Quadrilaterals and Other Polygons

9.1 Construct and explore polygons

	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Construct triangles and hexagons (G.CO.13)	Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	Construct an inscribed regular hexagon **and** an inscribed square	Construct an **inscribed regular hexagon or an inscribed square**	Construct a square given a side	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1
Prove quadrilateral properties (G.C.3)		**Prove** properties of angles for a quadrilateral inscribed in a circle.	**Show mathematically** properties of angles for a quadrilateral inscribed in a circle.	**Identify** properties of angles for a quadrilateral inscribed in a circle.	

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

G.C.3 Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.

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9.2 Prove theorems about quadrilaterals

	4 – Mastery	**3 – Proficient**	**2 - Basic**	**1 – Below Basic**	**0 – No Evidence**
Prove parallelogram theorems (G.CO.11)	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** 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	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1
Prove with coordinates (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**	

G.CO.11 Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.

G.GPE.4 Use coordinates to prove simple geometric theorems algebraically. For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).