



Alignment Document
State of West Virginia
And
Aventa Learning Consumer Math

Consumer Math
 2005-2007 Benchmark Blueprint

State Standard Number	State Standard Area / Description	Unit Name	Course Topic Description
0	Algebra I		
M.S.A1.2	Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will demonstrate understanding of patterns, relations and functions, represent and analyze mathematical situations and structures using algebraic symbols, use mathematical models to represent and understand quantitative relationships, and analyze change in various contexts.		
M.O.A1.2.1	formulate algebraic expressions for use in equations and inequalities that require planning to accurately model real-world problems.	Wages	Review of Equations
		Wages	Solving Two-Step Equations
		Wages	Evaluating Expressions and Formulas
		Wages	Salary and Commission
		Wages	Solving Equations: Addition and Subtraction
		Wages	Commission



		Wages	Solving Equations: Multiplication and Division
		Checking and Savings Accounts	Exponential Equations
		Personal Finances	The Costs of Raising a Family
M.O.A1.2.2	create and solve multi-step linear equations, absolute value equations, and linear inequalities in one variable, (with and without technology); apply skills toward solving practical problems such as distance, mixtures or motion and judge the reasonableness of solutions.		
M.O.A1.2.3	evaluate data provided, given a real-world situation, select an appropriate literal equation and solve for a needed variable.	Automobile Expenses	Used Cars
M.O.A1.2.4	develop and test hypotheses to derive the laws of exponents and use them to perform operations on expressions with integral exponents.		
M.O.A1.2.5	analyze a given set of data and prove the existence of a pattern numerically, algebraically and graphically, write equations from the patterns and make inferences and predictions based on observing the pattern.	Checking and Savings Accounts	Exponential Graphs
M.O.A.1.2.6	determine the slope of a line through a variety of strategies (e.g. given an equation or graph).	Personal Finances	Writing Linear Equations
		Personal Finances	Graphing Using Slope and Y-Intercept
M.O.A1.2.7	analyze situations and solve problems by determining the equation of a line given a graph of a line, two points on the line, the slope and a point, or the slope and y intercept.	Personal Finances	Writing Linear Equations

M.O.A1.2.8	extrapolate data represented by graphs, tables and formulas to make inferences and predictions on rate of change (slope) and justify when communicating results within a project based investigation.	Personal Finances	Unit Open Response-- Comparing Consumer Costs
M.O.A1.2.9	create and solve systems of linear equations graphically and numerically using the elimination method and the substitution method, given a real-world situation.	Personal Finances	Unit Open Response-- Comparing Consumer Costs
M.O.A1.2.10	simplify and evaluate algebraic expressions		
M.O.A1.2.10.a	add and subtract polynomials		
M.O.A1.2.10.b	multiply and divide binomials by binomials or monomials		
M.O.A1.2.11	create polynomials to represent and solve problems from real-world situations while focusing on symbolic and graphical patterns.		
M.O.A1.2.12	use area models and graphical representations to develop and explain appropriate methods of factoring.		
M.O.A1.2.13	simplify radical expressions		
M.O.A1.2.13.a	through adding, subtracting, multiplying and dividing		
M.O.A1.2.13.b	exact and approximate forms		
M.O.A1.2.14	solve quadratic equations by graphing (with and without technology), factoring, quadratic formula and draw reasonable conclusions about a situation being modeled.		
M.O.A1.2.15	describe real life situations involving exponential growth and decay equations including $y=2$ to the x power and $y=(\frac{1}{2})$ to the x power; compare the equation with attributes of an associated table and graph to demonstrate an understanding of their interrelationship.	Checking and Savings Accounts	Plotting a Decay Curve
		Checking and Savings Accounts	Exponential Equations
		Checking and Savings	Exponential Graphs

		Accounts	
		Checking and Savings Accounts	Graphing Exponential Equations
		Checking and Savings Accounts	Savings Accounts
		Housing	The Mortgage
M.O.A1.2.16	simplify and evaluate rational expressions		
M.O.A1.2.16.a	add, subtract, multiply and divide		
M.O.A1.2.16.b	determine when an expression is undefined.		
M.O.A1.2.17	perform a linear regression (with and without technology),		
M.O.A1.2.17.a	compare and evaluate methods of fitting lines to data.		
M.O.A1.2.17.b	identify the equation for the line of regression,		
M.O.A1.2.17.c	examine the correlation coefficient to determine how well the line fits the data		
M.O.A1.2.17.d	use the equation to predict specific values of a variable.		
M.O.A1.2.18	compute and interpret the expected value of random variables in simple cases using simulations and rules of probability (with and without technology).		
M.O.A1.2.19	gather data to create histograms, box plots, scatter plots and normal distribution curves and use them to draw and support conclusions about the data.		
M.O.A1.2.20	design experiments to model and solve problems using the concepts of sample space and probability distribution.		
M.O.A1.2.21	use multiple representations, such as words, graphs, tables of values and equations, to solve practical problems; describe advantages and disadvantages of the use of each representation.	Wages	Solving Equations: Addition and Subtraction
		Wages	Commission
		Wages	Solving Equations: Multiplication and Division



		Wages	Solving Two-Step Equations
		Wages	Review of Equations
		Wages	Salary and Commission
		Recreation and Spending	Movies and Shows
		Recreation and Spending	Eating Out
		Recreation and Spending	Parks and Sports
		Recreation and Spending	Costs of Recreation
		Recreation and Spending	Catalog Shopping
		Personal Finances	Budgeting Expenses
		Personal Finances	Graphing Using Slope and Y-Intercept
		Personal Finances	Net Worth and Purchasing Power
		Personal Finances	Budgets
		Personal Finances	The Costs of Raising a Family
		Checking and Savings Accounts	Graphing Exponential Equations
		Checking and Savings Accounts	Savings Accounts
		Checking and Savings Accounts	Plotting a Decay Curve
		Checking and Savings Accounts	Exponential Equations
		Checking and Savings Accounts	Checking Accounts
		Checking and Savings Accounts	Exponential Graphs
		Checking and Savings Accounts	The Check Register
		Housing	The Mortgage
		Deductions, Taxes, and Insurance	Life Insurance



		Deductions, Taxes, and Insurance	Federal Income Tax
		Deductions, Taxes, and Insurance	Federal Tax Table
		Automobile Expenses	Used Cars
		Automobile Expenses	Preventative Maintenance and Repairs
		Automobile Expenses	Comparing Costs