

Alignment Document

State of Connecticut And Aventa Learning Geometry

Geometry

2005-2007 Benchmark Blueprint

State Standard Number	State Standard Area / Description	Unit Name	Course Topic Description
1	Patterns and functional relationships can be represented and analyzed using a variety of strategies, tools and technologies.		
1.1	Understand and describe patterns and functional relationships.	Language of Geometry	Connections From Algebra
1.1.a	Describe relationships and make generalizations about patterns and functions.	Reasoning and Introduction to Proof	Inductive Reasoning
1.2	Represent and analyze quantitative relationships in a variety of ways.	Perimeters and Areas	Perimeters and Areas of Triangles and Polygons
1.2.a	Represent and analyze linear and nonlinear functions and relations symbolically and with tables and graphs.	Parallel Lines and Coordinate Plane	Equations of Lines in Coordinate Plane
1.3	Use operations, properties and algebraic symbols to determine equivalence and solve problems.	Right Triangles and Trigonometry	Review of Pythagorean Theorem
1.3.a	Manipulate equations, inequalities and functions to solve problems.	Special Triangles and Special Relationships in Triangles	Triangle Inequalities
2	Quantitative relationships can be expressed numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies.		

2.1	Understand that a variety of numerical representations can be used to describe quantitative relationships.	Perimeters and Areas	Perimeters and Areas of Triangles and Polygons
		Perimeters and Areas	Perimeters and Areas of Quadrilaterals
		Perimeters and Areas	Circumferences and Areas of Circles
2.1.a	Extend the understanding of number to include integers, rational numbers and real numbers.		
2.1.b	Interpret and represent large sets of numbers with the aid of technologies.		
2.2	Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.	Special Triangles and Special Relationships in Triangles	Right Triangles and Pythagorean Theorem
2.2.a	Develop strategies for computation and estimation using properties of number systems to solve problems.	Similarity	Ratios and Proportions
2.2.b	Solve proportional reasoning problems.	Similarity	Similar Triangles
3	Shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.		
3.1	Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.	Quadrilaterals and Polygons	Square and Rectangle
3.1.a	Investigate relationships among plane and solid geometric figures using geometric models, constructions and tools.	Triangles: Basic Closed Figures in Geometry	Special Segments in Triangles
3.1.b	Develop and evaluate mathematical arguments using reasoning and proof.	Reasoning and Introduction to Proof	Two-Column Proof with Segments and Angles
3.2	Use spatial reasoning, location and geometric relationships to solve problems.	Right Triangles and Trigonometry	Special Ratios in a Right Triangle
		Right Triangles and Trigonometry	Laws of Sine and Cosine
3.2.a	Verify geometric relationships using algebra, coordinate geometry, and transformations.	Parallel Lines and Coordinate Plane	Lines and Points in Coordinate Plane

3.3	Develop and apply units, systems, formulas and appropriate tools to estimate and measure.	Language of Geometry	Measuring Segments
4	Data can be analyzed to make informed decisions using a variety of strategies, tools and technologies.		
4.1	Collect, organize and display data using appropriate statistical and graphical methods		
4.1.a	Create the appropriate visual or graphical representation of real data.	Parallel Line and Coordinate Plane	Equations of Lines in Coordinate Plane
4.2	Analyze data sets to form hypotheses and make predictions.		
4.2.a	Analyze real- world problems using statistical techniques.		
4.3	Understand and apply basic concepts of probability.		
4.3.a	Understand and apply the principles of probability in a variety of situations.		