





Key Learning: Geometric relationships are used to find unknown measurements and solve real-world problems.

Unit Essential Question: How can we use geometric relationships to find unknown measurements and solve real-world problems?

<p>Concept: Congruency</p>	<p>Concept: Similarity</p>	<p>Concept: Pythagorean Theorem</p>	<p>Concept: Geometric Relationships</p>
<p>Section A: Begin to develop the concept of similarity informally through first understanding congruent figures and how congruent figure might tessellate a larger similar figure.</p>	<p>Sections B, C, D: By now students should understand how to use tessellations as a way to prove figures are similar, but is inefficient. There is a need for a more efficient way to understand, describe, and prove similarity, including finding missing side lengths. A multiplication factor is introduced to provide a more efficient method for this. Students begin to develop and use properties of similarity to justify similar figures and use this reasoning to solve real world problems.</p>	<p>Going the Distance (inserted) Students investigate and revisit the Pythagorean Theorem as another geometric relationship in their “toolbox”. This will help them to better justify and prove other geometric relationships in the future.</p>	<p>Section E: Students continue to refine their methods of proof more formally using the coordinate plane. They start by reconnecting to similar triangles by proving similarity on a coordinate plane. Understanding slope, parallel lines, and perpendicular lines are additional “tools” that can help to prove similarity. They then use this knowledge to prove other figures and relationships on the coordinate plane.</p>
<p>Lesson Essential Questions:</p>	<p>Lesson Essential Questions:</p>	<p>Lesson Essential Questions:</p>	<p>Lesson Essential Questions:</p>
<p>How can you determine if two figures are congruent?</p> <p>How can you determine if a figure tessellates a larger figure?</p>	<p>How can you describe the relationship between figures that are an enlargement or a reduction of each other?</p> <ul style="list-style-type: none"> AP: Describe the effect a multiplication factor has on a figure. (What effect does a multiplication factor have on a figure?) <p>How can you justify that two figures are similar?</p> <p>How can we use similarity to reason about and solve real world problems?</p>	<p>How can we prove the Pythagorean theorem and justify why it holds true?</p> <ul style="list-style-type: none"> AP: Identify the figures for which the Pythagorean Theorem holds true. (How can we use the Pythagorean Theorem to distinguish between right and non-right triangles?) 	<p>How can we use the coordinate plane to reason about and prove geometric relationships?</p> <ul style="list-style-type: none"> AP: Use similar triangles to understand slope AP: Use slope to prove parallel & perpendicular lines AP: Use Pythagorean Theorem to find the distance between two points. AP: Use all of the above to prove and justify relationships among other shapes.
<p>What does it mean to create a convincing argument? What does it mean to ‘justify’?</p>			

			
Vocabulary: Congruent, Tessellation, Parallel	Vocabulary: Enlargement factor, reduction factor, multiplication factor, corresponding sides, corresponding angles	Vocabulary: Pythagorean Theorem	Vocabulary: Slope, parallel, perpendicular, distance, line segment, diagonal, rhombus, opposite, reciprocal
Additional Information & Resources:			