

Precalculus is a course that combines reviews of algebra, geometry, and functions into a preparatory course for calculus. The course focuses on the mastery of critical skills and exposure to new skills necessary for success in subsequent math courses. The first semester includes linear, quadratic, exponential, logarithmic, radical, polynomial, and rational functions; systems of equations; and conic sections. The second semester covers trigonometric ratios and functions; inverse trigonometric functions; applications of trigonometry, including vectors and laws of cosine and sine; polar functions and notation; and arithmetic of complex numbers.

Within each Precalculus lesson, students are supplied with a post-study Checkup activity that provides them the opportunity to hone their computational skills by working through a low-stakes problem set before moving on to formal assessment. Unit-level Precalculus assessments include a computer-scored test and a scaffolded, teacher-scored test.

The content is based on the National Council of Teachers of Mathematics (NCTM) standards and is aligned with state standards.

Length: Two Semesters

UNIT 1: FUNCTIONS

LESSON 1: WHAT IS A FUNCTION?

Study: Relating to Functions

Learn about functions, their graphs, and some special functions.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on functions.

Duration: 0 hr 50 min

Quiz: What Is a Function?

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20

points

LESSON 2: GRAPHING FUNCTIONS

Study: Testing and Special Functions

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Learn the vertical line and horizontal line tests for evaluating a function. Evaluate a function for given values and explore special functions.

Duration: 0 hr 50 min

Checkpoint: Lessons Learned

Complete a set of practice problems on graphing functions.

Duration: 0 hr 50 min

Quiz: Graphing Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20

points

LESSON 3: LINEAR FUNCTIONS

Study: Walking the Line

Learn about slope and the three main forms of linear functions.

Duration: 0 hr 50 min

Checkpoint: Lessons Learned

Complete a set of practice problems on linear functions.

Duration: 0 hr 50 min

Quiz: Linear Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20

points

LESSON 4: ARITHMETIC SEQUENCES AND SERIES

Study: It All Adds Up

Learn about arithmetic sequences and series.

Duration: 0 hr 50 min

Checkpoint: Lessons Learned

Complete a set of practice problems on arithmetic sequences and series.

Duration: 0 hr 50

min

Quiz: Arithmetic Sequences and Series

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40

min Scoring: 20 points

LESSON 5: LINEAR EQUATIONS AND INEQUALITIES

Study: On Equal Footing

Learn how to solve linear equations and inequalities.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on linear equations and inequalities.

Duration: 0 hr 50

min

Quiz: Linear Equations and Inequalities

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40

min Scoring: 20 points

LESSON 6: LINEAR SYSTEMS

Study: Finding the Point of Intersection

Find the point of intersection of linear systems using algebra, graphing, and matrices.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on linear systems.

Duration: 0 hr 50 min

Quiz: Linear Systems

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20 points

LESSON 7: ARITHMETIC OF FUNCTIONS

Study: Mixing and Matching

Learn how to add, subtract, multiply, divide, and compose functions.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on the arithmetic of functions.

Duration: 0 hr 50 min

Quiz: Arithmetic of Functions

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 40 min Scoring:
20 points*

LESSON 8: FUNCTIONS WRAP-UP

Review: Functions

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hr 50 min

Review: Calculator Skills

Review key calculator skills.

Duration: 0 hr 25 min

Practice: Functions

Complete a set of practice problems.

Duration: 0 hr 50 min Scoring: 50 points

Discuss: What Questions Do You Have?

Discuss ideas about this unit that are still unclear. Help to answer your classmates' questions.

Duration: 0 hr 30 min Scoring: 20 points

Test (CS): Functions

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min

Scoring: 60 points

Test (TS): Functions

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min

Scoring: 100 points

LESSON 9: DIAGNOSTIC

Diagnostic: Functions

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0

hr 40 min Scoring: 20 points

UNIT 2: QUADRATIC FUNCTIONS

LESSON 1: FORMS OF QUADRATIC FUNCTIONS

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Study: Express Yourself

Express quadratic functions in a variety of forms.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on forms of quadratic functions.

Duration: 0 hr 50 min

Quiz: Forms of Quadratic Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 2: GRAPHING QUADRATIC FUNCTIONS**Study: Putting the Pieces Together**

Use key components such as vertex, axis of symmetry, and x - and y -intercepts to sketch the graphs of quadratic functions and solve quadratic inequalities.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on graphing quadratic functions.

Duration: 0 hr 50 min

Quiz: Graphing Quadratic Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 3: TRANSFORMATIONS**Study: Getting a Move On**

Learn how to reflect about the x - and y -axes. Learn about horizontal and vertical shifts and horizontal and vertical stretches.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on transformations.

Duration: 0 hr 50 min

Quiz: Transformations

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20

points

LESSON 4: SOLVING QUADRATIC EQUATIONS

Study: Answers to Your Questions

Use factoring and the quadratic formula to solve an equation. Also relate solutions to zeros and work with complex numbers.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on solving quadratic equations.

Duration: 0 hr 50 min

Quiz: Solving Quadratic Equations

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 5: APPLICATIONS OF QUADRATIC FUNCTIONS

Study: Solving Problems Using Quadratic Functions

Set up and solve application problems involving quadratic functions.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on applications of quadratic functions.

Duration: 0 hr

50 min

Quiz: Applications of Quadratic Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40

min Scoring: 20 points

LESSON 6: QUADRATIC FUNCTIONS WRAP-UP

Review: Quadratic Functions

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hr 50 min

Review: Calculator Skills

Review key calculator skills.

Duration: 0 hr 25 min

Practice: Quadratic Functions

Complete a set of practice problems.

Duration: 0 hr 50 min Scoring: 50 points

Discuss: What Questions Do You Have?

Discuss ideas about this unit that are still unclear. Help to answer your classmates' questions.

Duration: 0 hr 30 min Scoring: 20 points

Test (CS): Quadratic Functions

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0

hr 50 min Scoring: 60 points

Test (TS): Quadratic Functions

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hr

50 min Scoring: 100 points

LESSON 7: DIAGNOSTIC**Diagnostic: Quadratic Functions**

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hr 40 min Scoring: 20 points

UNIT 3: POLYNOMIAL AND RATIONAL FUNCTIONS

LESSON 1: POLYNOMIAL EXPRESSIONS**Study: What Is a Polynomial?**

Learn what makes a polynomial and how to test for one.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on polynomial expressions.

Duration: 0 hr 50 min

Quiz: Polynomial Expressions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring:

20 points

LESSON 2: DIVIDING POLYNOMIALS

Study: Synthetic Doesn't Mean Fake

Learn the technique for dividing polynomials and testing for factors.

Duration: 0 hr

50 min

Checkup: Lessons Learned

Complete a set of practice problems on dividing polynomials.

Duration: 0 hr 50 min

Quiz: Dividing Polynomials

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20

points

LESSON 3: SOLVING POLYNOMIAL EQUATIONS

Study: These Roots Grow Deep

Find all solutions to polynomial equations.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on solving polynomial equations.

Duration: 0 hr 50 min

Quiz: Solving Polynomial Equations

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 4: GRAPHING POLYNOMIAL FUNCTIONS

Study: What Goes Up Sometimes Comes Down

Explore the behavior of polynomial functions and find key points of the graph of the function.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on graphing polynomial functions.

Duration: 0 hr 50

min

Quiz: Graphing Polynomial Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 5: RATIONAL FUNCTIONS

Study: Top and Bottom

Identify rational functions, find domain and range, look at asymptotes, and sketch complete graphs.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on rational functions.

Duration: 0 hr 50 min

Quiz: Rational Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20

points

LESSON 6: POLYNOMIAL AND RATIONAL FUNCTIONS WRAP-UP

Review: Polynomial and Rational Functions

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0

hr 50 min

Review: Calculator Skills

Review key calculator skills.

Duration: 0 hr 25 min

Practice: Polynomial and Rational Functions

Complete a set of practice problems.

Duration: 0 hr 50 min Scoring: 50

points

Discuss: What Questions Do You Have?

Discuss ideas about this unit that are still unclear. Help to answer your classmates' questions.

Duration: 0 hr 30 min Scoring: 20 points

Test (CS): Polynomial and Rational Functions

Take a computer-scored test to assess what you have learned in this

unit.

Duration: 0 hr 50 min Scoring: 60 points

Test (TS): Polynomial and Rational Functions

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min Scoring: 100 points

LESSON 7: DIAGNOSTIC

Diagnostic: Polynomial and Rational Functions

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hr 40 min Scoring: 20 points

UNIT 4: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

LESSON 1: EXPONENTS AND RADICALS

Study: Rational Exponents and Radical Expressions

Learn the rules of exponents and how to express radicals.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on exponents and radicals.

Duration: 0 hr 50 min

Quiz: Exponents and Radicals

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 40 min Scoring:
20 points*

LESSON 2: EXPONENTIAL FUNCTIONS

Study: Exponential Functions and Their Graphs

Explore the basic exponential graphs.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on exponential functions.

Duration: 0 hr 50 min

Quiz: Exponential Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring:

20 points

LESSON 3: GEOMETRIC SEQUENCES

Study: Leaps and Bounds

Learn about geometric sequences and series.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on geometric sequences.

Duration: 0 hr 50 min

Quiz: Geometric Sequences

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring:

20 points

LESSON 4: INTRODUCTION TO LOGARITHMS

Study: Logarithms

Learn how logarithms are used to express exponents.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on logarithms.

Duration: 0 hr 50 min

Quiz: Introduction to Logarithms

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 5: GRAPHS OF LOGARITHMIC FUNCTIONS

Study: Undoing What You Have Done

Learn the graphs of key logarithmic functions.

Duration: 0 hr 50 min

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Checkup: Lessons Learned

Complete a set of practice problems on graphs of logarithmic functions.

*Duration: 0 hr 50
min*

Quiz: Graphs of Logarithmic Functions

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 40
min Scoring: 20 points*

LESSON 6: APPLICATIONS OF LOGARITHMS**Study: Logs Are Natural**

Solve application problems involving exponential and logarithmic expressions.

*Duration: 0 hr
50 min*

Checkup: Lessons Learned

Complete a set of practice problems on applications of logarithms.

Duration: 0 hr 50 min

Quiz: Applications of Logarithms

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 40 min
Scoring: 20 points*

LESSON 7: EXPONENTIAL AND LOGARITHMIC FUNCTIONS WRAP-UP**Review: Exponential and Logarithmic Functions**

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hr 50 min

Review: Calculator Skills

Review key calculator skills.

Duration: 0 hr 25 min

Practice: Exponential and Logarithmic Functions

Complete a set of practice problems.

*Duration: 0 hr 50 min Scoring:
50 points*

Discuss: What Questions Do You Have?

Discuss ideas about this unit that are still unclear. Help to answer your

classmates' questions.

Duration: 0 hr 30 min Scoring: 20 points

Test (CS): Exponential and Logarithmic Functions

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min Scoring: 60 points

Test (TS): Exponential and Logarithmic Functions

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min Scoring: 100 points

LESSON 8: DIAGNOSTIC

Diagnostic: Exponential and Logarithmic Functions

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hr 40 min Scoring: 20 points

UNIT 5: CONIC SECTIONS

LESSON 1: INTRODUCTION TO CONIC SECTIONS

Study: How Do You Cut a Cone?

Explore the various ways a cone can be cut to produce conic sections such as a circle.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on conic sections.

Duration: 0 hr 50 min

Quiz: Introduction to Conic Sections

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 2: ELLIPSES

Study: Stretching Circles

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Learn how ellipses are defined and formed.

Duration: 0 hr 50 min

Checkpoint: Lessons Learned

Complete a set of practice problems on ellipses.

Duration: 0 hr 50 min

Quiz: Ellipses

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20 points

LESSON 3: HYPERBOLAS

Study: Turning Inside Out

Learn how hyperbolas are defined and formed.

Duration: 0 hr 50 min

Checkpoint: Lessons Learned

Complete a set of practice problems on hyperbolas.

Duration: 0 hr 50 min

Quiz: Hyperbolas

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20 points

LESSON 4: PARABOLAS

Study: A Familiar Friend

Learn how parabolas are defined and formed.

Duration: 0 hr 50 min

Checkpoint: Lessons Learned

Complete a set of practice problems on parabolas.

Duration: 0 hr 50 min

Quiz: Parabolas

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20 points

LESSON 5: SYSTEMS OF CONIC SECTIONS

Study: Finding the Intersections

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Find the solutions to systems of conic sections.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on systems of conic sections.

Duration: 0 hr 50 min

Quiz: Systems of Conic Sections

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 6: CONIC SECTIONS WRAP-UP

Review: Conic Sections

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hr 50 min

Review: Calculator Skills

Review key calculator skills.

Duration: 0 hr 25 min

Practice: Conic Sections

Complete a set of practice problems.

Duration: 0 hr 50 min Scoring: 50 points

Discuss: What Questions Do You Have?

Discuss ideas about this unit that are still unclear. Help to answer your classmates' questions.

Duration: 0 hr 30 min Scoring: 20 points

Test (CS): Conic Sections

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hr 50

min Scoring: 60 points

Test (TS): Conic Sections

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min

Scoring: 100 points

LESSON 7: DIAGNOSTIC

Diagnostic: Conic Sections

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Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hr 40 min Scoring: 20 points

UNIT 6: PRECALCULUS SEMESTER 1 REVIEW AND EXAM

LESSON 1: PREPARING FOR THE SEMESTER EXAM

Review: Precalculus Semester 1

Prepare for the semester exam by reviewing key concepts covered in Precalculus Semester 1.

Duration: 1 hr 30 min

Exam: Semester Exam (Computer-Scored)

Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Precalculus Semester 1.

Duration: 1 hr Scoring: 150 points

Final Exam: Semester Exam (Teacher-Scored)

Take a teacher-scored exam to demonstrate your mastery of concepts and skills covered in Precalculus Semester 1.

Duration: 1 hr Scoring: 100 points

UNIT 7: INTRODUCTION TO TRIGONOMETRY

LESSON 1: RIGHT TRIANGLES

Study: All the Right Moves

Review right triangles and get an introduction to trigonometric ratios.

Duration: 1 hr

Checkup: Lessons Learned

Complete a set of practice problems on trigonometry.

Duration: 0 hr 50 min

Quiz: Introduction to Trigonometry

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 2: ANGLES AND RADIANs

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Study: A Slice of Pi

Learn about angles expressed in degrees and radians.

Duration: 1 hr

Checkup: Lessons Learned

Complete a set of practice problems on angles and radians.

Duration: 0 hr 50 min

Quiz: Angles and Radians

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20

points

LESSON 3: TRIGONOMETRIC RATIOS AND THE UNIT CIRCLE**Study: Terminal Conditions**

Learn the six trigonometric ratios and how the unit circle defines them.

Duration: 1 hr

Study: Pythagorean Theorem

Review the Pythagorean theorem.

Duration: 0 hr 30 min

Checkup: Lessons Learned

Complete a set of practice problems on trigonometric functions and the unit circle.

Duration:

0 hr 50 min

Quiz: Trigonometric Functions and the Unit Circle

Take a quiz to assess your understanding of the material.

Duration:

0 hr 40 min Scoring: 20 points

LESSON 4: INTRODUCTION TO TRIGONOMETRY WRAP-UP**Review: Introduction to Trigonometry**

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hr 50

min

Review: Calculator Skills

Review key calculator skills.

Duration: 0 hr 25 min

Practice: Introduction to Trigonometry

Complete a set of practice problems.

Duration: 1 hr Scoring: 50 points

Discuss: What Questions Do You Have?

Discuss ideas about this unit that are still unclear. Help to answer your classmates' questions.

Duration: 0 hr 30 min Scoring: 20 points

Test (CS): Introduction to Trigonometry

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min Scoring: 60 points

Test (TS): Introduction to Trigonometry

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min Scoring: 100 points

LESSON 5: DIAGNOSTIC**Diagnostic: Introduction to Trigonometry**

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hr 40 min Scoring: 20 points

UNIT 8: TRIGONOMETRIC FUNCTIONS

LESSON 1: GRAPHS OF SINE AND COSINE**Study: What Is a Sinusoid Anyway?**

Learn to build the graphs of sine and cosine.

Duration: 1 hr

Checkup: Lessons Learned

Complete a set of practice problems on graphs of sine and cosine.

Duration: 0 hr 50 min

Quiz: Graphs of Sine and Cosine

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 2: GRAPHS OF OTHER FUNCTIONS

Study: Graphing More Trigonometric Functions

Learn the graphs of the other four trigonometric functions.

Duration: 1

hr

Checkup: Lessons Learned

Complete a set of practice problems on graphs of other functions.

Duration: 0 hr 50 min

Quiz: Graphs of Other Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 3: SIMPLE TRANSFORMATIONS OF SINUSOIDS

Study: Stretches, Shifts, and Flips, Oh My!

Learn how to transform trigonometric graphs with reflections, shifts, and stretches.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on transformations of periodic graphs.

Duration: 0 hr

50 min

Quiz: Simple Transformations of Sinusoids

Take a quiz to assess your understanding of the material.

Duration: 0 hr

40 min Scoring: 20 points

LESSON 4: GENERAL TRANSFORMATIONS OF PERIODIC GRAPHS

Study: Putting It All Together

Learn how to transform trigonometric graphs with reflections, shifts, and stretches.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on transformations of trigonometric functions.

Duration: 0 hr 50 min

Quiz: General Transformations of Periodic Graphs

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20 points

LESSON 5: TRIGONOMETRIC FUNCTIONS WRAP-UP

Review: Trigonometric Functions

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hr 50 min

Review: Calculator Skills

Review key calculator skills.

Duration: 0 hr 25 min

Practice: Trigonometric Functions

Complete a set of practice problems.

Duration: 1 hr Scoring: 50 points

Discuss: What Questions Do You Have?

Discuss ideas about this unit that are still unclear. Help to answer your classmates' questions.

Duration: 0 hr 30 min Scoring: 20 points

Test (CS): Trigonometric Functions

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min Scoring: 60 points

Test (TS): Trigonometric Functions

Take a teacher-scored test to assess what you have learned in this unit.

Duration:

0 hr 50 min Scoring: 100 points

LESSON 6: DIAGNOSTIC

Diagnostic: Trigonometric Functions

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hr 40 min Scoring: 20 points

UNIT 9: WORKING WITH TRIGONOMETRIC FUNCTIONS

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LESSON 1: INVERSE TRIGONOMETRIC FUNCTIONS

Study: Arc! Who Goes There?

Learn how to solve for angles using the inverse trigonometric ratios.

Duration: 1 hr

Checkup: Lessons Learned

Complete a set of practice problems on inverse trigonometric functions.

Duration: 0 hr 50

min

Quiz: Inverse Trigonometric Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 2: SOLVING TRIGONOMETRIC EQUATIONS

Study: 2 Pi or Not 2 Pi?

Learn to find all solutions to a trigonometric equation.

Duration: 1 hr

Checkup: Lessons Learned

Complete a set of practice problems on solving trigonometric equations.

Duration: 0 hr 50

min

Quiz: Solving Trigonometric Equations

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 3: MODELING SIMPLE HARMONIC MOTION

Study: You Are Getting Sleepy

Explore simple harmonic motion settings.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on simple harmonic motion.

Duration: 0 hr 50 min

Quiz: Modeling Simple Harmonic Motion

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Take a quiz to assess your understanding of the material.

Duration: 0 hr 40

min Scoring: 20 points

LESSON 4: WORKING WITH TRIGONOMETRIC FUNCTIONS WRAP-UP

Review: Working with Trigonometric Functions

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hr 50 min

Review: Calculator Skills

Review key calculator skills.

Duration: 0 hr 25 min

Practice: Working with Trigonometric Functions

Complete a set of practice problems.

Duration: 1 hr Scoring: 50

points

Discuss: What Questions Do You Have?

Discuss ideas about this unit that are still unclear. Help to answer your classmates' questions.

Duration: 0 hr 30 min Scoring: 20 points

Test (CS): Working with Trigonometric Functions

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min Scoring: 60 points

Test (TS): Working with Trigonometric Functions

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min Scoring: 100 points

LESSON 5: DIAGNOSTIC

Diagnostic: Working with Trigonometric Functions

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hr 40 min Scoring: 20 points

UNIT 10: TRIGONOMETRIC IDENTITIES

LESSON 1: IDENTITIES AND PROOF

Study: Overcoming an Identity Crisis

Learn how to prove identities.

Duration: 1 hr

Checkup: Lessons Learned

Complete a set of practice problems on identities and proof.

Duration: 0 hr 50 min

Quiz: Identities and Proof

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20

points

LESSON 2: TRIGONOMETRIC IDENTITIES

Study: Just the Facts, Ma'am

Learn the key trigonometric identities.

Duration: 1 hr

Checkup: Lessons Learned

Complete a set of practice problems on trigonometric identities.

Duration: 0 hr 50 min

Quiz: Trigonometric Identities

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring:

20 points

LESSON 3: APPLICATIONS OF IDENTITIES

Study: Use 'Em or Lose 'Em

Use the key trigonometric identities to solve trigonometric equations.

Duration: 0 hr 50 min

Checkup: Lessons Learned

Complete a set of practice problems on identities.

Duration: 0 hr 50 min

Quiz: Applications of Identities

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 4: TRIGONOMETRIC IDENTITIES WRAP-UP

Review: Trigonometric Identities

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hr 50 min

Review: Calculator Skills

Review key calculator skills.

Duration: 0 hr 25 min

Practice: Trigonometric Identities

Complete a set of practice problems.

Duration: 0 hr 50 min Scoring: 50 points

Discuss: What Questions Do You Have?

Discuss ideas about this unit that are still unclear. Help to answer your classmates' questions.

Duration: 0 hr 30 min Scoring: 20 points

Test (CS): Trigonometric Identities

Take a computer-scored test to assess what you have learned in this unit.

Duration:

0 hr 50 min Scoring: 60 points

Test (TS): Trigonometric Identities

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0

hr 50 min Scoring: 100 points

LESSON 5: DIAGNOSTIC

Diagnostic: Trigonometric Identities

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hr 40 min Scoring: 20 points

UNIT 11: APPLICATIONS OF TRIGONOMETRY

LESSON 1: LAW OF COSINES

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Study: It's the Law

Use the law of cosines to solve triangles.

Duration: 1 hr

Checkpoint: Lessons Learned

Complete a set of practice problems using the law of cosines.

Duration: 0 hr 50 min

Quiz: Law of Cosines

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20 points

LESSON 2: LAW OF SINES**Study: The Long Arm of the Law**

Use the law of sines to solve triangles and to explore the ambiguous case.

Duration: 1

hr

Checkpoint: Lessons Learned

Complete a set of practice problems using the law of sines.

Duration: 0 hr 50 min

Quiz: Law of Sines

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20 points

LESSON 3: VECTORS**Study: Getting Around**

Use vectors to describe motion.

Duration: 1 hr

Checkpoint: Lessons Learned

Complete a set of practice problems on vectors.

Duration: 0 hr 50 min

Quiz: Vectors

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20 points

LESSON 4: APPLICATIONS OF TRIGONOMETRY WRAP-UP

Review: Applications of Trigonometry

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hr 50 min

Review: Calculator Skills

Review key calculator skills.

Duration: 0 hr 25 min

Practice: Applications of Trigonometry

Complete a set of practice problems.

Duration: 0 hr 50 min Scoring: 50 points

Discuss: What Questions Do You Have?

Discuss ideas about this unit that are still unclear. Help to answer your classmates' questions.

Duration: 0 hr 30 min Scoring: 20 points

Test (CS): Applications of Trigonometry

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min Scoring: 60 points

Test (TS): Applications of Trigonometry

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hr 50 min Scoring: 100 points

LESSON 5: DIAGNOSTIC**Diagnostic: Applications of Trigonometry**

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hr 40 min Scoring: 20 points

UNIT 12: COMPLEX NUMBERS

LESSON 1: POLAR COORDINATES**Study: The Polar Express**

Learn to use polar coordinates to express locations of points.

Duration: 1 hr

Checkup: Lessons Learned

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Complete a set of practice problems on polar coordinates.

Duration: 0 hr 50 min

Quiz: Polar Coordinates

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min Scoring: 20

points

LESSON 2: GRAPHS OF POLAR FUNCTIONS

Study: From Lemniscates to Limaçons

Produce a variety of new graphs using polar functions.

Duration: 1 hr

Checkup: Lessons Learned

Complete a set of practice problems on graphs of polar functions.

Duration: 0 hr 50 min

Quiz: Graphs of Polar Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 3: POLAR FORM OF COMPLEX NUMBERS

Study: A Good Complex to Have

Express complex numbers in polar form.

Duration: 1 hr

Checkup: Lessons Learned

Complete a set of practice problems on the polar form of complex numbers.

Duration: 0 hr

50 min

Quiz: Polar Form of Complex Numbers

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 4: ARITHMETIC OF COMPLEX NUMBERS

Study: This Math Isn't Complex

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Add, subtract, multiply, and divide complex numbers.

Duration: 1 hr

Checkup: Lessons Learned

Complete a set of practice problems on the arithmetic of complex numbers.

Duration: 0 hr

50 min

Quiz: Arithmetic of Complex Numbers

Take a quiz to assess your understanding of the material.

Duration: 0 hr 40 min

Scoring: 20 points

LESSON 5: POWERS AND ROOTS OF COMPLEX NUMBERS

Study: Feel the Power

Express powers and roots of complex numbers.

Duration: 1 hr

Checkup: Lessons Learned

Complete a set of practice problems on powers and roots of complex numbers.

Duration: 0

hr 50 min

Quiz: Powers and Roots of Complex Numbers

Take a quiz to assess your understanding of the material.

Duration: 0

hr 40 min Scoring: 20 points

LESSON 6: COMPLEX NUMBERS WRAP-UP

Review: Complex Numbers

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hr 50 min

Review: Calculator Skills

Review key calculator skills.

Duration: 0 hr 25 min

Practice: Complex Numbers

Complete a set of practice problems.

Duration: 0 hr 50 min Scoring: 50 points

Discuss: What Questions Do You Have?

Discuss ideas about this unit that are still unclear. Help to answer your classmates' questions.

Duration: 0 hr 30 min Scoring: 20 points

Test (CS): Complex Numbers

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hr

50 min Scoring: 60 points

Test (TS): Complex Numbers

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hr 50

min Scoring: 100 points

LESSON 7: DIAGNOSTIC

Diagnostic: Complex Numbers

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hr 40 min Scoring: 20 points

UNIT 13: PRECALCULUS SEMESTER 2 REVIEW AND EXAM

LESSON 1: PREPARING FOR THE SEMESTER EXAM

Review: Semester Review

Prepare for the semester exam by reviewing key concepts covered in Precalculus Semester 2.

Duration: 2 hr

Exam: Semester Exam (Computer-Scored)

Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Precalculus Semester 2.

Duration: 1 hr Scoring: 150 points

Final Exam: Semester Exam (Teacher-Scored)

Take a teacher-scored exam to demonstrate your mastery of concepts and skills covered in Precalculus Semester 2.

Duration: 1 hr Scoring: 100 points