



Alignment Document

State of Alaska And Aventa Learning Pre-Algebra

Pre-Algebra 2005-2007 Benchmark Blueprint

State Standard Number	State Standard Area / Description	Unit Name	Course Topic Description
A	A student should understand mathematical facts, concepts, principles, and theories.		
A.1	understand and use numeration		
A.1.a	numbers, number systems, counting numbers, whole numbers, integers, fractions, decimals, and percents	Basics	Integer Math
		Fractions	Fraction Basics
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
A.1.b	irrationals and complex numbers		
A.2	select and use appropriate systems, units, and tools of measurement, including estimation		
A.3	perform basic arithmetic functions, make reasoned estimates, and select and use appropriate methods or tools for computation or estimation including mental arithmetic, paper and pencil, a calculator, and a computer	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
		Polynomials	Evaluating Polynomials

		Probability and Data Analysis	Data Analysis Projects
		Word Problems	Translating English to Math
		Word Problems	Strategies
A.4	represent, analyze, and use mathematical patterns, relations, and functions using methods such as tables, equations, and graphs	Equations	Linear Equations
A.5	construct, draw, measure, transform, compare, visualize, classify, and analyze the relationships among geometric figures	Factoring and Geometric Formulas	Geometric Formulas
A.6	collect, organize, analyze, interpret, represent, and formulate questions about data and make reasonable and useful predictions about the certainty, uncertainty, or impossibility of an event.	Probability and Data Analysis	Data Analysis Projects
B	A student should understand and be able to select and use a variety of problem-solving strategies.		
B.1	use computational methods and appropriate technology as problem-solving tools	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
		Polynomials	Evaluating Polynomials
		Probability and Data Analysis	Data Analysis Projects
		Word Problems	Translating English to Math
		Word Problems	Strategies
B.2	use problem solving to investigate and understand mathematical content	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
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		Probability and Data Analysis	Data Analysis Projects
		Word Problems	Translating English to Math
		Word Problems	Strategies
B.3	formulate mathematical problems that arise from everyday situations	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
		Polynomials	Evaluating Polynomials
		Probability and Data Analysis	Data Analysis Projects
		Word Problems	Translating English to Math
		Word Problems	Strategies
B.4	develop and apply strategies to solve a variety of problems	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
		Polynomials	Evaluating Polynomials
		Probability and Data Analysis	Data Analysis Projects
		Word Problems	Translating English to Math
		Word Problems	Strategies
B.5	check the results against mathematical rules	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations



		Polynomials	Evaluating Polynomials
		Probability and Data Analysis	Data Analysis Projects
		Word Problems	Translating English to Math
		Word Problems	Strategies
B.6	use common sense to help interpret results	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
		Polynomials	Evaluating Polynomials
		Probability and Data Analysis	Data Analysis Projects
		Word Problems	Translating English to Math
B.7	apply what was learned to new situations	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
		Polynomials	Evaluating Polynomials
		Probability and Data Analysis	Data Analysis Projects
		Word Problems	Translating English to Math
B.8	use mathematics with confidence	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
		Polynomials	Evaluating Polynomials
		Probability and Data Analysis	Data Analysis Projects

		Word Problems	Translating English to Math
C	A student should understand and be able to form and use appropriate methods to define and explain mathematical relationships.		
C.1	express and represent mathematical ideas using oral and written presentations, physical materials, pictures, graphs, charts, and algebraic expressions	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
		Polynomials	Evaluating Polynomials
		Probability and Data Analysis	Data Analysis Projects
C.2	relate mathematical terms to everyday language	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
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		Word Problems	Translating English to Math
C.3	develop, test, and defend mathematical hypotheses		
C.4	clarify mathematical ideas through discussion with others		
D	A student should be able to use logic and reason to solve mathematical problems.		
D.1	analyze situations	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits



		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
		Polynomials	Evaluating Polynomials
		Probability and Data Analysis	Data Analysis Projects
D.2	draw logical conclusions	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
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D.3	use models, known facts, and relationships to explain the student's reasoning	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
		Polynomials	Evaluating Polynomials
		Probability and Data Analysis	Data Analysis Projects
D.4	use deductive reasoning to verify conclusions, judge the validity of arguments, and construct valid arguments	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
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D.5	use inductive reasoning to recognize patterns and form mathematical propositions	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
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E	A student should be able to apply mathematical concepts and processes to situations within and outside of school.		
E.1	explore problems and describe results using graphical, numerical, physical, algebraic, and verbal mathematical models or representations	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
		Equations	Linear Equations
		Polynomials	Evaluating Polynomials
		Probability and Data Analysis	Data Analysis Projects
E.2	use mathematics in daily life	Basics	Integer Math
		Fractions	Addition and Subtraction
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Number Basics	Significant Digits
		Equations	Introduction
		Equations	Solving Simple Equations
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E.3	use mathematics in other curriculum areas	Equations	Linear Equations
		Probability and Data Analysis	Data Analysis Projects
		Factoring and Geometric Formulas	Geometric Formulas
		Number Basics	Rounding
		Decimals and Percents	Decimals
		Decimals and Percents	Percents
		Fractions	Fraction Basics
		Fractions	Adding and Subtracting