



Alignment Document

State of Washington And Aventa Learning Geometry

Geometry 2005-2007 Benchmark Blueprint

State Standard Number	State Standard Area / Description	Unit Name	Course Topic Description
1	The student understands and applies the concepts and procedures of mathematics.		
1.1	Understand and apply concepts and procedures from number sense		
0	Number and Numeration		
1.1.1	Demonstrate understanding of the concept and symbolic representation of numbers written in scientific notation.		
1.1.2	Washington has no indicator for this item at this grade level.		
1.1.3	Washington has no indicator for this item at this grade level.		
1.1.4	Demonstrate understanding of and apply the concepts of both direct and inverse proportion.		
0	Computation		
1.1.5	Washington has no indicator for this item at this grade level.		
1.1.6	Complete multi-step computations with combinations of rational numbers, including whole number powers and square roots of perfect squares, using order of operations.		
1.1.7	Washington has no indicator for this item at this grade level.		



0	Estimation		
1.1.8	Use estimation to determine the reasonableness of answers in situations involving multi-step computations with rational numbers, including whole number powers and square roots.		
1.2	Understand and apply concepts and procedures from measurement		
0	Attributes, Units, and Systems		
1.2.1	Demonstrate understanding of how a change in one linear dimension affects surface area and volume or how changes in two linear dimensions affect perimeter, area, and volume.		
1.2.2	Washington has no indicator for this item at this grade level.		
1.2.3	Demonstrate understanding of how to convert within the US or the metric system to achieve an appropriate level of precision.		
0	Procedures and Estimation		
1.2.4	Washington has no indicator for this item at this grade level.		
1.2.5	Use formulas to determine measurements of prisms or cylinders.		
1.2.6	Identify situations in which estimated measurements are sufficient; use estimation to obtain reasonable measurements at an appropriate level of precision.		
1.3	Understand and Apply Concepts and Procedures from Geometric Sense		
0	Properties and Relationships		
1.3.1	Demonstrate understanding of the relationships among 1-dimensional, 2-dimensional and 3-dimensional shapes and figures.		
1.3.2	Draw, describe, and/or compare 1-dimensional, 2-dimensional and 3-dimensional shapes and figures, including prisms, cylinders, cones, and pyramids.		
0	Locations and Transformations		
1.3.3	Use geometric properties to describe or identify the location of points on coordinate grids.	Parallel Lines and Coordinate Plane	Lines and Points in the Coordinate Plane



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1.3.4	Use multiple transformations, including translations, reflections, and/or rotations, to create congruent figures in any or all of the four quadrants.		
1.4	Understand and Apply Concepts and Procedures from Probability and Statistics		
0	Probability		
1.4.1	Demonstrate understanding of the concepts of dependent and independent events.		
1.4.2	Determine and use probabilities of dependent and independent events.		
0	Statistics		
1.4.3	Identify possible sources of bias in questions, data collection methods, samples, and/or measures of central tendency for a situation and describe how such bias can be controlled.		
1.4.4	Washington has no indicator for this item at this grade level.		
1.4.5	Draw a reasonable line to describe the data represented by a scatter plot and determine whether a straight line is an appropriate way to describe the trend in the data.		
1.4.6	Use statistics to support different points of view and/or evaluate a statistical argument based on data.		
1.5	Understand and Apply Concepts and Procedures from Algebraic Sense		
0	Patterns and Functions		
1.5.1	Recognize, extend or create a pattern or sequence of pairs of numbers representing a linear function.		
1.5.2	Identify or write a rule to describe a pattern, sequence, and/or linear function.		
0	Symbols and Notations		
1.5.3	Washington has no indicator for this item at this grade level.		
1.5.4	Use variables to write expressions, linear equations, and inequalities that represent situations involving whole number powers and square and cube roots.		
0	Evaluating and Solving		
1.5.5	Simplify expressions.		Covered throughout the course
1.5.6	Solve multi-step equations and systems of equations.		



2	The student uses mathematics to define and solve problems.		
2.1	Define Problems		
2.1.1	Identify questions to be answered in complex situations.		Covered throughout the course
2.1.2	Recognize when information is missing or extraneous.		Covered throughout the course
2.1.3	Identify what is known and unknown in complex situations.		Covered throughout the course
2.2	Construct Solutions		
2.2.1	Select and organize relevant information.		Covered throughout the course
2.2.2	Use appropriate concepts and procedures from number sense, measurement, geometric sense, probability and statistics, and algebraic sense.		Covered throughout the course
2.2.3	Use a variety of strategies and approaches.		Covered throughout the course
2.2.4	Determine whether a solution is viable, is mathematically correct, and answers the question(s) asked.		Covered throughout the course
3	The student uses mathematical reasoning.		
3.1	Analyze Information		
3.1.1	Interpret, compare, and integrate mathematical information from multiple sources.		Covered throughout the course
3.2	Conclude		
3.2.1	Draw conclusions and support them using inductive and deductive reasoning.	Reasoning and Introduction to Proof	Reasoning and Introduction to Proofs
		Reasoning and Introduction to Proof	Deductive Reasoning
3.2.2	Evaluate procedures and make needed revisions.		Covered throughout the course
3.3	Verify Results		
3.3.1	Justify results using inductive and deductive reasoning.	Reasoning and Introduction to Proof	Reasoning and Introduction to Proofs
		Reasoning and Introduction to Proof	Deductive Reasoning
3.3.2	Check for reasonableness of results.		Covered throughout the course
3.3.3	Validate thinking and mathematical ideas using models, known facts, patterns, relationships, counter examples, and/or proportional reasoning.		Covered throughout the course



4	The student communicates knowledge and understanding in both everyday and mathematical language.		
4.1	Gather Information		
4.1.1	Develop or select and follow an efficient system for collecting mathematical information for a given purpose.		
4.1.2	Extract mathematical information for a given purpose from multiple, self-selected sources using reading, listening, and/or observation.		
4.2	Organize, Represent, and Share Information		
4.2.1	Organize, clarify, and refine mathematical information relevant to a given purpose.		Covered throughout the course
4.2.2	Use everyday and mathematical language and notation in appropriate and efficient forms to clearly express or represent complex ideas and information.		Covered throughout the course
4.2.3	Explain and/or represent complex mathematical ideas and information in ways appropriate for audience and purpose in a context that is relevant to tenth grade students.		Covered throughout the course
5	The student understands how mathematical ideas connect within mathematics, to other subject areas, and to real-world situations.		
5.1	Relate Concepts and Procedures within Mathematics		
5.1.1	Use concepts and procedures from two or more of the mathematics content strands in a given problem or situation.		Covered throughout the course
5.1.2	Relate and use different mathematical models and representations of the same situations.		Covered throughout the course
5.2	Relate Mathematical Concepts Procedures to Other Disciplines		
5.2.1	Extend mathematical patterns and ideas and apply mathematical thinking and modeling to other disciplines.		
5.2.2	Describe examples of contributions to the development of mathematics such as the contributions of women, men, and different cultures.		
5.3	Relate Mathematical Concepts and Procedures to Real-World Situations		



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5.3.1	Identify situations in which mathematics can be used to solve problems with local, national, or international implications.		
5.3.2	Investigate the mathematical knowledge and training requirements for occupational/career areas of interest.		