

Alignment Document

State of Connecticut And Aventa Learning Pre-Algebra

Pre-Algebra

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.	Geometric Concepts and Proportions	Arithmetic Sequence
1.1.a	Describe relationships and make generalizations about patterns and functions.	Equations	Linear Equations
1.2	Represent and analyze quantitative relationships in a variety of ways.	Equations	Linear Equations
1.2.a	Represent and analyze linear and nonlinear functions and relations symbolically and with tables and graphs.	Equations	Linear Equations
1.3	Use operations, properties and algebraic symbols to determine equivalence and solve problems.	Equations	Solving Simple Equations
		More Number Basics	Number Properties
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.	Decimals and Percents	Decimals and Percents

2.1.a	Extend the understanding of number to include integers, rational numbers and real numbers.	Basics	Integer Math
		Basics	Fractions
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.	Factoring	Factoring
2.2.a	Develop strategies for computation and estimation using properties of number systems to solve problems.	Word Problems	Strategies
2.2.b	Solve proportional reasoning problems.	Geometric Concepts and Proportions	Proportions
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.	Basic Geometry	Three Dimensional Measurements
3.1.a	Investigate relationships among plane and solid geometric figures using geometric models, constructions and tools.	Geometric Concepts and Proportions	Geometric Concepts
3.1.b	Develop and evaluate mathematical arguments using reasoning and proof.		
3.2	Use spatial reasoning, location and geometric relationships to solve problems.		
3.2.a	Verify geometric relationships using algebra, coordinate geometry, and transformations.	Geometric Concepts and Proportions	Geometric Concepts
3.3	Develop and apply units, systems, formulas and appropriate tools to estimate and measure.		
3.3.a	Solve a variety of problems involving 1-, 2- and 3-dimensional measurements using geometric relationships and trigonometric ratios.		

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	Probability and Data Analysis	Probability
4.1.a	Create the appropriate visual or graphical representation of real data.	Probability and Data Analysis	Probability
4.2	Analyze data sets to form hypotheses and make predictions.	Probability and Data Analysis	Probability
4.2.a	Analyze real- world problems using statistical techniques.	Probability and Data Analysis	Probability
		Probability and Data Analysis	Data Analysis Projects
4.3	Understand and apply basic concepts of probability.	Probability and Data Analysis	Probability
4.3.a	Understand and apply the principles of probability in a variety of situations.	Probability and Data Analysis	Data Analysis Projects
		Probability and Data Analysis	Probability