

Ideal % of Test	Ideal # of Items	Geometry State <i>PASS/OAS</i>
11%	6	Logical Reasoning (1.0)
		Standard 1: Logical Reasoning - The student will use deductive and inductive reasoning to solve problems.
	4	Inductive and Deductive Reasoning (1.1)
		Identify and use logical reasoning skills (inductive and deductive) to make and test conjectures, formulate counter examples, and follow logical arguments.
	2	Conditional Statements (1.2)
		State, use, and examine the validity of the converse, inverse, and contrapositive of “if-then” statements.
36%	20	Properties of 2-Dimensional Figures (2.0)
		Standard 2: Properties of 2-Dimensional Figures - The student will use the properties and formulas of geometric figures to solve problems.
	4	Line and Angle Relationships (2.2)
		<p>a. Use the angle relationships formed by parallel lines cut by a transversal to solve problems.</p> <p>b. Use the angle relationships formed by two lines cut by a transversal to determine if the two lines are parallel and verify, using algebraic and deductive proofs.</p> <p>c. Use relationships between pairs of angles (for example, adjacent, complementary, vertical) to solve problems.</p>
	4	Polygons and Other Plane Figures (2.3)
		<p>a. Identify, describe, and analyze polygons (for example, convex, concave, regular, pentagonal, hexagonal, n-gonal).</p> <p>b. Apply the interior and exterior angle sum of convex polygons to solve problems, and verify using algebraic and deductive proofs.</p> <p>c. Develop and apply the properties of quadrilaterals to solve problems (for example, rectangles, parallelograms, rhombi, trapezoids, kites).</p> <p>d. Use properties of 2-dimensional figures and side length, perimeter or circumference, and area to determine unknown values and correctly identify the appropriate unit of measure of each.</p>
	4	Similarity (2.4)
		<p>a. Determine and verify the relationships of similarity of triangles, using algebraic and deductive proofs.</p> <p>b. Use ratios of similar 2-dimensional figures to determine unknown values, such as angles, side lengths, perimeter or circumference, and area.</p>
	4	Congruence (2.5)
		<p>a. Determine and verify the relationships of congruency of triangles, using algebraic and deductive proofs.</p> <p>b. Use the relationships of congruency of 2-dimensional figures to determine unknown values, such as angles, side lengths, perimeter or circumference, and area.</p>
	4	Circles (2.6)
		<p>a. Find angle measures and arc measures related to circles.</p> <p>b. Find angle measures and segment lengths using the relationships among radii, chords, secants, and tangents of a circle.</p>

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22%	12	Triangles and Trigonometric Ratio (3.0)
		Standard 3: The student will use the properties of right triangles and trigonometric ratios to solve problems.
	4	Pythagorean Theorem (3.1)
		Use the Pythagorean Theorem and its converse to find missing side lengths and to determine acute, right, and obtuse triangles, and verify using algebraic and deductive proofs.
	4	Right Triangle Relationships (3.2)
		Apply the 45-45-90 and 30-60-90 right triangle relationships to solve problems, and verify using algebraic and deductive proofs.
	4	Trigonometric Functions (3.3)
		Express the trigonometric functions as ratios and use sine, cosine, and tangent ratios to solve real-world problems.
18%	10	Properties of 3-Dimensional Figures (4.0)
		Standard 4: The student will use the properties and formulas of geometric figures to solve problems.
	6	Polyhedra and Other Solids (4.1)
		<p>a. Identify, describe, and analyze polyhedra (for example, regular, decahedral).</p> <p>b. Use properties of 3-dimensional figures; side lengths, perimeter or circumference, and area of a face; and volume, lateral area, and surface area to determine unknown values and correctly identify the appropriate unit of measure of each.</p>
	2	Similarity (4.2)
		Use ratios of similar 3-dimensional figures to determine unknown values, such as angles, side lengths, perimeter or circumference of a face, area of a face, and volume.
	2	Models and Perspective (4.3)
		Create a model of a 3-dimensional figure from a 2-dimensional drawing and make a 2-dimensional representation of a 3-dimensional object (for example, nets, blueprints, perspective drawings).
13%	7	Coordinate Geometry (5.0)
		Standard 5: Coordinate Geometry - The student will solve problems with geometric figures in the coordinate plane.
	4	Properties of Points, Segments, and Lines (5.1)
		Find the distance between two points; the midpoint of a segment; and calculate the slopes of parallel, perpendicular, horizontal, and vertical lines.
	3	Properties of Figures (5.2)
		<p>a. Given a set of points determine the type of figure formed based on its properties.</p> <p>b. Use transformations (reflection, rotation, translation) on geometric figures to solve problems within coordinate geometry.</p>
100%	55	Total Test