AVENTA LEARNING

Alignment Document
State of Hawaii and Aventa Learning Geometry

Geometry
2005-2007 Benchmark Blueprint

Strand	Standard	Topic	Benchmark	Unit Name	Course Topic Description
Numbers and Operations	**G.1** Understand numbers, ways of representing numbers, relationships among numbers, and number systems	Vectors	**MA.G.1.1** Recognize situations that can be represented by vectors		
Numbers and Operations	**G.2** Understand the meaning of operations and how they relate to each other		There are no benchmarks for this standard for this Grade/Course.		
Numbers and Operations	**G.3** Use computational tools and strategies fluently and, when appropriate, use estimation	Vectors	**MA.G.3.1** Use vector addition, subtraction, and scalar multiplication to solve problems		
Measurement	**G.4** Understand attributes, units, and systems of units in measurement; and develop and use techniques, tools, and formulas for measuring	Measurement Formulas	**MA.G.4.1** Use right triangle trigonometric ratios to solve for an unknown length of a side or the measure or an angle **MA.G.4.2** Solve problems using the formulas	Right Triangles and Trigonometry Right Triangles and Trigonometry Right Triangles and Trigonometry Perimeters and Areas	Review of Pythagorean Theorem Special Ratios in a Right Triangle Laws of sine and cosine Perimeters and Areas of

			for perimeter, circumference, area, and volume of two- and three- dimensional figures and solids	Perimeters and Areas	Triangles and Polygons Perimeters and Areas of Quadrilaterals
				Perimeters and Areas	Circumferences and Areas of Circles
			MA.G.4.3 Determine the effect of dimension changes to perimeter, area, and volume for common geometric figures and solids		
Geometry and Spatial Sense	**G.5** Analyze properties of objects and relationships among the properties	Geometric Shapes and Their Properties and Relationships	**MA.G.5.1** Use inductive and deductive reasoning to create and defend geometric conjectures	Reasoning and Introduction to proofs	Deductive and Inductive Reasoning
			MA.G.5.2 Use the concept of corresponding parts to prove that triangles, and other polygons, are congruent or similar	Triangles: Basic closed figures	Congruent triangles and congruency tests
			MA.G.5.3 Explain properties and characteristics of angle bisectors, perpendicular bisectors, and parallel lines	Parallel Lines and Coordinate plane	Lines and Points in a Plane
				Parallel Lines and Coordinate plane	Lines and Points in Coordinate Plane
				Parallel Lines and Coordinate plane	Equations of Lines in the Coordinate Plane
			MA.G.5.4 Use the relationship between pairs of angles (e.g., complementary, supplementary, vertical, exterior, interior) to determine unknown angle measures or definitions of properties	Algebra Connections	Pairs of Angles
			MA.G.5.5 Apply the concepts of special right triangles to real-world situations		

			MA.G.5.6 Use the relationships among properties of circles (e.g., chords, secants, tangents, arcs, circumference, radius, diameter, inscribed polygons) to solve problems		
Geometry and Spatial Sense	**G.6** Use transformations and symmetry to analyze mathematical situations	Transformation	**MA.G.6.1** Describe three-dimensional figures that are formed by translating two-dimensional figures		
Geometry and Spatial Sense	**G.7** Use visualization and spatial reasoning to solve problems both within and outside of mathematics	Visualization and Spatial Reasoning	**MA.G.7.1** Draw cross-sections, truncations, and compositions/decompositions of three-dimensional objects		
		Geometric Modeling	**MA.G.7.2** Use concrete objects, pictorial representations, computer software, or graphing calculators to solve geometric problems		
Geometry and Spatial Sense	**G.8** Select and use different representational systems, including coordinate geometry	Coordinate Geometry	**MA.G.8.1** Use coordinate geometry to produce formulas and prove theorems for the midpoint of a line segment, the distance formula, and forms of equations of lines and circles **MA.G.8.2** Describe the concept of rigid motion on figures in the coordinate plane, including rotation, translation, and reflection	Parallel lines and Coordinate planes Parallel lines and Coordinate planes	Length of line segment and finding midpoint of a line segment Equation for lines
Patterns, Functions, and Algebra	**G.9** Understand various types of patterns and functional relationships		There are no benchmarks for this standard for this Grade/Course.		
Patterns, Functions, and Algebra	**G.10** Use symbolic forms to represent, model, and analyze mathematical situations		There are no benchmarks for this standard for this Grade/Course.		
Patterns, Functions, and Algebra	**G.11** Pose questions and collect, organize, and represent data to answer		There are no benchmarks for this standard for this Grade/Course.		

	those questions				
Patterns, Functions, and Algebra	**G.12** Interpret data using methods of exploratory data analysis		There are no benchmarks for this standard for this Grade/Course.		
Patterns, Functions, and Algebra	**G.13** Develop and evaluate inferences, predictions, and arguments that are based on data		There are no benchmarks for this standard for this Grade/Course.		
Patterns, Functions, and Algebra	**G.14** Understand and apply basic notions of chance and probability		There are no benchmarks for this standard for this Grade/Course.		