

**Trinity Area School District
Template for Curriculum Mapping, 2012-2013**

<p>Course: Financial Algebra Grade(s): 11 Designer(s): Alex Skroupa</p>	<p>Overview of Course (Briefly describe what students should understand and be able to do as a result of engaging in this course): In Financial Algebra, the mathematics necessary for daily living is embedded in the content that directly relates to financial decisions adults make in their daily lives. The mathematical formulas, functions, and pictorial representations used in Financial Algebra assist students in making sense of the financial world around them through mathematical modeling and equip them with the ability to make sound financial decisions based on data. This course is designed to incorporate the introductory elements of algebra: variables, functions (basic, exponential), equations (single-step, multi-step, linear, quadratic), inequalities, graphs, and systems of equations, systems of inequalities, exponents, polynomials, and factoring in real life situations. In addition, basic probability and statistics will be studied in context. Students will spend considerable time evaluating, simplifying, and solving various types of equations using the order of operations. Students will evaluate and graph simple and more complex functions by hand, create scatterplots, compare and contrast parallel and perpendicular lines, use tables to examine data closely, and compare and contrast direct and inverse variation. Students develop a firm grasp of the underlying mathematical concepts while using algebra and concepts of geometry. Consistent problem-solving strategies will be introduced and utilized to assist in developing strong mathematical skills. Students will also use technology to anchor skills, determine areas where remediation is necessary and complete lessons to move toward proficiency on the Algebra 1 Keystone test.</p>
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Overarching Big Ideas, Enduring Understandings, and Essential Questions
 (These “spiral” throughout the entire curriculum.)

Big Idea (A Big Idea is typically a noun and always transferable within and among content areas.)	Standard(s) Addressed (What Common Core Standard(s) and/or PA Standard(s) addresses this Big Idea?)	Enduring Understanding(s) (SAS refers to Enduring Understandings as “Big Ideas.” EUs are the understandings we want students to carry with them after they graduate. EUs will link Big Ideas together. Consider having only one or two EUs per Big Idea.)	Essential Question(s) (Essential Questions are broad and open ended. Sometimes, EQs can be debated. A student’s answer to an EQ will help teachers determine if he/she truly understands. Consider having only one or two EQs per Enduring Understanding.)
Variable	CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents. CC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems.	Quantities are used to form expressions, equations and inequalities. An expression refers to a quantity but does not make a statement about it. An equation (or an inequality) is a statement about the quantities it mentions. Using variables in place of	How can you represent quantities, patterns, and relationships? Why do we use variables? How do you represent relationships between quantities that are not equal?

	CC.2.1.HS.C.3 Write functions or sequences that model relationships between two quantities.	numbers in equations (or inequalities) allows the statement of relationships among numbers that are unknown or unspecified.	What strategies can be used to solve for unknowns in algebraic equations? When are algebraic and numeric expressions used? How do variables help you model real-world situations?
Properties	CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents. CC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems. CC.2.2.HS.D.5 Use polynomial identities to solve problems. CC.2.1.HS.C.3 Write functions or sequences that model relationships between two quantities.	In the transition from arithmetic to algebra, attention shifts from arithmetic operations (addition, subtraction, multiplication & division) to use of the properties of these operations. All the facts of arithmetic and algebra follow from certain properties.	How are properties related to algebra? How can you simplify expressions involving exponents? How are the properties of real numbers related to polynomials?
Equivalence	CC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems. CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials. CC.2.2.HS.D.6 Extend the knowledge of rational functions to rewrite in equivalent forms.	Any algebraic equations can be represented using symbols in an infinite number of ways, where each representation has the same solution. Equivalent equations are equations that have the same solution(s). Mathematical properties of equality and inverse operations can be used to find equivalent equation.	Can equations that appear to be different be equivalent? Can inequalities that appear to be different be equivalent? How can you represent numbers less than 1 using exponents? Can two algebraic expressions that appear to be different be equivalent? How are radical expressions represented? How are rational expressions represented?

<p>Solving Equations & Inequalities</p>	<p>CC.2.1.HS.F.2 Apply properties of rational and irrational to solve real world or mathematical problems.</p> <p>CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.</p> <p>CC.2.2.HS.D.1 Interpret the structure of expressions to represent a quantity in terms of its context.</p> <p>CC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems.</p> <p>CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p>CC.2.2.HS.D.6 Extend the knowledge of rational functions to rewrite in equivalent forms.</p> <p>CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.</p> <p>CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p> <p>CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.</p>	<p>Solving an equation is the process of rewriting the equation to make what it says about its variable(s) as simple as possible. Properties of numbers and quality can be used to transform an equation (or inequality) into equivalent, simpler equations (or inequalities) in order to find solutions. Useful information about equations and inequalities (including solutions) can be found by analyzing graphs or tables. The numbers and types of solutions vary predictably, based on the type of equation.</p>	<p>How can you solve equations?</p> <p>How can you solve inequalities?</p> <p>How can you solve a system of equations or inequalities?</p> <p>How can you solve a quadratic equation?</p> <p>How can you solve a radical equation?</p> <p>How can you solve a rational equation?</p>
<p>Proportionality</p>	<p>CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.</p>	<p>Proportionality involves a relationship in which the ratio of two quantities remains constant as the corresponding values of the quantities change. In a proportional</p>	<p>What kinds of relationships can proportions represent?</p>

	<p>CC.2.1.HS.F.2 Apply properties of rational and irrational to solve real world or mathematical problems.</p> <p>CC.2.1.HS.F.3 Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs, and data displays.</p>	relationship there are an infinite number of ratios equal to this constant ratio.	What does the slope of a line indicate about the line?
Function	<p>CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.</p> <p>CC.2.1.HS.F.2 Apply properties of rational and irrational to solve real world or mathematical problems.</p> <p>CC.2.1.HS.F.3 Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs, and data displays.</p> <p>CC.2.2.HS.D.4 Understand the relationship between zeros and factors of polynomials to make generalizations about functions and their graphs.</p> <p>CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships</p> <p>CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p> <p>CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of</p>	A function is a relationship between variables in which each value of the output variable. Functions can be represented in a variety of ways, such as graphs, tables, equations, or words. Each representation is particularly useful in certain situations.	<p>How can you represent and describe functions?</p> <p>What information does the equation of a line give you?</p> <p>What are the characteristics of exponential functions?</p> <p>What are the characteristics of quadratic functions?</p> <p>What are the characteristics of square root functions?</p> <p>What are the characteristics of rational functions?</p>

	<p>equations/inequalities algebraically and graphically.</p> <p>CC.2.2.HS.C.1 Use the concept and notations of functions to interpret and apply them in terms of their context.</p> <p>CC. 2.2.HS.C.2 Graph and analyze functions and use their properties to make connections between the different representations.</p> <p>CC.2.2.HS.C.3 Write functions or sequences that model relationships between two quantities.</p> <p>CC. 2.2.HS.C.5 Construct and compare linear, quadratic, and exponential models to solve problems.</p> <p>CC. 2.2.HS.C.6 Interpret functions in terms of the situations they model.</p>		
Modeling	<p>CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems</p> <p>CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships</p> <p>CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p> <p>CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.</p>	<p>Many real-world mathematical problems can be represented algebraically. These representations can lead to algebraic solutions. A function that models a real-world situation can then be used to make estimates or predictions about future occurrences.</p>	<p>Can functions describe real-world situations?</p> <p>How can you make predictions based on a scatter plot?</p> <p>Can systems of equations model real-world situations?</p> <p>How can you use functions to model real-world situations?</p>

	<p>CC. 2.2.HS.C.5 Construct and compare linear, quadratic, and exponential models to solve problems.</p> <p>CC. 2.2.HS.C.6 Interpret functions in terms of the situations they model.</p>		
Data Collection & Analysis	<p>CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations of measurement when reporting quantities</p> <p>CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships</p> <p>CC. 2.4.HS.B.1 Summarize, represent, and interpret data on a single count or measurement variable.</p> <p>CC.2.4.HS.B.3 Analyze linear models to make interpretations based on the data.</p>	<p>Sampling techniques are used to gather data from real-world situations. If the data are representative of the larger population, inferences can be made about the population. Biased sampling techniques yield data unlikely to be representative of the larger population. Sets of numerical data are described using measures of central tendency and dispersion.</p>	<p>How can collecting and analyzing data help you make decisions or predictions?</p>
Data Representation	<p>CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships</p> <p>CC. 2.4.HS.B.1 Summarize, represent, and interpret data on a single count or measurement variable.</p> <p>CC.2.4.HS.B.2 Summarize, represent, and interpret data on two categorical and quantitative variables.</p> <p>CC.2.4.HS.B.3 Analyze linear models to make interpretations based on the data.</p>	<p>The most appropriate data representation depends on the type of data- quantitative or qualitative, and univariate or bivariate. Line plots, box plots, and histograms are different ways to show distribution of data over a possible range of values.</p>	<p>How can you make and interpret different representations of data?</p>

	<p>CC.2.4.HS.B.4 Recognize and evaluate random processes underlying statistical experiments.</p> <p>CC.2.4.HS.B.5 Make inference and justify conclusions based on sample surveys, experiments, and observational studies.</p> <p>CC. 2.4.HS.B.6 Use the concepts of independence and conditional probability to interpret data</p> <p>CC.2.4.HS.B.7 Apply the rules of probability to compute probabilities of compound events in a uniform probability model.</p>		
Probability	<p>CC.2.4.HS.B.4 Recognize and evaluate random processes underlying statistical experiments.</p> <p>CC.2.4.HS.B.5 Make inference and justify conclusions based on sample surveys, experiments, and observational studies.</p> <p>CC.2.4.HS.B.6 Use the concepts of independence and conditional probability to interpret data</p> <p>CC.2.4.HS.B.7 Apply the rules of probability to compute probabilities of compound events in a uniform probability model.</p>	<p>Probability expresses the likelihood that a particular event will occur. Data can be used to calculate an experimental probability, and mathematical properties can be used to determine a theoretical probability. Either experimental probability or theoretical probability can be used to make predictions or decisions about future events. Various counting methods can be used to develop theoretical probabilities.</p>	<p>How is probability related to real-world events?</p>

Big Ideas, Enduring Understandings, and Essential Questions Per Unit of Study
 (These do NOT “spiral” throughout the entire curriculum, but are specific to each unit.)

Month of Instruction (In what month(s) will you teach this unit?)	Title of Unit	Big Idea(s) (A Big Idea is typically a noun and always transferable within and among content areas.)	Standard(s) Addressed (What Common Core Standard(s) and/or PA Standard(s) addresses this Big Idea?)	Enduring Understanding(s) (SAS refers to Enduring Understandings as “Big Ideas.” EUs are the understandings we want students to carry with them after they graduate. EUs will link Big Ideas together. Consider having only one or two EUs per Big Idea.)	Essential Question(s) (Essential Questions are broad and open ended. Sometimes, EQs can be debated. A student’s answer to an EQ will help teachers determine if he/she truly understands. Consider having only one or two EQs per Enduring Understanding.)	Common Assessment(s)* (What assessments will all teachers of this unit use to determine if students have answered the Essential Questions?)	Common Resource(s)* Used (What resources will all teachers of this unit use to help students understand the Big Ideas?)
August	Everybody on Track	Properties Variable Function Equivalence Data Representation Data Collection & Analysis Proportionality Solving Equations & Inequalities Modeling	ALL ALGEBRA 1 standards will be diagnosed via ALEKS	Algebra is important and useful in everyday life. Passing the Keystone test is important for graduation and for proficiency on tests needed for future jobs.	What do I need to do to pass the Keystone? What strategies will I use to complete 85% of the ALEKS pie? What are my strengths and weaknesses in Algebra 1?	ALEKS will be used to diagnose student strengths and weaknesses and to develop plans for each student to be successful on the Algebra 1 Keystone. ALEKS will be used throughout the curriculum.	ALEKS – Every student will be attempting to complete, at least, 85% of their pie.

September	The Stock Market	<p>Properties Variable Function Equivalence Data Representation Data Collection & Analysis Proportionality Solving Equations & Inequalities Modeling</p>	<p>CC.2.1.HS.C.3 Write functions or sequences that model relationships between two quantities.</p> <p>CC.HS.2.1.C.6 Interpret functions in terms of the situation they model.</p> <p>CC.2.1.HS.F.2 Apply properties of rational and irrational to solve real world or mathematical problems.</p> <p>CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>CC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems.</p> <p>CC.2.2.HS.D.6 Extend the knowledge of rational functions to rewrite in equivalent forms.</p>	<p>Algebra uses symbols to represent quantities that are unknown or that vary. Mathematical phrases and real-world relationships can be represented using symbols and operations.</p> <p>Relationships that are always true for real numbers are called properties, which are rules used to rewrite and compare expressions.</p> <p>Proportions can be used to compute financial responsibility of business ownership based on ratios and percentages.</p> <p>Spreadsheets can be used to write formulas.</p> <p>Data is often represented in charts and graphs.</p> <p>Equations can be used to compute: gains and losses from stock trades, fees involved in buying and selling stocks, post-</p>	<p>How can you represent quantities, patterns, and relationships?</p> <p>Why do we use variables?</p> <p>How are properties related to algebra?</p> <p>How do businesses start?</p> <p>What stock market data is available on a daily basis?</p> <p>How can stock data be displayed?</p> <p>How can stock data be smoothed?</p> <p>How is stock market data transmitted to the investor?</p> <p>What is a stock portfolio?</p> <p>How do you buy and sell stock?</p> <p>Why do corporations split stocks?</p>	<p>Chapter tests</p> <p>Projects</p> <p>Study Island (where applicable)</p> <p>ALEKS on Fridays – individualized to fill in the pie</p>	<p>Algebra 1, Prentice Hall Mathematics, 2007</p> <p>Financial Algebra, Cengage Learning, 2014 Chapter 1</p> <p>On-Line Resources ALEKS every Friday</p> <p>Study Island (where applicable)</p> <p>Order of Operations War Game</p> <p>Order of Operations Puzzle</p> <p><u>Vocabulary:</u></p> <ul style="list-style-type: none"> • Capital • Sole proprietorship • Profit • Personally liable • Partnership • Corporation • Shares of stock • Shareholders • Limited liability • Public Corporation • Stock market
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			<p>CC.2.4.HS.B.3 Analyze linear models to make interpretations based on the data.</p>	<p>split outstanding shares and share price for different kinds of stock splits, the fractional value amount that a shareholder receives after a split, dividend income, yield and interest on bonds.</p>	<p>If shareholders own a corporation, are they entitled to some of the profits?</p>	<ul style="list-style-type: none"> • Trades • NYSE • NASDAQ • Last • Close • High • Low • Volume • Sales in 100s • 52-week high • 52-week low • Net change • After-hours trading • Spreadsheet • Cell • Order of Operations • Rounding • Percents • Proportions • Decimals • Stock chart • Stock bar Chart • Candlestick chart • Smoothing techniques • Simple moving average (SMA) • Arithmetic average (mean) • Lagging indicators • Fast moving average
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							<ul style="list-style-type: none">• Slow moving average• Crossover• Dow Jones Industrial Average (DJIA)• Ticker• Stock symbol• Ticker symbol• Trading volume• Trading price• Directional arrow• Total value of a trade• Uptick• Downtick• Money flow• Portfolio• Round lot• Odd lot• Trade• Gross capital gain• Gross capital loss• Stockbroker• Broker fee• Commission• Discount broker• At the market• Limit order• Net proceeds• Stock split• Outstanding shares
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							<ul style="list-style-type: none"> • Market capitalization or market cap • Traditional stock split • Reverse stock split • Penny stock • Fractional part of a share. • Dividend • Dividend income • Income stock • Yield • Growth stock • Preferred stock • Common stock • Corporate bond • Face value • Matures • Ratio • Rate • Unit Rate • Solution of an equation • Equivalent Equations • Inverse Operations
October	Modeling a Business	Properties Variable Function Equivalence Data Representation	CC.2.1.HS.C.3 Write functions or sequences that model relationships between two quantities.	Equations can describe, explain, and predict various aspects of the real world.	Can equations that appear to be different be equivalent? How can you solve one-step, two-step,	Chapter tests Projects Study Island (where applicable)	<u>Algebra 1</u> , Prentice Hall Mathematics, 2007 <u>Financial Algebra</u> , Cengage Learning, 2014

		<p>Data Collection & Analysis Proportionality Solving Equations & Inequalities Modeling</p>	<p>CC.2.1.HS.C.6 Interpret functions in terms of the situations they model.</p> <p>CC.2.1.HS.F.2 Apply properties of rational and irrational to solve real world or mathematical problems.</p> <p>CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.</p> <p>CC.2.2.HS.D.1 Interpret the structure of expressions to represent a quantity in terms of its context.</p> <p>CC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems.</p> <p>CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.</p>	<p>Equivalent equations are equations that have the same solution(s).</p> <p>Scatterplots can be used to interpret trends.</p> <p>Lines and curves can be drawn from scatterplot data.</p> <p>The functions (lines and curves) drawn from scatterplot data can be used to predict future trends.</p> <p>Correlation Coefficients enables you to judge how closely a line fits the data.</p> <p>Equilibrium is where the supply and demand curves intersect.</p> <p>Expense equations can be created based on fixed and variable expenses.</p> <p>The break-even point is where the expense and revenue functions intersect.</p>	<p>and multi-step linear equations as well as equations with variables on both sides?</p> <p>How do you use the properties of equality and inverse operations to find equivalent equations?</p> <p>How do scatterplots display trends?</p> <p>How can you develop functions from scatterplots?</p> <p>How do you use linear regression to fit a line to a scatterplot?</p> <p>How can the past predict the future?</p> <p>How do manufacturers decide the quantity of a product they will produce?</p> <p>How are slopes of supply and demand curves interpreted?</p>	<p>ALEKS on Fridays – individualized to fill in the pie</p>	<p>Chapter 2</p> <p>On-Line Resources ALEKS every Friday</p> <p>Study Island (where applicable)</p> <p><u>Vocabulary:</u></p> <ul style="list-style-type: none"> • Data • Univariate data • Bivariate data • Scatterplot • Trend • Correlation • Positive correlation • Negative correlation • Causal relationship • Explanatory variable • Response variable • Line of best fit • Linear regression line • Least squares line • Domain • Range • Interpolation • Extrapolation
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		<p>CC.2.2.HS.D.6 Extend the knowledge of rational functions to rewrite in equivalent forms.</p> <p>CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p> <p>CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.</p> <p>CC.2.4.HS.B.3 Analyze linear models to make interpretations based on data.</p>	<p>A profit equation can be developed if you have the expense and revenue equations.</p> <p>A profit equation can be used to determine the maximum profit and price at which that maximum is attained.</p> <p>Multiple pieces of information, equations, and methodologies can be used to model a new business.</p>	<p>What is the difference between fixed and variable expenses?</p> <p>What expenses are involved in the manufacturing process?</p> <p>How can expense and revenue be graphed?</p> <p>What is the meaning of Break-even point?</p> <p>What happens when revenue equals expense?</p> <p>How do you find the break-even point?</p> <p>How do you develop a profit equation if you have the expense and revenue equations?</p> <p>How do you use a profit equation to determine the maximum profit and price at which that maximum is attained?</p>	<ul style="list-style-type: none"> • Correlation coefficient • Strong correlation • Weak correlation • Moderate correlation • Slope • y- intercept • widget • function • demand function • demand • supply • wholesale price • markup • retail price • equilibrium • shift • intersection • variable expenses • fixed expenses • expense equation • revenue • revenue equation • profit • loss • breakeven point • nonlinear function • second-degree equation
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					<p>How do revenue and expenses contribute to profit calculation?</p> <p>How can you mathematically model a start-up business?</p>		<ul style="list-style-type: none"> quadratic equations parabola leading coefficient maximum value vertex of a parabola axis of symmetry zero net difference quadratic formula dependence transitive property of dependence
November	Banking Services	<p>Properties</p> <p>Variable Function</p> <p>Equivalence</p> <p>Data Representation</p> <p>Data Collection & Analysis</p> <p>Proportionality</p> <p>Solving Equations & Inequalities</p> <p>Modeling</p>	<p>CC.2.1.HS.C.6 Interpret functions in terms of the situation they model.</p> <p>CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.</p> <p>CC.2.1.HS.F.2 Apply properties of rational and irrational to solve real world or mathematical problems.</p>	<p>It is important to keep close track of the amount of money you have in your accounts.</p> <p>You can reconcile a checking account with a bank statement by hand and by using a spreadsheet.</p> <p>It is important to understand interest rates to help you choose the best checking and savings accounts for your current life situation.</p>	<p>How do people gain access to money they keep in the bank?</p> <p>How do you complete a check register?</p> <p>How do checking accounts work?</p> <p>How do checking account users make sure that their records are correct?</p> <p>What types of savings accounts do banks offer customers?</p>	<p>Chapter tests</p> <p>Projects</p> <p>Study Island (where applicable)</p> <p>ALEKS on Fridays – individualized to fill in the pie</p> <p>Skip sections 3-7 and 3-8</p>	<p><u>Algebra 1</u>, Prentice Hall Mathematics, 2007</p> <p><u>Financial Algebra</u>, Cengage Learning, 2014</p> <p>Chapter 3</p> <p>On-Line Resources ALEKS every Friday</p> <p>Study Island (where applicable)</p> <p><u>Vocabulary:</u></p> <ul style="list-style-type: none"> checking account check electronic funds transfer (EFT)

		<p>CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.</p> <p>CC.2.2.HS.D.1 Interpret the structure of expressions to represent a quantity in terms of its context.</p> <p>CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p>CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p> <p>CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.</p>	<p>Compound interest can be computed by using a table or via a formula.</p> <p>The more often the entity compounds, the larger the reward.</p>	<p>How do you compute simple interest?</p> <p>What is compound interest?</p> <p>What is the difference between simple and compound interest?</p> <p>What are the advantages of using the compound interest formula?</p> <p>How can interest be compounded continuously?</p> <p>Which is better – Compounding continuously or compounding daily?</p>		<ul style="list-style-type: none"> • payee • drawer • check clearing • deposit slip • direct deposit • hold • endorse • Canceled • insufficient funds • overdraft protection • automated teller machine (ATM) • personal identification number (PIN) • maintenance fee • interest • single account • joint account • check register • debit • credit • account number • bank statement • statement period • starting balance • ending balance • outstanding deposits • outstanding checks • balancing • reconciling • savings account
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							<ul style="list-style-type: none">• interest• interest rate• principal• simple interest• simple interest formula• statements savings• minimum balance• money market account• certificate of deposit (CD)• maturity• compound interest• annual compounding• semiannual compounding• quarterly compounding• daily compounding• crediting• compound interest formula• annual percentage rate (APR)• annual percentage yield (APY)• limit
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							<ul style="list-style-type: none"> • finite • infinite • continuous compounding • exponential base (e) • continuous compound interest formula • Base • Power • Exponent • Exponential function
Fit in around Thanksgiving and Christmas breaks.	Data Analysis & Probability	Properties Variable Function Equivalence Data Representation Data Collection & Analysis Proportionality Solving Equations & Inequalities Modeling Data Representation Probability	<p>CC. 2.4.HS.B.1 Summarize, represent, and interpret data on a single count or measurement variable.</p> <p>CC.2.4.HS.B.3 Analyze linear models to make interpretations based on the data.</p> <p>CC.2.4.HS.B.4 Recognize and evaluate random processes underlying statistical experiments.</p> <p>CC.2.4.HS.B.5 Make inference and justify conclusions based on sample surveys, experiments, and observational studies.</p>	Different measures can be used to interpret and compare sets of data. When collecting data, it is important for the results to accurately represent the situation. Data can be organized in intervals. Different measures can be used to interpret and compare sets of data. Separating data into subsets is a useful way to summarize and compare data sets. Counting methods can be used to find the number of possible ways to choose objects with and without regard to order.	<p>How can collecting and analyzing data help you make decisions or predictions?</p> <p>How can you make and interpret different representations of data?</p> <p>How is probability related to real-world events?</p>	<p>Chapter tests</p> <p>Projects</p> <p>Study Island (where applicable)</p> <p>ALEKS on Fridays – individualized to fill in the pie</p>	<p><u>Algebra 1</u>, Prentice Hall Mathematics, 2007</p> <p>On-Line Resources ALEKS every Friday</p> <p>Study Island (where applicable)</p> <p>2.6-2.7 Stations Activity</p> <p>Probability Lab</p> <p>Probability Jeopardy</p> <p>Data Analysis Jeopardy</p> <p><u>Vocabulary:</u></p> <ul style="list-style-type: none"> • Probability

			<p>CC. 2.4.HS.B.6 Use the concepts of independence and conditional probability to interpret data</p> <p>CC.2.4.HS.B.7 Apply the rules of probability to compute probabilities of compound events in a uniform probability model.</p> <p>CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations of measurement when reporting quantities</p> <p>CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships.</p>	<p>The probability of an event tells us how likely it is that the event will occur. Probabilities can be found by reasoning mathematically or by using experimental data. The probability of a compound event can sometimes be found from expressions of the probabilities of simpler events.</p>			<ul style="list-style-type: none"> • Outcome • Sample Space • Event • Theoretical Probability • Complement of an Event • Odds • Experimental Probability • Independent Events • Dependent Events • Scatter Plot • Positive Correlation • Negative Correlation • No Correlation • Trend Line • Measures of Central Tendency • Mean • Median • Mode • Outlier • Range • Stem-and-leaf plot
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December	Consumer Credit	<p>Properties Variable Function Equivalence Data Representation Data Collection & Analysis Proportionality Solving Equations & Inequalities Modeling</p>	<p>CC.2.1.HS.C.3 Write functions or sequences that model relationships between two quantities.</p> <p>CC.2.1.HS.C.6 Interpret functions in terms of the situations they model.</p> <p>CC.2.1.HS.F.2 Apply properties of rational and irrational to solve real world or mathematical problems.</p> <p>CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.</p> <p>CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p> <p>CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities</p>	<p>You can compute your monthly loan payments from a table or compute monthly payments using a formula.</p> <p>You can compute finance charges on loans and installment purchases.</p> <p>You can compute an average daily balance on a credit card.</p> <p>It is important to understand the information on your credit card statement and how the entries are calculated.</p>	<p>What do you need to know before using credit?</p> <p>How do compute finance charges for installment purchases and/or loans?</p> <p>What information do you need to know before taking out a loan?</p> <p>What do I need to know to use credit cards?</p> <p>How do you compute an average daily balance?</p> <p>What information does a credit card statement give you?</p>	<p>Chapter tests</p> <p>Projects</p> <p>Study Island (where applicable)</p> <p>ALEKS on Fridays – individualized to fill in the pie</p> <p>Skip 4-3 & 4-6</p>	<p><u>Algebra 1</u>, Prentice Hall Mathematics, 2007</p> <p><u>Financial Algebra</u>, Cengage Learning, 2014 Chapter 4</p> <p>On-Line Resources ALEKS every Friday</p> <p>Study Island (where applicable)</p> <p><u>Vocabulary:</u></p> <ul style="list-style-type: none"> • credit • debtor • creditor • asset • earning power • credit rating • Credit reporting agency • FICO score • promissory note • principal • Annual Percentage Rate (APR) • cosigner • life insurance • prepayment privilege • prepayment penalty • wage assignment
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			algebraically and graphically.				<ul style="list-style-type: none">• wage garnishment• balloon payment• lending institution• collateral• credit card• impulse buying• Revolving charge account• charge card• Truth-in-Lending Act• Fair Credit Billing Act• Fair Debt Collection Practices Act• debit card• Electronic Funds Transfer Act• Average daily balance• mean• billing cycle• credit card statement• account number• credit line• available credit• billing date• payment due date• transactions• debit/credit
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							<ul style="list-style-type: none"> • previous balance • payments/credits • new purchases • late charge • finance charge • new balance • minimum payment • number of days in billing cycle • APR • Monthly periodic rate • credit calendar • average daily balance • Billing date
January	Automobile Ownership	<p>Properties Variable Function Equivalence Data Representation Data Collection & Analysis Proportionality Solving Equations & Inequalities Modeling</p>	<p>CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.</p> <p>CC.2.2.HS.D.1 Interpret the structure of expressions to represent a quantity in terms of its context.</p> <p>CC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems.</p>	<p>Owning an automobile is a tremendous responsibility. The costs of gas, repairs, and insurance are high. Driving an automobile can also be dangerous. As a driver, you have a responsibility to yourself, your passengers, pedestrians, and other motorists. So, before embarking upon that first automobile purchase, you need to be aware of the physics and finances of operating a car. Being equipped with</p>	<p>How do buyers and sellers use classified ads for automobiles?</p> <p>How do you compute Sales Tax?</p> <p>How do you compute the cost of an ad?</p> <p>How can statistics help you negotiate the sale or purchase of a car?</p> <p>Why are graphs used so frequently in</p>	<p>Chapter tests</p> <p>Projects</p> <p>Study Island (where applicable)</p> <p>ALEKS on Fridays – individualized to fill in the pie</p>	<p><u>Algebra 1</u>, Prentice Hall Mathematics, 2007</p> <p><u>Financial Algebra</u>, Cengage Learning, 2014</p> <p>Chapter 5</p> <p>On-Line Resources ALEKS every Friday</p> <p>Study Island (where applicable)</p> <p><u>Vocabulary:</u></p> <ul style="list-style-type: none"> • sales tax • domain

			<p>CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships.</p> <p>CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.</p> <p>CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p> <p>CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.</p>	<p>this knowledge will make your years on the road safer, less expensive, and more enjoyable.</p> <p>It is important to understand the abbreviations used in automobile advertising.</p> <p>You can use statistics to help analyze the numbers, or data, that you compile to compare automobile prices. Measures of central tendency are single numbers designed to represent a “typical” value for the data.</p> <p>Graphs gather and present information in an easy-to-see format that can be interpreted quicker than information from a long list.</p> <p>Trends in data that a long list can hide can be seen on a graph.</p>	<p>mathematics, and in daily life?</p> <p>What is an outlier?</p> <p>Why is having auto insurance so important?</p> <p>What is the most important type of auto coverage?</p> <p>How do you compute insurance costs?</p> <p>How do you compute payments on insurance claims?</p> <p>What is the value of your car?</p> <p>What are the expenses involved in car ownership and operation?</p> <p>How does your car lose its value?</p> <p>What data is important to a driver?</p> <p>What is the relationship between</p>		<ul style="list-style-type: none"> • piecewise function • split function • cusp • statistics • data • measures of central tendency • mean • arithmetic average • outlier • median • ascending order • descending order • skew • resistant • range • quartiles • lower quartile • frequency distribution • frequency • stem-and-leaf plot • box-and-whisker plot • boxplot • modified boxplot • liable • negligent • automobile insurance • premium • claim
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				<p>It is important to learn about different types of auto insurance coverage.</p> <p>You can save money and comparison shop for different insurance policies.</p> <p>Most cars depreciate over time. Cars depreciate at different rates. You can use historical data to predict the depreciation on your chosen vehicle.</p> <p>There are many expenses that contribute to the running and upkeep of a car, for the purposes here, the expense function is composed of the fixed expense down payment that you make when you purchase a car and the variable expense monthly payment that you make to the lending institution.</p> <p>There have been many advances in the</p>	<p>distance, fuel economy, and gas usage?</p> <p>How can you use mathematics to become a safer driver?</p> <p>How do you calculate reaction time and distance, braking distance and total stopping distance in the English Standard System?</p> <p>What data might a car leave behind at the scene of an accident?</p> <p>What is the difference between a skid mark and a yaw mark?</p>		<ul style="list-style-type: none"> • liability insurance • bodily injury liability (BI) • property damage liability (PD) • uninsured/underinsured motorist protection (UMP) • personal injury protection (PIP) • no-fault insurance • comprehensive insurance • collision insurance • car-rental insurance • emergency road service insurance • actuary • surcharge • deductible • depreciate • appreciate • straight line depreciation • slope • Straight Line Depreciation Equation • dollar value • historical data
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			<p>information that the driver has available to make trips safer, smarter, and more energy efficient.</p> <p>Economizing on fuel is a financial necessity.</p> <p>It takes time to stop a moving car safely.</p> <p>By thinking about these reaction time and distance, braking distance and total stopping distance, you will understand how speeding, tailgating, texting while driving, and driving while intoxicated can cost you in damages or even your life!</p> <p>Taking skid and yaw measurements, as well as other information from the scene, can lead re-constructionists to the speed of the car when entering the skid. The formulas used are often presented in court and are recognized for</p>			<ul style="list-style-type: none"> • historical depreciation • exponential decay • exponential depreciation • odometer • electronic odometer • mechanical odometer • trip odometer • speedometer • fuel economy measurement • miles per gallon (mpg) • kilometers per liter (km/L) • English Standard System • Metric System • distance formula • currency exchange rate • reaction time • thinking time • reaction distance • braking distance • total stopping distance • accident reconstructionist • skid mark
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			<p>their strength in modeling real world automobile accidents.</p> <p>Graphs can be used to visually represent relationships between two variable quantities as they change. The value of one variable may be uniquely determined by the value of another variable. Such relationships may be represented using words, tables, equations, sets of ordered pairs and graphs. Functions (linear and non-linear) are a special type of relations where each value in the domain is paired with exactly one value in the range. Some functions can be graphed or represented by equations. The set of all solutions of an equation forms its graph. A graph may include solutions that do not appear in a table. A real-world graph should show only points that make sense in the given situation. Many real</p>			<ul style="list-style-type: none"> • shadow skid mark • anti-lock braking system (ABS) • yaw mark • skid speed formula • drag factor • braking efficiency • skid distance • chord • middle ordinate
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				world functional relationships can be represented by equations. Equations can be used to find the solution of given real-world problems.			
January - February	Employment Basics	Properties Variable Function Equivalence Data Representation Data Collection & Analysis Proportionality Solving Equations & Inequalities Modeling	<p>CC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems.</p> <p>CC.2.1.HS.C.1 Use the concept and notation of functions to interpret and apply them in terms of their context.</p> <p>CC.2.1.HS.C.2 Graph and analyze functions and use their properties to make connections between the different representations.</p> <p>CC.2.1.HS.C.6 Interpret functions in terms of the situations they model.</p> <p>CC.2.1.HS.C.6 Interpret functions in terms of the situations they model.</p>	<p>Choose a job you love, and you will never have to work a day in your life.</p> <p>About 70% of the time you are awake during your lifetime is spent at work. Knowing that this much of your lifetime is spent at work your waking time is spent at a job makes it extremely important to learn and understand as much as possible about the jobs you hold, the salaries you make, the benefits your job offers, and the taxes you pay.</p> <p>In today's competitive job market, it's important to realize that finding a job is in itself a full time job.</p> <p>When choosing a career, you usually choose a</p>	<p>How do people in different stages of their careers find employment?</p> <p>What is the most important thing in determining your chosen career?</p> <p>Where do you look for jobs?</p> <p>What is a W-4 Form?</p> <p>When considering job, what should you consider (other than Salary)?</p> <p>How do you compare annual salaries vs. hourly wages to determine which job pays more?</p> <p>How do you compute Overtime?</p>	<p>Chapter tests</p> <p>Projects</p> <p>Study Island (where applicable)</p> <p>ALEKS on Fridays – individualized to fill in the pie</p>	<p><u>Algebra 1</u>, Prentice Hall Mathematics, 2007</p> <p><u>Financial Algebra</u>, Cengage Learning, 2014</p> <p>Chapter 6</p> <p>On-Line Resources ALEKS every Friday</p> <p>Study Island (where applicable)</p> <p><u>Vocabulary:</u></p> <ul style="list-style-type: none"> • employment agency • fee paid • resume • Form W-4 Employee's Withholding Allowance Certificate • benefits • discount • weekly

		<p>CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.</p> <p>CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p>	<p>field of interest. You then need to develop skills in that area. Your career will be based on the training you receive in college, trade school, or as an on-the-job as an apprentice.</p> <p>You can search for jobs in the classified ad section of your newspaper or online, or you can employ an agency to help you.</p> <p>You need to understand the abbreviations found in classified ads.</p> <p>It is important to always check your paycheck for accuracy.</p> <p>Laws involve the number of hours employees can work, and conditions in the workplace. It is important to have a clear understanding of your rights and responsibilities as an employee.</p>	<p>What do you need to know to make sure each paycheck is correct?</p> <p>What is the minimum wage?</p> <p>What jobs base their pay according to the amount produced?</p> <p>How do you compare pay via commissions or royalties versus a regular salary?</p> <p>What are the advantages or disadvantages of getting paid only by commission?</p> <p>What are pieceworkers? What are the benefits of piecework to both the employer and the worker?</p> <p>What are the some common employee benefits offered by employers?</p>	<ul style="list-style-type: none"> • biweekly • semimonthly • monthly • direct deposit • hourly rate • regular hours • overtime hours • overtime hourly rate • time-and-a-half overtime • double-time pay • gross pay • minimum wage • Commission • royalty • pieceworker • piecework rate • employee benefits • insurance • paid vacation time • paid holiday time • retirement plans • stock ownership plans • childcare leave • family health care • individual health care • pension • unemployment insurance
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			<p>It is important to understand how certain occupations pay their workers based on sales and production, not just on hours worked, and how you would check the accuracy of your paycheck when doing this kind of work.</p> <p>Unemployment insurance is a government program that offers benefits to eligible employees who, through no fault of their own, have become unemployed. These workers must meet certain eligibility requirements. The program is meant to offer temporary assistance to people who are out of a job, but <u>looking for replacement employment</u>. Employee benefits add to the value of employment beyond the salary for that job.</p> <p>It is important to keep your Social Security</p>	<p>What benefits are required?</p> <p>What is a pension?</p> <p>What are the conditions that must be met to receive unemployment compensation?</p> <p>How do compute the value of/get the most out of your employee benefits?</p> <p>What are Social Security and Medicare?</p> <p>How do you compute paycheck deductions for SS and Medicare?</p>	<ul style="list-style-type: none"> • base period • worker's compensation • Social Security • Federal Insurance Contributions Act (FICA) • FICA tax • Social Security tax • Medicare tax • maximum taxable income • Social Security number
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				number private to prevent identity theft.			
February - March	Income Tax	Properties Variable Function Equivalence Data Representation Data Collection & Analysis Proportionality Solving Equations & Inequalities Modeling	<p>CC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems.</p> <p>CC.2.1.HS.C.1 Use the concept and notation of functions to interpret and apply them in terms of their context.</p> <p>CC.2.1.HS.C.2 Graph and analyze functions and use their properties to make connections between the different representations.</p> <p>CC.2.1.HS.C.6 Interpret functions in terms of the situations they model.</p> <p>CC.2.1.HS.C.6 Interpret functions in terms of the situations they model.</p> <p>CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.</p>	<p>Taxes are the price you pay to benefit from government services.</p> <p>It is important to understand different types of taxes and their uses.</p> <p>To find the tax on your taxable income, you use a tax table or a tax schedule. Tax tables are easier to use than tax schedules, but with a little algebra, you can master the use of the tax schedule.</p> <p>Ratios can help you to determine flat tax.</p> <p>Ratios can be used to show relationships between changing quantities, such as vertical and horizontal change. If the ratio of two variables is constant, then the variables have a special relationship called a direct variation. A line on a graph can be</p>	<p>Who pays taxes?</p> <p>Where does the money come from for police forces, the space program, military defense and national security, health research, social programs, and other government programs?</p> <p>What are some different types of taxes?</p> <p>What is a filing status?</p> <p>How do you compute taxes using tax tables, tax schedules, and tax worksheets?</p> <p>How do you express tax schedules algebraically?</p> <p>How do you construct income tax graphs using compound equations?</p>	<p>Chapter tests</p> <p>Projects</p> <p>Study Island (where applicable)</p> <p>ALEKS on Fridays – individualized to fill in the pie</p>	<p><u>Algebra 1</u>, Prentice Hall Mathematics, 2007</p> <p><u>Financial Algebra</u>, Cengage Learning, 2014 Chapter 7</p> <p>On-Line Resources ALEKS every Friday</p> <p>Study Island (where applicable)</p> <p><u>Vocabulary</u></p> <ul style="list-style-type: none"> • property tax • sales tax • income tax • taxable income • tax • Internal Revenue Service (IRS) • single • married filing jointly • qualifying widow(er) • married filing separately • head of household • flat tax

			<p>CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p>	<p>represented by linear equations. Forms of linear equations include slope-intercept, point-slope, and standard forms. The relationship between two lines can be determined by comparing their slopes and y-intercepts. Two sets of numerical data can be graphed as ordered pairs. If two sets of data are related, a line on the graphs can be used to estimate or predict values.</p> <p>Proportions can be used to compute financial responsibility of an individual's taxes based on ratios and percentages.</p> <p>Proportionality involves a relationship in which the ratio of two quantities remains constant as the corresponding values of the quantities change. In a proportional relationship there are an infinite number of ratios</p>	<p>What does the slope of a line indicate about the line?</p> <p>What information does the equation of a line give you?</p> <p>How can you make predictions based on a scatter plot?</p> <p>How can you graph tax schedules?</p> <p>How does the tax schedule work?</p> <p>Does the person with taxable income of \$13,000 pay the same percent as the person who earns \$13,000,000?</p> <p>What is the difference between a flat tax and a progressive tax?</p> <p>What is a tax bracket?</p> <p>The debate between flat, progressive, and regressive taxes can be a lively one. Which</p>		<ul style="list-style-type: none"> • proportional tax • progressive tax system • tax bracket • regressive tax schedule • gross pay • net pay • take-home pay • paycheck • pay stub • Form W-4 • withholding tax • Form W-2 • Form 1099 • tax-deferred contribution • cafeteria plan • flexible spending account (FSA) • Form 1040EZ • Form 1040A • Form 1040 • dependent • exemption • itemize • standard deduction • voluntary compliance • Form 1040 • Schedule B— Interest and Dividend Income
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			<p>equal to this constant ratio.</p> <p>You can compute how tax percentages depend on income in the tax schedules.</p> <p>You can express tax intervals algebraically with piecewise functions.</p> <p>You can construct income tax graphs using compound equations.</p> <p>Employees have many expenses. These include federal income tax, state income tax, city income tax, Social Security tax, Medicare tax, disability insurance fees, pension plan contributions, dental insurance fees, and medical insurance fees.</p> <p>A W-2 is sent from employers; a 1099 is sent from other institutions as proof of additional income sources.</p>	<p>system would you recommend? Why?</p> <p>How can you express tax intervals algebraically?</p> <p>Why is your take-home pay lower than your salary?</p> <p>What is a W-2 Form used for?</p> <p>What is a 1099?</p> <p>How do you make calculations based on reading pay stubs, W-2, and 1099 forms?</p> <p>What is meant by tax-deferred?</p> <p>How do taxpayers report their income to the government?</p> <p>How do you determine which tax form you should use?</p> <p>What types of things can you deduct on your taxes?</p>	<ul style="list-style-type: none"> • Schedule A—Itemized Deductions • tax credit • tax avoidance • tax evasion Rate of change • Slope • Parent function • Linear parent function • Y intercept • Slope intercept form • Standard form • X intercept • Point slope form • Parallel lines • Perpendicular lines • Negative reciprocal
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				<p>It is important to understand your W-2 and 1099 and check them for accuracy.</p> <p>It is important to understand and know how to complete a 1040EZ, 1040A and 1040.</p> <p>You can lower your tax burden if you learn about taxes—the more you know, the more you can save.</p> <p>It is important to understand the difference between a tax credit and a tax deduction.</p> <p>Deductions lower your taxable income, which means you pay a lower income tax.</p> <p>A tax credit is an amount you subtract from your tax <i>after</i> you looked it up on the tax table. Deductions are subtracted from your income <i>before</i> you look</p>	<p>What is a standard deduction?</p> <p>What does it mean to itemize?</p> <p>What is the difference between tax evasion and tax avoidance?</p> <p>What is the difference between a tax credit and a tax deduction?</p> <p>What are Schedule A and B used for?</p>		
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				<p>up your tax on the tax table.</p> <p>If you use a rule to your advantage to lower your tax burden, you are not breaking any laws. This is called tax avoidance . If you lie about items on your tax return, you are committing tax evasion , which is a crime.</p> <p>Schedule A is used to list your deductions. Schedule B is used to list dividend and interest incomes.</p>			
April – 2 weeks	Independent Living	<p>Properties</p> <p>Variable Function</p> <p>Equivalence</p> <p>Data Representation</p> <p>Data Collection & Analysis</p> <p>Proportionality</p> <p>Solving Equations & Inequalities</p> <p>Modeling</p>	<p>CC.2.2.HS.D.4 Understand the relationship between zeros and factors of polynomials to make generalizations about functions and their graphs.</p> <p>CC.2.2.HS.D.6 Extend the knowledge of rational functions to rewrite in equivalent forms.</p> <p>CC.2.2.HS.D.7 Create and graph equations or inequalities to describe</p>	<p>There are many factors that influence how and where you will live. With so much money involved, you will want to make wise, well-thought-out decisions.</p> <p>You will be spending a large part of your income on housing and household expenses.</p> <p>Moving a building to a new location takes a great deal of mathematics. Math plays a central role in the</p>	<p>Where will you live?</p> <p>What are some different types of homes arrangements?</p> <p>What is a lease/Condo/Cooperative?</p> <p>How do you use data to make sound decisions when considering rentals or purchase?</p>	<p>Chapter tests</p> <p>Projects</p> <p>Study Island (where applicable)</p> <p>ALEKS on Fridays – individualized to fill in the pie</p>	<p><u>Algebra 1</u>, Prentice Hall Mathematics, 2007</p> <p><u>Financial Algebra</u>, Cengage Learning, 2014</p> <p>Chapter 8</p> <p>On-Line Resources</p> <p>ALEKS every Friday</p> <p>Study Island (where applicable)</p> <p><u>Vocabulary</u></p> <ul style="list-style-type: none"> • apartment • tenant

		<p>numbers or relationships.</p> <p>CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.</p> <p>CC.2.4.HS.B.3 Analyze linear models to make interpretations based on data.</p> <p>CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.</p> <p>CC.2.3.HS.A.11 Apply coordinate geometry to prove simple geometric theorems algebraically.</p> <p>CC.2.3.HS.A.14 Apply geometric concepts to model and solve real world problems.</p>	<p>planning, engineering, approvals, finances, and more.</p> <p>Experts agree that as a rule, a prospective renter should budget 25% to 30% of their gross income for rent.</p> <p>You should become familiar with the abbreviations that are used in ads.</p> <p>Square footage is the amount of floor space available.</p> <p>Systems of linear equations can be used to model problems. Systems of equations can be solved by graphing, substitution or eliminating a variable. A linear inequality in two variables has an infinite number of solutions. These solutions can be represented in the coordinate plane as the set of all points on one side of a boundary line. The solutions of a</p>	<p>How do you calculate the affordability of a monthly rent?</p> <p>What is the relationship between square footage and monthly rent?</p> <p>What are the costs you may incur when signing a lease?</p> <p>What should you consider when calculating moving expenses?</p> <p>How can you solve a system of equations or inequalities?</p> <p>How can a system of equations help you to make informed decisions to save money?</p> <p>How much space do you want? How much space do you need?</p> <p>How do you calculate square footage?</p>	<ul style="list-style-type: none"> • landlord • furnished • unfurnished • lease • expire • evict • single-family home • square footage • application deposit • security deposit • floor plan • area • congruent • apothem • perimeter • Monte Carlo method • volume • British Thermal Units (BTUs) • market value • property tax • real estate tax • assessed value • down payment • mortgage • fixed rate mortgage • adjustable rate mortgage • foreclose • homeowner's insurance
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			<p>system of linear inequalities can be represented by the region where the graphs of the individual inequalities overlap. Some problems can be modeled by systems of linear equations</p> <p>Solutions to a linear inequality in two variables can be represented in the coordinate plane as the set of all points on one side of a boundary line. The solutions of a system of linear inequalities can be represented by the region where the graphs of the individual inequalities overlap.</p> <p>Examining a floor plan allows you to make intelligent decisions before you move in. It helps you determine what furniture will fit in each room.</p> <p>It is important to know how to read floor plans and use information in</p>	<p>What is the difference between area and perimeter?</p> <p>How do you compute areas of irregular regions?</p> <p>How do you compute volumes of rectangular solids?</p> <p>What is a floor plan?</p> <p>How do you determine the amount of carpeting needed for a room?</p> <p>How do you determine the amount of topsoil needed for your garden?</p> <p>How do you determine the amount of concrete needed to fill a hole?</p> <p>How are proportions/ratios and scales related?</p>	<ul style="list-style-type: none"> • escrow • front-end ratio • back-end ratio • debt-to-income ratio • balloon mortgage • interest-only mortgage • recurring costs • non-recurring costs • closing • closing costs • earnest money deposit • attorney fee • origination fee • title • title search • points • origination points • discount points • prepaid interest • arrears • transfer tax • amortization table • initial rate • adjustment period • hybrid ARM • condominium • maintenance fee
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			<p>the floor plans to make buying decisions.</p> <p>Air conditioners are sold according to their BTU (British Thermal Units) rating.</p> <p>Buying a house is probably the most expensive investment you will ever make.</p> <p>Market value is the amount for which a house could be sold.</p> <p>Homeowners pay property taxes, also called real estate taxes. The assessed value of a home is an amount used to determine the property taxes. The assessed value may not be the same as the market value.</p> <p>Property taxes help pay for government services, such as schools, libraries, and police.</p> <p>It is important to understand and</p>	<p>What does volume have to do a home?</p> <p>What do you need to know about mortgages?</p> <p>What is the difference between market value and assessed value?</p> <p>What attributes of a home affect market value?</p> <p>What are the differences in mortgage types?</p> <p>What are some additional costs that you may incur when getting a mortgage?</p> <p>What are property taxes used for?</p> <p>How do you compute the monthly cost of paying for a house?</p> <p>What research is necessary before you purchase a home?</p>		<ul style="list-style-type: none"> • co-op apartment • cooperative • landominium • board of directors • equity • Systems of linear equations • Solutions of systems of linear equations • No solution • Infinitely many solutions • Systems of linear inequalities • Solutions of systems of linear inequalities • Substitution method • Elimination method
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				<p>compute the monthly cost of paying for a house.</p> <p>It is important to understand the research that is necessary before you purchase a home.</p> <p>Banks use several factors, including credit rating, to decide if they will lend money. The bank wants to be paid back. They want assurance that the borrowers can afford the monthly payments.</p> <p>A front-end ratio is used by banks to assess potential borrowers.</p> <p>Banks also use the back-end ratio , or debt-to-income ratio , which takes into account a borrower's regular monthly debts, such as car loans, alimony, child support, and credit card bills.</p>	<p>What costs must be researched by a prospective home buyer before committing to the responsibility of a monthly mortgage payment for many years?</p> <p>What is a front-end ratio and how is it computed?</p> <p>What is a debt-to-income ratio and how is it computed?</p> <p>What is a balloon mortgage?</p> <p>What are the advantages and disadvantages to the different types of mortgages?</p> <p>What will the American Dream Cost You?</p> <p>What are closing costs and how do you estimate them?</p>		
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			<p>It is important to look at all costs involved in procuring a mortgage.</p> <p>It is important to determine the different amortization tables to determine the total cost of purchasing your home.</p> <p>Questions to consider before buying a home are: What is the cost of the home? Will you need to make a down payment? Where is the home located? How many rooms does the home have? What is the size of the property you will own? What condition is the house and property in? What type of heating/cooling system does the house have? What is the approximate cost of running the house (electricity, gas, water, and so on)?</p> <p>Recurring costs are costs that occur on a regular basis. Some examples of recurring</p>	<p>How do you compare amortization for different types of mortgages?</p> <p>What questions must you investigate thoroughly before buying a home?</p> <p>What are the differences between one-time and recurring costs?</p> <p>What does the phrase "buyer beware" mean?</p> <p>What alternatives are there to purchasing a single-family home?</p> <p>How do you compute costs of purchasing a cooperative or a condominium?</p> <p>What are the advantages and disadvantages of different forms of homes/housing?</p>	
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				<p>costs are mortgage payments, insurance payments, and property taxes.</p> <p>Non-recurring costs are one-time costs. Moving costs and many of the costs at the closing are non-recurring.</p> <p>Remember that the laws change frequently, so the insurance, utilities and re-financing option analysis should be re-evaluated on a yearly basis.</p> <p>Maintaining your own house requires time as well as money, such as mowing lawns, shoveling snow, and making repairs.</p>	<p>What are some other costs incurred when owning a home?</p> <p>What is equity?</p>		
April – 2 weeks	Planning for Retirement	<p>Properties</p> <p>Variable Function</p> <p>Equivalence</p> <p>Data Representation</p> <p>Data Collection & Analysis</p> <p>Proportionality</p>	<p>CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.</p> <p>CC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems.</p>	<p>You need to start planning for retirement early in your working life. If you don't, you may not have enough money to fund your retirement. Retirement planning can actually affect what job you choose to do when you</p>	<p>Why is the Social Security System (SSS) in such trouble?</p> <p>What are the advantages of purchasing financial protection for your loved ones?</p>	<p>Chapter tests</p> <p>Projects</p> <p>Study Island (where applicable)</p> <p>ALEKS on Fridays – individualized to fill in the pie</p>	<p><u>Algebra 1</u>, Prentice Hall Mathematics, 2007</p> <p><u>Financial Algebra</u>, Cengage Learning, 2014</p> <p>Chapter 9</p> <p>On-Line Resources</p> <p>ALEKS every Friday</p>

		<p>Solving Equations & Inequalities Modeling</p>	<p>CC.2.1.HS.C.6 Interpret functions in terms of the situations they model.</p> <p>CC.2.1.HS.C.1 Use the concept and notation of functions to interpret and apply them in terms of their context.</p>	<p>start working in your 20s!</p> <p>It is important to become knowledgeable about the pros and cons of each type of retirement income, so you are ready when you retire.</p> <p>Present and future values of single and periodic investment accounts are often retirement accounts.</p> <p>Some employers offer 401k retirement plans in which they match the employee's contribution up to a fixed amount of the salary made. This is extremely beneficial to the employee and is an excellent employee benefit. The money contributed by both the employer and the employee earns interest and is tax-deferred.</p> <p>It is important to understand the benefits paid by Social Security</p>	<p>What is the difference between using pre-tax dollars and after-tax dollars when saving for retirement?</p> <p>What are the differences between an IRA, a Roth IRA, a 401k, a KEOGH and a 403b and what are the advantages and disadvantages of each?</p> <p>How do you calculate future values of retirement investments that are both single deposit and periodic?</p> <p>How do you calculate an employer's matching contribution to a retirement account?</p> <p>How do you compute federal income tax on benefits that are paid under Social Security?</p> <p>How does the government help me</p>		<p>Study Island (where applicable)</p> <p><u>Vocabulary</u></p> <ul style="list-style-type: none"> • retirement • semi-retired • pre-tax dollars • after-tax investments • individual retirement account (IRA) • traditional IRA • tax-deferred • Roth IRA • tax-exempt • 401k • Keogh plan • 403b • Old-Age, Survivors, and Disability Insurance (OASDI) • Social Security benefit • full retirement age • Social Security statement • Social Security credit • deferred compensation
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			<p>and how they are computed.</p> <p>Social Security benefits are based on your earnings over your working lifetime. Benefits can start as early as age 62, but are reduced. People born after 1960 must wait to start collecting their full retirement benefit until age 67, their full retirement age.</p> <p>It is important to compare the entries on the SS statement to your W-2 each year and to keep the copies on file.</p> <p>Deferred compensation is money that is given or received at a later date usually in return for services that have been given or received at the present time. A pension is a deferred compensation plan. A pension is income given to an employee after retirement that is given at the discretion of an</p>	<p>finance my retirement?</p> <p>What are SS and Medicare, why were they instituted and what are their benefits?</p> <p>How does Social Security work?</p> <p>How do you compute the amount of SS you will receive each month?</p> <p>Is SS income taxed?</p> <p>How does Medicare work?</p> <p>What is deferred compensation?</p> <p>How do you calculate pension benefits using various formulas?</p> <p>How do you calculate pension benefits during and after vesting periods?</p>	<ul style="list-style-type: none"> • pension • defined benefit plan • vested • single life annuity • qualified joint and survivor annuity • lump-sum payment • Pension Benefit Guaranty Corporation (PBGC) • Employee Retirement Income Security Act (ERISA) • Pension Protection Act • cost of living adjustment (COLA) • Consumer Price Index (CPI) • beneficiary • premium • mortality table • face value • term life insurance • group term life insurance
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				<p>employer. There is no mandate for an employer to fund a pension plan for employees. The compensation from the plan is usually tax-deferred and the contributions that the employer makes for the employees are tax-deductible for the employer.</p> <p>It is important to understand different types of retirement plans and how your pension is computed for each.</p> <p>It is important to understand the advantages and disadvantages of different types of life insurance.</p> <p>Life insurance can help pay funeral costs, lawyer's fees, loans, mortgages, and other living expenses that dependents might not be able to afford after</p>	<p>What are the differences and the advantages and disadvantages a defined benefit plan and a defined contribution plan, such as a 401k?</p> <p>What does it mean to be vested?</p> <p>When it is time to have your pension benefits paid out to you (usually upon retirement), what are some common options that are available?</p> <p>What are the different formulas used to calculate a pension?</p> <p>What is a COLA? What is the CPI? What is the difference between a COLA and CPI?</p> <p>What are the advantages of purchasing financial protection for your loved ones?</p>		<ul style="list-style-type: none"> • level term insurance • decreasing term insurance • increasing term insurance • permanent life insurance • whole life insurance • cash value • universal life insurance • variable life insurance
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				<p>the death of the primary income provider.</p> <p>There are four main types of life insurance policies, each has advantages and disadvantages.</p> <p>Life insurance policies must be read carefully—be sure to know exactly what you are paying for.</p>	<p>What is life insurance used for?</p> <p>How do you compute the cost of different types of life insurance?</p> <p>What are the advantages and disadvantages of different types of life insurance?</p>		
May	Prepare a Budget	<p>Properties</p> <p>Variable Function</p> <p>Equivalence</p> <p>Data Representation</p> <p>Data Collection & Analysis</p> <p>Proportionality</p> <p>Properties</p> <p>Variable Function</p> <p>Equivalence</p> <p>Data Representation</p> <p>Data Collection & Analysis</p> <p>Proportionality</p> <p>Solving Equations & Inequalities</p> <p>Modeling</p>	<p>CC.2.1.HS.F.3 Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs, and data displays.</p> <p>CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p>CC.2.2.HS.D.4 Understand the relationship between zeros and factors of polynomials to make generalizations about functions and their graphs.</p>	<p>A budget tells us what we can't afford, but it doesn't keep us from buying it.</p> <p>Whether you are planning for just yourself or for an entire family, a sound budget makes both sense and cents!</p> <p>Electricity is measured in watts. The amount of electricity used is measured in watt-hours.</p> <p>Natural gas and water are sold by the cubic foot, which represents the amount of space the gas or water occupies, not the weight. The unit</p>	<p>How do you organize all of your expenses so you can plan responsibly?</p> <p>How much will it cost to run the utilities in your home?</p> <p>What is the difference between how electricity and gas/water companies charge?</p> <p>How do you compute the cost of electric, gas, oil, and water for the home?</p> <p>How do you compute the cost of using specific appliances for</p>	<p>Chapter tests</p> <p>Projects</p> <p>Study Island (where applicable)</p> <p>ALEKS on Fridays – individualized to fill in the pie</p>	<p><u>Algebra 1</u>, Prentice Hall Mathematics, 2007</p> <p><u>Financial Algebra</u>, Cengage Learning, 2014</p> <p>Chapter 10</p> <p>On-Line Resources ALEKS every Friday</p> <p>Study Island (where applicable)</p> <p><u>Vocabulary:</u></p> <ul style="list-style-type: none"> • utility • meter • watt • watt-hour • kilowatt-hour (kWh)

			<p>CC.2.2.HS.D.6 Extend the knowledge of rational functions to rewrite in equivalent forms.</p>	<p>ccf represents 100 cubic feet. The amount of space is the volume.</p> <p>It is important to understand how utilities are measured, how to read your meters how your bill is calculated and how you can save money with smart decisions.</p> <p>It is important to compare the cost of cell phone calls, text messaging, Internet service, and cable television plans to get the best service for your money and to ensure that you have enough money in your budget.</p> <p>Electronic utilities such as Internet access, cell phones, and television as a part of daily life has a big effect on a household budget.</p> <p>Household could save hundreds of dollars by using cell phone family plans, combining Internet, cable TV, and</p>	<p>specific lengths of time?</p> <p>How do you compute the time it takes an energy-saving appliance to pay for itself?</p> <p>How do you read your gas, electric and water meters?</p> <p>How does the meter reading relate to your utility bill?</p> <p>What are some ways that you can reduce your utility bills?</p> <p>How do you compute the cost of cell phone calls, text messaging, Internet service, and cable television?</p> <p>How much do electronic utilities (cell phone, internet, cable, etc.) cost to use?</p> <p>What should you consider when determining the best,</p>	<ul style="list-style-type: none"> • cubic foot • ccf • volume • previous reading • present reading • electronic utilities • budget matrix • matrix • row • column • electronic matrix • budget check-off matrix • order of a matrix • pie chart • line graph • bar graph • budget line graph • sector • central angle • cash flow analysis • cash flow • pro-rate • envelope accounting system • frequency budget plan • year-long expense budget plan • net worth
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			<p>phone providers, or switching companies or plans; therefore it is important to compare and contrast plans.</p> <p>It is important to understand billing procedures and costs of different electronic utilities.</p> <p>Policies vary from company to company and from state to state.</p> <p>Remember that plan offerings change frequently, so the analysis should be re-evaluated on, at least, a yearly basis.</p> <p>It is important to create and use a budget check-off matrix.</p> <p>It is usually helpful to visualize and interpret a budget using a pie chart, a bar graph, a line graph, and a budget line graph to ensure that your income and expenses are balanced.</p>	<p>most cost-efficient plan for your needs?</p> <p>How can you visualize your budget?</p> <p>How do you create and use a budget check-off matrix?</p> <p>How do you visualize and interpret a budget using a pie chart, a bar graph, a line graph, and a budget line graph?</p> <p>What are all the expenses you need to consider when writing and evaluating your personal budget?</p> <p>How do you plan for expenses, reduce debt, and grow savings?</p> <p>How do you develop and interpret a cash flow chart?</p> <p>How do you develop and interpret a</p>	<ul style="list-style-type: none"> • assets • liabilities • debt reduction plan • debt-to-income ratio
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				<p>Charts serve as graphic organizers for understanding your personal budget and can help you understand how and when money is coming in and going out so that you can plan accordingly. This can be accomplished by developing and interpreting a cash flow chart, a frequency budget plan and a year-long expense budget plan.</p> <p>A budget is a personalized plan.</p> <p>Budgets are more than just a matrix of numbers that chart your income and expenditures. It is a well-thought-out plan that is the result of careful examination of your financial goals and obligations. Budgets allow you to plan for future spending and saving. They give you control over your financial situation and allow you to make financially sound</p>	<p>frequency budget plan?</p> <p>How do you develop and interpret a year-long expense budget plan?</p> <p>Why develop a budget?</p> <p>Why is important to monitor your cash flow?</p> <p>Why should you set aside money for savings?</p> <p>What does the phrase "living within your means" mean?</p> <p>What is the difference between a fixed and variable expense?</p> <p>What are the advantages and disadvantages of an envelope accounting plan, a frequency budget plan and a year-long expense</p>		
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				<p>modifications to your lifestyle based upon comparing what was planned and what actually occurred.</p> <p>Budgets can also be motivators. You can celebrate when you accomplish your goals, and you can reflect and adjust when you find that you were not able to attain what you had planned for. A budget can be the product of both financial and nonfinancial goals.</p> <p>Whichever budget structure you decide to use, it is important to review your budget periodically. Make alterations where necessary. Shift allocations to increase savings and reduce debt. Always pay your bills on time to avoid late charges. Keep accurate records. Set achievable goals and review them regularly.</p>	<p>budget plan and when is each appropriate?</p> <p>How are you going to ensure that your incoming and outgoing monies are balanced?</p> <p>What is net worth and how do you calculate it?</p> <p>Why is it important to keep your debt-to-income ratio low?</p>		
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				DO YOUR VERY BEST TO STICK TO YOUR BUDGET!			
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* Some teachers may need to think about the assessments and resources used in order to determine the Big Ideas, Enduring Understandings, and Essential Questions embedded in their courses. At this point in your curriculum mapping, you might want to ignore the “Common Assessments” and “Common Resources Used” columns. However, you may use them if you wish.