**Virginia Standards of Learning Assessment**

**Geometry (2016 SOL) Performance Level Descriptors**

| **Fail/Does Not Meet**  | **Pass/Proficient**  | **Pass/Advanced**  |
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| A student performing at this level should be able to:*Reporting Category 1: Reasoning, Lines, and Transformations** match a verbal argument to symbolic form
* write the converse of a conditional statement
* recognize angle relationships formed by two parallel lines and a transversal
* recognize basic constructions
* identify transformations of figures on a grid

*Reporting Category 2: Triangles** recognize congruence given measurements of two triangles
* recognize similarity given measurements of two triangles
* apply Pythagorean Theorem to determine existence of a right triangle

*Reporting Category 3: Polygons, Circles, and Three-Dimensional Figures** identify the center, radius, and diameter given the:
	+ equation of a circle, and
	+ graph of a circle
* identify properties of quadrilaterals
* compare interior and exterior angles of polygons
* recognize relationships between attributes of similar two-dimensional and three-dimensional figures
 | A student performing at this level should be able to:*Reporting Category 1: Reasoning, Lines, and Transformations** determine validity of a logical argument
* solve problems involving angles formed by parallel lines intersected by a transversal
* complete basic constructions
* use algebraic and coordinate methods to solve problems and prove lines parallel and perpendicular
* apply transformations and combinations of transformations

*Reporting Category 2: Triangles** compare and order sides and angles in a triangle
* find a range of values for a missing side in a triangle
* use algebraic and coordinate methods to solve problems and complete deductive proofs involving:
	+ similar triangles,
	+ congruent triangles, and
	+ right triangles (including trigonometric functions)

*Reporting Category 3: Polygons, Circles, and Three-Dimensional Figures** use algebraic and coordinate methods to solve problems and complete deductive proofs involving:
	+ quadrilaterals,
	+ polygons, and
	+ parts of circles (including chords, secants, and tangents)
* solve problems using attributes of two-dimensional and three-dimensional figures, including characteristics of similarity
 | A student performing at this level should be able to:*Reporting Category 1: Reasoning, Lines, and Transformations** analyze logical arguments using deductive reasoning
* apply Euclidean methods to complete multistep constructions
* integrate multiple analytical skills, including algebraic operations, to solve problems and/or complete multistep proofs involving:
	+ parallel and perpendicular lines,
	+ angles formed by parallel lines and transversals, and
	+ combinations of transformations

*Reporting Category 2: Triangles** integrate multiple analytical skills, including algebraic operations, to solve problems and/or complete multistep proofs involving:
	+ congruent triangles,
	+ similar triangles, and
	+ right triangles (including trigonometric functions)

*Reporting Category 3: Polygons, Circles, and Three-Dimensional Figures** integrate multiple analytical skills, including algebraic operations, to solve problems and/or complete multistep proofs involving:
	+ quadrilaterals,
	+ polygons, and
	+ parts of circles (including chords, secants, and tangents)
* solve multistep problems involving two-dimensional and three-dimensional figures, including characteristics of similarity
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