

Common Core State Standards for Mathematics

Domain: Congruence

Geometric Theorems (prove geometric theorems) (G-CO)

High School

Score 4.0	In addition to Score 3.0, in-depth inferences and applications that go beyond instruction to the standard. The student will:	Example Activities
	3.5 In addition to score 3.0 performance, in-depth inferences and applications with partial success.	
Score 3.0	<p>The student will:</p> <ul style="list-style-type: none"> • prove theorems about lines and angles (G-CO.9) • prove theorems about triangles (G-CO.10) • prove theorems about parallelograms (G-CO.11) <p>The student exhibits no major errors or omissions.</p>	<p>Students will be given partially completed proofs and partially completed reasons. The students will be placed in groups of two and will work collaboratively to accurately fill in the missing components of the given proofs. Before receiving feedback from the teacher the groups will rate their comfort or confidence with each proof. The proofs will be submitted to the teacher for feedback. The accuracy and confidence rating will guide the teacher in knowing what concepts need to be retaught.</p> <p><u>Theorems about lines and angles:</u> vertical angles are congruent when a transversal crosses parallel lines, alternate interior, alternate exterior, and corresponding angles are congruent points on a perpendicular bisector of a line segment are exactly those equidistant from the segments endpoints</p> <p><u>Theorems about triangles:</u> the sum of the measures of the interior angles of a triangle is 180° base angles of an isosceles triangle are congruent the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length the medians of a triangle meet at a point (centroid)</p> <p><u>Theorems about parallelograms:</u> opposite sides are congruent opposite angles are congruent the diagonals bisect each other converses of the above list rectangles are parallelograms with congruent diagonals</p>
	2.5 No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content	
Score 2.0	<p>There are no major errors or omissions regarding the simpler details and processes as the student will:</p> <ul style="list-style-type: none"> • recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ vertical angles, transversal, alternate interior angles, corresponding angles, perpendicular bisector, interior angles of a polygon, isosceles triangle, base angles of isosceles triangles, midpoint of a segment, median of a triangle, parallelogram, opposite angles, diagonals, bisect, rectangles. • perform basic processes, such as: <ul style="list-style-type: none"> ○ recognize or recall theorems about lines and angles, triangles, and parallelograms <p>However, the student exhibits major errors or omissions regarding the more</p>	<p><u>Freyer Model</u> – Students will be given key vocabulary words such as vertical angles, transversal, alternate interior angles, corresponding angles, perpendicular bisector, interior angles of a polygon, isosceles triangle, base angles of isosceles triangles, midpoint of a segment, median of a triangle, parallelogram, opposite angles, diagonals, bisect, rectangles. The students will then be tasked to use available resources to define the word, draw a picture or list characteristics, write an example and non-example.</p>

	<p>complex ideas and processes.</p>	
	<p>1.5 Partial knowledge of the 2.0 content but major errors or omissions regarding the 3.0 content</p>	
<p>Score 1.0</p>	<p>With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.</p>	
	<p>0.5 With help, a partial understanding of the 2.0 content but not the 3.0 content</p>	
<p>Score 0.0</p>	<p>Even with help, no understanding or skill demonstrated.</p>	