Math 4 Prescriptive focuses on extending and applying students' knowledge of probability, statistics, and transcendental functions. Students see how function behaviors can be generalized across different function types, and apply their knowledge in real-world contexts. Students learn through discovery and application, developing the skills they need to break down complex challenges and demonstrate their understanding in new situations.

Course topics include graphing functions and function arithmetic, exponential and logarithmic functions, trigonometric functions and their applications, matrices, modeling data with linear and nonlinear functions, binomial and normal probability distributions, and statistical sampling and confidence intervals.

This course supports all students as they develop computational fluency, deepen conceptual understanding, and apply the standards for mathematical practice. Students begin each lesson by discovering new concepts through guided instruction, and 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. Throughout the course, students are evaluated through a diversity of assessments.

This course is built to the revised North Carolina Math standards adopted in 2016.

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 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on functions.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: What Is a Function?
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: GRAPHING FUNCTIONS

Study: Graphing Functions
Learn the vertical line and horizontal line tests for evaluating a function. Evaluate a function for given values and explore special functions.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on graphing functions.
Duration: 0 hrs 25 mins

Quiz: Graphing Functions
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: POLYNOMIAL BASICS

Study: Polynomial Basics
Learn that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Polynomial Basics
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Multiplying Polynomials
Use tiles to model the multiplication of binomials and solve a real-world problem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: ARITHMETIC OF FUNCTIONS

Study: Arithmetic of Functions
Learn how to add, subtract, multiply, divide, and compose functions.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on the arithmetic of functions.
Duration: 0 hrs 25 mins

Quiz: Arithmetic of Functions
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: FUNCTIONS WRAP-UP

Review: Practice Problems
Check your understanding of the unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Functions
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 32 points

Test (TS): Functions
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 21 points

UNIT 2: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

LESSON 1: EXPONENTIAL FUNCTIONS

Study: Exponential Functions
Define the standard form of an exponential function and explore a variety of its applications, such as exponential growth and decay (in the forms of doubling time and half-life), as well as compound interest. Compare compound interest to continuously compounded interest using the irrational number *e*.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Exponential Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: EXAMPLES AND APPLICATIONS OF EXPONENTIAL FUNCTIONS

Study: Examples and Applications of Exponential Functions

Explore case studies in exponential growth and decay and logarithmic growth.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

LESSON 3: GRAPHS OF EXPONENTIAL FUNCTIONS

Study: Graphs of Exponential Functions

Learn about the shape of graphs of exponential functions with various bases and about finding the domain and range of exponential functions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Exponential Functions

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: LOGARITHMIC FUNCTIONS

Study: Logarithmic Functions

Learn about undoing exponential functions, graphing the inverse of an exponential or logarithmic function, and using the common and natural logarithm.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Logarithmic Functions

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: GRAPHS OF LOGARITHMIC FUNCTIONS

Study: Graphs of Logarithmic Functions

Learn about the shape of graphs of logarithmic functions with various bases and about the domain and range of logarithmic functions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Logarithmic Functions

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: PROPERTIES OF EXPONENTS AND LOGARITHMS

Study: Properties of Exponents and Logarithms

Learn about product, quotient, and power laws of exponents; rewriting the log of a product as the sum of two logs; rewriting the log of a quotient as the difference of two logs; simplifying the log of a power; and using the change-of-base formula to rewrite logarithms.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Properties of Exponents and Logarithms
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 10 points

LESSON 7: SOLVING EXPONENTIAL EQUATIONS

Study: Solving Exponential Equations
Learn about using ordinary algebra and the properties of logarithms to solve exponential equations. Answer questions inspired by the classic chessboard problem.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Exponential Equations
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: SOLVING LOGARITHMIC EQUATIONS

Study: Solving Logarithmic Equations
Learn about using ordinary algebra and the definition of a logarithm to solve logarithmic equations. Answer questions about energy in earthquakes.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Logarithmic Equations
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: APPLICATIONS OF LOGARITHMS

Study: Applications of Logarithms
Solve application problems involving exponential and logarithmic expressions.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on applications of logarithms.
Duration: 0 hrs 25 mins

Quiz: Applications of Logarithms
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 10: EXPONENTIAL AND LOGARITHMIC FUNCTIONS WRAP-UP

Review: Exponential and Logarithmic Functions
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 25 mins

Test (CS): Exponential and Logarithmic Functions
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 42 points

Test (TS): Exponential and Logarithmic Functions

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

Duration: 0 hrs 30 mins Scoring: 42 points

UNIT 3: NUMBERS AND MATRICES

LESSON 1: IMAGINARY NUMBERS

Study: Imaginary Numbers

Learn about imaginary and complex numbers, perform basic arithmetic operations on complex numbers, and solve equations with imaginary and complex numbers.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Imaginary Numbers

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 10 points

LESSON 2: MATRIX ADDITION AND SCALAR MULTIPLICATION

Study: Matrix Addition and Scalar Multiplication

Understand the nature of a matrix and how to identify its dimensions. Add and subtract matrices. Multiply a matrix by a scalar. Explore properties of matrix operations.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Matrix Addition and Scalar Multiplication

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: MATRIX MULTIPLICATION

Study: Matrix Multiplication

Identify matrices that can be multiplied and know the dimensions of the product. Multiply matrices. Understand zero matrices and identity matrices. Recognize that matrix multiplication is not commutative.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Matrix Multiplication

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: NUMBERS AND MATRICES WRAP-UP

Review: Numbers and Matrices

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Numbers and Matrices

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

Duration: 0 hrs 40 mins Scoring: 22 points

Test (TS): Numbers and Matrices

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

Duration: 0 hrs 30 mins Scoring: 26 points

UNIT 4: TRIGONOMETRY

LESSON 1: RIGHT TRIANGLES

Study: Right Triangles
Review right triangles and get an introduction to trigonometric ratios.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on trigonometry.
Duration: 0 hrs 25 mins

Quiz: Introduction to Trigonometry
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: ANGLES AND RADIANS

Study: Angles and Radians
Learn about angles expressed in degrees and radians.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on angles and radians.
Duration: 0 hrs 25 mins

Quiz: Angles and Radians
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: TRIGONOMETRIC RATIOS AND THE UNIT CIRCLE

Study: Trigonometric Ratios and the Unit Circle
Learn the six trigonometric ratios and how the unit circle defines them.
Duration: 0 hrs 35 mins

Study: Pythagorean Theorem
Review the Pythagorean theorem.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on trigonometric functions and the unit circle.
Duration: 0 hrs 25 mins

Quiz: Trigonometric Functions and the Unit Circle
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: A Better Way?
Discuss a trigonometric "shortcut", and explain when it will and will not work.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: GRAPHS OF SINE AND COSINE

Study: Graphs of Sine and Cosine
Learn to build the graphs of sine and cosine.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on graphs of sine and cosine.
Duration: 0 hrs 25 mins

Quiz: Graphs of Sine and Cosine

Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: GRAPHS OF OTHER FUNCTIONS

Study: Graphs of Other Functions
Learn the graphs of the other four trigonometric functions.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on graphs of other functions.
Duration: 0 hrs 25 mins

Quiz: Graphs of Other Functions
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: SIMPLE TRANSFORMATIONS OF SINUSOIDS

Study: Simple Transformations of Sinusoids
Learn how to transform trigonometric graphs with reflections, shifts, and stretches.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on transformations of periodic graphs.
Duration: 0 hrs 25 mins

Quiz: Simple Transformations of Sinusoids
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: GENERAL TRANSFORMATIONS OF PERIODIC GRAPHS

Study: General Transformations of Periodic Graphs
Learn how to transform trigonometric graphs with reflections, shifts, and stretches.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on transformations of trigonometric functions.
Duration: 0 hrs 25 mins

Quiz: General Transformations of Periodic Graphs
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Riding the Circular Wave
Model real world data using a periodic function.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 8: IDENTITIES AND PROOF

Study: Identities and Proof
Learn how to prove identities.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on identities and proof.
Duration: 0 hrs 25 mins

Quiz: Identities and Proof
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: TRIGONOMETRIC IDENTITIES

Study: Trigonometric Identities
Learn the key trigonometric identities.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on trigonometric identities.
Duration: 0 hrs 25 mins

Quiz: Trigonometric Identities
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 10: TRIGONOMETRY WRAP-UP

Review: Trigonometry
Check your understanding of the unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Trigonometry
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Trigonometry
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 5: APPLICATIONS OF TRIGONOMETRY

LESSON 1: LAW OF COSINES

Study: It's the Law
Use the law of cosines to solve triangles.
Duration: 1 hr

Checkup: Lessons Learned
Complete a set of practice problems using the law of cosines.
Duration: 0 hrs 50 mins

Quiz: Law of Cosines
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins 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

Checkup: Lessons Learned
Complete a set of practice problems using the law of sines.
Duration: 0 hrs 50 mins

Quiz: Law of Sines
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 20 points

LESSON 3: VECTORS

Study: Getting Around
Use vectors to describe motion.
Duration: 1 hr

Checkup: Lessons Learned
Complete a set of practice problems on vectors.
Duration: 0 hrs 50 mins

Quiz: Vectors
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 20 points

LESSON 4: APPLICATIONS OF TRIGONOMETRY WRAP-UP

Review: Applications of Trigonometry
Complete a set of practice problems.
Duration: 0 hrs 50 mins Scoring: 0 points

Discuss: What Questions Do You Have?
Discuss ideas about this unit that are still unclear. Help to answer your classmates' questions.
Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): Applications of Trigonometry
Take a computer-scored test to assess what you have learned in this unit.
Duration: 0 hrs 50 mins Scoring: 60 points

Test (TS): Applications of Trigonometry
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 0 hrs 50 mins Scoring: 100 points

UNIT 6: SEMESTER 1 EXAM

LESSON 1: SEMESTER 1 EXAM

Review: Semester 1 Exam
Get ready for the semester exam by reviewing important ideas and skills.
Duration: 0 hrs 20 mins Scoring: 0 points

Exam: Semester 1 Exam
Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Semester 1.
Duration: 0 hrs 50 mins Scoring: 165 points

UNIT 7: DATA AND MATHEMATICAL MODELING

LESSON 1: TWO-VARIABLE DATA AND SCATTERPLOTS

Study: Two-Variable Data and Scatterplots
Create scatterplots for bivariate data and recognize positive and negative correlations. Use a calculator to find correlation coefficients, and understand what the result says about the strength of the correlation. Know that correlation does not imply causation.
Duration: 0 hrs 45 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Two-Variable Data and Scatterplots
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: FITTING LINEAR MODELS TO DATA

Study: Fitting Linear Models to Data
Find equations for best-fit lines (regression equations) by estimation and by using a calculator. Use regression equations to make predictions. Find residuals and residual plots and understand how they indicate whether or not a linear model is appropriate.
Duration: 0 hrs 45 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Fitting Linear Models to Data
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Fitting Linear Models to Data
Model and solve a real-world problem.
Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 3: NONLINEAR MODELS

Study: Nonlinear Models
Learn how to apply nonlinear regression.
Duration: 0 hrs 45 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Nonlinear Models
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Nonlinear Models
Construct arguments and critique the reasoning of others as you write about topics in algebra.
Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 4: DATA AND MATHEMATICAL MODELING WRAP-UP

Review: Data and Mathematical Modeling Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 30 mins Scoring: 0 points

Discuss: The Latest Model
Join a three- to five-question discussion to practice methods learned in this unit.
Duration: 0 hrs 40 mins Scoring: 20 points

Test (CS): Data and Mathematical Modeling
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Data and Mathematical Modeling
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 8: DISCRETE PROBABILITY DISTRIBUTIONS

LESSON 1: DISCRETE RANDOM VARIABLES

Study: Discrete Random Variables
Learn how to identify a discrete random variable and calculate its probability distribution, mean, and standard deviation.
Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Discrete Random Variables
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 2: BINOMIAL PROBABILITY

Study: Binomial Probability
Learn how to calculate binomial probability distributions, including mean and standard deviation.
Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Binomial Probability
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 3: CUMULATIVE BINOMIAL PROBABILITY DISTRIBUTIONS

Study: Cumulative Binomial Probability Distributions
Learn how to calculate binomial probability distributions, including mean and standard deviation.
Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Cumulative Binomial Probability Distributions
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: DISCRETE PROBABILITY DISTRIBUTIONS WRAP-UP

Review: Discrete Probability Distributions
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 40 mins Scoring: 0 points

Test (CS): Discrete Probability Distributions
Take a computer-scored test to assess what you have learned in this unit.
Duration: 0 hrs 45 mins Scoring: 50 points

Test (TS): Discrete Probability Distributions
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 0 hrs 45 mins Scoring: 50 points

UNIT 9: CONTINUOUS PROBABILITY DISTRIBUTIONS

LESSON 1: CONTINUOUS RANDOM VARIABLES

Study: Continuous Random Variables
Learn how to identify a continuous random variable and calculate its probability distribution.
Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Continuous Random Variables
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 2: NORMAL DISTRIBUTIONS

Study: Normal Distributions
Learn how to identify properties of a normal distribution and then apply these properties to determine probabilities with

a table or graphing calculator.

Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Normal Distributions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 20 points

Discuss: Checking for Normal Probability Distributions

Participate in a three- to five-question discussion to practice methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

LESSON 3: *Z*-SCORES

Study: *z*-Scores

Learn how to identify properties of a normal distribution and then apply these properties to determine probabilities with a table or graphing calculator.

Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: *z*-Scores

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: CONTINUOUS PROBABILITY DISTRIBUTIONS WRAP-UP

Review: Continuous Probability Distributions

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 0 points

Test (CS): Continuous Probability Distributions

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

Duration: 0 hrs 45 mins Scoring: 50 points

Test (TS): Continuous Probability Distributions

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

Duration: 0 hrs 45 mins Scoring: 50 points

UNIT 10: SAMPLING AND CONFIDENCE INTERVALS

LESSON 1: SAMPLE MEANS

Study: Sample Means

Learn how to understand and apply the concepts and parameters of the central limit theorem to single sample mean distributions.

Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Sample Means

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 2: SAMPLE PROPORTIONS

Study: Sample Proportions

Learn how to understand and apply the concepts and parameters of the central limit theorem to single sample proportion distributions.

Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Sample Proportions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 3: CONFIDENCE INTERVALS: SAMPLE MEANS

Study: Confidence Intervals: Sample Means

Learn how to use large sample data to calculate and interpret a confidence interval for a population mean.

Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Confidence Intervals: Sample Means

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: CONFIDENCE INTERVALS: SAMPLE PROPORTIONS

Study: Confidence Intervals: Sample Proportions

Learn how to use large sample data to calculate and interpret a confidence interval for a population proportion.

Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Confidence Intervals: Sample Proportions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: EVALUATING STATISTICAL STUDIES

Study: Evaluating Statistical Studies

Learn how to evaluate the design of a study, the appropriateness of its analysis, and the validity of its conclusions.

Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Evaluating Statistical Studies

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 20 points

Discuss: Analyzing Real-World Reports

Participate in a three- to five-question discussion to practice methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

LESSON 6: DATA GATHERING AND INFERENTIAL STATISTICS

Study: Data Gathering and Inferential Statistics

Investigate techniques for gathering data and explore how probability is used in statistical inference.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Data Gathering and Inferential Statistics
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: EXPERIMENTAL DESIGN

Study: Experimental Design
Learn how to design and carry out an experiment employing the basic principles of experimental design.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Experimental Design
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: APPLICATIONS OF STATISTICAL TECHNIQUES

Study: Applications of Statistical Techniques
Learn how statistical techniques are used to analyze real-world observational studies and experimental designs.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Applications of Statistical Techniques
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Statistical Truth or Fiction?
Evaluate gathered data and make a prediction using statistical techniques.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 9: SAMPLING AND CONFIDENCE INTERVALS WRAP-UP

Review: Sampling and Confidence Intervals
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 40 mins Scoring: 0 points

Test (CS): Sampling and Confidence Intervals
Take a computer-scored test to assess what you have learned in this unit.
Duration: 0 hrs 45 mins Scoring: 60 points

Test (TS): Sampling and Confidence Intervals
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 0 hrs 45 mins Scoring: 72 points

UNIT 11: SEMESTER 2 REVIEW AND EXAM

LESSON 1: SEMESTER 2 REVIEW AND EXAM

Review: Semester 2 Review
Get ready for the semester exam by reviewing important ideas and skills.
Duration: 0 hrs 20 mins Scoring: 0 points

Exam: Semester 2 Exam

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

Duration: 0 hrs 50 mins Scoring: 125 points