

# Alignment Document

## State of Connecticut And Aventa Learning Algebra 2

### Algebra 2 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.	Sequences and Series	Covered throughout the unit
1.1.a	Describe relationships and make generalizations about patterns and functions.	Composition of Functions	Function Notation
		Composition of Functions	Definition of Functions
		Composition of Functions	Review of Functions
		Composition of Functions	Horizontal Line Test
1.2	Represent and analyze quantitative relationships in a variety of ways.		
1.2.a	Represent and analyze linear and nonlinear functions and relations symbolically and with tables and graphs.	Composition of Functions	Horizontal Line Test
		Composition of Functions	Inverse functions
		Composition of Functions	Domain Restrictions
		Composition of Functions	Function Notation

1.3	Use operations, properties and algebraic symbols to determine equivalence and solve problems.		Covered throughout the course
1.3.a	Manipulate equations, inequalities and functions to solve problems.	Composition of Functions	Function Notation
		Composition of Functions	Definition of Functions
		Composition of Functions	Review of Functions
		Composition of Functions	Horizontal Line Test
		Absolute Value	Absolute Value and Inequalities
		Absolute Value	Absolute Value and Inequalities Shortcuts Summary
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.		Covered throughout the course
2.1.a	Extend the understanding of number to include integers, rational numbers and real numbers.		Covered throughout the course
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.		Covered throughout the course
2.2.a	Develop strategies for computation and estimation using properties of number systems to solve problems.		Covered throughout the course
2.2.b	Solve proportional reasoning problems.		
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.		

3.1.a	Investigate relationships among plane and solid geometric figures using geometric models, constructions and tools.		
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.		
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		
4.1.a	Create the appropriate visual or graphical representation of real data.		
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.	Counting	Probability
4.3.a	Understand and apply the principles of probability in a variety of situations.	Counting	Probability: More examples
		Counting	Probability: An introduction
		Counting	Introduction
		Counting	Frequency Expectation Interpretation of probability