

Alignment Document

State of Connecticut And Aventa Learning Trigonometry

Trigonometry 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.	Linear Relations and Functions	Relations, Functions, and Graphs
1.1.a	Model real-world situations and make generalizations about mathematical relationships using a variety of patterns and functions.	Trigonometric Functions	Trigonometric Functions and Right Triangles
1.2	Represent and analyze quantitative relationships in a variety of ways.	Graphs and Functions	The Nature of Graphs
1.2.a	Relate the behavior of functions and relations to specific parameters and determine functions to model real-world situations.	Trigonometric Functions	The Trigonometric Functions and Law of Sines and Cosines
1.3	Use operations, properties and algebraic symbols to determine equivalence and solve problems.	Graphs and Functions	Polynomial Functions, Roots, and Zeroes
1.3.a	Use and extend algebraic concepts to include real and complex numbers, vectors and matrices.	Trigonometric and Parametric Functions	Vectors and Parametric Equations
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.	Trigonometric and Parametric Functions	Trigonometric Identities and Equations
2.1.a	Extend the understanding of number to include the set of complex numbers.		
2.2	Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.	Trigonometric and Parametric Functions	Vectors and Parametric Equations
2.2.a	Investigate mathematical properties and operations related to objects that are not numbers	Trigonometric Functions	The Trigonometric Functions and Law of Sines and Cosines
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.	Trigonometric Functions	Trigonometric Functions and Right Triangles
3.1.a	Use methods of deductive and inductive reasoning to make, test and validate geometric conjectures.	Trigonometric Functions	Graphs of the Trigonometric Functions
3.1.b	Explore non-Euclidean geometries.		
3.2	Use spatial reasoning, location and geometric relationships to solve problems.	Trigonometric Functions	Graphs of the Trigonometric Functions
3.2.a	Use a variety of coordinate systems and transformations to solve geometric problems in 2 and 3 dimensions using appropriate tools and technologies.	Graphs and Functions	Inverse functions, Continuity, and Extrema
3.3	Develop and apply units, systems, formulas and appropriate tools to estimate and measure.	Trigonometric Functions	Trigonometric Functions and Right Triangles
3.3.a	Approximate measurements that cannot be directly determined with some degree of precision using appropriate tools, techniques and strategies.	Graphs and Functions	Inverse functions, Continuity, and Extrema
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	Linear Relations and Functions	Linear Relations, Scatter Plots, and Linear Equalities
4.1.a	Model real data graphically using appropriate tools, technologies and strategies.	Trigonometric Functions	The Trigonometric Functions and Inverse Trigonometric Functions
4.2	Analyze data sets to form hypotheses and make predictions.	Linear Relations and Functions	Linear Relations, Scatter Plots, and Linear Equalities
4.2.a	Describe and analyze sets of data using statistical models.	Linear Relations and Functions	Linear Relations, Scatter Plots, and Linear Equalities
4.3	Understand and apply basic concepts of probability.		
4.3.a	Solve problems using the methods of discrete mathematics.	Graphs and Functions	The Nature of Graphs
4.3.b	Make statistical inferences through the use of probability.		