Geometry builds upon students' command of geometric relationships and formulating mathematical arguments. 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 reasoning, proof, and the creation of sound mathematical arguments; points, lines, and angles; triangles and trigonometry; quadrilaterals and other polygons; circles; congruence, similarity, transformations, and constructions; coordinate geometry; three-dimensional solids; and applications of probability.

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, 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.

Length: Two semesters

UNIT 1: FOUNDATIONS OF GEOMETRY

LESSON 1: INDUCTION: THE SEARCH FOR RULES AND PATTERNS

Study: Induction: The Search for Rules and Patterns
Learn about looking for patterns, making conjectures, cross-referencing to history and science, real-world examples of inductive reasoning, building a triangle, and examples of symmetry.
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: Induction: The Search for Rules and Patterns
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: DEDUCTION: MAKING A CASE

Study: Deduction: Making a Case
Learn about the definition of deductive reasoning; postulates and conditional statements; and using deductive reasoning in proofs. Explore a real-world example of deducing that deals with the combination of a lock.
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: Deduction: Making a Case
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: THE LOOK AND LANGUAGE OF LOGIC

Study: The Look and Language of Logic
Explore examples of geometric reasoning. Learn about converses, inverses, and contrapositives of conditional statements.

Checkup: Practice Problems
Check your understanding of the lesson.

Quiz: The Look and Language of Logic
Take a quiz to check your understanding of what you have learned.

LESSON 4: INTRODUCTION TO PROOFS
Study: Introduction to Proofs
Learn about postulates and axioms, givens, proof by contradiction (indirect proof), theorems and corollaries, and the axiomatic method.

Checkup: Practice Problems
Check your understanding of the lesson.

Quiz: Introduction to Proofs
Take a quiz to check your understanding of what you have learned.

LESSON 5: BASIC POSTULATES IN GEOMETRY
Study: Basic Postulates in Geometry
Learn about the relationship of rays, lines, and angles to direction; the definition of a line; notation for rays and lines; building and defining an angle (including its vertex and sides); conventions for naming angles; and straight and zero angles.

Checkup: Practice Problems
Check your understanding of the lesson.

Quiz: Basic Postulates in Geometry
Take a quiz to check your understanding of what you have learned.

LESSON 6: PLANES AND THE SPACE OF GEOMETRY
Study: Planes and the Space of Geometry
Learn about dimensionality, collinear points, two-dimensional objects, the geometric plane, the flat plane, postulate coplanar objects, and three-dimensional objects (solids).

Checkup: Practice Problems
Check your understanding of the lesson.

Quiz: Planes and the Space of Geometry
Take a quiz to check your understanding of what you have learned.

Practice: Modeling: Logo Design
Use your knowledge of location, direction, and angles to model and solve a real-world problem.

LESSON 7: INTERSECTING LINES AND PROOFS
Study: Intersecting Lines and Proofs
Learn about intersections that form vertical angles; the vertical angle theorem; perpendicular lines, rays, and segments; distance and length; and perpendicular bisectors.

**Checkup: Practice Problems and Proofs**
Check your understanding of the lesson.
Duration: 0 hrs 35 mins Scoring: 0 points

**Quiz: Intersecting Lines and Proofs**
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

**LESSON 8: PARALLEL LINES AND PROOFS**

**Study: Parallel Lines and Proofs**
Learn about skew lines, coplanar lines that do not intersect, parallel line notation, transversals and corresponding angles, alternate interior angles, consecutive interior angles, and parallel line theorems.
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: Parallel Lines and Proofs**
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

**Journal: Consecutive Angle Theorem**
Use what you know about lines and angles to critique the reasoning of others and prove a theorem.
Duration: 0 hrs 30 mins Scoring: 20 points

**Study: Solving the Mirror Problem**
Learn about applying theorems from this unit to the problem of measuring light reflected off a mirror. Learn about the law of reflection.
Duration: 0 hrs 35 mins Scoring: 0 points

**LESSON 9: FOUNDATIONS OF GEOMETRY WRAP-UP**

**Checkup: Foundations of Geometry Practice Problems**
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

**Review: Foundations of Geometry**
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

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

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

**UNIT 2: TRIANGLES**

**LESSON 1: WHAT IS A TRIANGLE?**
Study: What Is a Triangle?
Learn about the definition and parts of a triangle; opposite and included figures; naming and sorting triangles; equilateral, isosceles, and scalene triangles; and the triangle inequality theorem.
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: Naming Triangles by Angle Measures
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Naming Triangles by Side Lengths
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: The Triangle Inequality Theorem
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: THE ANGLES OF A TRIANGLE

Study: The Angles of a Triangle
Explore the angle sum theorem and third angle theorem for triangles. Investigate the relationship between a given triangle's vertex and its exterior and remote interior angles.
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: Angle Theorems
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Exterior and Remote Interior Angles
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: CONGRUENCE

Study: Congruence
Learn about congruence, transformations of triangles, corresponding triangles, notation for writing congruence statements, and the CPCTC triangle congruence theorem.
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: Congruent Triangles
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Properties of Congruence
Take a quiz to check your understanding of what you have learned.
LESSON 4: CONGRUENCE POSTULATES

Study: Congruence Postulates
Learn about postulates including the SSS, SAS, ASA, and AAS theorems.
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: Using Congruence Postulates
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

LESSON 5: PROOFS OF CONGRUENCE

Study: Proofs of Congruence
Learn about proving that parts of triangles are congruent by using Thales's method for measuring the distance from ship to shore.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Journal: Proofs of Congruence
Use what you know about congruence of triangles to prove the Perpendicular Bisector Theorem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 6: SIMILAR TRIANGLES

Study: Similar Triangles
Learn about similarity versus congruence, testing for similarity among triangles, proportionality, the definition of similar triangles, and scale factor.
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: Similar Triangles
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: SIMILARITY THEOREMS AND PROPORTIONAL REASONING

Study: Similarity Theorems and Proportional Reasoning
Learn about the ASA similarity postulate, the SSS similarity theorem, and the SAS similarity theorem.
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 8: TRIANGLE THEOREMS

Study: Triangle Theorems
Learn and prove the isosceles triangle theorem and its converse. Investigate two corollaries involving angle measures for equilateral triangles. Explore theorems for scalene triangles. Apply what you have learned to solve Thales's problem.

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: Isosceles and Equilateral Triangles
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

LESSON 9: MEDIANS AND ALTITUDES

Study: Medians and Altitudes
Identify and explore medians and altitudes. Discover their relationship to centroids, orthocenters, incenters, and circumcenters.

Duration: 0 hrs 35 mins Scoring: 0 points

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

LESSON 10: BISECTORS AND MIDSEGMENTS

Study: Bisectors and Midsegments
Identify and explore angle bisectors, perpendicular bisectors, and midpoint bisectors, and lines parallel to one side of a triangle to discover their relationships to circumcenters, incenters, and side lengths.

Duration: 0 hrs 35 mins Scoring: 0 points

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

LESSON 11: PERFORMANCE TASK: THE PARALLAX PROBLEM

Study: The Parallax Problem
Learn to apply the concepts of congruence, similarity, ratio, and proportion to the solution of a real-world parallax problem.

Duration: 0 hrs 35 mins Scoring: 0 points

Project: Performance Task: The Parallax Problem
Apply the concepts of congruence, similarity, ratio, and proportion to solve a real-world problem.
Duration: 2 hrs Scoring: 120 points

LESSON 12: TRIANGLES WRAP-UP
UNIT 3: RIGHT TRIANGLES

LESSON 1: THE PYTHAGOREAN THEOREM

Study: The Pythagorean Theorem
Learn how the Pythagorean theorem applies only to right triangles and discover one proof of it. Learn about the converse of the Pythagorean theorem, Pythagorean triples, and applying the theorem to the problem of fitting a baseball bat into a rectangular trunk.
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: The Pythagorean Theorem
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Proving the Pythagorean Theorem
Use what you know about congruence of triangles to prove the Pythagorean Theorem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 2: CONGRUENT RIGHT TRIANGLES

Study: Congruent Right Triangles
Learn about the HL, LL, HA, LA, and perpendicular bisector theorems. Learn about the angle bisector theorem and its converse.
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: Proving Right Triangle Congruence
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

LESSON 3: SIMILAR RIGHT TRIANGLES
Study: Similar Right Triangles
Explore the properties of similar right triangles. Prove that if an altitude is drawn from the right-angle vertex of a right triangle to its hypotenuse, then three similar triangles are formed. Calculate the missing sides of similar right triangles by using proportions and apply concepts learned to a miniature-golf problem.
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: Similar Right Triangles
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: The Pool Table Problem
Use your knowledge of similar right triangles to model a pool table and hit your ball in the pocket.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: SPECIAL RIGHT TRIANGLES
Study: Special Right Triangles
Explore 45-45-90 and 30-60-90 triangles as special cases of right triangles and learn how to apply the ratios of their side lengths.
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: 45-45-90 Right Triangles
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: 30-60-90 Right Triangles
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: RIGHT TRIANGLES WRAP-UP
Checkup: Right Triangles Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Right Triangles
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

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

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

UNIT 4: TRIGONOMETRY
LESSON 1: TRIGONOMETRIC RATIOS

Study: Trigonometric Ratios
Learn the definitions of sine, cosine, and tangent. Memorize the shortcut “soh-cah-toa” as a way to relate these ratios. Explore the use of trigonometric ratios in the solution of a real-world problem involving the construction of a cable car.
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: Trigonometric Ratios
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Leaning Towers
Use your knowledge of right triangles, trigonometric ratios, and the Pythagorean Theorem to model and solve a real-world problem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 2: LAW OF COSINES AND PROOFS

Study: Law of Cosines and Proofs
Use the law of cosines to solve triangles.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems using the law of cosines.
Duration: 0 hrs 25 mins

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

LESSON 3: LAW OF SINES AND PROOFS

Study: Law of Sines and Proofs
Use the law of sines to solve triangles and to explore the ambiguous case.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems using the law of sines.
Duration: 0 hrs 25 mins

Journal: Law of Sines and Proofs
Use what you know about triangles and trigonometric ratios to prove the law of sines.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: TRIGONOMETRY WRAP-UP

Checkup: Trigonometry Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Trigonometry
Prepare for the unit test by reviewing key concepts and skills.
Duration: 0 hrs 30 mins

Test (CS): Trigonometry
UNIT 5: QUADRILATERALS AND OTHER POLYGONS

LESSON 1: ANGLE SUMS OF A POLYGON AND PROOFS

Study: Angle Sums of a Polygon and Proofs
Learn about the diagonal of a polygon, the formula for the sum of the measures of a polygon’s interior angles and exterior angles, and a theorem for the sum of their measures.
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: Angle Sums of a Polygon and Proofs
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: PARALLELOGRAMS AND PROOFS

Study: Parallelograms and Proofs
Learn about the definition of a parallelogram, properties and theorems of parallelograms, consecutive angle pairs, and diagonals.
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: Parallelograms and Proofs
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: TESTS FOR PARALLELOGRAMS

Study: Tests for Parallelograms
Explore parallelogram theorems involving opposite side lengths, opposite and consecutive angle measures, and bisecting diagonals. Then work through a sample proof.
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: Tests for Parallelograms
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Finding Parallelograms
Use your knowledge of quadrilaterals to model and solve a real-world problem.
Duration: 0 hrs 30 mins Scoring: 20 points
LESSON 4: RECTANGLES

Study: Rectangles
Learn about the definition of a rectangle, congruent diagonal theorems, and right angle theorems. Explore a sample problem about using the congruent diagonal theorem to prove that a window is rectangular.
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: Rectangles
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: RHOMBI AND SQUARES

Study: Rhombi and Squares
Identify the properties and definitions of a rhombus and a square. Prove that the diagonals of a rhombus are perpendicular. Investigate how diagonals of a rhombus bisect opposite vertices. Apply the properties of rhombi and squares to find missing side lengths, diagonal lengths, and angle measures.
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: Rhombi and Squares
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: TRAPEZOIDS

Study: Trapezoids
Learn the definition of a trapezoid and identify its parts. Explore how base angles and diagonals of an isosceles trapezoid are congruent. Investigate the medians of a trapezoid. Apply the properties of trapezoids and isosceles trapezoids to find missing side lengths and median lengths.
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: Trapezoids
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Trapezoids
Use what you know about triangles and parallelograms to solve a real-world problem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 7: QUADRILATERALS AND OTHER POLYGONS WRAP-UP

Checkup: Quadrilaterals and Other Polygons Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Quadrilaterals and Other Polygons
Get ready for the unit test by reviewing important ideas and skills. 
Duration: 0 hrs 30 mins Scoring: 0 points

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

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

**UNIT 6: CIRCLES WITHOUT COORDINATES**

**LESSON 1: WHAT IS A CIRCLE?**

**Study: What Is a Circle?**
Learn about the definition of a circle and about its center, radius, and circumference.  
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: What Is a Circle?**
Take a quiz to check your understanding of what you have learned.  
Duration: 0 hrs 20 mins Scoring: 20 points

**LESSON 2: CHORDS**

**Study: Chords**
Investigate the properties and definitions of chords and diameters. Discover that two chords are congruent if they are the same distance from the center of the circle. Prove that the radius bisects a chord if it is perpendicular to the chord.  
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: Congruent Chords**
Take a quiz to check your understanding of what you have learned.  
Duration: 0 hrs 20 mins Scoring: 20 points

**Quiz: Chords and Perpendicular Radii**
Take a quiz to check your understanding of what you have learned.  
Duration: 0 hrs 20 mins Scoring: 20 points

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

**LESSON 3: ARCS**

**Study: Arcs**
Learn the definitions of arc, endpoint, central angle, and intercept. Learn about minor and major arcs and semicircles, arc notation, the measure of minor and major arcs, and the arc congruence and congruent chord theorems.  
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: Arc Types and Measure**
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

**LESSON 4: CHORD AND ARC RELATIONSHIPS**

**Study: Chord and Arc Relationships**
Learn the definitions of arc, endpoint, central angle, and intercept. Learn about minor and major arcs and semicircles, arc notation, the measure of minor and major arcs, and the arc congruence and congruent chord theorems.
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: Congruent Chords and Circle Angle Measure**
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

**LESSON 5: CIRCLES, ANGLES, AND PROOFS**

**Study: Circles, Angles, and Proofs**
Learn the definition of an inscribed angle. Experiment with inscribed angles and their intercepted arcs. Discover and prove that an inscribed angle is half the measure of its intercepted arc. Discover and prove the intersecting chord theorem.
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: Inscribed Angles**
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

**Quiz: Intersecting Chord Theorem**
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

**LESSON 6: SECANTS, TANGENTS, AND PROOFS**

**Study: Secants, Tangents, and Proofs**
Learn about the definition of secant and about secant-secant angle, its theorem, and proving the theorem. Learn about tangent line, point of tangency and tangent segments, tangents perpendicular to a circle’s radius, a tangent-tangent angle and its theorem, and a tangent-chord angle and its theorem. Explore a sample proof.
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: Secant-Secant Angles**
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

**Quiz: Tangent-Chord Angles**
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

**Quiz: Tangent-Tangent Angles and Their Intercepted Arcs**
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

**LESSON 7: CIRCUMFERENCE AND ARC LENGTH**

**Study: Circumference and Arc Length**
Learn about the irrational number $\pi$ and the formula for finding the circumference of a circle. Apply circumference to a real-world problem about how to build a bridge that's tall enough for boats to travel beneath it. Learn about the degree measure of an arc and arc length. Derive the formula for arc length.
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: Circumference of a Circle**
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

**LESSON 8: AREA AND SECTORS**

**Study: Area and Sectors**
Learn about the formula for the area of a circle. Explore a case study comparing the cost per square inch of small and large pizzas. Learn about sectors and the area of a sector.
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: Area of a Circle**
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

**Practice: Modeling: Stained Glass Window**
Use what you know about finding the area of circles and sectors to model and solve a real-world problem.
Duration: 0 hrs 30 mins Scoring: 20 points

**LESSON 9: CIRCLES AND TRIANGLES**

**Study: Circles and Triangles**
Learn about inscribed objects; circumscribed objects; and the definitions of incenter and circumcenter.
Duration: 0 hrs 35 mins Scoring: 0 points

**Checkup: Practice Problems**
Check your understanding of the lesson.
Lesson 10: Circles and Polygons

Study: Circles and Polygons
Learn about the theorems of a quadrilateral inscribed in a circle and of a parallelogram inscribed in a circle.
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: Circles and Polygons
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Lesson 11: Circles Without Coordinates Wrap-Up

Checkup: Circles Without Coordinates Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Circles Without Coordinates
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Circles Without Coordinates
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Circles Without Coordinates
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 50 points

Unit 7: Geometry Semester 1 Exam

Lesson 1: Geometry Semester 1 Exam

Review: Geometry Semester 1 Exam
Prepare for the final exam by reviewing key concepts and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

Exam: Geometry Semester 1 Exam
Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Geometry Semester 1.
Duration: 0 hrs 50 mins Scoring: 200 points

Unit 8: Coordinate Geometry

Lesson 1: Midpoint Formula

Study: Midpoint Formula
Learn about the midpoints of horizontal, vertical, and diagonal line segments and about the midpoint formula. Complete a sample problem.

**Checkup: Practice Problems**
Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

**Quiz: Midpoint Formula**
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

**LESSON 2: THE DISTANCE FORMULA**

**Study: The Distance Formula**
Derive the distance formula from the Pythagorean theorem. Use this formula to calculate the distance between any two points. Apply the distance formula in a real-world problem that involves locating the shortest route on a nautical map.

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: The Distance Formula**
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

**Journal: The Distance Formula**
Use what you know about the midpoint and distance formulas to critique the reasoning of others.

Duration: 0 hrs 30 mins Scoring: 20 points

**LESSON 3: PATTERNS AND LINES**

**Study: Patterns and Lines**
Learn about linear equations, ordered pairs, and data points that form a straight line.

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: Patterns and Lines**
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

**LESSON 4: SLOPE**

**Study: Slope**
Learn about measuring slope, rise, and run; the slope formula; negative zero and undefined slope; and measuring the rate of change of a dependent variable.

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: Computing Slope**
Take a quiz to check your understanding of what you have learned.
Practice: Modeling: The Rescue Ship
Use your knowledge of parallel lines and the slope formula to steer a ship through dangerous waters.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: EQUATIONS OF LINES
Study: Equations of Lines
Learn about and explore examples of properties of lines, the \( y \)-intercept, the slope-intercept equation, and the point-slope equation.
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: Equations of Lines — Part I
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Equations of Lines — Part II
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: EQUATIONS OF PARALLEL AND PERPENDICULAR LINES AND PROOFS
Study: Equations of Parallel and Perpendicular Lines and Proofs
Learn about the definitions and slopes of parallel and perpendicular lines. Learn about negative reciprocals.
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: Equations of Parallel and Perpendicular Lines and Proofs
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: COORDINATE GEOMETRY WITH POLYGONS
Study: Coordinate Geometry with Polygons
Investigate the properties of polygons using coordinate geometry and congruence transformations on the coordinate plane.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Coordinate Geometry with Polygons
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: AREA OF A TRIANGLE WITH COORDINATE GEOMETRY
Study: Area of a Triangle with Coordinate Geometry
Learn about the area of a polygon, square units, and the triangle area formula and theorem.
Duration: 0 hrs 35 mins Scoring: 0 points
LESSON 9: AREA AND PERIMETER OF POLYGONS WITH COORDINATE GEOMETRY

Study: Area and Perimeter of Polygons with Coordinate Geometry
Find the perimeter of any polygon. Determine the areas of irregular polygons by breaking them up into quadrilaterals and regular polygons. Use the apothem formula to find the area of a regular polygon. Complete sample problems about the area of irregular polygons.
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: Area and Perimeter of Polygons
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 10: COORDINATE GEOMETRY WRAP-UP

Checkup: Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Coordinate Geometry
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

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

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

UNIT 9: CONIC SECTIONS

LESSON 1: FROM LINES TO CONIC SECTIONS

Study: From Lines to Conic Sections
Learn about four kinds of conic sections, as well as the definitions of right circular cone, nappe, vertex, conic section, and cross section.
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: Linear Equations
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points
Quiz: What Is a Conic Section?
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: GEOMETRY OF CONIC SECTIONS

Study: Geometry of Conic Sections
Learn about parts and geometric properties of circles, ellipses, hyperbolas, and parabolas.
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: Geometry of Circles and Ellipses
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Geometry of Hyperbolas and Parabolas
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: CIRCLES WITH COORDINATES AND PROOFS

Study: Circles with Coordinates and Proofs
Use algebra to find an equation whose solution set is a circle. Learn about the standard equation for circles that are not centered at the origin.
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: Circles Centered at the Origin
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Circles Not Centered at the Origin
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Point on a Circle
Use what you know about equations of circles to prove whether or not a point is on a circle.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: PARABOLAS

Study: Parabolas
Learn about finding a parabola’s equation from its graph; the effect of the squared variable’s coefficient on the parabola’s orientation and shape; equations of parabolas with vertices at points other than the origin; vertex form and standard form of an equation for a parabola; and converting between vertex form and standard form.
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: Parabolas with Vertices at the Origin
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Parabolas with Vertices Not at the Origin
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

LESSON 5: LOCUS OF POINTS

Study: Locus of Points
Learn about defining objects in terms of points and given distances. Explore examples of a parabola and bisecting angles.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Practice: Modeling: Wildlife Sanctuary
Use what you know about locus of points to solve a real world problem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 6: CONIC SECTIONS WRAP-UP

Checkup: Conic Sections Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Conic Sections
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

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

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

UNIT 10: CONSTRUCTIONS AND TRANSFORMATIONS

LESSON 1: CONSTRUCTIONS

Study: Constructions
Learn about using a straightedge and a compass, common notions of Euclidean geometry, five postulates, constructing an equilateral triangle and a regular hexagon, bisecting an angle, and constructing a perpendicular bisector.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Practice: Modeling: Constructing a Square
Use your geometry skills to construct a square using only a straightedge and a compass.
LESSON 2: PAPER FOLDING

Study: Paper Folding
Learn about constructing geometric solids with folding paper, coinciding objects bisecting an angle, and constructing a parallel line segment.
Duration: 0 hrs 35 mins Scoring: 0 points

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

LESSON 3: IMPOSSIBLE PROBLEMS FROM ANTIQUITY

Study: Impossible Problems from Antiquity
Learn about the Delian problem (doubling a cube) and trisecting an angle.
Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Impossible Problems from Antiquity
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: TRANSFORMATIONS

Study: Transformations
Learn about rigid motions, describe the image and preimage, predict the results of transformations, and use series of transformations to move figures onto themselves.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Journal: Transformations
Critique a conjecture about a series of transformations.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: SYMMETRY

Study: Symmetry
Learn about reflectional symmetry and line of symmetry and explore an example of an isosceles triangle. Learn about rotational symmetry, point of symmetry, and the symmetry of a human face.
Duration: 0 hrs 35 mins Scoring: 0 points

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

LESSON 6: TESSELLATIONS

Study: Tessellations
Learn the definition and explore examples of tessellations. Discover the chessboard as an example of a regular tessellation. Learn about semiregular tessellations.
Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Tessellations
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points
LESSON 7: CONSTRUCTIONS AND TRANSFORMATIONS WRAP-UP

Checkup: Constructions and Transformations Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Constructions and Transformations
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

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

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

UNIT 11: THREE-DIMENSIONAL SOLIDS

LESSON 1: THREE DIMENSIONS

Study: Three Dimensions
Learn about measuring three-dimensional figures.
Duration: 0 hrs 35 mins Scoring: 0 points

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

LESSON 2: WHAT IS A POLYHEDRON?

Study: What Is a Polyhedron?
Learn about the definition and elements of a polyhedron, prisms and their components, triangular and rectangular prisms, cubes, and regular and irregular pyramids.
Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: What Is a Polyhedron?
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: CYLINDERS AND CONES

Study: Cylinders and Cones
Learn about the definition, components, and properties of a cylinder; the definition and components of a cone; and the similarities between cones and pyramids.
Duration: 0 hrs 35 mins Scoring: 0 points

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

LESSON 4: PLATONIC SOLIDS

Study: Platonic Solids
Learn about polygonal numbers, regularity of Platonic solids, and building your own Platonic solids.
Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Platonic Solids
Take a quiz to check your understanding of what you have learned.
LESSON 5: SURFACE AREA

Study: Surface Area
Learn about perimeter and surface area; base and lateral area; slant height versus altitude; and the formulas for surface area of a right prism, an oblique prism, a regular pyramid, an oblique cylinder, a right cone, and an oblique cone. Explore sample problems dealing with these subjects.
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: Surface Area of Regular Prisms and Pyramids
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Surface Area of Right Cylinders and Cones
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: VOLUME

Study: Volume
Learn about area and volume, the formulas for volume of a cube and a rectangular prism, and Bonaventura Francesco Cavalieri’s principle. Learn about the formulas for volume of a cylinder, a pyramid, and a cone; explore sample problems dealing with these formulas. Learn about cross-sectional area.
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: Volume of Prisms, Cylinders, and Cubes
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Volume of Cones, Cylinders, and Pyramids
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Volume
Think about and discuss how changing one dimension of a given shape changes its volume and surface area.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 7: SPHERES

Study: Spheres
Learn about the definition of a sphere; the formulas for surface area and volume of a sphere; comparing the surface area and volume of a sphere, cube, cylinder, and cone; and using Cavalieri's principle to derive the formula for volume of a sphere.
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: Spheres
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: SIMILAR SOLIDS

Study: Similar Solids
Learn about similar prisms, pyramids, cylinders, cones, and spheres; the constant ratio between corresponding parts of similar solids; and the ratio of volumes of similar solids.
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: Similar Solids
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: PERFORMANCE TASK: THREE-DIMENSIONAL SOLIDS

Study: Geodesic Domes
Use your knowledge of three-dimensional solids to solve a geodesic dome problem.
Duration: 0 hrs 35 mins Scoring: 0 points

Project: Performance Task: The Subway Stop
Use what you know about three-dimensional solids to solve a real-world problem.
Duration: 2 hrs Scoring: 120 points

LESSON 10: THREE-DIMENSIONAL SOLIDS WRAP-UP

Checkup: Three-Dimensional Solids Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Three-Dimensional Solids
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

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

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

UNIT 12: APPLICATIONS OF PROBABILITY

LESSON 1: WHAT IS PROBABILITY?

Study: What Is Probability?
Learn the definition for probability and explore its different forms.
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: What Is Probability?
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

Quiz: Simple and Compound Events
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Study: Organizing What Is Possible
Explore the numbers of possible outcomes from a brown bag containing gum balls of different colors.
Duration: 0 hrs 35 mins Scoring: 0 points

LESSON 2: COUNTING PRINCIPLES

Study: Counting Principles
Learn about counting strategies and the multiplication principle. Practice using tree diagrams and Venn diagrams in probability problems. Learn the definitions for permutation and combination.
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: Counting Principles
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

LESSON 3: PERMUTATIONS AND COMBINATIONS

Study: Permutations and Combinations
Learn about counting strategies and the multiplication principle. Practice using tree diagrams and Venn diagrams in probability problems. Learn the definitions for permutation and combination.
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: Permutations and Combinations
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Finding Probabilities With Permutations and Combinations
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points
LESSON 4: BASIC RULES OF PROBABILITY

Study: Basic Rules of Probability
Learn four rules of probability, as well as the addition rule for disjoint events and the multiplication rule for independent events.
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: Basic Rules of Probability, Part I
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: CONDITIONAL PROBABILITY

Study: Conditional Probability
Learn how to identify and solve conditional probability problems using correct notation, formulas, and tables.
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: Conditional Probability
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: A Student Survey
Use your knowledge of conditional probability to analyze the results of a student survey.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 6: INDEPENDENCE

Study: Independence
Learn how to show if two events are independent, and solve probability problems for both independent and dependent events using the multiplication rule and tree diagrams.
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: Independence
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Smoking and Lung Cancer
Use what you know about conditional probability and independence to critique the reasoning of others.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 7: SIMULATIONS

Study: Simulations
Learn how to simulate a random event using random number generators and rows of random digits and use results to estimate probabilities empirically.
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: Simulations
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: APPLICATIONS OF PROBABILITY WRAP-UP
Checkup: Applications of Probability Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Applications of Probability
Prepare for the unit test by reviewing key concepts and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

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

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

UNIT 13: GEOMETRY SEMESTER 2 EXAM
LESSON 1: GEOMETRY SEMESTER 2 EXAM
Review: Geometry Semester 2 Exam
Prepare for the final exam by reviewing key concepts and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

Exam: Geometry Semester 2 Exam
Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Algebra I Semester 2.
Duration: 0 hrs 50 mins Scoring: 200 points