

**Correlation of AMSCO Geometry to the PA Geometry Keystone Exam**

Anchor Descriptor	Eligible Content	AMSCO Geometry Lesson(s)
<b>G.1.1 Properties of Circles, Spheres, and Cylinders</b>		
G.1.1.1 Identify and/or use parts of circles and segments associated with circles, spheres, and cylinders.	G.1.1.1.1 Identify, determine, and/or use the radius, diameter, segment, and/or tangent of a circle.	8.1, 8.4
	G.1.1.1.2 Identify, determine, and/or use the arcs, semicircles, sectors, and/or angles of a circle.	8.2, 8.5
	G.1.1.1.3 Use chords, tangents, and secants to find missing arc measures or missing segment measures.	8.2, 8.3, 8.4
	G.1.1.1.4 Identify and/or use the properties of a sphere or cylinder.	10.1, 10.2, 10.3
<b>G.1.2 Properties of Polygons and Polyhedra</b>		
G.1.2.1 Recognize and/or apply properties of angles, polygons, and polyhedra.	G.1.2.1.1 Identify and/or use properties of triangles.	5.1, 5.2, 5.3, 5.4, 6.1, 6.2, 7.1, 7.2, 7.3, 7.4, 7.5
	G.1.2.1.2 Identify and/or use properties of quadrilaterals.	9.1, 9.2, 9.3, 9.5
	G.1.2.1.3 Identify and/or use properties of isosceles and equilateral triangles.	5.1
	G.1.2.1.4 Identify and/or use properties of regular polygons.	9.4, 9.7
	G.1.2.1.5 Identify and/or use properties of pyramids and prisms.	10.1, 10.2, 10.3
<b>G.1.3 Congruence, Similarity, and Proofs</b>		
G.1.3.1 Use properties of congruence, correspondence, and similarity in problem-solving settings involving two- and three- dimensional figures.	G.1.3.1.1 Identify and/or use properties of congruent and similar polygons or solids.	1.3, 1.4, 1.5, 2.1, 2.2, 5.2, 5.3, 5.4, 6.1, 6.2, 7.4, 10.5
	G.1.3.1.2 Identify and/or use proportional relationships in similar figures.	2.1, 2.2, 2.3, 2.4, 6.1, 6.2, 7.4, 10.5
G.1.3.2 Write formal proofs and/or use logic statements to construct or validate arguments.	G.1.3.2.1 Write, analyze, complete, or identify formal proofs (e.g., direct and/or indirect proofs/proofs by contradiction).	3.3, 3.4, 4.1, 4.2, 4.3, 4.5, 5.1, 5.2, 5.3, 5.4, 6.1, 6.2, 6.4, 6.7, 7.1, 7.2, 7.4, 7.8, 8.1, 8.3, 9.1, 9.2, 9.3, 9.5
<b>G.2.1 Coordinate Geometry and Right Triangles</b>		
G.2.1.1 Solve problems involving right triangles.	G.2.1.1.1 Use the Pythagorean theorem to write and/or solve problems involving right triangles.	7.3, 7.5, 10.1
	G.2.1.1.2 Use trigonometric ratios to write and/or solve problems involving right triangles.	7.6

<b>G.2.1.2</b> Solve problems using analytic geometry.	<b>G.2.1.2.1</b> Calculate the distance and/or midpoint between two points on a number line or on a coordinate plane.	1.2, 6.1, 6.3
	<b>G.2.1.2.2</b> Relate slope to perpendicularity and/or parallelism (limit to linear algebraic equations).	4.4
	<b>G.2.1.2.3</b> Use slope, distance, and/or midpoint between two points on a coordinate plane to establish properties of a two-dimensional shape.	6.4, 9.1, 9.6, 11.3
<b>G.2.2 Measurements of Two-Dimensional Shapes and Figures</b>		
<b>G.2.2.1</b> Use and/or compare measurements of angles.	<b>G.2.2.1.1</b> Use properties of angles formed by intersecting lines to find the measures of missing angles.	4.1, 4.2, 4.3
	<b>G.2.2.1.2</b> Use properties of angles formed when two parallel lines are cut by a transversal to find the measures of missing angles.	4.1, 4.2, 4.3
<b>G.2.2.2</b> Use and/or develop procedures to determine or describe measures of perimeter, circumference, and/or area. (May require conversions within the same system.)	<b>G.2.2.2.1</b> Estimate area, perimeter, or circumference of an irregular figure.	9.6
	<b>G.2.2.2.2</b> Find the measurement of a missing length, given the perimeter, circumference, or area.	R.10, 9.6, 9.7
	<b>G.2.2.2.3</b> Find the side lengths of a polygon with a given perimeter to maximize the area of the polygon.	9.6
	<b>G.2.2.2.4</b> Develop and/or use strategies to estimate the area of a compound/composite figure.	9.6
	<b>G.2.2.2.5</b> Find the area of a sector of a circle.	8.5
<b>G.2.2.3</b> Describe how a change in one dimension of a two-dimensional figure affects other measurements of that figure.	<b>G.2.2.3.1</b> Describe how a change in the linear dimension of a figure affects its perimeter, circumference, and area (e.g., How does changing the length of the radius of a circle affect the circumference of the circle?).	8.5
<b>G.2.2.4</b> Apply probability to practical situations.	<b>G.2.2.4.1</b> Use area models to find probabilities.	12.3
<b>G.2.3 Measurements of Three-Dimensional Shapes and Figures</b>		
<b>G.2.3.1</b> Use and/or develop procedures to determine or describe measures of surface area and/or volume. (May require conversions within the same system.)	<b>G.2.3.1.1</b> Calculate the surface area of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet.	10.2
	<b>G.2.3.1.2</b> Calculate the volume of prisms, cylinders, cones, pyramids, and/or spheres.	10.3

	Formulas are provided on a reference sheet.	
	<b>G.2.3.1.3</b> Find the measurement of a missing length given the surface area or volume.	10.2, 10.3
<b>G.2.3.2</b> Describe how a change in one dimension of a three- dimensional figure affects other measurements of that figure.	<b>G.2.3.2.1</b> Describe how a change in the linear dimension of a figure affects its surface area or volume (e.g., How does changing the length of the edge of a cube affect the volume of the cube?).	10.3