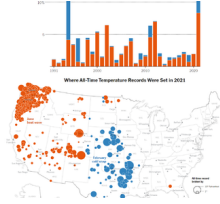
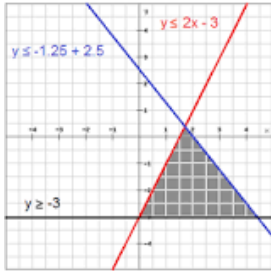



## Grade 9 Integrated Math II

**Essential Question(s)**

What do effective problem solvers do, and what do they do when they get stuck?  
 How is mathematics used to describe and compare patterns, situations, events, and phenomena?  
 How are mathematical models useful for making sense of the world and what are the limits of those models?

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
<b>Foundations of Geometry</b>	<b>Similarity and Right Triangle Trigonometry</b>	<b>Circles</b>	<b>Descriptive Statistics</b>	<b>Expressions, Equations, and Functions</b>	<b>Quadratic Functions and Modeling</b>
					
<b>THE FOCUS OF THE STORY</b>	<b>THE FOCUS OF THE STORY</b>	<b>THE FOCUS OF THE STORY</b>	<b>THE FOCUS OF THE STORY</b>	<b>THE FOCUS OF THE STORY</b>	<b>THE FOCUS OF THE STORY</b>
Geometry is the study of space and the objects in it. Here students will review and extend some of the basic concepts of	Trigonometry is an entire branch of geometry, and the basis of it lies in ratios of sides in right triangles.	For such a simple shape, circles are very powerful tools in geometry. In this unit, students learn how the properties of	In this unit, students learn different ways to display and summarize data in order to interpret the story being	Working with equations and inequalities is fundamental to all future work in mathematics. We build	Quadratic functions are useful models for many real-world functions and lay the groundwork for later work with

<p>geometry, and begin to examine relationships between relationships. For example, why must a quadrilateral with opposite sides parallel also have opposite sides equal in length? This will lay the groundwork for our work with triangles and trigonometry.</p>	<p>In this introductory unit students will learn about relationships between sides and angles in right triangles and use this to explore real-world applications such as indirect measurement.</p>	<p>circles are related to previous topics, such as right angles and the Pythagorean theorem, and how the properties of circles can be used to solve a variety of types of problems.</p>	<p>told. By describing or comparing shapes, centers, and spreads of data sets in context, we are able to see what the data tell us.</p>	<p>upon strategies students have learned to develop concepts of inverses and transformations, and to represent more complex situations.</p>	<p>polynomials. Here, students develop understanding of quadratic functions and as compared to linear and exponential functions. We explore how different forms of a quadratic function reveal features of the graph, and how to solve quadratic equations.</p>
<p><b>LEARNING GOALS</b></p>	<p><b>LEARNING GOALS</b></p>	<p><b>LEARNING GOALS</b></p>	<p><b>LEARNING GOALS</b></p>	<p><b>LEARNING GOALS</b></p>	<p><b>LEARNING GOALS</b></p>
<p>Describe the relationships between parts of objects in space, and relationships between these relationships.</p> <p>Use the Pythagorean theorem and its converse to find side lengths of right triangles.</p> <p>Use rigid transformations and dilations to develop the</p>	<p>Solving problems using the properties of similar polygons.</p> <p>Recognize and use proportional relationships of corresponding segments of similar triangles.</p> <p>Using proportional relationships to find area and volume.</p> <p>Use the properties of 45-45-90 and 30-60-90 triangles.</p>	<p>Identify and use parts of circles, such as central angles, major arcs, inscribed angles, and tangents.</p> <p>Recognize and use relationships between arcs, chords and diameters.</p> <p>Graph and apply transformations to the equation of a circle.</p> <p>Find areas of sectors of circles.</p>	<p>Calculate the measures of the center and spread of the data and understand why different measures can lead to different interpretations depending on the nature of the data set.</p> <p>Describe the effect of a linear change on measures of location and spread.</p> <p>Represent data in one variable using dot plots,</p>	<p>Extend linear equations to inverse functions.</p> <p>Extend expressions involving exponents.</p> <p>Function families.</p> <p>Solve and graph linear inequalities.</p> <p>Simplifying radicals.</p>	<p>Expanding and simplifying polynomials</p> <p>Factoring.</p> <p>Solving, roots and zeros.</p> <p>Transformations of quadratic functions.</p> <p>Using quadratic models.</p>

<p>concepts of similarity and congruence.</p> <p>Apply some of these concepts in the coordinate plane, explicitly connecting algebra and geometry.</p> <p>Problem solving with area and volume.</p>	<p>Using trigonometric ratios in right triangles.</p>		<p>box-and-whisker plots, and histograms.</p> <p>Understand that data is only as good as the methods used to collect it.</p> <p>Critically analyze real-world statements based on data in the media and elsewhere.</p>		
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