



Alignment Document
State of Indiana and Aventa Learning Consumer Math

Consumer Math
2005-2007 Benchmark Blueprint

Standards	Benchmarks	Unit Name	Course Topic Description	
A1.1 Students simplify and compare expressions. They use rational exponents and simplify square roots.	A1.1.1 Compare real number expressions.	Wages	Evaluating Expressions and Formulas	
		Wages	Review of Equations	
	A1.1.2 Simplify square roots using factors.	A1.1.3 Understand and use the distributive, associative, and commutative properties.	All about Jobs	Review of Order of Operations
			Recreation and Spending	Movies and Shows
			Recreation and Spending	Parks and Sports
	A1.1.4 Use the laws of exponents for rational exponents.	A1.1.5 Use dimensional (unit) analysis to organize conversions and computations.	Checking and Savings Accounts	Exponential Equations
A1.2 Students solve linear equations and inequalities in one variable. They solve word problems that involve linear equations, inequalities, or formulas.	A1.2.1 Solve linear equations.	Wages	Solving Equations: Add & Sub	
		Wages	Solving Equations: Mult & Div	
		Wages	The Costs of Raising a Family	
		Personal Finances	Writing Linear Equations	
		Personal Finances	Working with Wages	



		All about Jobs	Computing Pay by Hourly Wages
A1.2.2 Solve equations and formulas for a specified variable.		Personal Finances	The Costs of Raising a Family
		Personal Finances	Purchasing Power
		Transportation	Busses, Trains, Subways, and Taxis
		Deductions, Taxes, and Insurance	Payroll Deductions
		Deductions, Taxes, and Insurance	Federal Income Tax
		Deductions, Taxes, and Insurance	Solving Two-Step Equations
		Deductions, Taxes, and Insurance	Health and Life Insurance
		Wages	Solving Equations: Add & Sub
		Wages	Time Sheets And Time Cards
		Wages	Evaluating Expressions and Formulas
		Wages	Salary and Commission
		Wages	Review of Equations
		Wages	Commission
		Recreation and Spending	Buying Clothes and Shopping
	Recreation and	Eating Out	



		Spending	
		Checking and Savings Accounts	Exponential Equations
		Checking and Savings Accounts	Exponential Graphs
		Housing	Homeowner's Insurance
		Housing	Taxes and Insurance
		Credit Cards	Credit Finance Charges
		Credit Cards	Loans
		Credit Cards	Installment Buying
		Credit Cards	Finding the APR
		Automobile Expenses	Buying a New Automobile
	A1.2.3 Find solution sets of linear inequalities when possible numbers are given for the variable.		
	A1.2.4 Solve linear inequalities using properties of order.	Recreation and Spending	Catalog Shopping
		Recreation and Spending	Buying Food and Eating Out
	A1.2.5 Solve combined linear inequalities.		
	A1.2.6 Solve word problems that involve linear equations, formulas, and inequalities.	Personal Finances	The Costs of Raising a Family
		Personal Finances	Purchasing Power
		Transportation	Busses, Trains, Subways, and Taxis



		Deductions, Taxes, and Insurance	Payroll Deductions
		Deductions, Taxes, and Insurance	Federal Income Tax
		Deductions, Taxes, and Insurance	Solving Two-Step Equations
		Deductions, Taxes, and Insurance	Health and Life Insurance
		Wages	Solving Equations: Add and Sub
		Wages	Time Sheets And Time Cards
		Wages	Evaluating Expressions and Formulas
		Wages	Salary and Commission
		Wages	Review of Equations
		Wages	Commission
		Recreation and Spending	Buying Clothes and Shopping
		Recreation and Spending	Catalog Shopping
		Recreation and Spending	Buying Food and Eating Out
		Checking and Savings Accounts	Exponential Equations



		Checking and Savings Accounts Housing Housing Credit Cards Credit Cards Credit Cards Credit Cards Buying a New Automobile Buying a New Automobile	Exponential Graphs Homeowner's Insurance Taxes and Insurance Credit Finance Charges Loans Installment Buying Finding the APR Buying a New Automobile Auto Loans
A1.3 Students sketch and interpret graphs representing given situations. They understand the concept of a function and analyze the graphs of functions.	A1.3.1 Sketch a reasonable graph for a given relationship.	Personal Finances Personal Finances Checking and Savings Accounts Checking and Savings Accounts Checking and Savings Accounts Checking and Savings Accounts Automobile Expenses	Graphing an Equation Using Points Comparing Costs Exponential Graphs Graphing Exponential Equations Plotting a Decay Curve Graphing Using Slope and Y-Intercept Graphs of Equations

	A1.3.2 Interpret a graph representing a given situation.	Checking and Savings Accounts	Exponential Equations
		Checking and Savings Accounts	Exponential Graphs
	A1.3.3 Understand the concept of a function, decide if a given relation is a function, and link equations to functions.		
	A1.3.4 Find the domain and range of a relation.		
A1.4 Students graph linear equations and inequalities in two variables. They write equations of lines and find and use the slope and y-intercept of lines. They use linear equations to model real data.	A1.4.1 Graph a linear equation.	Checking and Savings Accounts	Plotting a Decay Curve
		Checking and Savings Accounts	Graphing Exponential Equations
		Checking and Savings Accounts	Exponential Graphs
		Personal Finances	Writing Linear Equations
		Personal Finances	Graphing Using Slope and Y-Intercept
		Personal Finances	Graphing an Equation Using Points
	A1.4.2 Find the slope, x-intercept and y-intercept of a line given its graph, its equation, or two points on the line.	Personal Finances	Graphing an Equation Using Points
		Checking and Savings Accounts	Graphing Exponential Equations
		Checking and Savings Accounts	Exponential Graphs
A1.4.3 Write the equation of a line in slope-intercept form. Understand how the slope and y-intercept of the graph are related to the equation.	Personal Finances	Graphing Using Slope and Y-Intercept	
	Personal Finances	Writing Linear Equations	



		Checking and Savings Accounts	Graphing Exponential Equations
	A1.4.4 Write the equation of a line given appropriate information.	Personal Finances	Graphing an Equation Using Points
		Personal Finances	Graphing Using Slope and Y-Intercept
		Personal Finances	Writing Linear Equations
		Checking and Savings Accounts	Exponential Graphs
		Checking and Savings Accounts	Graphing Exponential Equations
		Checking and Savings Accounts	Plotting a Decay Curve
	A1.4.5 Write the equation of a line that models a data set and use the equation (or the graph of the equation) to make predictions. Describe the slope of the line in terms of the data, recognizing that the slope is the rate of change.	Personal Finances	Writing Linear Equations
		Personal Finances	Graphing an Equation Using Points
		Checking and Savings Accounts	Exponential Graphs
		Checking and Savings Accounts	Graphing Exponential Equations
	A1.4.6 Graph a linear inequality in two variables.		
A1.5 Students solve pairs of linear equations using graphs and using algebra. They solve pairs of linear inequalities using graphs. They solve word problems involving pairs of linear equations.	A1.5.1 Use a graph to estimate the solution of a pair of linear equations in two variables.		
	A1.5.2 Use a graph to find the solution set of a pair of linear inequalities in two variables.		
	A1.5.3 Understand and use the substitution		

	method to solve a pair of linear equations in two variables.		
	A1.5.4 Understand and use the addition or subtraction method to solve a pair of linear equations in two variables.		
	A1.5.5 Understand and use multiplication with the addition or subtraction method to solve a pair of linear equations in two variables.		
	A1.5.6 Use pairs of linear equations to solve word problems.		
A1.6 Students add, subtract, multiply, and divide polynomials. They factor quadratics.	A1.6.1 Add and subtract polynomials.		
	A1.6.2 Multiply and divide monomials.		
	A1.6.3 Find powers and roots of monomials (only when the answer has an integer exponent).		
	A1.6.4 Multiply polynomials.		
	A1.6.5 Divide polynomials by monomials.		
	A1.6.6 Find a common monomial factor in a polynomial.		
	A1.6.7 Factor the difference of two squares and other quadratics.		
	A1.6.8 Understand and describe the relationships among the solutions of an equation, the zeros of a function, the x-intercepts of a graph, and the factors of a polynomial expression.		
A1.7 Students simplify algebraic ratios and solve algebraic proportions.	A1.7.1 Simplify algebraic ratios.	Housing	Scale Drawings
	A1.7.2 Solve algebraic proportions.	Housing	Scale Drawings
A1.8 Students graph and solve quadratic and radical equations. They graph cubic equations.	A1.8.1 Graph quadratic, cubic, and radical equations.		
	A1.8.2 Solve quadratic equations by factoring.		
	A1.8.3 Solve quadratic equations in which a perfect square equals a constant.		
	A1.8.4 Complete the square to solve quadratic		

	equations.		
	A1.8.5 Derive the quadratic formula by completing the square.		
	A1.8.6 Solve quadratic equations by using the quadratic formula.		
	A1.8.7 Use quadratic equations to solve word problems.		
	A1.8.8 Solve equations that contain radical expressions.		
	A1.8.9 Use graphing technology to find approximate solutions of quadratic and cubic equations.		
A1.9 Mathematical Reasoning and Problem Solving	A1.9.1 Use a variety of problem solving strategies, such as drawing a diagram, making a chart, guess-and-check, solving a simpler problem, writing an equation, and working backwards.	Personal Finances	Graphing Using Slope and Y-Intercept
		Personal Finances	Graphing an Equation Using Points
		Checking and Savings Accounts	Graphing Exponential Equations
		Checking and Savings Accounts	Exponential Graphs
		Checking and Savings Accounts	Plotting a Decay Curve
	A1.9.2 Decide whether a solution is reasonable in the context of the original situation.		
A1.9.3 Use the properties of the real number system and the order of operations to justify the steps of simplifying functions and solving equations.	Wages	Review of Order of Operations	
A1.9.4 Understand that the logic of equation solving begins with the assumption that the variable is a number that satisfies the equation, and that the steps taken when solving equations create new equations that have, in most cases,	Checking and Savings Accounts	Exponential Equations	
	Wages	Review of Equations	



	the same solution set as the original. Understand that similar logic applies to solving systems of equations simultaneously.	Wages	Solving Two-Step Equations
		Wages	Solving Equations: Add & Sub
		Wages	Solving Equations: Mult & Div
	A1.9.5 Decide whether a given algebraic statement is true always, sometimes, or never (statements involving linear or quadratic expressions, equations, or inequalities).		
	A1.9.6 Distinguish between inductive and deductive reasoning, identifying and providing examples of each.		
	A1.9.7 Identify the hypothesis and conclusion in a logical deduction.		
A1.9.8 Use counterexamples to show that statements are false, recognizing that a single counterexample is sufficient to prove a general statement false.			