



# ALLEN ACADEMY

## Geometry Course Description 2019-2020

Text: *Big Ideas Math Geometry: A Bridge to Success* (Larson & Boswell); ISBN 978-1-68033-118-9

First Trimester	Second Trimester	Third Trimester
<p><b>Objectives:</b></p> <ul style="list-style-type: none"><li>* To become familiar with basic elements of geometry such as points, lines, angles, and polygons</li><li>* To review perimeter and area of simple geometric figures</li><li>* To develop skills in reasoning, both inductive and deductive</li><li>* To know whether a geometric figure has sides that are parallel or perpendicular, and to learn how to prove that lines are parallel or perpendicular</li><li>* To develop an understanding of proof by using information about sides and angles to prove triangles are congruent</li><li>* To use congruent figures to draw conclusions</li></ul>	<p><b>Objectives</b></p> <ul style="list-style-type: none"><li>* To focus on properties of lines and segments associated with triangles</li><li>* To use inequalities to make comparisons between triangles</li><li>* To use ratios and proportions to solve problems involving lengths in similar polygons</li><li>* To use information about sides and angles to prove triangles are similar</li><li>* To classify quadrilaterals by using properties of their sides, angles, and diagonals</li><li>* To extend results about angle sums in a triangle to other polygons</li></ul>	<p><b>Objectives:</b></p> <ul style="list-style-type: none"><li>* To use the Pythagorean Theorem to find side lengths in right triangles</li><li>* To use the converse to enable the classification of triangles</li><li>* To find angles in a right triangle using trig ratios</li><li>* To explore relationships among lengths, arc measures, and angles formed when lines intersect circles in one or two points.</li><li>* To learn formulas for areas of quadrilaterals, regular polygons, and sectors of circles</li><li>* To use ratios to find areas of similar polygons</li><li>* To describe solids using their vertices, edges, and faces</li><li>* To find the surface area and volume of prisms, cylinders, pyramids, cones, and spheres</li></ul>
<p><b>Topics:</b></p> <ul style="list-style-type: none"><li>* Describing geometric figures</li><li>* Measuring geometric figures</li></ul>	<p><b>Topics</b></p> <ul style="list-style-type: none"><li>* Using properties of special segments in triangles</li><li>* Using triangle inequalities to deter-</li></ul>	<p><b>Topics</b></p> <ul style="list-style-type: none"><li>* Using Pythagorean Theorem and its converse</li><li>* Using special relationships in right</li></ul>



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First Trimester	Second Trimester	Third Trimester
<ul style="list-style-type: none"><li>* Understanding equality and congruence</li><li>* Using inductive and deductive reasoning</li><li>* Understanding geometric relationships in diagrams</li><li>* Using properties of parallel and perpendicular lines</li><li>* Proving relationships using angle measures</li><li>* Making connections to lines in algebra</li><li>* Proving triangles are congruent</li><li>* Using coordinate geometry to investigate triangle relationships</li></ul>	<p>mine what triangles are possible</p>	<p>triangles</p> <ul style="list-style-type: none"><li>* Using trigonometric ratios to solve right triangles</li><li>* Using properties of segments that intersect circles</li><li>* Applying angle relationships in circles</li><li>* Using area formulas for polygons</li><li>* Relating length, perimeter, and area ratios in similar polygons</li><li>* Comparing measures for parts of circles and the whole circle</li><li>* Exploring solids and their properties</li><li>* Solving problems using surface area and volume</li></ul>