## Options EHS Geometry B-OR

## Unit Lesson

## Quadrilaterals and Coordinate Algebra

Classifying Quadrilaterals

Parallelograms

Special Parallelograms

Trapezoids and Kites

Figures in the Coordinate Plane

Classify and describe relationships within the family of quadrilaterals.
Describe real-world objects using characteristics of quadrilaterals.
Solve mathematical problems using characteristics of quadrilaterals.
Solve real-world problems using characteristics of quadrilaterals.

## Scope and Sequence

## Objectives



Complete the steps to prove theorems about properties of parallelograms.
Apply properties of parallelograms to solve problems.

Complete the steps to prove theorems about properties of parallelograms.
Apply properties of rhombi to solve mathematical and real-world problems.
Apply properties of rectangles to solve mathematical and real-world problems.
Apply properties of squares to solve mathematical and real-world problems.

Complete proofs involving properties of trapezoids and kites.
Apply properties of trapezoids to solve mathematical and real-world problems.
Apply properties of kites to solve mathematical and real-world problems.

Apply coordinate algebra proofs to triangles and quadrilaterals.
Calculate the perimeter of a triangle or quadrilateral given the coordinates of the vertices.

[^0]
## Page 1 of 8

## Scope and Sequence

Unit Lesson
Objectives

## Areas of Figures

Rewriting Expressions with Radicals
Use operations to rewrite expressions involving radicals.
Adding and Subtracting Radicals
Identify like radicals.
Add and subtract radical expressions.
Rewriting Expressions with Radicals
Use operations to rewrite expressions involving radicals.
Angle Measures of Polygons
Identify and describe polygons.
Apply the polygon interior angle sum theorem to solve problems.
Apply the polygon exterior angle sum theorem to solve problems.
Area of Regular Polygons
Calculate the length of the apothem of a regular polygon.
Calculate the area of a regular polygon.
Solve real-world problems involving the area of regular polygons.
Area of Triangles and Parallelograms

Solve problems involving areas of triangles and parallelograms.
Perimeter and Area of Rhombi, Trapezoids, and Kites

Solve problems involving the area of a rhombus, trapezoid, and kite.
Solve problems involving the area of a rhombus, trapezoid, and kite given the coordinates of the vertices.

Options EHS Geometry B-OR
Unit Lesson

Area of Composite Figures

|  | Decompose composite 2-D figures. |
| :---: | :---: |
|  | Write an expression that represents the area of a composite 2-D figure. |
|  | Calculate the area of composite 2-D figures, including real-world applications. |
| Density and Design Problems |  |
|  | Solve problems involving density of an area. |
|  | Use geometric concepts to solve design problems. |
| Test |  |
| Volume of Figures |  |
| Volume of Prisms |  |
|  | Write expressions to represent the volumes or unknown measures of right and oblique prisms. |
|  | Calculate the volume or an unknown measure of a right prism based on a mathematical or real-world model. |
|  | Calculate the volume or an unknown measure of an oblique prism based on a mathematical or real-world model. |
| Volume of Pyramids |  |
|  | Write expressions to represent the volumes or unknown measures of right and oblique pyramids. |
|  | Calculate the volume or an unknown measure of a right pyramid based on a mathematical or real-world model. |
|  | Calculate the volume or an unknown measure of an oblique pyramid based on a mathematical or real-world model. |
| Volume of Cylinders, Cones, and Spheres |  |
|  | Write expressions to represent the volumes or unknown measures of cylinders and cones. |
|  | Solve mathematical and real-world problems involving the volume of right and oblique cylinders. |
|  | Solve mathematical and real-world problems involving the volume of right and oblique cones. |

## Scope and Sequence

Objectives
Calculate the perimeter of a rhombus, trapezoid, or kite given the coordinates of the vertices.

Decompose composite 2-D figures.
Write an expression that represents the area of a composite 2-D figure.
Calculate the area of composite 2-D figures, including real-world applications.

Solve problems involving density of an area.
Use geometric concepts to solve design problems.

Write expressions to represent the volumes or unknown measures of right and oblique prisms.
Calculate the volume or an unknown measure of a right prism based on a mathematical or real-world model.
Calculate the volume or an unknown measure of an oblique prism based on a mathematical or real-world model.

Write expressions to represent the volumes or unknown measures of right and oblique pyramids.
.

Calculate the volume or an unknown measure of an oblique pyramid based on a mathematical or real-world model.

Write expressions to represent the volumes or unknown measures of cylinders and cones.

Solve mathematical and real-world problems involving the volume of right and oblique cones.

Options EHS Geometry B-OR

## Scope and Sequence

Unit Lesson
Objectives
Solve mathematical and real-world problems involving the volume of spheres.

## Surface Area

Cavalieri's Principle and Volume of Composite Figures

Write an expression to represent the volume of a composite figure.
Calculate the volumes of composite figures, including those that model real-world objects.
Three-Dimensional Figures and Cross Sections

Classify a 3-D figure and identify the characteristics (base, edge, etc.).
Determine the horizontal and vertical cross-sections of 3-D figures.
Determine the 3-D figure generated by a rotation of a 2-D figure.
Unit Test

## Trigonometric Ratios

Special Right Triangles
Complete the steps to prove special right triangle theorems.
Determine unknown measures of $45^{\circ}-45^{\circ}-90^{\circ}$ triangles.
Determine unknown measures of $30^{\circ}-60^{\circ}-90^{\circ}$ triangles.
Solve real-world problems involving special right triangles.

Right Triangle Trigonometry
Use the Pythagorean theorem, and the trigonometric functions and their inverses to solve right triangles.

## Page 4 of 8

Options EHS Geometry B-OR
Unit Lesson
Trigonometric Ratios
Solving for Side Lengths of Right
Triangles Triangles

## Solving for Angle Measures of Right

 TrianglesIntroduction to Circles

Central Angles

Write equations using trigonometric ratios that can be used to solve for unknown side lengths of right triangles.
Solve for unknown side lengths of right triangles using trigonometric ratios.
Apply trigonometric ratios to solve real-world problems.

Write equations that can be used to solve for unknown angles in right triangles.
Solve for unknown angles of right triangles using inverse trigonometric functions.
Apply inverse trigonometric functions to solve real-world problems.

Complete the steps to prove that all circles are similar
Identify and describe terms related to circles.
Calculate the degree measure of an arc using the arc addition postulate.

## Scope and Sequence

Objectives
Use special right triangle relationships to solve right triangles.

Given an acute angle of a right triangle, label the hypotenuse, opposite, and adjacent sides
Given an acute angle of a right triangle, write ratios for sine, cosine, and tangent.
Relate trigonometric ratios of similar triangles and the acute angles of a right triangle.
-

列

Identify congruent central angles, chords, and arcs.
Determine the measures of central angles, chords, and arcs using theorems about angle, chord, and arc congruency.

Solve problems using the radius tangent theorem and its converse.

## Options EHS Geometry B-OR

## Scope and Sequence

Unit Lesson
Objectives
Circumference and Arc Length

Secants, Tangents, and Angles

Area of a Circle and a Sector

Equation of a Circle

Unit Test

## Distributions and Proportions

Properties of Probability
Distributions

Solve problems involving angles formed by two intersecting chords.
Solve problems involving angles formed by two secants that intersect outside a circle.
Solve problems involving angles formed by two intersecting tangents.
Solve problems involving angles formed by a secant and a tangent that intersect outside a circle.

Solve problems involving area of a circle.
Solve problems involving area of a sector with central angles measured in radians.
Solve problems involving area of a sector with central angles measured in degrees.

Identify the center and radius from the equation of a circle, including equations given in general form.
Determine the equation of a circle.
Determine if a given point lies on a circle.
Solve problems involving circumference of a circle.
Determine the radian measure of a central angle.
Solve problems involving arc length with central angles measured in degrees.
Solve problems involving arc length with central angles measured in radians.

Identify properties of a probability distribution.

## Page 6 of 8

Options EHS Geometry B-OR

## Scope and Sequence

Unit Lesson
Objectives
Create probability distributions from a data set.
Solve problems using probability distributions.
Introduction to Normal Distributions
Describe normal distributions using the mean and standard deviation.
Apply the z-score formula to solve problems.
Solve problems using the empirical rule.
Applications with Standard Normal Distribution

Solve problems using the standard normal table.
Introduction to Confidence Intervals
Calculate the value of a point estimate and/or the margin of error of a given confidence interval.
Interpret a confidence interval.
Evaluate a claim about a population parameter given a confidence interval.
Estimating a Population Proportion
Construct a confidence interval for a population proportion.
Evaluate a claim about a population proportion based upon a calculated confidence interval.
Calculate the minimum sample size that is needed to construct a confidence interval for a population proportion with a given confidence level and a given margin of error.

Statistical Inferences

Hypothesis Testing

Make inferences about a population from a sample

Perform hypothesis tests on normally distributed data.
Determine if a result is statistically significant.

## Unit Lesson

Objectives
Test
Cumulative Exam
Cumulative Exam Review
Cumulative Exam


[^0]:    Unit Test

