Unit 1: Geometric Proofs (Sophomore Only)

	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Algebraic coordinate proofs (G.GPE.4)		Using coordinate geometry and the Pythagorean, slope, distance, and midpoint formulas to **prove the types of quadrilaterals**	Using coordinate geometry and the Pythagorean, slope, distance, and midpoint formulas to **identify the types of quadrilaterals**	Using coordinate geometry and the Pythagorean, slope, distance, and midpoint formulas to **identify properties of quadrilaterals**	
Slope with parallel and perpendicular lines (G.GPE.5)		Prove **a pair of lines** are parallel or perpendicular using slope Write the equation of a line that is parallel **and** perpendicular to a given line that passes through a given point	**Given the slope of 1 line**, prove if a pair of lines are parallel or perpendicular **Write** the equation of a line that is parallel **or** perpendicular to a given line that passes through a given point	**Given the slope of a pair of lines**, identify the lines are parallel or perpendicular **Identify** the equation of a line that is parallel or perpendicular to a given line that passes through a given point	
Partition a line segment (G.GPE.6)	Can extend thinking beyond the standard, including tasks that may involve one of the following:	Find the point on a line segment, given two endpoints that divide **the segment into a given ratio**	Find the point on a line segment, given two endpoints, that divides a **horizontal or vertical segment into a given ratio**	Find the point on a line segment, given two endpoints, that divides the **segment in half**	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1
Circle similarity (G.C.1)	• Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	Use similarity **to prove**: • Circles are similar using transformations • The length of the arc intercepted by an angle is proportional to the radius	Use similarity to do **all** of the following: • Prove circles are similar using transformations • Calculate the length of an arc	Use similarity to do **one** of the following: • Prove circles are similar using transformations • Calculate the length of an arc	
Lines and angles (G.CO.9)		**Prove** all of the following theorems • Vertical angles are congruent. • When a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent	**Show mathematically** all of the following theorems • Vertical angles are congruent. • When a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent	**Identify** all of the following • Vertical angles are congruent. • When a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent	
Triangles (G.CO.10) side-splitter, Pythagorean, proof by similarity (G.SRT.4)		**Prove all** of the following theorems: • a line parallel to one side of a triangle divides the other two proportionally • if a line divides two sides of a triangle proportionally; then it is parallel to the third side. • Pythagorean Theorem proved using triangle similarity	**Prove 2** of the following theorems: • a line parallel to one side of a triangle divides the other two proportionally • if a line divides two sides of a triangle proportionally; then it is parallel to the third side. • Pythagorean Theorem proved using triangle similarity	**Prove1** of the following theorems: • a line parallel to one side of a triangle divides the other two proportionally • if a line divides two sides of a triangle proportionally; then it is parallel to the third side. • Pythagorean Theorem proved using triangle similarity	

Parallelograms (G.CO.11)		**Prove** all of the following theorems about parallelograms • opposite sides are congruent, • opposite angles are congruent, • the diagonals of a parallelogram bisect each other, • rectangles are parallelograms with congruent diagonals	**Show mathematically** all of the following theorems about parallelograms • opposite sides are congruent, • opposite angles are congruent, • the diagonals of a parallelogram bisect each other, • rectangles are parallelograms with congruent diagonals	**Identify** all of the following theorems about parallelograms • opposite sides are congruent, • opposite angles are congruent, • the diagonals of a parallelogram bisect each other, • rectangles are parallelograms with congruent diagonals	