



Alignment Document
State of New York and Aventa Learning Consumer Math

Consumer Math
2005-2007 Benchmark Blueprint

Strand	Goals	Bands	Standards	Unit Name	Course Topic Description
A.PS Problem Solving	Students will build new mathematical knowledge through problem solving.		A.PS.1 Use a variety of problem solving strategies to understand new mathematical content	Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas
				Wages	Review of Fractions
				Wages	Multiplication of Fractions
				Wages	Division of Fractions Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows
				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports
Recreation and Spending	Buying Clothes and Shopping				



				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs
				Automobile Expenses	Auto Loans
				Automobile Expenses	Operating Expenses
				Automobile Expenses	Automobile Insurance
				Automobile Expenses	Car Rental Costs
				Housing	Renting an Apartment
				Housing	Buying a House
				Housing	The Mortgage
				Housing	Taxes and Insurance
				Housing	Homeowner's Insurance
				Housing	Decorating and Remodeling
				Housing	Scale Drawings



			A.PS.2 Recognize and understand equivalent representations of a problem situation or a mathematical concept	All about Jobs All about Jobs All about Jobs Wages Wages Wages Wages Credit	Fractions, Decimals, and Percents Percents to Decimals or Fractions Percent of a Number Review of Fractions Multiplication of Fractions Division of Fractions Time Sheets And Time Cards Working with Loans
	Students will solve problems that arise in mathematics and in other contexts.		A.PS.3 Observe and explain patterns to formulate generalizations and conjectures	Recreation and Spending Transportation Transportation Transportation Transportation Personal Finances Checking and Savings Accounts Checking and Savings Accounts	Costs of Recreation Taking a Road Trip Air Travel and Time Zones Busses, Trains, Subways, and Taxis Estimating Using Mileage Charts Graphs of Equations Exponential Equations Savings and Graphs



				Automobile Expenses	Comparing Costs
			A.PS.4 Use multiple representations to represent and explain problem situations (e.g., verbally, numerically, algebraically, graphically)	Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas
				Wages	Review of Fractions
				Wages	Multiplication of Fractions
				Wages	Division of Fractions
				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows
				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports
				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance



				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs
				Automobile Expenses	Auto Loans
				Automobile Expense	Operating Expenses
				Automobile Expense	Automobile Insurance
				Automobile Expense	Car Rental Costs
				Housing	Renting an Apartment
				Housing	Buying a House
				Housing	The Mortgage
				Housing	Taxes and Insurance
				Housing	Homeowner's Insurance
				Housing	Decorating and Remodeling
				Housing	Scale Drawings
	Students will apply and adapt a variety of appropriate strategies to solve problems.		A.PS.5 Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic)	Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas
				Wages	Review of Fractions
				Wages	Multiplication of Fractions



				Wages	Division of Fractions
				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows
				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports
				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs
				Automobile Expenses	Auto Loans Operating Expenses



				Automobile Insurance Car Rental Costs Housing Renting an Apartment Housing Buying a House Housing The Mortgage Housing Taxes and Insurance Housing Homeowner's Insurance Housing Decorating and Remodeling Housing Scale Drawings
			A.PS.6 Use a variety of strategies to extend solution methods to other problems	Recreation and Spending Parks and Sports Recreation and Spending Movies and Shows Recreation and Spending Eating Out Recreation and Spending Costs of Recreation Transportation Taking a Road Trip Transportation Busses, Trains, Subways, and Taxis Transportation Distance Checking and Savings Accounts Savings and Graphs

				Credit	Working with Loans
			A.PS.7 Work in collaboration with others to propose, critique, evaluate, and value alternative approaches to problem solving	Deductions, Taxes, and Insurance Credit	Course Discussions: Life Insurance Course Discussion: Credit Rating
	Students will monitor and reflect on the process of mathematical problem solving.		A.PS.8 Determine information required to solve a problem, choose methods for obtaining the information, and define parameters for acceptable solutions	Transportation Transportation Transportation Recreation and Spending Deductions, Taxes, and Insurance	Taking a Road Trip Distance Estimating Using Mileage Charts Costs of Recreation Course Discussions: Life Insurance
			A.PS.9 Interpret solutions within the given constraints of a problem	Recreation and Spending Checking and Savings Accounts	Estimating Purchases Savings and Graphs
			A.PS.10 Evaluate the relative efficiency of different representations and solution methods of a problem		
A.RP Reasoning and Proof	Students will recognize reasoning and proof as fundamental aspects of mathematics.		A.RP.1 Recognize that mathematical ideas can be supported by a variety of strategies	Checking and Savings Accounts	Savings and Graphs
	Students will make and investigate mathematical conjectures.		A.RP.2 Use mathematical strategies to reach a conclusion and provide supportive arguments for a conjecture	Checking and Savings Accounts	Savings and Graphs
			A.RP.3 Recognize when an approximation is more appropriate	Transportation	Estimating Using Mileage Charts

			than an exact answer	Credit	Finding the APR
	Students will develop and evaluate mathematical arguments and proofs.		A.RP.4 Develop, verify, and explain an argument, using appropriate mathematical ideas and language		
			A.RP.5 Construct logical arguments that verify claims or counterexamples that refute them		
			A.RP.6 Present correct mathematical arguments in a variety of forms		
			A.RP.7 Evaluate written arguments for validity		
	Students will select and use various types of reasoning and methods of proof.		A.RP.8 Support an argument by using a systematic approach to test more than one case		
			A.RP.9 Devise ways to verify results or use counterexamples to refute incorrect statements		
			A.RP.10 Extend specific results to more general cases		
			A.RP.11 Use a Venn diagram to support a logical argument		
			A.RP.12 Apply inductive reasoning in making and supporting mathematical conjectures		
A.CM Communication	Students will organize and consolidate their mathematical thinking through communication.		A.CM.1 Communicate verbally and in writing a correct, complete, coherent, and clear design (outline) and explanation for the steps used in solving a problem		
			A.CM.2 Use mathematical representations to communicate with appropriate accuracy, including numerical tables, formulas, functions, equations, charts, graphs, Venn diagrams, and other diagrams	Deductions, Taxes, and Insurance Deductions, Taxes, and Insurance	Tables and Graphs Federal Tax Table

				Recreation and Spending	Buying Food and Eating Out
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Personal Finances	Budgeting Expenses
				Checking and Savings Accounts	Savings and Graphs
	Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.		A.CM.3 Present organized mathematical ideas with the use of appropriate standard notations, including the use of symbols and other representations when sharing an idea in verbal and written form	Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas
				Wages	Review of Fractions
				Wages	Multiplication of Fractions
				Wages	Division of Fractions
				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows
				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports



				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs
				Automobile Expenses	Auto Loans
				Automobile Expenses	Operating Expenses
				Automobile Expenses	Automobile Insurance
				Automobile Expenses	Car Rental Costs
				Housing	Renting an Apartment
				Housing	Buying a House
				Housing	The Mortgage
				Housing	Taxes and Insurance
				Housing	Homeowner's Insurance

				Housing	Decorating and Remodeling
				Housing	Scale Drawings
			A.CM.4 Explain relationships among different representations of a problem	Checking and Savings Accounts	Savings and Graphs
			A.CM.5 Communicate logical arguments clearly, showing why a result makes sense and why the reasoning is valid		
			A.CM.6 Support or reject arguments or questions raised by others about the correctness of mathematical work		
	Students will analyze and evaluate the mathematical thinking and strategies of others.		A.CM.7 Read and listen for logical understanding of mathematical thinking <i>shared by other students</i>	Deductions, Taxes, and Insurance	Course Discussions: Life Insurance
			A.CM.8 Reflect on strategies of others in relation to one's own strategy	Deductions, Taxes, and Insurance	Course Discussions: Life Insurance
			A.CM.9 Formulate mathematical questions that elicit, extend, or challenge strategies, solutions, and/or conjectures of others	Deductions, Taxes, and Insurance	Course Discussions: Life Insurance
	Students will use the language of mathematics to express mathematical ideas precisely.		A.CM.10 Use correct mathematical language in developing mathematical questions that elicit, extend, or challenge other students' conjectures		
			A.CM.11 Represent word problems using standard mathematical notation	Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas
				Wages	Review of Fractions
				Wages	Multiplication of Fractions
				Wages	Division of Fractions



				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows
				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports
				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs
				Automobile Expenses	Auto Loans
				Automobile Expenses	Operating Expenses

				Automobile Expenses	Automobile Insurance
				Automobile Expenses	Car Rental Costs
				Housing	Renting an Apartment
				Housing	Buying a House
				Housing	The Mortgage
				Housing	Taxes and Insurance
				Housing	Homeowner's Insurance
				Housing	Decorating and Remodeling
				Housing	Scale Drawings
			A.CM.12 Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and rationale	Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas
				Wages	Review of Fractions
				Wages	Multiplication of Fractions
				Wages	Division of Fractions
				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows
				Recreation and Spending	Eating Out
				Recreation and	Costs of Recreation



				Spending	
				Recreation and Spending	Parks and Sports
				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs
				Automobile Expenses	Auto Loans
				Automobile Expenses	Operating Expenses
				Automobile Expenses	Automobile Insurance
				Automobile Expenses	Car Rental Costs
				Housing	Renting an Apartment
				Housing	Buying a House
				Housing	The Mortgage

				Housing	Taxes and Insurance
				Housing	Homeowner's Insurance
				Housing	Decorating and Remodeling
				Housing	Scale Drawings
			A.CM.13 Draw conclusions about mathematical ideas through decoding, comprehension, and interpretation of mathematical visuals, symbols, and technical writing	Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas
				Wages	Review of Fractions
				Wages	Multiplication of Fractions
				Wages	Division of Fractions
				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows
				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports
				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip

				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs
				Automobile Expenses	Auto Loans
				Automobile Expenses	Operating Expenses
				Automobile Expenses	Automobile Insurance
				Automobile Expenses	Car Rental Costs
				Housing	Renting an Apartment
				Housing	Buying a House
				Housing	The Mortgage
				Housing	Taxes and Insurance
				Housing	Homeowner's Insurance
				Housing	Decorating and Remodeling
				Housing	Scale Drawings
A.CN Connections	Students will recognize and use connections among mathematical ideas.		A.CN.1 Understand and make connections among multiple representations of the same	All about Jobs	Addition and Subtraction of Decimals

		mathematical idea	All about Jobs All about Jobs All about Jobs All about Jobs Wages Wages Wages Personal Finances	Multiplication and Division of Whole Numbers and Decimals Fractions, Decimals, and Percents Percents to Decimals or Fractions Percent of a Number Review of Fractions Multiplication of Fractions Division of Fractions Graphs of Equations
		A.CN.2 Understand the corresponding procedures for similar problems or mathematical concepts		
Students will understand how mathematical ideas interconnect and build on one another to produce a coherent whole.		A.CN.3 Model situations mathematically, using representations to draw conclusions and formulate new situations	Checking and Savings Accounts	Savings and Graphs
		A.CN.4 Understand how concepts, procedures, and mathematical results in one area of mathematics can be used to solve problems in other areas of mathematics		
		A.CN.5 Understand how quantitative models connect to various physical models and representations		
Students will recognize and apply mathematics in contexts outside of mathematics.		A.CN.6 Recognize and apply mathematics to situations in the outside world	Wages Wages	Review of Equations Evaluating Expressions and



					Formulas
				Wages	Review of Fractions
				Wages	Multiplication of Fractions
				Wages	Division of Fractions
				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows
				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports
				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings	Savings and Graphs

			Accounts Automobile Expenses Automobile Expenses Automobile Expenses Automobile Expenses Housing Housing Housing Housing Housing Housing Housing Housing	Auto Loans Operating Expenses Automobile Insurance Car Rental Costs Renting an Apartment Buying a House The Mortgage Taxes and Insurance Homeowner's Insurance Decorating and Remodeling Scale Drawings	
			A.CN.7 Recognize and apply mathematical ideas to problem situations that develop outside of mathematics	Personal Finances Purchasing Power Budgets	
			A.CN.8 Develop an appreciation for the historical development of mathematics		
A.R Representation	Students will create and use representations to organize, record, and communicate mathematical ideas.		A.R.1 Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts	Checking and Savings Accounts Checking and Savings Accounts Checking and Savings	Plotting a Decay Curve Graphing Exponential Equations Exponential Graphs Savings and Graphs

			Accounts Personal Finances Personal Finances Personal Finances Personal Finances Deductions, Taxes, and Insurance	Graphs of Equations Graphing Using Slope and Y-Intercept Budgets Budgeting Expenses Life Insurance
		A.R.2 Recognize, compare, and use an array of representational forms	All about Jobs All about Jobs All about Jobs Personal Finances Personal Finances Personal Finances Checking and Savings Accounts	Fractions, Decimals, and Percents Percents to Decimals or Fractions Percent of a Number Graphs of Equations Graphing Using Slope and Y-Intercept Budgets Savings and Graphs
		A.R.3 Use representation as a tool for exploring and understanding mathematical ideas	Personal Finances Personal Finances	Graphs of Equations Graphing Using Slope and Y-Intercept
	Students will select, apply, and translate among mathematical representations to solve	A.R.4 Select appropriate representations to solve problem situations	Personal Finances	Graphs of Equations

	problems.		A.R.5 Investigate relationships between different representations and their impact on a given problem	Personal Finances Checking and Savings Accounts	Budgets Savings and Graphs
	Students will use representations to model and interpret physical, social, and mathematical phenomena.		A.R.6 Use mathematics to show and understand physical phenomena (e.g., find the height of a building if a ladder of a given length forms a given angle of elevation with the ground) A.R.7 Use mathematics to show and understand social phenomena (e.g., determine profit from student and adult ticket sales)		
				Deductions, Taxes, and Insurance Deductions, Taxes, and Insurance Deductions, Taxes, and Insurance Recreation and Spending Recreation and Spending	Payroll Deductions FICA Deductions Health and Life Insurance Movies and Shows Parks and Sports
			A.R.8 Use mathematics to show and understand mathematical phenomena (e.g., compare the graphs of the functions represented by the equations $y = x^2$ and $y = -x^2$)	Checking and Savings Accounts	Savings and Graphs
A.N Number Sense and Operations	Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.	Number Theory	A.N.1 Identify and apply the properties of real numbers (closure, commutative, associative, distributive, identity, inverse) Note: Students do not need to identify groups and fields, but students should be engaged in the ideas.	All about Jobs	Review of Order of Operations
	Students will understand	Operations	A.N.2 Simplify radical terms (no		

meanings of operations and procedures, and how they relate to one another.	variable in the radicand)		
	A.N.3 Perform the four arithmetic operations using like and unlike radical terms and express the result in simplest form		
	A.N.4 Understand and use scientific notation to compute products and quotients of numbers		
	A.N.5 Solve algebraic problems arising from situations that involve fractions, decimals, percents (decrease/increase and discount), and proportionality/direct variation	Personal Finances	Budgeting Expenses
		Personal Finances	Purchasing Power
Personal Finances		Budgets	
Wages		Time Sheets And Time Cards	
Wages		Evaluating Expressions and Formulas	
Wages		Solving Equations: Addition and Subtraction	
Wages		Solving Equations: Multiplication and Division	
Wages		Solving Two-Step Equations	
All about Jobs		Multiplication of Fractions	
All about Jobs		Percent of a Number	
All about Jobs	Percents to Decimals or Fractions		
All about Jobs	Multiplication and Division of Whole Numbers and Decimals		

				Transportation	Busses, Trains, Subways, and Taxis
				Automobile Expenses	Buying a New Automobile
				Recreation and Spending	Health Clubs and Fitness Classes
				Housing	Scale Drawings
			A.N.6 Evaluate expressions involving factorial(s), absolute value(s), and exponential expression(s)	Checking and Savings Accounts	Exponential Graphs
				Checking and Savings Accounts	Exponential Equations
				Checking and Savings Accounts	Plotting a Decay Curve
				Checking and Savings Accounts	Compound Interest
				Credit	Working with Finance Charges
			A.N.7 Determine the number of possible events, using counting techniques or the Fundamental Principle of Counting		
			A.N.8 Determine the number of possible arrangements (permutations) of a list of items		
A.A Algebra	Students will represent and analyze algebraically a wide variety of problem solving situations.	Variables and Expressions	A.A.1 Translate a quantitative verbal phrase into an algebraic expression	Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas
				Wages	Review of Fractions



				Wages	Multiplication of Fractions
				Wages	Division of Fractions
				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows
				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports
				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs

				Automobile Expenses	Auto Loans
				Automobile Expenses	Operating Expenses
				Automobile Expenses	Automobile Insurance
				Automobile Expenses	Car Rental Costs
				Housing	Renting an Apartment
				Housing	Buying a House
				Housing	The Mortgage
				Housing	Taxes and Insurance
				Housing	Homeowner's Insurance
				Housing	Decorating and Remodeling
				Housing	Scale Drawings
			A.A.2 Write a verbal expression that matches a given mathematical expression	Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas
				Wages	Review of Fractions
				Wages	Multiplication of Fractions
				Wages	Division of Fractions
				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows



				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports
				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs
				Automobile Expenses	Auto Loans
				Automobile Expenses	Operating Expenses
				Automobile Expenses	Automobile Insurance
				Automobile Expenses	Car Rental Costs
				Housing	Renting an Apartment

				Housing	Buying a House
				Housing	The Mortgage
				Housing	Taxes and Insurance
				Housing	Homeowner's Insurance
				Housing	Decorating and Remodeling
				Housing	Scale Drawings
	Equations and Inequalities	A.A.3 Distinguish the difference between an algebraic expression and an algebraic equation		Wages	Commission
				Wages	Solving Equations: Addition and Subtraction
				Wages	Salary and Commission
				Wages	Evaluating Expressions and Formulas
				Wages	Solving Two-Step Equations
				Wages	Review of Equations
				Wages	Solving Equations: Multiplication and Division
				Personal Finances	The Costs of Raising a Family
			Checking and Savings Accounts	Exponential Equations	
		A.A.4 Translate verbal sentences into mathematical equations or inequalities		Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas



				Wages	Review of Fractions
				Wages	Multiplication of Fractions
				Wages	Division of Fractions
				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows
				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports
				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs

				Automobile Expenses	Auto Loans
				Automobile Expenses	Operating Expenses
				Automobile Expenses	Automobile Insurance
				Automobile Expenses	Car Rental Costs
				Housing	Renting an Apartment
				Housing	Buying a House
				Housing	The Mortgage
				Housing	Taxes and Insurance
				Housing	Homeowner's Insurance
				Housing	Decorating and Remodeling
				Housing	Scale Drawings
			A.A.5 Write algebraic equations or inequalities that represent a situation	Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas
				Wages	Review of Fractions
				Wages	Multiplication of Fractions
				Wages	Division of Fractions
				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows



				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports
				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs
				Automobile Expenses	Auto Loans
				Automobile Expenses	Operating Expenses
				Automobile Expenses	Automobile Insurance
				Automobile Expenses	Car Rental Costs
				Housing	Renting an Apartment

				Housing	Buying a House
				Housing	The Mortgage
				Housing	Taxes and Insurance
				Housing	Homeowner's Insurance
				Housing	Decorating and Remodeling
				Housing	Scale Drawings
			A.A.6 Analyze and solve verbal problems whose solution requires solving a linear equation in one variable or linear inequality in one variable	Wages	Review of Equations
				Wages	Evaluating Expressions and Formulas
				Wages	Review of Fractions
				Wages	Multiplication of Fractions
				Wages	Division of Fractions
				Wages	Time Sheets And Time Cards
				Recreation and Spending	Movies and Shows
				Recreation and Spending	Eating Out
				Recreation and Spending	Costs of Recreation
				Recreation and Spending	Parks and Sports



				Recreation and Spending	Buying Clothes and Shopping
				Transportation	Taking a Road Trip
				Transportation	Busses, Trains, Subways, and Taxis
				Transportation	Distance
				Transportation	Estimating Using Mileage Charts
				Personal Finances	Graphs of Equations
				Checking and Savings Accounts	Savings and Graphs
				Automobile Expenses	Auto Loans
				Automobile Expenses	Operating Expenses
				Automobile Expenses	Automobile Insurance
				Automobile Expenses	Car Rental Costs
				Housing	Renting an Apartment
				Housing	Buying a House
				Housing	The Mortgage
				Housing	Taxes and Insurance
				Housing	Homeowner's Insurance
				Housing	Decorating and Remodeling

				Housing	Scale Drawings
			A.A.7 Analyze and solve verbal problems whose solution requires solving systems of linear equations in two variables		
			A.A.8 Analyze and solve verbal problems that involve quadratic equations		
			A.A.9 Analyze and solve verbal problems that involve exponential growth and decay	Checking and Savings Accounts	Plotting a Decay Curve
				Checking and Savings Accounts	Exponential Graphs
				Checking and Savings Accounts	Graphing Exponential Equation
				Checking and Savings Accounts	Compound Interest
				Credit	Working with Finance Charges
			A.A.10 Solve systems of two linear equations in two variables algebraically (See A.G.7)		
			A.A.11 Solve a system of one linear and one quadratic equation in two variables, where only factoring is required Note: The quadratic equation should represent a parabola and the solution(s) should be integers.		
	Students will perform algebraic procedures accurately.	Variables and Expressions	A.A.12 Multiply and divide monomial expressions with a common base, using the properties of exponents Note: Use integral exponents only		
			A.A.13 Add, subtract, and multiply		

		monomials and polynomials		
		A.A.14 Divide a polynomial by a monomial or binomial, where the quotient has no remainder		
		A.A.15 Find values of a variable for which an algebraic fraction is undefined		
		A.A.16 Simplify fractions with polynomials in the numerator and denominator by factoring both and renaming them to lowest terms		
		A.A.17 Add or subtract fractional expressions with monomial or like binomial denominators		
		A.A.18 Multiply and divide algebraic fractions and express the product or quotient in simplest form		
		A.A.19 Identify and factor the difference of two perfect squares		
		A.A.20 Factor algebraic expressions completely, including trinomials with a lead coefficient of one (after factoring a GCF)		
	Equations and Inequalities	A.A.21 Determine whether a given value is a solution to a given linear equation in one variable or linear inequality in one variable	Personal Finances	Graphing an Equation Using Points
			Personal Finances	Writing Linear Equations
		A.A.22 Solve all types of linear equations in one variable	Wages	Solving Equations: Addition and Subtraction
			Personal Finances	Graphs of Equations
			Personal Finances	Writing Linear Equations
		Personal Finances	Graphing an Equation Using Points	

				Personal Finances	Graphing Using Slope and Y-Intercept
				Personal Finances	The Costs of Raising a Family
			A.A.23 Solve literal equations for a given variable	Wages	Review of Equations
			A.A.24 Solve linear inequalities in one variable		
			A.A.25 Solve equations involving fractional expressions Note: Expressions which result in linear equations in one variable.	Personal Finances	Graphing an Equation Using Points
			A.A.26 Solve algebraic proportions in one variable which result in linear or quadratic equations	Personal Finances	Writing Linear Equations
			A.A.27 Understand and apply the multiplication property of zero to solve quadratic equations with integral coefficients and integral roots	Personal Finances	Graphing an Equation Using Points
			A.A.28 Understand the difference and connection between roots of a quadratic equation and factors of a quadratic expression	Personal Finances	Writing Linear Equations
	Students will recognize, use, and represent algebraically patterns, relations, and functions.	Patterns, Relations, and Functions	A.A.29 Use set-builder notation and/or interval notation to illustrate the elements of a set, given the elements in roster form		
A.A.30 Find the complement of a subset of a given set, within a given universe					
A.A.31 Find the intersection of sets (no more than three sets) and/or union of sets (no more than three sets)					

		Coordinate Geometry	A.A.32 Explain slope as a rate of change between dependent and independent variables	Personal Finances	Writing Linear Equations
			A.A.33 Determine the slope of a line, given the coordinates of two points on the line		
			A.A.34 Write the equation of a line, given its slope and the coordinates of a point on the line	Personal Finances	Graphing an Equation Using Points
			A.A.35 Write the equation of a line, given the coordinates of two points on the line	Personal Finances	Graphing an Equation Using Points
			A.A.36 Write the equation of a line parallel to the x- or y-axis	Personal Finances	Graphing an Equation Using Points
			A.A.37 Determine the slope of a line, given its equation in any form	Personal Finances	Graphing an Equation Using Points
			A.A.38 Determine if two lines are parallel, given their equations in any form		
			A.A.39 Determine whether a given point is on a line, given the equation of the line	Personal Finances	Graphing an Equation Using Points
			A.A.40 Determine whether a given point is in the solution set of a system of linear inequalities		
			A.A.41 Determine the vertex and axis of symmetry of a parabola, given its equation (See A.G.10)		
		Trigonometric Functions	A.A.42 Find the sine, cosine, and tangent ratios of an angle of a right triangle, given the lengths of the sides		
			A.A.43 Determine the measure of an angle of a right triangle, given the length of any two sides of the triangle		
			A.A.44 Find the measure of a side of a right triangle, given an acute angle		

			and the length of another side		
			A.A.45 Determine the measure of a third side of a right triangle using the Pythagorean theorem, given the lengths of any two sides		
A.G Geometry	Students will use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes.	Shapes	A.G.1 Find the area and/or perimeter of figures composed of polygons and circles or sectors of a circle Note: Figures may include triangles, rectangles, squares, parallelograms, rhombuses, trapezoids, circles, semi-circles, quarter-circles, and regular polygons (perimeter only). A.G.2 Use formulas to calculate volume and surface area of rectangular solids and cylinders	Housing	Decorating and Remodeling
	Students will apply coordinate geometry to analyze problem solving situations.	Coordinate Geometry	A.G.3 Determine when a relation is a function, by examining ordered pairs and inspecting graphs of relations A.G.4 Identify and graph linear, quadratic (parabolic), absolute value, and exponential functions	Checking and Savings Accounts Checking and Savings Accounts Personal Finances Personal Finances Personal Finances Automobile Expenses Checking and Savings Accounts Checking and Savings Accounts	Graphing Exponential Equations Exponential Graphs Plotting a Decay Curve Graphing Using Slope and Y-Intercept Graphing an Equation Using Points Graphs of Equations Comparing Costs Exponential Graphs Plotting a Decay Curve

				Checking and Savings Accounts Personal Finances	Graphing Exponential Equations Graphing Using Slope and Y-Intercept
		A.G.5 Investigate and generalize how changing the coefficients of a function affects its graph	Checking and Savings Accounts Checking and Savings Accounts Checking and Savings Accounts Personal Finances	Checking and Savings Accounts Checking and Savings Accounts Personal Finances	Plotting a Decay Curve Exponential Graphs Graphing Exponential Equations Graphing Using Slope and Y-Intercept
		A.G.6 Graph linear inequalities			
		A.G.7 Graph and solve systems of linear equations and inequalities with rational coefficients in two variables (See A.A.10)	Wages Personal Finances Personal Finances	Personal Finances Personal Finances	Solving Two-Step Equations Graphing an Equation Using Points Graphing Using Slope and Y-Intercept
		A.G.8 Find the roots of a parabolic function graphically Note: Only quadratic equations with integral solutions.			
		A.G.9 Solve systems of linear and quadratic equations graphically Note: Only use systems of linear and quadratic equations that lead to solutions whose coordinates are integers.	Automobile Expenses		Comparing Costs
		A.G.10 Determine the vertex and axis			

			of symmetry of a parabola, given its graph (See A.A.41) Note: The vertex will have an ordered pair of integers and the axis of symmetry will have an integral value.		
A.M Measurement	Students will determine what can be measured and how, using appropriate methods and formulas.	Units of Measurement	A.M.1 Calculate rates using appropriate units (e.g., rate of a space ship versus the rate of a snail)	Automobile Expenses Automobile Expenses Personal Finances Transportation Recreation and Spending	Operating Expenses Other Car Topics Writing Linear Equations Distance Buying Food and Eating Out
	Students will understand that all measurement contains error and be able to determine its significance.	Error and Magnitude	A.M.2 Solve problems involving conversions within measurement systems, given the relationship between the units		
A.S Statistics and Probability	Students will collect, organize, display, and analyze data.	Organization and Display of Data	A.M.3 Calculate the relative error in measuring square and cubic units, when there is an error in the linear measure		
			A.S.1 Categorize data as qualitative or quantitative		
			A.S.2 Determine whether the data to be analyzed is univariate or bivariate		
			A.S.3 Determine when collected data or display of data may be biased		
			A.S.4 Compare and contrast the appropriateness of different measures of central tendency for a given data set		
A.S.5 Construct a histogram, cumulative frequency histogram, and a box-and-whisker plot, given a set of					

			data		
			A.S.6 Understand how the five statistical summary (minimum, maximum, and the three quartiles) is used to construct a box-and-whisker plot		
			A.S.7 Create a scatter plot of bivariate data		
			A.S.8 Construct manually a reasonable line of best fit for a scatter plot and determine the equation of that line		
		Analysis of Data	A.S.9 Analyze and interpret a frequency distribution table or histogram, a cumulative frequency distribution table or histogram, or a box-and-whisker plot		
			A.S.10 Evaluate published reports and graphs that are based on data by considering: experimental design, appropriateness of the data analysis, and the soundness of the conclusions		
			A.S.11 Find the percentile rank of an item in a data set and identify the point values for first, second, and third quartiles		
			A.S.12 Identify the relationship between the independent and dependent variables from a scatter plot (positive, negative, or none)		
			A.S.13 Understand the difference between correlation and causation		
			A.S.14 Identify variables that might have a correlation but not a causal relationship		
			A.S.15 Identify and describe sources		
	Students will make predictions	Predictions from			

that are based upon data analysis.	Data	of bias and its effect, drawing conclusions from data		
		A.S.16 Recognize how linear transformations of one-variable data affect the data's mean, median, mode, and range	Deductions, Taxes, and Insurance	Mean, Median, and Mode
		A.S.17 Use a reasonable line of best fit to make a prediction involving interpolation or extrapolation		
Students will understand and apply concepts of probability.	Probability	A.S.18 Know the definition of conditional probability and use it to solve for probabilities in finite sample spaces		
		A.S.19 Determine the number of elements in a sample space and the number of favorable events		
		A.S.20 Calculate the probability of an event and its complement		
		A.S.21 Determine empirical probabilities based on specific sample data		
		A.S.22 Determine, based on calculated probability of a set of events, if:		
		A.S.22.a some or all are equally likely to occur		
		A.S.22.b one is more likely to occur than another		
		A.S.22.c whether or not an event is certain to happen or not to happen		
		A.S.23 Calculate the probability of:		
		A.S.23.a a series of independent events		
		A.S.23.b a series of dependent events		



			A.S.23.c two mutually exclusive events		
			A.S.23.d two events that are not mutually exclusive		