



Math Literacy Development Course

978-1-63545-096-5



To learn more about all our offerings
Visit [Knewton.com](https://www.knewton.com)



Source	Author(s) (Text or Video)	Title(s)	Link (where applicable)
OpenStax Text	Lynn Marecek, Santa Ana College MaryAnne Anthony-Smith, Formerly of Santa Ana College	Prealgebra	OpenStax
OpenStax	Lynn Marecek, Santa Ana College MaryAnne Anthony-Smith, Formerly of Santa Ana College	Elementary Algebra	Elementary Algebra: OpenStax
Mathispower4u Videos	James Sousa	MathIsPower4U	Mathispower4u Videos

Alta Math Literacy was developed to meet the scope and sequence of a typical one-semester math literacy course. To develop the course, Knewton used three main sources of content: OpenStax, videos created by a Math Professor we have partnered with, and a team of Subject Matter Experts. The SMEs come from diverse backgrounds and are all academics in the field of mathematics.

Alta Math Literacy has two instructional sequences for every learning objective, giving students multiple opportunities to learn new concepts. Between our OpenStax text, video content, and Knewton SMEs, we were able to solicit ideas from math instructors and students at all levels of higher education. Alta Math Literacy covers the typical breadth of mathematical application topics, and also provides the necessary depth to ensure the course is manageable and engaging for instructors and students alike.

Math Literacy | Table of Contents

Chapter 1: Foundations

1.1 Introduction to Whole Numbers

- Place Values and Rounding
 - Identify the place value of a digit and write a whole number using words or digits
 - Round whole numbers
- Prime Factorization and Least Common Multiples
 - Identify multiples and apply divisibility tests
 - Find the prime factorization of a number
 - Find the least common multiple of two numbers

1.2 Language of Algebra

- Use the Language of Algebra
 - Translate algebraic expressions, equations, and inequalities into English and recognize expressions and equations
 - Evaluate a whole number raised to a power and understand the terminology
- Order of Operations and Simplifying Expressions
 - Simplify an expression using order of operations
 - Evaluate an expression
 - Identify coefficients and identify and combine like terms
- Rewrite English Phrases into Algebraic Expressions
 - Translate an English phrase to an algebraic expression
 - Translate English phrases from applications into algebraic expressions

1.3 Operations with Integers

- Intro to Integers and Absolute Value
 - Order integers using inequality symbols and determine the opposite of integers or variables
 - Evaluate an absolute value expression
 - Simplify an expression involving absolute value using order of operations
- Adding and Subtracting Integers
 - Add integers
 - Subtract integers
 - Add and subtract integers using order of operations
- Multiply and Divide Integers
 - Multiply integers
 - Divide integers

1.4 Simplifying Expressions

- Simplifying Expressions with Integers
 - Simplify expressions with integers using order of operations
 - Evaluate a variable expression with integers
-

- Algebraic Expressions and Applications with Integers
 - Translate an English phrase to an algebraic expression with integers
 - Use integers in applications

1.5 Fractions

- Visualize Fractions
 - Identify when fractions are equivalent
 - Simplify a fraction
- Multiplying and Dividing Fractions
 - Multiply fractions
 - Divide fractions
 - Simplify complex fractions
- Understanding Expressions with Fractions
 - Simplify expressions written with a fraction bar
 - Translate an English phrase to an expression with fractions
- Add and Subtract Fractions
 - Add or subtract fractions with a common denominator
 - Add or subtract fractions with different denominators
- Algebraic Expressions with Fractions
 - Use the order of operations to simplify complex fractions and expressions with multiple operations
 - Evaluate variable expressions with fractions

1.6 Decimals

- Understanding and Rounding Decimals
 - Name and write decimals
 - Round decimals
 - Operations with Decimals
 - Perform operations with decimals
 - Add and subtract decimals
 - Multiply decimals
 - Divide decimals
 - Decimals, Fractions, and Percents
 - Convert between fractions and decimals
 - Simplify expressions with fractions and decimals
 - Convert between decimals and percents
 - Estimation
 - Estimate a value by rounding a whole number
 - Estimate a value by rounding a decimal
-

1.7 Square Roots and the Real Number System

- Square roots and real numbers
 - Evaluate a square root
 - Identify rational numbers and irrational numbers
 - Identify real numbers
- Fractions and Decimals on the Number Line
 - Locate fractions on a number line and write inequality statements involving fractions
 - Locate decimals on a number line and write inequality statements involving decimals

1.8 Properties of the Real Number System

- Properties of the Real Number System
 - Use the commutative and associative properties
 - Identify additive and multiplicative inverses of a number
 - Understand the multiplication and division properties of zero
 - Simplify expressions using properties of identities, inverses, and zero
- The Distributive Property
 - Simplify expressions using the distributive property
 - Simplify expressions by distributing a negative number

Chapter 2: Logic and Critical Thinking

2.1 Inductive and Deductive Reasoning

- Principles of inductive and deductive reasoning
 - Understand and use inductive reasoning
 - Understand and use deductive reasoning
- Set Fundamentals
 - Represent a set using a written description and the roster method
 - Represent a set using set builder notation
 - Identify the cardinal number for a set
 - Determine if two sets are equivalent
 - Determine if two sets are equal
- Sets Applications
 - Identify subsets, universal sets, and empty sets
 - Distinguish between finite and infinite sets
 - Identify subsets and proper subsets using set notation
 - Determine the number of subsets and proper subsets in a given set

2.2 Venn Diagrams, Sets, and Set Operations

- Venn Diagrams from Sets
 - Illustrate the universal set, a set, and complement of a set using a Venn diagram
 - Illustrate two sets using Venn diagram and set notation
-

- Venn Diagram and Set Operations
 - Determine the complement of a set using Venn diagrams and proper set notation
 - Determine the intersection of two sets using Venn diagrams and set notation
 - Determine the union of two sets using Venn diagrams and set notation
- Set Operations
 - Perform operations on sets
 - Find the difference and cartesian product of two sets

2.3 Statements and Logic

- Statement and Logical Connectives
 - Use Venn diagrams to find the result of set operations on two sets
 - Determine the cardinal number of a union of two finite sets
 - Identify and negate simple statements
 - Identify and negate quantified statements
 - Identify logical connectives and compound statements
 - Converting Logic Statements to English
 - Represent and/or/not statements in symbolic form and English
 - Represent conditional statements in symbolic form and English
 - Write biconditional statements in symbolic form and English
 - Truth Tables for Negation, Conjunction, and Disjunction
 - Construct a truth table for a statement with a conjunction and/or a negation and determine its truth value
 - Construct a truth table for a statement with a disjunction and/or a negation and determine its truth value
 - Truth Tables for Compound, Conditional and Biconditional Statements
 - Construct a truth table for a compound statement with a conjunction and disjunction and determine its truth value
 - Construct a truth table for a conditional statement and determine its truth value
 - Construct a truth table for a biconditional statement and determine its truth value
 - Identify self-contradictions, tautologies, and implications
 - Equivalent Statements
 - Determine if two symbolic statements are equivalent using a truth table
 - Determine if two statements given in English are equivalent using a truth table
 - Determine if two statements are equivalent using De Morgan's laws
 - Euler Diagrams and Syllogistic Arguments
 - Identify syllogistic arguments
 - Represent a syllogistic argument with a Euler diagram
 - Determine if a syllogistic argument is valid with a Euler diagram
-

Chapter 3: Introduction to Algebra

3.1 Solving Equations with Subtraction and Addition

- Solve Equations with the Subtraction and Addition Properties of Equality
 - Verify a solution of an equation
 - Solve an equation using the subtraction and addition properties of equality
 - Solve an equation involving fractions or decimals using the subtraction and addition properties of equality
 - Solve an equation that requires simplification using the subtraction and addition properties of equality
- Application Problems and the Subtraction and Addition Properties of Equality
 - Translate an English sentence to an algebraic equation and solve using the subtraction and addition properties of equality
 - Use the subtraction and addition properties of equality to solve application problems

3.2 Solving Equations with Division and Multiplication

- Solve Equations Using the Division and Multiplication Properties of Equality
 - Solve an equation using the division and multiplication properties of equality
 - Solve an equation involving fractions or decimals using the division and multiplication properties of equality
 - Solve an equation that requires simplification using the division and multiplication properties of equality
- Application Problems and the Division and Multiplication Properties of Equality
 - Translate an English sentence to an algebraic equation and solve using the division and multiplication properties of equality
 - Use the division and multiplication properties of equality to solve application problems
- Solve Equations with Variables and Constants on Both Sides
 - Solve an equation with constants on both sides
 - Solve an equation with variables on both sides
 - Solve an equation with constants and variables on both sides

3.3 Solving Linear Equations, General Strategies, Fractions and Decimals

- General Strategies for Solving Linear Equations
 - Solve an equation using the distributive property with variables on one side
 - Solve an equation using the distributive property with variables on both sides
 - Classify equations as conditional, identity, or a contradiction
 - Solve Equations with Fractions
 - Solve an equation involving fractions with variables on both sides
 - Solve an equation involving fractions by eliminating the fractions
 - Solve an equation involving fractions by eliminating the fractions and other steps
 - Solve Linear Equations with Decimals
 - Solve an equation involving decimals with variables on both sides
 - Solve an equation involving decimals by clearing the decimals
-

- Distance, Rate, and Time and Literal Equations
 - Use the distance, rate, and time formula
 - Solve a formula for a specific variable

3.4 Solving Linear Inequalities

- Inequalities, the Number line and Interval Notation
 - Graph an inequality on the number line
 - Express an inequality using interval notation
- Solving One-Step Linear Inequalities
 - Solve an inequality using the subtraction and addition properties of inequality
 - Solve an inequality using the division and multiplication properties of inequality
- Solving Linear Inequalities
 - Solve an inequality that requires simplification
 - Classify an inequality as conditional, identity, or contradiction
 - Translate an English sentence into an inequality and solve

3.5 Math Models & Applications

- An Introduction to Problem Solving
 - Use a problem-solving strategy for word problems
 - Solve a number problem
 - Solve a number problem involving consecutive integers
- Solve Mixture Applications
 - Solve coin word problems
 - Solve ticket and stamp word problems
 - Use the mixture model to solve word problems [DELETE]
- Solve Uniform Motion Applications
 - Solve uniform motion applications
- Solve Applications with Linear Inequalities
 - Solve one-step applications with linear inequalities
 - Solve applications with linear inequalities

Chapter 4: Applied Linear Graphing

4.1 Graphs and the Coordinate System

- Reading Graphs and the Rectangular Coordinate System
 - Plot points on a rectangular coordinate system
 - Verify the solution to an equation in two variables
 - Complete a table of solutions to a linear equation in two variables
 - Find solutions to a linear equation
 - Graph Linear Equations in Two Variables
 - Recognize the relationship between the solutions of an equation and its graph
 - Graph a linear equation by plotting points
-

- Graph a linear equation in standard form by plotting points
- Graph vertical and horizontal lines
- Intercepts on the Coordinate Plane
 - Identify the x- and y-intercepts on a graph
 - Find the x- and y-intercepts from an equation of a line
 - Graph a line using the x- and y-intercepts

4.2 Working with Slope

- Understanding Slope
 - Use a geoboard to model slope
 - Use the relationship between rise and run to find the slope of a line from its graph
- Find the slope of horizontal and vertical lines
 - Use the slope formula to find the slope of a line between two points
 - Graph a line given a point and the slope
 - Determine the slope in applications
- Slope-Intercept Form
 - Identify the slope and y-intercept from an equation of a line and relate a graph to the equation
 - Graph a line given its equation using its slope and y-intercept
 - Graph lines using a variety of methods
 - Graph and interpret applications of slope-intercept
- Parallel and Perpendicular Lines
 - Use slopes to identify parallel lines
 - Use slopes to identify perpendicular lines

4.3 Equation of a Line

- Find the Equation of a Line
 - Find an equation of the line given the slope and y-intercept
 - Find an equation of the line given the slope and a point
 - Find an equation of the line given two points
- Equations of Parallel and Perpendicular Lines
 - Find an equation of a line parallel to a given line
 - Find an equation of a line perpendicular to a given line

4.4 Graphs of Linear Inequalities

- Graphing Linear Inequalities
 - Verify solutions to an inequality in two variables
 - Recognize the relationship between the solutions of an inequality and its graph
 - Graph a linear inequality

4.5 Functions and Function Notation

- Introduction to Functions
 - Identify domain and range from a set of ordered pairs
 - Determine whether a relation represents a function
-

- Use the vertical line test to identify functions
- Find the domain and range of a function defined by a graph
- Function Notation
 - Understand function notation
 - Evaluate a function using function notation

Chapter 5: Systems of Linear Equations

5.1 Solving Systems of Equations

- Solve Systems of Equations by Graphing
 - Determine whether an ordered pair is a solution of a system of linear equations
 - Solve a system of linear equations by graphing
 - Determine the number of solutions of a linear system
 - Solve applications of systems of linear equations by graphing
- Solve Systems of Equations by Substitution
 - Solve a system of linear equations by substitution
 - Solve applications of systems of linear equations by substitution
- Solving Systems of Linear Equations by Elimination
 - Solve a system of linear equations by elimination
 - Solve applications of systems of equations by elimination
 - Solve a system of linear equations using a variety of methods

5.2 Applications with Systems of Equations

- Systems of Linear Equations and Problem Solving
 - Translate a word problem to a system of equations
 - Solve a word problem using a system of equations
 - Solve an application in geometry using a system of equations
 - Solve uniform motion applications using a system of equations
- Mixture Problems and Systems of Equations
 - Solve mixture applications involving tickets or money with a system of equations
 - Solve mixture applications involving concentrations using a system of equations
 - Solve interest applications using a system of equations
- Solving Systems of Linear Inequalities
 - Determine whether an ordered pair is a solution of a system of linear inequalities
 - Solve a system of linear inequalities by graphing
 - Solve applications of systems of linear inequalities

Chapter 6: Polynomials

6.1 Operations with Polynomials

- Adding and Subtracting Polynomials
 - Identify the types and degrees of polynomials
 - Add and subtract monomials
-

- Add and subtract polynomials
- Evaluate a polynomial for a given value
- Product Properties of Exponents
 - Simplify numerical expressions containing exponents
 - Simplify expressions using the product property for exponents
 - Simplify expressions using the power property for exponents or the product to a power property for exponents
 - Simplify expressions by applying several properties
- Multiplying Polynomials
 - Multiply monomials
 - Multiply a polynomial by a monomial
 - Multiply a binomial by a binomial
 - Multiply a trinomial by a binomial
- Special Products of Binomials
 - Square a binomial using the binomial squares pattern
 - Multiply conjugates using the product of conjugates pattern
 - Recognize and use the appropriate special product pattern

6.2 Dividing Monomials and Polynomials

- Quotient Properties of Exponents and Dividing Monomials
 - Simplify expressions using the quotient property for exponents and the exponent of zero
 - Simplify expressions using the quotient to a power property
 - Simplify expressions by applying several quotient properties of exponents
 - Divide monomials
- Dividing Polynomials
 - Divide a polynomial by a monomial
 - Divide a polynomial by a binomial using polynomial long division

6.3 Exponents and Scientific Notation

- Negative Exponents
 - Use the definition of a negative exponent
 - Simplify expressions with integer exponents
- Scientific Notation
 - Convert from decimal notation to scientific notation
 - Convert from scientific notation to decimal notation
 - Multiply and divide using scientific notation

6.4 Simplifying Square Roots

- Evaluating, Estimating, and Approximating Square Roots
 - Evaluate square root expressions
 - Estimate square roots
 - Approximate square roots
-

- Simplifying Square Roots with Variables and Square Roots in Applications
 - Simplify variable expressions with square roots
 - Use square roots in applications

Chapter 7: Factoring

7.1 Factoring Quadratic Trinomials

- The Greatest Common Factor and Factoring by Grouping
 - Find the greatest common factor of two or more expressions
 - Factor the greatest common factor from a polynomial
 - Factor a polynomial by grouping
- Factoring Trinomials with a Leading Coefficient of 1
 - Factor a trinomial of the form x^2+bx+c where c is positive
- Factoring Trinomials with a Leading Coefficient of 2
 - Factor a trinomial of the form x^2+bx+c where c is negative
- Factoring Trinomials with a Leading Coefficient of 3
 - Factor a trinomial of the form $x^2+bxy+cy^2$
- Factoring Trinomials with a Leading Coefficient Other than 1
 - Factor a trinomial of the form ax^2+bx+c with a GCF
- Factoring Trinomials with a Leading Coefficient Other than 2
 - Factor a trinomial using trial and error
- Factoring Trinomials with a Leading Coefficient Other than 3
 - Factor a trinomial using the 'ac' method
- Factoring Special Products
 - Factor a perfect square trinomial
 - Factor a difference of squares
 - Factor sums and differences of cubes

7.2 General Strategy for Factoring Polynomials

- Choosing a Factoring Strategy
 - Recognize and use the appropriate method to factor a polynomial completely
- Solving Quadratic Equations by Factoring
 - Solve a factored quadratic equation using the zero product property
 - Solve a quadratic equation by factoring
 - Solve applications modeled by quadratic equations

Chapter 8: Percents Ratios and Proportions

8.1 Rate and Ratios

- Writing Ratios and Using Ratios in Applications
 - Write a ratio as a fraction
 - Use ratios in applications
-

- Unit Rates and Unit Prices
 - Write a rate as a fraction
 - Find unit rates
 - Find unit price
 - Translate phrases to expressions as rates or ratios

8.2 Proportions and Applications

- Definition of Percent and Converting Percents
 - Use the definition of percent
 - Convert percents to fractions
 - Convert percents to decimals
 - Convert decimals and fractions to percents
- Solve applications using proportions
 - Translate and solve basic percent equations
 - Solve applications of percent
 - Find percent increase and percent decrease
- Working with Proportion
 - Use the definition of proportion
 - Solve a problem involving proportions
- Writing and Solving Percent Proportions
 - Write percent equations as proportions
 - Translate and solve percent proportions

8.3 Percent Applications and Financial Mathematics

- Simple Interest and Discounts
 - Solve sales tax applications
 - Solve commission applications
 - Solve discount applications
 - Solve mark-up applications
- Working with Percent
 - Translate and solve basic percent equations
 - Solve basic applications of percent
 - Find percent increase or percent decrease
- Simple Interest Applications
 - Use the simple interest formula
 - Solve simple interest applications
- Percent, Sales Tax, and Income Tax
 - Convert between percents, decimals, and fractions
 - Determine the final cost of an item including sales tax and discounts
 - Calculate income tax

- Simple Interest and Discount Loans
 - Calculate simple interest
 - Calculate interest discounts on a discounted loan

8.4 Compound Interest

- Evaluating Exponential Functions
 - Evaluate exponential functions
 - Evaluate exponential functions with base e
- Calculate periodically compounded interest
 - Calculate compound interest
 - Calculate continuously compounded interest
- Applications of Compound Interest
 - Calculate effective annual yield
 - Calculate the value of an annuity

8.5 Advanced Applications - Financial Mathematics

- Annuities, Stocks, and Bonds
 - Calculate the payment needed to achieve a determined future value
 - Define stock terminology
 - Read a stock table
- Installment Loans and Amortization
 - Calculate the monthly payment and interest cost for a mortgage
 - Construct a loan amortization schedule
 - Choose the best installment loan plan
- Credit Cards and interest
 - Recognize key features of credit cards
 - Calculate the average daily balance of a credit card
 - Determine interest to be paid on a card's next billing date

Chapter 9: Descriptive Statistics and Probability Basics

9.1 Graphic Displays of Data

- Frequency Tables
 - Constructing and understanding frequency tables for a set of data
 - Construct and understand relative frequency tables for a set of data
 - Construct and understand cumulative relative frequency tables for a set of data
 - Histograms
 - Create and interpret histograms
 - Identify and label shapes of histograms
-

- Histograms and Frequency Tables with Technology - Calculator
 - Construct and understand frequency tables for a set of data with technology - Calculator
 - Construct and understand relative frequency tables for a set of data with technology - Calculator
 - Create and interpret histograms with technology - Calculator
- Histograms and Frequency Tables with Technology - Excel
 - Construct and understand frequency tables for a set of data with technology - Excel
 - Construct and understand relative frequency tables for a set of data with technology - Excel
- Dot Plots and Stem and Leaf plots
 - Create and interpret stem-and-leaf plots
 - Create and interpret dot plots
- Line and Bar Graphs
 - Create and interpret bar graphs
 - Create and interpret line graphs of data
- Create and interpret dot plots and line graphs with technology - Calculator
 - Create and interpret dot plots with technology - Calculator
 - Create and interpret line and bar graphs of data with technology - Calculator
- Create and interpret dot plots and line graphs with technology - Excel
 - Create and interpret dot plots with technology - Excel
 - Create and interpret line and bar graphs of data with technology - Excel
- Interpreting Graphs
 - Identify situations in which statistics can be misleading
 - Analyze graphical misrepresentations of data
 - Choose appropriate graphs and charts to display data

9.2 Measures of Center, Dispersion and Position

- Measures of Central Tendency - Foundations
 - Find the mean of a set of data
 - Find the mean from a frequency table
 - Find the median of a set of data
 - Find the mode of a set of data
 - Impact of Outliers on Measures of Central Tendency
 - Identify the effect of outliers on measures of central tendency
 - Determine whether the mean, median, or mode is the best measure of center for a data set
 - Distribution Shape
 - Define and interpret number of modes in a data set
 - Determine if a data set is skewed
-

- Standard Deviation
 - Compute variance and standard deviation
 - Interpret the standard deviation of a set of data
 - Calculate the mean of a set of numbers
 - Find the median of a set of numbers
 - Find the mode of a set of numbers

9.3 Intro to Probability

- Averages and Probability
 - Calculate the mean of a set of numbers
 - Find the median of a set of numbers
 - Find the mode of a set of numbers
- Predictions and Probability
 - Understand probability
 - Make and test predictions using probability models
- Calculating the Probability of an Event
 - Apply the basic definition of probability

Chapter 10: Measurement Systems, Dimensional Analysis, and Geometry

10.1 Unit Conversions

- US System Conversions
 - Make unit conversions in the US system
 - Use mixed units of measurement in the US system
 - Make unit conversions in the metric system
- Metric System Conversions
 - Use mixed units of measurement in the metric system
 - Make unit conversions in the metric system
- Unit Conversion Between Systems
 - Convert between the US and metric systems of measurement
 - Convert between Fahrenheit and Celsius temperatures
- Working with Angles
 - Identify right, acute, obtuse, and straight angles
 - Understand supplementary and complementary angles
 - Understand alternate interior angles, alternate exterior angles, and corresponding angles

10.2 Geometry Basics

- Points, Lines, and Planes
 - Construct a line, line segment, and ray given two points
 - Find the intersection or union of two line segments, a ray and a line segment, or two rays
 - Identify planes
-

- Polygons
 - Identify polygons given their properties
 - Use properties of similar polygons to solve for a missing side
 - Determine the measure of an angle using properties of polygons
- Triangles
 - Identify triangles given their properties
 - Use properties of triangles and right angles
 - Use properties of similar triangles to solve for a missing side
 - Use the Pythagorean theorem
- Circles
 - Find the circumference and area of circles
 - Find the area of complex shapes including circles

10.3 Irregular Figures

- Find the Area of Trapezoids
 - Use properties of trapezoids
- Area and Circumference of Circles and Area of Irregular Figures
 - Solve problems involving the area and circumference of circles
 - Find the area of irregular figures made from rectangles and triangles
 - Find the area of irregular figures made from circles and other shapes

10.4 Solve Geometry Applications - Triangles, Rectangles, and the Pythagorean Theorem

- Triangles and the Pythagorean Theorem
 - Solve problems involving the perimeter, area, and interior angles of triangles
 - Solve triangle problems where angles or sides are given in terms of other angles or sides
 - Solve triangle problems using the Pythagorean Theorem
- Area and Perimeter of Rectangles
 - Solve problems involving the perimeter and area of rectangles
 - Solve rectangle problems when the width is given in terms of the length

10.5 Volume applications

- Volume and Surface Area of Rectangular Solids and Spheres
 - Find volume and surface area of rectangular solids and cubes
 - Find volume and surface area of spheres
- Volume and Surface Area of Cylinders and Cones
 - Find volume and surface area of cylinders
 - Find volume of cones

10.6 Distance, rate and time formula

- The Distance, Rate, and Time Formula and Solving for a Specific Variable
 - Use the distance, rate, and time formula
 - Solve a given formula for a specific variable
 - Solve a formula for y
-

Chapter 11: Trigonometry

11.1 Right Triangle Trigonometry

- The Six Trigonometric Ratios
 - Use right triangles to evaluate sine, cosine, and tangent functions
 - Evaluate reciprocal trigonometric functions using right triangles for a sine, cosine, or tangent function
 - Evaluate trigonometric functions of angles not in standard position
- Use Right Triangle Trigonometry in Solving Problems
 - Find missing side lengths using trig ratios
 - Use right triangle trigonometry to solve applied problems

11.2 Angles as Rotations and Arc Length

- Angles as Rotations and Radian Measures
 - Identify the measure of positive and negative angles in standard position and the quadrant of the terminal side
 - Convert between degree and radian measure of an angle
 - Understand when two angles are coterminal
- Arc Length and Area of a Sector
 - Find the length of an arc
 - Find the area of a sector of a circle
 - Understand the relationship between linear and angular speed

11.3 The Unit Circle

- Sine and Cosine Values in the First Quadrant
 - Understand sine and cosine values on the unit circle
 - Find exact sine and cosine values for angles in the first quadrant of the unit circle
 - Sine and Cosine Values with Reference Angles
 - Find the reference angle for a given angle
 - Use reference angles to evaluate sine and cosine functions
 - Use reference angles to find coordinates on the unit circle
 - Evaluate sine and cosine functions with a calculator
 - The Other Trigonometric Ratios on the Unit Circle
 - Find the secant, cosecant, tangent, and cotangent values for angles in the first quadrant of the unit circle
 - Use reference angles to evaluate secant, cosecant, tangent, and cotangent functions
 - Evaluate trigonometric functions with a calculator
 - Use Given Trigonometric Ratios to Find Other Ratios
 - Understand the relationship between the quadrant in which an angle falls and the signs of the trig functions of that angle
 - Use the pythagorean identity
 - Find the values of all trigonometric functions given coordinates on a unit circle
 - Find the values of all trigonometric functions given the value of one trigonometric function
-