

ALGEBRA II, SEMESTER B

COURSE OVERVIEW AND GOALS

Algebra II introduces students to advanced functions, with a focus on developing a strong conceptual grasp of the expressions that define those functions. Students learn through discovery and application, developing the skills they need to break down complex challenges and demonstrate their knowledge in new situations.

Course topics include quadratic equations and functions; polynomial functions; rational expressions and functions; radical expressions and functions; exponential and logarithmic functions; trigonometric functions; modeling with functions; probability and inferential statistics; probability distributions; and sampling distributions and confidence intervals.

This course supports all students as they develop computational fluency and deepen conceptual understanding. Students begin each lesson by discovering new concepts through guided instruction, then confirm their understanding in an interactive, feedback-rich environment. Modeling activities equip students with tools for analyzing a variety of real-world scenarios and mathematical ideas. Journaling activities allow students to reason abstractly and quantitatively, construct arguments, critique reasoning, and communicate precisely. Performance tasks prepare students to synthesize their knowledge in novel, real-world scenarios and require that they make sense of multifaceted problems and persevere in solving them.

This course is built to state standards.

By the end of this course, you will be able to do the following:

- ❖ Solve radical and rational equations by using graphs, tables, and algebraic techniques.
- ❖ Interpret the key features of radical and rational functions using multiple representations.
- ❖ Understand the inverse relationship between exponential and logarithmic functions and apply this relationship to rewrite and interpret expressions and equations.
- ❖ Interpret the key features of exponential and logarithmic functions using multiple representations.
- ❖ Formulate decisions based on data and probability.
- ❖ Examine a normal distribution and identify the margin of error and confidence intervals.
- ❖ Apply properties of right triangles and trigonometric ratios to solve mathematical and real-world problems.

- ❖ Graph and transform trigonometric functions.

COURSE COMPONENTS AND GRADING RUBRIC

The table gives a breakdown of the weight for each component in the course. Weight represents the percentage of the total score coming from each activity.

Course Components	Count	Weight
Pretest. <i>A pretest is an optional assessment, typically designed for credit recovery. If a student shows mastery of a lesson objective, the student may be automatically exempted from the upcoming activities associated with the mastered objective. Each passing pretest grade is entered into the gradebook.</i>	5	0%
Practice. <i>A practice activity provides instruction similar to that found in a study so that students can practice or review skills necessary to complete their assignment with mastery.</i>	2	5%
Journal. <i>A journal is a short reflective writing exercise that encourages students to connect historical events and ideas to their own lives and circumstances.</i>	1	5%
Project. <i>A project is a hands-on investigation that extends over several weeks.</i>	1	10%
Mastery Test. <i>A mastery test is a computer-scored lesson-level summative assessment.</i>	40	50%
Posttest. <i>A posttest appears at the end of each unit.</i>	5	15%
End-Of-Semester Test. <i>An end-of-semester test (EOS) appears at the end of each course.</i>	1	15%
Total	55	100%

*Teachers may manually adjust these weights if desired, per district grading requirements.

UNIT 1: RATIONAL EXPRESSIONS AND FUNCTIONS

In this unit, you will simplify rational expressions. You will also solve and graph rational functions.

Lesson and Duration	Activities	Objectives
Proportions 1 hour, 25 minutes	<i>Overview: Proportions</i> <i>Study: Proportions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Proportions</i>	- Define <i>rational expression</i>, <i>ratio</i>, and <i>proportion</i>. - Create ratios and proportions and solve real-life problems by using proportional reasoning. - Solve for the variable in a given proportion problem.
Rational Expressions 1 hour, 25 minutes	<i>Overview: Rational Expressions</i> <i>Study: Rational Expressions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Rational Expressions</i>	- Find the value of a rational expression when you are given a specific value for the variable in the expression. - Find the value of the variable that makes a rational expression zero or undefined.
Simplifying Rational Expressions 1 hour, 25 minutes	<i>Overview: Simplifying Rational Expressions</i> <i>Study: Simplifying Rational Expressions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Simplifying Rational Expressions</i>	- Evaluate how to simplify rational expressions. - Identify the value, or values, of the variable that makes a rational expression undefined.
Multiplying and Dividing Rational Expressions 1 hour, 25 minutes	<i>Overview: Multiplying and Dividing Rational Expressions</i> <i>Study: Multiplying and Dividing Rational Expressions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Multiplying and Dividing Rational Expressions</i>	- Calculate the products of fractions and rational expressions. - Identify the general rule for multiplying rational expressions. - Evaluate the quotients of fractions and rational expressions. - Identify the general rule for dividing rational expressions.

Lesson and Duration	Activities	Objectives
Adding and Subtracting Rational Expressions 1 hour, 25 minutes	<i>Overview: Adding and Subtracting Rational Expressions</i> <i>Study: Adding and Subtracting Rational Expressions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Adding and Subtracting Rational Expressions</i>	- Identify the general rule for adding rational expressions and calculate the sum of rational expressions. - Identify the general rule for subtracting rational expressions and calculate the difference of rational expressions. - Find the least common multiple of rational expressions. - Solve rational expressions by distributing the negative sign over every term in the numerator when subtracting. - Solve numerical fractions by adding and subtracting.
Inverse Variation 1 hour, 25 minutes	<i>Overview: Inverse Variation</i> <i>Study: Inverse Variation</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Inverse Variation</i>	- Define <i>direct variation</i> and <i>inverse variation</i>. - Determine whether the given graph is the graph of the dimensions of a rectangle whose adjacent side lengths exhibit <i>inverse</i>, <i>direct</i>, or <i>no</i> variation. - Find the constant in the equation when given the graph of an equation that follows direct or inverse variation.
Writing Rational Functions 1 hour, 25 minutes	<i>Overview: Writing Rational Functions</i> <i>Study: Writing Rational Functions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Writing Rational Functions</i>	- Define <i>rational function</i>. - Determine whether the given function is a rational function. - Rewrite a rational equation using function notation. - Determine the restrictions on the domain and range of a function, given its graph. - Determine a function's output at various inputs, given its graph.

Lesson and Duration	Activities	Objectives
		Identify the horizontal and vertical asymptotes when given the graph of a rational function.
Solving Rational Equations 1 hour, 25 minutes	<i>Overview: Solving Rational Equations</i> <i>Study: Solving Rational Equations</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Solving Rational Equations</i>	- Determine the solutions of rational equations that have real solutions using algebraic methods. - Determine the reasonableness of solutions to rational equations. - Identify extraneous solutions to rational equations.
Vertical Asymptotes 1 hour, 25 minutes	<i>Overview: Vertical Asymptotes</i> <i>Study: Vertical Asymptotes</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Vertical Asymptotes</i>	- Define <i>vertical asymptote</i>. - Determine how many vertical asymptotes a given function has. - Find the value, or values, of x for which $F(x)$ has a vertical asymptote. - List the two steps that are used to sketch any rational function whose numerator is a number and whose denominator is a factored polynomial. - Identify the rational function that corresponds to a given graph. - Determine the relative value at a certain point when given a function and its graph.
Graphing Rational Functions 1 hour, 25 minutes	<i>Overview: Graphing Rational Functions</i> <i>Study: Graphing Rational Functions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Graphing Rational Functions</i>	- Identify the zeros, vertical asymptotes, and singular points of a rational function. - Determine how to construct and use a sign chart. - List the steps used to sketch the graph of a rational function.

Lesson and Duration	Activities	Objectives
		Identify the rational function that corresponds to a given graph.
Wrap-Up: Rational Expressions and Functions <i>1 hour, 5 minutes</i>	<i>Review: Rational Expressions and Functions</i> <i>Posttest: Rational Expressions and Functions</i>	- Review key ideas presented in the unit. - Demonstrate mastery of concepts and skills from the unit by completing a computer-scored assessment.

UNIT 2: RADICAL EXPRESSIONS AND FUNCTIONS

In this unit, you will simplify and rationalize the denominators of radical expressions. You will also write and solve radical equations that model real-world scenarios.

Lesson and Duration	Activities	Objectives
Basics of Radicals <i>1 hour, 25 minutes</i>	<i>Overview: Basics of Radicals</i> <i>Study: Basics of Radicals</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Basics of Radicals</i>	- Identify radical signs and radicands. - Define <i>square root</i> and <i>principal square root</i>. - Solve radical expressions and choose equivalent expressions. - Identify the property of radicals for quotients and the property of radicals for products.
Multiplying and Dividing Radicals <i>1 hour, 25 minutes</i>	<i>Overview: Multiplying and Dividing Radicals</i> <i>Study: Multiplying and Dividing Radicals</i> <i>Checkup: Practice Problems</i>	- Solve radical expressions that contain variables by multiplication and division and choose equivalent expressions. - Apply the FOIL method to multiply radical expressions that involve two terms.

Lesson and Duration	Activities	Objectives
	<i>Mastery Test: Multiplying and Dividing Radicals</i>	Write an inequality that represents the values of x for which a radical expression is defined.
Adding and Subtracting Radicals 1 hour, 25 minutes	<i>Overview: Adding and Subtracting Radicals</i> <i>Study: Adding and Subtracting Radicals</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Adding and Subtracting Radicals</i>	- Define <i>like terms</i> as the phrase applies to radical expressions. - Solve two or more radical expressions so that they have the same radicand. - Solve radical expressions by adding and subtracting and identify equivalent expressions.
Rationalizing Denominators 1 hour, 25 minutes	<i>Overview: Rationalizing Denominators</i> <i>Study: Rationalizing Denominators</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Rationalizing Denominators</i>	- Find the denominator of a fraction when the denominator contains one term. - Identify the reasons for rationalizing the denominator of a fraction. - Find the conjugate of an expression. - Find the denominator of a fraction when the denominator contains two terms.
Solving Radical Equations 1 hour, 25 minutes	<i>Overview: Solving Radical Equations</i> <i>Study: Solving Radical Equations</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Solving Radical Equations</i>	- Manipulate an equation by Isolating radicals on one side of an equation. - Manipulate both sides of an equation by squaring the sides to eliminate the radical. - Solve a radical equation.
Applications of Radical Equations	<i>Overview: Applications of Radical Equations</i>	Solve real-world problems using radical equations.

Lesson and Duration	Activities	Objectives
1 hour, 55 minutes	<i>Study: Applications of Radical Equations</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Applications of Radical Equations</i> <i>Practice: Modeling: Pendulums and Bridges</i>	
Rational Exponents 1 hour, 25 minutes	<i>Overview: Rational Exponents</i> <i>Study: Rational Exponents</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Rational Exponents</i>	- Define <i>rational exponent</i>. - Write a given root as a rational exponent. - Identify the index of a radical. - Determine whether a radical expression yields a real number when you are given the sign of the radicand and the index of the expression. - Determine how to simplify expressions that contain rational exponents. - Convert decimal exponent notation to fractional exponent notation.
Review of Complex Numbers 1 hour, 25 minutes	<i>Overview: Review of Complex Numbers</i> <i>Study: Review of Complex Numbers</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Review of Complex Numbers</i>	- Define the set of complex numbers. - Rewrite the square root of negative numbers as an imaginary number. - Find the sum or difference of complex numbers. - Find the product of complex numbers using the FOIL method. - Find the quotient of complex numbers by converting them into fractions.

Lesson and Duration	Activities	Objectives
		- Find the complex conjugate of a complex number. - Find the product of a real number and complex number by using the distributive property.
Performance Task 2 hours, 40 minutes	<i>Overview: Performance Task</i> <i>Study: The Skid Distance Problem</i> <i>Project: Solving the Skid-Distance Problem</i>	- Determine how the length of skid marks left by a vehicle is a real-world application of square root functions. - Solve for the drag factor of various road surfaces, as well as skid mark lengths and the original speeds of various vehicles, by using the skid distance equation.
Wrap-Up: Radical Expressions and Functions 1 hour, 5 minutes	<i>Review: Radical Expressions and Functions</i> <i>Posttest: Radical Expressions and Functions</i>	- Review key ideas presented in the unit. - Demonstrate mastery of concepts and skills from the unit by completing a computer-scored assessment.

UNIT 3: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

In this unit, you will solve problems related to exponential growth using logarithmic and exponential functions.

Lesson and Duration	Activities	Objectives
Geometric Sequences 1 hour, 25 minutes	<i>Overview: Geometric Sequences</i> <i>Study: Geometric Sequences</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Geometric Sequences</i>	- Define <i>geometric sequence</i>. - Identify and describe the key characteristics of geometric sequences. - Apply geometric sequences to real-world problems.

Lesson and Duration	Activities	Objectives
Exponential Functions 1 hour, 25 minutes	<i>Overview: Exponential Functions</i> <i>Study: Exponential Functions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Exponential Functions</i>	- Define exponential growth, exponential decay, and compound interest. - Write the general formula for an exponential function. - Find the value of an account when given the initial investment amount, interest rate, compounding period, and time. - Identify three facts about the number e. - Evaluate exponential functions given the value of the variable.
Examples and Applications of Exponential Functions 1 hour, 5 minutes	<i>Overview: Examples and Applications of Exponential Functions</i> <i>Study: Examples and Applications of Exponential Functions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Examples and Applications of Exponential Functions</i>	- Solve real-world problems by using exponential functions. - Define logistic growth.
Graphs of Exponential Functions 1 hour, 25 minutes	<i>Overview: Graphs of Exponential Functions</i> <i>Study: Graphs of Exponential Functions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Graphs of Exponential Functions</i>	- Identify the three common features of the graphs of functions in the form $F(x) = b^x$. - Determine if an exponential function is an increasing or decreasing function when given its base. - Find the domain, range, and y-intercept of exponential functions. - Determine the exponential function that represents a given graph.

Lesson and Duration	Activities	Objectives
Logarithmic Functions 1 hour, 25 minutes	<i>Overview: Logarithmic Functions</i> <i>Study: Logarithmic Functions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Logarithmic Functions</i>	- Define the logarithmic function in terms of its relationship with the exponential function. - Convert logarithmic functions into exponential functions. - Convert exponential functions into logarithmic functions. - Define the common logarithm and write its notation. - Define the natural logarithm and write its notation.
Graphs of Logarithmic Functions 1 hour, 25 minutes	<i>Overview: Graphs of Logarithmic Functions</i> <i>Study: Graphs of Logarithmic Functions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Graphs of Logarithmic Functions</i>	- Evaluate the natural logarithmic function and graph it. - Determine the values for which a logarithmic function increases or decreases. - Find its domain, range, x-intercept, and asymptote, and decide whether it decreases or increases when given a logarithmic function.
Properties of Exponents and Logarithms 1 hour, 25 minutes	<i>Overview: Properties of Exponents and Logarithms</i> <i>Study: Properties of Exponents and Logarithms</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Properties of Exponents and Logarithms</i>	- Apply the properties of logarithms to write equivalent expressions for products of logs, quotients of logs, and logs with powers. - Evaluate logarithmic expressions. - Identify the change-of-base formula and use it to rewrite logarithmic expressions that can be solved on a calculator.
Solving Exponential Equations 1 hour, 25 minutes	<i>Overview: Solving Exponential Equations</i> <i>Study: Solving Exponential Equations</i> <i>Checkup: Practice Problems</i>	Solve exponential equations by using properties of exponents and logarithms.

Lesson and Duration	Activities	Objectives
	<i>Mastery Test: Solving Exponential Equations</i>	Identify the first step in solving an equation in the form $a \cdot b^x = d$.
Solving Logarithmic Equations 1 hour, 25 minutes	<i>Overview: Solving Logarithmic Equations</i> <i>Study: Solving Logarithmic Equations</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Solving Logarithmic Equations</i>	- Rewrite a logarithmic equation as an equivalent exponential equation by using the definition of a logarithm. - Solve logarithmic equations by using properties of exponents and logarithms. - Rewrite an equation that includes a natural log into an equivalent exponential equation. - Identify the first step in solving an equation in the form $a \cdot \log^b x = d$ and $c + a \cdot \log^b x = d$.
Applications of Logarithms 1 hour, 25 minutes	<i>Overview: Applications of Logarithms</i> <i>Study: Applications of Logarithms</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Applications of Logarithms</i>	- Apply the properties of logarithms to solve exponential decay problems. - Solve exponential growth problems by using logarithms.
Comparing and Analyzing Function Types 1 hour, 25 minutes	<i>Overview: Comparing and Analyzing Function Types</i> <i>Study: Comparing and Analyzing Function Types</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Comparing and Analyzing Function Types</i>	- Apply transformations to a variety of function families. - Identify and compare functions in differing representations.

Lesson and Duration	Activities	Objectives
Wrap-Up: Exponential and Logarithmic Functions <i>1 hour, 5 minutes</i>	<i>Review: Exponential and Logarithmic Functions</i> <i>Posttest: Exponential and Logarithmic Functions</i>	- Review key ideas presented in the unit. - Demonstrate mastery of concepts and skills from the unit by completing a computer-scored assessment.

UNIT 4: STATISTICAL ANALYSIS

In this unit, you will relate probability and data to make inferences and decisions. You will also examine distributions of sample sets, as well as margins of error and confidence intervals.

Lesson and Duration	Activities	Objectives
Using Data to Make Inferences <i>1 hour, 25 minutes</i>	<i>Overview: Using Data to Make Inferences</i> <i>Study: Using Data to Make Inferences</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Using Data to Make Inferences</i>	- Differentiate between a population and a sample and between a population parameter and a point estimate. - Calculate a sample mean and sample proportion. - Recognize that as random sample sizes increase, the sample estimate will better approximate the population parameter. - Recognize the differences among sample surveys, observational studies, and experiments. - Evaluate claims and conclusions based on data.
Using Probability to Make Decisions <i>1 hour, 25 minutes</i>	<i>Overview: Using Probability to Make Decisions</i> <i>Study: Using Probability to Make Decisions</i> <i>Checkup: Practice Problems</i>	- List the outcomes in a sample space and in an event. - Calculate the probability of an event by using the sample space. - Analyze decisions and strategies using probability concepts.

Lesson and Duration	Activities	Objectives
	<i>Mastery Test: Using Probability to Make Decisions</i>	Apply probability to make fair decisions.
Simulation and Modeling with Data <i>1 hour, 25 minutes</i>	<i>Overview: Simulation and Modeling with Data</i> <i>Study: Simulation and Modeling with Data</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Simulation and Modeling with Data</i>	- Identify a model to simulate an event, using tools such as random numbers and coin tosses. - Assign model outcomes to represent real-world outcomes and probabilities. - Calculate estimated probabilities using simulation results. - Recognize how the number of trials affects the confidence in simulation results.
The Normal Distribution <i>1 hour, 55 minutes</i>	<i>Overview: The Normal Distribution</i> <i>Study: The Normal Distribution</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: The Normal Distribution</i> <i>Journal: Cell Phone Battery Life</i>	- Identify a normal probability distribution and recognize its characteristics. - Apply the empirical rule to analyze a normal distribution. - Apply the empirical rule to determine the probability of a random value being within a given interval, given the mean and standard deviation for a normal distribution. - Determine appropriate technologies to calculate normal probability percentages.
Margin of Error and Confidence Intervals <i>1 hour, 25 minutes</i>	<i>Overview: Margin of Error and Confidence Intervals</i> <i>Study: Margin of Error and Confidence Intervals</i> <i>Checkup: Practice Problems</i>	- Identify the meaning of confidence levels, confidence intervals, and margins of error. - Identify the sample mean or proportion from a confidence interval.

Lesson and Duration	Activities	Objectives
	<i>Mastery Test: Margin of Error and Confidence Intervals</i>	- Find the margin of error from a confidence interval. - Recognize how changes in the sample size and confidence level affect the margin of error and confidence interval width. - Apply simulations to estimate confidence intervals for a sample mean or proportion.
Wrap-Up: Statistical Analysis 1 hour, 5 minutes	<i>Review: Statistical Analysis</i> <i>Posttest: Statistical Analysis</i>	- Review key ideas presented in the unit. - Demonstrate mastery of concepts and skills from the unit by completing a computer-scored assessment.

UNIT 5: TRIGONOMETRY

In this unit, you will compare trigonometric ratios, apply right triangle trigonometry, and analyze graphs of trigonometric functions.

Lesson and Duration	Activities	Objectives
Right Triangle Trigonometry 1 hour, 25 minutes	<i>Overview: Right Triangle Trigonometry</i> <i>Study: Right Triangle Trigonometry</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Right Triangle Trigonometry</i>	- Identify the characteristics of special right triangles. - Find trigonometric ratios for right triangles and use them to find side lengths. - Find trigonometric ratios for special right triangles. - Find angle measures and side lengths from trigonometric ratios using a calculator. - Solve problems using right triangle trigonometry.

Lesson and Duration	Activities	Objectives
Angles and Radians 1 hour, 25 minutes	<i>Overview: Angles and Radians</i> <i>Study: Angles and Radians</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Angles and Radians</i>	- Identify and classify different types of angles by their measures. - Find coterminal angles of positive and negative angles. - Recognize the meaning of a radian and how it relates to the length of an arc on the unit circle. - Convert between degrees and radians. - Compare angles on the unit circle in degrees and radians.
Trigonometric Ratios and the Unit Circle 1 hour, 25 minutes	<i>Overview: Trigonometric Ratios and the Unit Circle</i> <i>Study: Trigonometric Ratios and the Unit Circle</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Trigonometric Ratios and the Unit Circle</i>	- Distinguish the angles and terminal points on the unit circle that coincide with the axes. - Distinguish the terminal points for angles in quadrant I of the unit circle that correspond to 45-45-90 and 30-60-90 triangles. - Identify the trigonometric ratios of an angle from the coordinates of its terminal point. - Identify terminal points for angles in quadrants II, III, and IV using reference angles. - Generate the Pythagorean identity and show that it is true for any point on the unit circle. - Recognize that the trigonometric functions extend to all real numbers, not only those from 0 to 2π.
Trigonometric Ratios for Any Angle 1 hour, 25 minutes	<i>Overview: Trigonometric Ratios for Any Angle</i> <i>Study: Trigonometric Ratios for Any Angle</i> <i>Checkup: Practice Problems</i>	- Find coterminal angles between 0° and 360° for angles that are not between 0° and 360°. - Identify the reference angle for any angle on the coordinate plane.

Lesson and Duration	Activities	Objectives
	<i>Mastery Test: Trigonometric Ratios for Any Angle</i>	- Identify the sign of a trigonometric ratio, given its quadrant. - Find the exact value of the sine, cosine, or tangent of an angle by using a reference angle. - Apply the Pythagorean identity to find the values of trigonometric ratios.
Graphs of Trigonometric Functions 1 hour, 25 minutes	<i>Overview: Graphs of Trigonometric Functions</i> <i>Study: Graphs of Trigonometric Functions</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Graphs of Trigonometric Functions</i>	- Create the graphs of all six trigonometric functions. - Identify the reciprocal functions of sine, cosine, and tangent. - Identify the domain and range of each trigonometric function. - Identify the period of each trigonometric function. - Determine whether a function presented on a graph is even or odd.
Transformations of Sinusoids 1 hour, 55 minutes	<i>Overview: Transformations of Sinusoids</i> <i>Study: Transformations of Sinusoids</i> <i>Checkup: Practice Problems</i> <i>Mastery Test: Transformations of Sinusoids</i> <i>Practice: Modeling: Riding the Circular Wave</i>	- Recognize how to translate a sinusoid horizontally and vertically. - Determine how to vary the amplitude and period of a sinusoid. - Identify features of a sinusoid from a graph or an equation. - Graph a sinusoidal function from an equation. - Write and interpret equations that model real-world data.
Wrap-Up: Trigonometry 1 hour, 5 minutes	<i>Review: Trigonometry</i> <i>Posttest: Trigonometry</i>	- Review key ideas presented in the unit. - Demonstrate mastery of concepts and skills from the unit by completing a computer-scored assessment.

SEMESTER WRAP-UP

In this unit, you will review the concepts and skills presented in the course and take a semester exam.

Lesson and Duration	Activities	Objectives
Semester Wrap-Up <i>1 hour, 10 minutes</i>	<i>Review: Semester Review</i> <i>End-of-Semester Test: Semester Exam</i>	- Review key ideas presented in the semester. - Demonstrate mastery of concepts and skills from the semester by completing a computer-scored assessment.