



Alignment Document
State of South Dakota and Aventa Learning Consumer Math

Consumer Math

Goals	Indicators	Standards	Unit Name	Course Topic Description
9-12.A Algebra	9-12.A.1 Use procedures to transform algebraic expressions.	9-12.A.1.1 Students are able to write equivalent forms of algebraic expressions using properties of the set of real numbers.	Wages	Expressions
			Wages	Evaluating Expressions and Formulas
		9-12.A.1.1.a Evaluate algebraic expressions.	Wages	Evaluating Expressions and Formulas
			Wages	Solving Equations: Addition and Subtraction
			Wages	Solving Equations: Multiplication and Division
			Wages	Solving Two-Step Equations
		9-12.A.1.1.b Use laws of exponents.	Checking and Savings Accounts	Working with Exponential Equations
			Checking and Savings Accounts	Calculator With An Exponent Key
			Checking and Savings Accounts	Predicting Using Exponential Functions
			Checking and Savings Accounts	Graphing Exponential Equations Plotting the curve
		Checking and	Predicting From the Curve	



			Savings Accounts	
			Checking and Savings Accounts	Plotting a Decay Curve
			Checking and Savings Accounts	Compound Interest
			Checking and Savings Accounts	Working with Compound Interest
		9-12.A.1.1.c Use conventional order of operations, including grouping and exponents.	All about jobs	Review of Order of Operations
	9-12.A.2 Use a variety of algebraic concepts and methods to solve equations and inequalities.	9-12.A.2.1 Students are able to use algebraic properties to transform multi-step, single-variable, first-degree equations.	Wages	Solving Equations: Addition and Subtraction
			Wages	Solving Equations: Multiplication and Division
			Wages	Solving Two-Step Equations
			Wages	Commission
			Transportation	Busses, Trains, Subways, and Taxis
			Transportation	Distance
			Personal Finances	Net Worth and Purchasing Power
			Personal Finances	Inflation Rate
			Checking and Savings Accounts	Working with Exponential Equations
			Checking and	Calculator With An Exponent



			Savings Accounts	Key
			Checking and Savings Accounts	Simple Interest
			Checking and Savings Accounts	Compound Interest
			Checking and Savings Accounts	Working with Compound Interest
			Credit	Working with Finance Charges
			Credit	Variable Rates
			Credit	Finding the APR
			Automobile Expenses	Finding the Total Cost
			Automobile Expenses	Used Cars
			Automobile Expenses	Auto Loans
			Automobile Expenses	Operating Expenses
			Automobile Expenses	Finding the MPG
			Automobile Expenses	Car Rental Costs
			Housing	Buying a House



			Housing	Maximum to Spend on a House
			Housing	Finding Appreciation
			Housing	The Mortgage
			Housing	Taxes and Insurance Finding the Area of the Room
		9-12.A.2.2 Students are able to use algebraic properties to transform multi-step, single-variable, first-degree inequalities and represent solutions using a number line.		
	9-12.A.3 Interpret and develop mathematical models.	9-12.A.3.1 Students are able to create linear models to represent problem situations.	Personal Finances	The Coordinate System
			Personal Finances	Writing Linear Equations
			Personal Finances	Graphing an Equation Using Points
			Personal Finances	Graphing Using Slope and Y-Intercept
			Personal Finances	Net Worth and Purchasing Power
			Personal Finances	Inflation Rate
		9-12.A.3.1.a Calculate and interpret slope.	Personal Finances	Graphing Using Slope and Y-Intercept
		9-12.A.3.2 Students are able to distinguish between linear and nonlinear models.		
	9-12.A.4 Describe and use properties and behaviors of relations, functions and inverses.	9-12.A.4.1 Students are able to use graphs, tables, and equations to represent linear functions.	Personal Finances	Writing Linear Equations
			Personal Finances	Graphing Using Slope and Y-Intercept

			Personal Finances	Graphing an Equation Using Points
9-12.G Geometry	9-12.G.1 Use deductive and inductive reasoning to recognize and apply properties of geometric figures.	9-12.G.1.1 Students are able to apply the properties of triangles and quadrilaterals to find unknown parts.		
		9-12.G.1.2 Students are able to identify and apply relationships among triangles.		
		9-12.G.1.2.a Definitions and postulates		
		9-12.G.1.2.b Similarity theorems		
		9-12.G.1.2.c Congruence theorems		
	9-12.G.2 Use properties of geometric figures to solve problems from a variety of perspectives.	9-12.G.2.1 Students are able to recognize the relationship between a three-dimensional figure and its two-dimensional representation.		
		9-12.G.2.1.a Interpret floor plans	Housing	Scale Drawings
		9-12.G.2.1.b Follow instructions for assembly of a product, e.g., "some assembly required."		
		9-12.G.2.2 Students are able to reflect across vertical or horizontal lines, and translate two-dimensional figures.		
		9-12.G.2.2.a Identify lines of symmetry.		
		9-12.G.2.2.b Use the coordinate plane.	Personal Finances	The Coordinate System
			Personal Finances	Writing Linear Equations
	Personal Finances	Graphing an Equation Using Points		
	Personal Finances	Graphing Using Slope and Y-Intercept		
9-12.G.2.3 Students are able to use proportions to solve problems.	Housing	Scale Drawings		
9-12.M Measurement	9-12.M.1 Apply measurement	9-12.M.1.1 Students are able to choose		



	<p>concepts in practical applications.</p>	<p>appropriate unit label, scale, and precision.</p>		
		<p>9-12.M.1.1.a Determine appropriate scales for histograms, scatterplots, and other graphs.</p>		
		<p>9-12.M.1.2 Students are able to use suitable units when describing rate of change.</p>	<p>Checking and Savings Accounts</p> <p>Checking and Savings Accounts</p> <p>Checking and Savings Accounts</p> <p>Checking and Savings Accounts</p> <p>Checking and Savings Accounts</p> <p>Checking and Savings Accounts</p> <p>Checking and Savings Accounts</p> <p>Checking and Savings Accounts</p> <p>Checking and Savings Accounts</p> <p>Checking and Savings Accounts</p> <p>Checking and Savings Accounts</p>	<p>Working with Exponential Equations</p> <p>Calculator With An Exponent Key</p> <p>Predicting Using Exponential Functions</p> <p>Graphing Exponential Equations Plotting the curve</p> <p>Predicting From the Curve</p> <p>Plotting a Decay Curve</p> <p>Compound Interest</p> <p>Working with Compound Interest</p> <p>Savings and Graphs</p> <p>Estimating and Comparing</p> <p>Comparing different periods of compounding</p>

		9-12.M.1.3 Students are able to use formulas to find perimeter, circumference, and area to solve problems involving common geometric figures.	Housing	Finding the Area of the Room
		9-12.M.1.3.a Use algebraic expressions with geometric formulas.	Housing	Decorating and Remodeling
			Housing	Scale Drawings
9-12.N Number Sense	9-12.N.1 Analyze the structural characteristics of the real number system and its various subsystems. Analyze the concept of value, magnitude, and relative magnitude of real numbers.	9-12.N.1.1 Students are able to identify multiple representations of a real number.		
		9-12.N.1.1.a Given a real number identify the subset(s) of real numbers to which it belongs.		
		9-12.N.1.1.b Represent rational and irrational numbers in different forms.		
		9-12.N.1.2 Students are able to apply the concept of place value, magnitude, and relative magnitude of real numbers.		
		9-12.N.1.2.a Scientific notation		
		9-12.N.1.2.b Infinitely many solutions		
		9-12.N.1.2.c Completeness of the real numbers (density, i.e., between any two real numbers is another real number)		
	9-12.N.2 Apply number operations with real numbers and other number systems.	9-12.N.2.1 Students are able to add, subtract, multiply, and divide real numbers including integral exponents.	All about Jobs: Introduction	Addition and Subtraction of Decimals
		All about Jobs: Introduction	Multiplication and Division of Whole Numbers and Decimals	
		All about Jobs: Introduction	Finding a Job	
		All about Jobs: Introduction	Computing Pay by Hourly Wages	
		All about Jobs: Introduction	Fractions, Decimals, and Percents	



			All about Jobs: Introduction	Percents to Decimals or Fractions
			All about Jobs: Introduction	Percent of a Number
			All about Jobs: Introduction	Review of Order of Operations
			All about Jobs: Introduction	Wages and Tips
			Wages	Addition and Subtraction of Common Fractions
			Wages	Multiplication of Fractions
			Wages	Division of Fractions
			Wages	Pre-employment Forms
			Wages	Time Sheets And Time Cards
			Wages	Salary
			Wages	Commission
			Recreation and Spending	Costs of Recreation
			Recreation and Spending	Health Clubs and Fitness Classes
			Recreation and Spending	Buying Clothes



			Recreation and Spending	Catalog Shopping
			Recreation and Spending	Buying Food
			Recreation and Spending	Eating Out
			Transportation	Distance
			Transportation	Taking a Road Trip
			Checking and Savings Accounts	Working with Exponential Equations
			Checking and Savings Accounts	Calculator With An Exponent Key
			Checking and Savings Accounts	Predicting Using Exponential Functions
			Checking and Savings Accounts	Graphing Exponential Equations Plotting the curve
			Checking and Savings Accounts	Predicting From the Curve
			Checking and Savings Accounts	Plotting a Decay Curve
			Checking and Savings Accounts	Savings Accounts
			Checking and Savings Accounts	Simple Interest

			Checking and Savings Accounts	Compound Interest
			Checking and Savings Accounts	Working with Compound Interest
	9-12.N.3 Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.	9-12.N.3.1 Students are able to use estimation strategies in problem situations to predict results and to check the reasonableness of results.	Transportation	Estimating Using Mileage Charts
		9-12.N.3.1.a Use rounding as an estimation strategy.	Checking and Savings Accounts	Predicting Using Exponential Functions
		9-12.N.3.1.b Use non-routine estimation strategies.		
		9-12.N.3.2 Students are able to select alternative computational strategies and explain the chosen strategy.		
		9-12.N.3.2.a Use properties of numbers that allow operational shortcuts for computational procedures.		
9-12.S Statistics and Probability	9-12.S.1 Use statistical models to gather, analyze, and display data to draw conclusions.	9-12.S.1.1 Students are able to draw conclusions from a set of data.	Deductions, Taxes, and Insurance	Mean, Median, and Mode
		9-12.S.1.1.a Determine and use appropriate statistical values.	Deductions, Taxes, and Insurance	Mean, Median, and Mode
		9-12.S.1.1.b Determine which questions can or cannot be answered from a given data set.		
		9-12.S.1.2 Students are able to compare multiple one-variable data sets, using range, interquartile range, mean, mode, and median.	Deductions, Taxes, and Insurance	Mean, Median, and Mode
		9-12.S.1.3 Represent a set of data in a variety of graphical forms and draw conclusions.		
		9-12.S.1.3.a Make a scatterplot to draw a regression line and make predictions.		



		9-12.S.1.3.b Make a box-and-whisker plot to model a set of one-variable data.		
		9-12.S.1.3.c Make a histogram from a frequency distribution.		
	9-12.S.2 Apply the concepts of probability to predict events/outcomes and solve problems.	9-12.S.2.1 Students are able to distinguish between experimental and theoretical probability.		
		9-12.S.2.2 Students are able to predict outcomes of simple events using given theoretical probabilities.		
		9-12.S.2.2.a Determine the sample space of an experiment.		