Triangle Geometry

4.1 Prove congruence theorems

	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Explain triangle congruence (G.CO.8)	Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	**Prove** SSS, SAS, and ASA triangle congruence using rigid motion.	Identify all SSS, SAS, ASA, AAS, and HL triangle congruence **using rigid motion** **Identify missing parts based on a congruence postulate.**	**Identify** if triangles are congruent and by which method (SSS, SAS, ASA, AAS or HL)	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1
Prove triangle theorems (G.CO.10)		Prove **both** of the following theorems • measures of interior angles of a triangle sum to 180° • base angles of isosceles triangles are congruent	Prove **one** of the following theorems • measures of interior angles of a triangle sum to 180° • base angles of isosceles triangles are congruent	Use the following theorems to mathematically solve for missing angles • measures of interior angles of a triangle sum to 180° • base angles of isosceles triangles are congruent	
Solve and prove relationships (G.SRT.5)		Solve **and prove** geometric problems using congruence criteria	Solve **and prove** geometric problems, **given a proof frame,** using congruence criteria	Solve geometric problems using congruence criteria	

G.CO.8 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

G.CO.10 Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles 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.~~

G.SRT.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

Triangle Geometry

4.2 Construct special triangles and angles

	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Construction of lines and angles (G.CO.12, G.CO.13, G.CO.9)	Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	Use a variety of tools to **perform all** of the following: • Bisect a segment • Bisect an angle • Construct the perpendicular bisector of a segment • Construct an equilateral triangle	Use a variety of tools to **perform 3** of the following: • Bisect a segment • Bisect an angle • Construct the perpendicular bisector of a segment • Construct an equilateral triangle	Use a variety of tools to **perform 2** of the following: • Bisect a segment • Bisect an angle • Construct the perpendicular bisector of a segment • Construct an equilateral triangle	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1

G.CO.9 Prove theorems about lines and angles: points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.

G.CO.13 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

G.CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.