



Alignment Document
State of Wyoming and Aventa Learning Pre-Algebra

Pre-Algebra

Standards	Benchmarks	Unit Name	Course Topic Description
1 Students use numbers, number sense, and number relationships in a problem-solving situation.	1.1 Students represent and apply numbers in a variety of equivalent forms (such as changing from percent to decimal to fraction, etc.) and in a problem-solving context:	Decimals and Percents Fractions	Decimals and Percents Fraction Basics
	1.1.a prime factors, factors, and multiples;	Basics	Factors
	1.1.b rational numbers and proportions; and	Basics	Integer Math
	1.1. C square roots and powers.	Basics	Exponents
	1.2 Students extend understanding and use of basic arithmetic operations on rational numbers.	Basics Basics	Integer Math Arithmetic
	1.2.a Simplify numerical expressions using the order of operations;	Number Basics	Number Properties
	1.2.b Order rational numbers expressed in a variety of forms	Number Basics	Overview
	1.3 Students explain their choice of estimation and problem-solving strategies and justify results of solutions in problem-solving situations involving rational numbers.	Word Problems	Strategies
	1.4 Students understand properties of operations with rational numbers.	Number Basics	Number Properties
2 Students apply geometric concepts, properties, and relationships in a problem-solving situation.	2.1 Students classify and describe one-, two-, and three-dimensional geometric objects, including:	Factoring and Geometric Formulas	Geometric Formulas
	2.1.a lines, rays, segments, and angles;	Factoring and Geometric Formulas	Geometric Formulas

	2.1.b parallel and perpendicular relationships;	Factoring and Geometric Formulas	Geometric Formulas
	2.1.c circles and spheres;	Factoring and Geometric Formulas	Geometric Formulas
	2.1.d regular polygon types;	Factoring and Geometric Formulas	Geometric Formulas
	2.1.e right prisms, cylinders, cones, and pyramids.	Factoring and Geometric Formulas	Geometric Formulas
	2.2 Students make conjectures about geometric objects based on knowledge of geometric transformations, congruence, and similarity.	Geometric Concepts	Transformation
		Geometric Concepts	Congruence
		Geometric Concepts	Similarity
	2.3 Students use geometric formulas including the Pythagorean Theorem.	Factoring and Geometric Formulas	Geometric Formulas
Factoring and Geometric Formulas		Pythagorean	
2.4 Students communicate the reasoning used in identifying geometric relationships in problem-solving situations appropriate to grade level.	Geometric Concepts	Overview	
	Factoring and Geometric Formulas	Overview	
2.5 Students represent geometric figures using a rectangular coordinate plane.	Geometric Concepts	Overview	
	Factoring and Geometric Formulas	Overview	
3 Students use a variety of tools and techniques of measurement in a problem-solving situation.	3.1 Students apply estimation and measurement of weight/mass to content problems and convert within U.S. customary and within metric units (mg, g, kg).	Measurement	Unit Conversions
		Factoring and Geometric Formulas	Geometric Formulas
		Word Problem	Problem-Solving
3.2 Students apply estimation and measurement of capacity/volume to content problems and convert within metric units (ml, l).	Measurement	Unit Conversions	
	Factoring and Geometric Formulas	Geometric Formulas	

		Word Problem	Problem-Solving
	3.3 Students select and use the appropriate methods, tools, and units to solve problems involving angle measure, perimeter, circumference, area (including circles), and volume of rectangular solids.	Factoring and Geometric Formulas	Geometric Formulas
4 Students use algebraic methods to investigate, model, and interpret patterns and functions involving numbers, shapes, data, and graphs in a problem-solving situation.	4.1 Students translate word phrases, which involve the four basic operations to mathematical expressions.	Word Problems	Strategies
	4.2 Students solve one- and two- step linear equations each with an integer coefficient and integer solutions.	Equations	Solving Simple Equations
	4.3 Students evaluate algebraic expressions and formulas given integer values for variables.	Equations	Solving Simple Equations
	4.4 Using simple linear equations, students create a table, and graph the solutions on the coordinate system.	Polynomials	Evaluating Polynomials
5 Students use data analysis and probability to analyze given situations and the results of experiments.	5.1 Students systematically collect, organize, describe, analyze, and represent data using tables, charts, diagrams, and graphs.	Equations	Linear Equations
	5.2 Students calculate mean, median, mode, and range for data sets and use in a real-world setting appropriate to grade level.	Probability and Data Analysis	Data Analysis Projects
	5.3 Students predict, compare, and calculate probable outcomes of experiments or simulations.	Probability and Data Analysis	Probability
	5.4 Students communicate about the likelihood of events using concepts from probability such as impossible, equally likely and certain appropriate to grade level.	Probability and Data Analysis	Data Analysis Projects
		Probability and Data Analysis	Probability