

Geometry

Mathematics

Grade(s) 10th - 12th, Duration 1 Year, 1 Credit
Required Course

Course Overview

GENERAL DESCRIPTION: In this course the student will become familiar with the basic properties of geometric form. Students will also study angle relationships, perpendicular and parallel lines and planes, congruent triangles, similar polygons, circles, arc angles, areas, and volumes.

HOMEWORK OR READING NECESSARY: Homework will be assigned daily.

FORMAT: Some class time will be allotted each day toward discussion of the previous day's assignment. This discussion will be followed by the presentation of new material and independent study.

TESTS: Assessments will be given upon the completion of each unit outcome.

Timeframe	Unit	Scope And Sequence Instructional Topics
9 Week(s)	Geometric Structure	<ol style="list-style-type: none">1-1 Points, Lines and Planes1-2 Linear Measure1-3 Distance and Midpoints1-4 Angle Measure1-5 Angle Relationships1-6 Two-Dimensional Figures1-7 Three-Dimensional Figures2-6 Algebraic Proof2-7 Segment Relationships2-8 Proving Angle Relationships3-1 Parallel Lines and Transversals3-2 Angles and Parallel Lines3-3 Slopes of Lines3-4 Equations of Lines3-5 Proving Lines Parallel3-6 Perpendiculars and Distance
9 Week(s)	Measurement	<ol style="list-style-type: none">10-1 Circles and Circumference10-2 Measuring Angles and Arcs10-3 Arcs and Chords10-4 Inscribed Angles10-5 Tangents10-6 Secants, Tangents and Angle Measures10-7 Special Segments in a Circle10-8 Equations of Circles11-1 Areas of Parallelograms and Triangles11-2 Areas of Trapezoids, Rhombi and Kites11-3 Areas of Circles and Sectors11-4 Areas of Regular Polygons and Composite Figures11-5 Areas of Similar Figures12-1 Representations of Three-Dimensional Figures12-2 Surface Areas of Prisms and Cylinders12-3 Surface Areas of Pyramids and Cones12-4 Volumes of Prisms and Cylinders12-5 Volumes of Pyramids and Cones12-6 Surface Areas and Volumes of Spheres12-8 Congruent and Similar Solids
9 Week(s)	Similarity	<ol style="list-style-type: none">7-1 Ratios and Proportions7-2 Similar Polygons7-3 Similar Triangles7-4 Parallel Lines and Proportional Parts7-5 Parts of Similar Triangles7-6 Similarity Transformations7-7 Scale Drawings and Models8-1 Geometric Mean8-2 The Pythagorean Theorem and its Converse8-3 Special Right Triangles9-1 Reflections9-2 Translations9-3 Rotations9-4 Compositions of Transformations9-5 Symmetry9-6 Dilations

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9 Week(s)	Congruence	<ol style="list-style-type: none">1. 4-1 Classifying Triangles2. 4-2 Angles of Triangles3. 4-3 Congruent Triangles4. 4-4 Proving Triangles Congruent - SSS and SAS5. 4-5 Proving Triangles Congruent - ASA and AAS6. 4-6 Isosceles and Equilateral Triangles7. 4-7 Congruence Transformations8. 5-1 Bisectors of Triangles9. 5-2 Medians and Altitudes of Triangles10. 5-5 The Triangle Inequality11. 5-6 Inequalities in Two Triangles12. 6-1 Angles of Polygons13. 6-2 Parallelograms14. 6-3 Tests for Parallelograms15. 6-4 Rectangles16. 6-5 Rhombi and Squares17. 6-6 Trapezoids and Kites
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Materials and Resources

SUPPLIES: Each student will be charged a \$5 calculator rental fee, unless the student chooses to purchase the calculator required for the class.

Prerequisites

PREREQUISITE: 1 credit Algebra I or equivalent.

Course Details

Unit: Geometric Structure

Duration: 9 Week(s)

Unit Overview

Tools of Geometry: Find distances between points and midpoints of line segments. Identify angle relationships. Find perimeters, areas, surface areas and volumes. (1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7)

Reasoning and Proof: Make conjectures and find counterexamples for statements. Use deductive reasoning to reach valid conclusion. Write proofs involving segments and angle theorems. (2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8)

Parallel and Perpendicular Lines: Identify and prove angle relationships that occur with parallel lines and a transversal. Use slope to analyze a line and to write its equation. Find the distance between a point and a line and between two parallel lines. (3-1, 3-2, 3-3, 3-4, 3-5, 3-6)

Materials and Resources

Textbook
Online Resources

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Academic Vocabulary

•Tools of Geometry

acute angle
adjacent angles
angle
angle bisector
area
base
between
circumference
collinear
complementary angles
concave
cone
congruent
construction
convex
coplanar
cylinder
degree
distance
edge
equiangular polygon
equilateral polygon
exterior
face
interior
intersection
line
line segment
linear pair
midpoint
n-gon
obtuse angle
opposite rays
perimeter
perpendicular
plane
Platonic solid
point
polygon
polyhedron
prism
pyramid
ray
regular polygon
regular polyhedron
right angle
segment
bisector
side
space
sphere
supplementary angles
surface area
undefined term
vertex
vertex of a polygon
vertical angles
volume
Reasoning and Proof
algebraic proof
axiom
compound statement
conclusion
conditional statement
conjecture
conjunction

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contrapositive
converse
counterexample
deductive argument
deductive reasoning
disjunction
formal proof
hypothesis
if-then statement
inductive reasoning
informal proof
inverse
logically equivalent
negation
paragraph proof
postulate
proof
related conditionals
statement
theorem
truth table
truth value
two-column proof
•Parallel and Perpendicular Lines
alternate exterior angles
alternate interior angles
consecutive interior angles
corresponding angles
equidistant
parallel lines
parallel planes
point-slope form
rate of change
skew lines
slope
slope-intercept form
transversal

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Summative Assessment

- Tools of Geometry Assessment
- Reasoning and Proof Assessment
- Parallel and Perpendicular Lines Assessment

Topic: 1-1 Points, Lines and Planes

Duration: 2 Day(s)

Topic Overview

Identify and model points, lines and planes. Identify intersecting lines and planes.

Learning Targets

Identify and model points, lines and planes. Identify intersecting lines and planes.

Topic: 1-2 Linear Measure

Duration: 1 Day(s)

Topic Overview

Measure segments. Calculate with measures.

Learning Targets

Measure segments. Calculate with measures.

Topic: 1-3 Distance and Midpoints

Duration: 2 Day(s)

Topic Overview

Find the distance between two points. Find the midpoint of a segment.

Learning Targets

Find the distance between two points. Find the midpoint of a segment.

Topic: 1-4 Angle Measure

Duration: 2 Day(s)

Topic Overview

Measure and classify angles. Identify and use congruent angles and the bisector of an angle.

Learning Targets

Measure and classify angles. Identify and use congruent angles and the bisector of an angle.

Topic: 1-5 Angle Relationships

Duration: 2 Day(s)

Topic Overview

Identify and use special pairs of angles. Identify perpendicular lines.

Learning Targets

Identify and use special pairs of angles. Identify perpendicular lines.

Topic: 1-6 Two-Dimensional Figures

Duration: 2 Day(s)

Topic Overview

Identify and name polygons. Find perimeter, circumference and area of two-dimensional figures.

Learning Targets

Identify and name polygons. Find perimeter, circumference and area of two-dimensional figures.

Topic: 1-7 Three-Dimensional Figures

Duration: 2 Day(s)

Topic Overview

Identify and name three-dimensional figures. Find surface area and volume.

Learning Targets

Identify and name three-dimensional figures. Find surface area and volume.

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Topic: 2-6 Algebraic Proof

Duration: 2 Day(s)

Topic Overview

use algebra to write two-column proofs. Use properties of inequality to write geometric proofs.

Learning Targets

use algebra to write two-column proofs. Use properties of inequality to write geometric proofs.

Topic: 2-7 Segment Relationships

Duration: 2 Day(s)

Topic Overview

Write proofs involving segment addition. Write proofs involving segment congruence.

Learning Targets

Write proofs involving segment addition. Write proofs involving segment congruence.

Topic: 2-8 Proving Angle Relationships

Duration: 2 Day(s)

Topic Overview

Write proofs involving supplementary and complementary angles. Write proofs involving congruent and right angles.

Learning Targets

Write proofs involving supplementary and complementary angles. Write proofs involving congruent and right angles.

Topic: 3-1 Parallel Lines and Transversals

Duration: 2 Day(s)

Topic Overview

Identify relationships between two lines or two planes. Name angle pairs formed by parallel lines and transversals.

Learning Targets

Identify relationships between two lines or two planes. Name angle pairs formed by parallel lines and transversals.

Topic: 3-2 Angles and Parallel Lines

Duration: 2 Day(s)

Topic Overview

Use theorems to determine the relationship between specific pairs of angles. Use algebra to find angle measurements.

Learning Targets

Use theorems to determine the relationship between specific pairs of angles. Use algebra to find angle measurements.

Topic: 3-3 Slopes of Lines

Duration: 2 Day(s)

Topic Overview

Find slopes of lines. Use slope to identify parallel and perpendicular lines.

Learning Targets

Find slopes of lines. Use slope to identify parallel and perpendicular lines.

Topic: 3-4 Equations of Lines

Duration: 2 Day(s)

Topic Overview

Write an equation of a line given information about the graph. Solve problems by writing equations.

Learning Targets

Write an equation of a line given information about the graph. Solve problems by writing equations.

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Required Course

Topic: 3-5 Proving Lines Parallel

Duration: 2 Day(s)

Topic Overview

Recognize angle pairs that occur with parallel lines. Prove that two lines are parallel.

Learning Targets

Recognize angle pairs that occur with parallel lines. Prove that two lines are parallel.

Topic: 3-6 Perpendiculars and Distance

Duration: 2 Day(s)

Topic Overview

Find the distance between a point and a line. Find the distance between parallel lines.

Learning Targets

Find the distance between a point and a line. Find the distance between parallel lines.

Unit: Measurement

Duration: 9 Week(s)

Unit Overview

Circles: Learn the relationships between central angles, arcs, and inscribed angles in a circle. Define and use secants and tangents. Use an equation to identify or describe a circle. (10-1, 10-2, 10-3, 10-4, 10-5, 10-6, 10-7, 10-8)

Area of Polygons and Circles: Find areas of polygons. Solve problems involving areas and sectors of circles. Find scale factors using similar figures. (11-1, 11-2, 11-3, 11-4, 11-5)

Extending Surface Area and Volume: Find lateral areas, surface areas, and volumes of various solid figures. Investigate Euclidean and spherical geometries. Use properties of similar solids. (12-1, 12-2, 12-3, 12-4, 12-5, 12-6, 12-7, 12-8)

Probability and Measurement: Represent sample spaces. Use permutations and combinations with probability. Find probabilities by using length and area. Find probabilities of compound events. (13-1, 13-2, 13-3, 13-4, 13-5, 13-6)

Materials and Resources

Textbook

Online Resources

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Required Course

Academic Vocabulary

Circles
adjacent arcs
arc
arc length
center
central angle
chord
chord segment
circle
circumference
circumscribed
common tangent
compound locus
concentric circles
congruent arcs
diameter
external secant segment
inscribed
inscribed angle
intercepted arc
major arc
minor arc
pi
point of tangency
radius secant
secant segment
semicircle
tangent
Area of Polygons and Circles
apothem
base of a parallelogram
base of a triangle
center of a regular polygon
central angle of a regular polygon
composite figure
height of a parallelogram
height of a trapezoid
height of a triangle
radius of a regular polygon
sector of a circle
Extending Surface Area and Volume
altitude
axis
base edges
composite solid
congruent solid
cross section
Euclidean geometry
great circle
isometric view
lateral area
lateral edge
lateral face
non-Euclidean geometry
oblique cone
oblique solid
regular pyramid
right cone
right solid
similar solids
slant height
spherical geometry
topographic map
Probability and Measurement
circular permutation
combination
complement

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compound events
conditional probability
dependent events
expected value
factorial
Fundamental Counting Principle
geometric probability
independent events
mutually exclusive events
permutation
probability model
probability tree
random variable
sample space
simulation
tree diagram

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Required Course

Summative Assessment

- Circles Assessment
- Area of Polygons and Circles Assessment
- Extending Surface Area and Volume Assessment
- Probability and Measurement Assessment

Topic: 10-1 Circles and Circumference

Duration: 2 Day(s)

Topic Overview

Identify and use parts of circles. Solve problems involving the circumference of a circle.

Learning Targets

Identify and use parts of circles. Solve problems involving the circumference of a circle.

Topic: 10-2 Measuring Angles and Arcs

Duration: 2 Day(s)

Topic Overview

Identify central angles, major arcs, minor arcs and semicircles and find their measures. Find arc lengths.

Learning Targets

Identify central angles, major arcs, minor arcs and semicircles and find their measures. Find arc lengths.

Topic: 10-3 Arcs and Chords

Duration: 2 Day(s)

Topic Overview

Recognize and use relationships between arcs and chords. Recognize and use relationships between arcs, chords, and diameters.

Learning Targets

Recognize and use relationships between arcs and chords. Recognize and use relationships between arcs, chords, and diameters.

Topic: 10-4 Inscribed Angles

Duration: 2 Day(s)

Topic Overview

Find measures of inscribed angles. Find measures of angles of inscribed polygons.

Learning Targets

Find measures of inscribed angles. Find measures of angles of inscribed polygons.

Topic: 10-5 Tangents

Duration: 2 Day(s)

Topic Overview

Use properties of tangents. Solve problems involving circumscribed polygons.

Learning Targets

Use properties of tangents. Solve problems involving circumscribed polygons.

Topic: 10-6 Secants, Tangents and Angle Measures

Duration: 2 Day(s)

Topic Overview

Find measures of angles formed by lines intersecting on or inside a circle. Find measure of angles formed by lines intersecting outside a circle.

Learning Targets

Find measures of angles formed by lines intersecting on or inside a circle. Find measure of angles formed by lines intersecting outside a circle.

Topic: 10-7 Special Segments in a Circle

Duration: 2 Day(s)

Topic Overview

Find measures of segments that intersect in the interior of a circle. Find measures of segments that intersect in the exterior of a circle.

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Learning Targets

Find measures of segments that intersect in the interior of a circle. Find measures of segments that intersect in the exterior of a circle.

Topic: 10-8 Equations of Circles

Duration: 2 Day(s)

Topic Overview

Write the equation of a circle and graph a circle on the coordinate plane.

Learning Targets

Write the equation of a circle and graph a circle on the coordinate plane.

Topic: 11-1 Areas of Parallelograms and Triangles

Duration: 2 Day(s)

Topic Overview

Find perimeters and area of parallelograms and triangles.

Learning Targets

Find perimeters and area of parallelograms and triangles.

Topic: 11-2 Areas of Trapezoids, Rhombi and Kites

Duration: 2 Day(s)

Topic Overview

Find area of trapezoids, rhombi and kites.

Learning Targets

Find area of trapezoids, rhombi and kites.

Topic: 11-3 Areas of Circles and Sectors

Duration: 2 Day(s)

Topic Overview

Find area of circles and sectors of circles.

Learning Targets

Find area of circles and sectors of circles.

Topic: 11-4 Areas of Regular Polygons and Composite Figures

Duration: 2 Day(s)

Topic Overview

Find areas of regular polygons and composite figures.

Learning Targets

Find areas of regular polygons and composite figures.

Topic: 11-5 Areas of Similar Figures

Duration: 2 Day(s)

Topic Overview

Find areas of similar figures by using scale factors. Find scale factors or missing measures given the area of similar figures.

Learning Targets

Find areas of similar figures by using scale factors. Find scale factors or missing measures given the area of similar figures.

Topic: 12-1 Representations of Three-Dimensional Figures

Duration: 2 Day(s)

Topic Overview

Draw isometric views of three-dimensional figures. Investigate cross sections of three-dimensional figures.

Learning Targets

Geometry

Mathematics

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Required Course

Draw isometric views of three-dimensional figures. Investigate cross sections of three-dimensional figures.

Topic: 12-2 Surface Areas of Prisms and Cylinders

Duration: 2 Day(s)

Topic Overview

Find lateral areas and surface areas of prisms and cylinders.

Learning Targets

Find lateral areas and surface areas of prisms and cylinders.

Topic: 12-3 Surface Areas of Pyramids and Cones

Duration: 2 Day(s)

Topic Overview

Find the lateral areas and the surface areas of pyramids and cones.

Learning Targets

Find the lateral areas and the surface areas of pyramids and cones.

Topic: 12-4 Volumes of Prisms and Cylinders

Duration: 2 Day(s)

Topic Overview

Find volumes of prisms and cylinders.

Learning Targets

Find volumes of prisms and cylinders.

Topic: 12-5 Volumes of Pyramids and Cones

Duration: 2 Day(s)

Topic Overview

Find volumes of pyramids and cones.

Learning Targets

Find volumes of pyramids and cones.

Topic: 12-6 Surface Areas and Volumes of Spheres

Duration: 2 Day(s)

Topic Overview

Find surface areas of spheres. Find volume of spheres.

Learning Targets

Find surface areas of spheres. Find volume of spheres.

Topic: 12-8 Congruent and Similar Solids

Duration: 2 Day(s)

Topic Overview

Identify congruent or similar solids. Use properties of similar solids.

Learning Targets

Identify congruent or similar solids. Use properties of similar solids.

Unit: Similarity

Duration: 9 Week(s)

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Grade(s) 10th - 12th, Duration 1 Year, 1 Credit
Required Course

Unit Overview

Proportion and Similarity: Identify similar polygons and use ratios and proportions to solve problems. Identify and apply similarity transformations. Use scale models and drawings to solve problems. (7-1, 7-2, 7-3, 7-4, 7-5, 7-6, 7-7)

Right Triangles and Trigonometry: Use Pythagorean Theorem. Use properties of special right triangles. Use trigonometry to find missing measures of triangles. (8-1, 8-2, 8-3, 8-4, 8-5, 8-6)

Transformations and Symmetry: Name and draw figures that have been reflected, translated, rotated or dilated. Recognize and draw compositions of transformations. Identify symmetry in two- and three-dimensional figures. (9-1, 9-2, 9-3, 9-4, 9-5, 9-6)

Materials and Resources

Textbook

Online resources

Academic Vocabulary

Proportion and Similarity

cross products

dilation

enlargement

extremes

means

midsegment of a triangle

proportion

ratio

reduction

scale

scale drawing

scale factor

scale model

similar polygons

similarity transformation

Right Triangles and Trigonometry

angle of depression

angle of elevation

component form

cosine

direction

geometric mean

inverse cosine

inverse sine

inverse tangent

Law of Cosines

Law of Sines

magnitude

Pythagorean triple

resultant

sine standard position

tangent

trigonometric ratio

trigonometry

vector

Transformations and Symmetry

angle of rotation

axis symmetry

center of rotation

composition of transformations

glide reflection

line of reflection

line of symmetry

line symmetry

magnitude of symmetry

order of symmetry

plane symmetry

rotational symmetry

symmetry

translation vector

Summative Assessment

- Proportion and Similarity Assessment
- Right Triangles and Trigonometry Assessment
- Transformations and Symmetry Assessment

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Topic: 7-1 Ratios and Proportions

Duration: 2 Day(s)

Topic Overview

Write ratios. Write and solve proportions.

Learning Targets

Write ratios. Write and solve proportions.

Topic: 7-2 Similar Polygons

Duration: 2 Day(s)

Topic Overview

Use properties to identify similar polygons. Solve problems using the properties of similar polygons.

Learning Targets

Use properties to identify similar polygons. Solve problems using the properties of similar polygons.

Topic: 7-3 Similar Triangles

Duration: 2 Day(s)

Topic Overview

Identify similar triangles using the AA Similarity Postulate and the SSS and SAS Similarity Theorems. Use similar triangles to solve problems.

Learning Targets

Identify similar triangles using the AA Similarity Postulate and the SSS and SAS Similarity Theorems. Use similar triangles to solve problems.

Topic: 7-4 Parallel Lines and Proportional Parts

Duration: 2 Day(s)

Topic Overview

Use proportional parts within triangles. Use proportional parts with parallel lines.

Learning Targets

Use proportional parts within triangles. Use proportional parts with parallel lines.

Topic: 7-5 Parts of Similar Triangles

Duration: 2 Day(s)

Topic Overview

Recognize and use proportional relationships of corresponding angles, bisectors, altitudes, and medians of similar triangles. Use the Triangle Bisector Theorem.

Learning Targets

Recognize and use proportional relationships of corresponding angles, bisectors, altitudes, and medians of similar triangles. Use the Triangle Bisector Theorem.

Topic: 7-6 Similarity Transformations

Duration: 2 Day(s)

Topic Overview

Identify similarity transformations. Verify similarity after a similarity transformation.

Learning Targets

Identify similarity transformations. Verify similarity after a similarity transformation.

Topic: 7-7 Scale Drawings and Models

Duration: 2 Day(s)

Topic Overview

Interpret scale models. Use scale factors to solve problems.

Learning Targets

Interpret scale models. Use scale factors to solve problems.

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Required Course

Topic: 8-1 Geometric Mean

Duration: 2 Day(s)

Topic Overview

Find the geometric mean between two numbers. Solving problems involving relationships between parts of a right triangle and the altitude to its hypotenuse.

Learning Targets

Find the geometric mean between two numbers. Solving problems involving relationships between parts of a right triangle and the altitude to its hypotenuse.

Topic: 8-2 The Pythagorean Theorem and its Converse

Duration: 2 Day(s)

Topic Overview

Use the Pythagorean Theorem and its Converse.

Learning Targets

Use the Pythagorean Theorem and its Converse.

Topic: 8-3 Special Right Triangles

Duration: 2 Day(s)

Topic Overview

Use the properties of 45-45-90 and 30-60-90 triangles.

Learning Targets

Use the properties of 45-45-90 and 30-60-90 triangles.

Topic: 9-1 Reflections

Duration: 2 Day(s)

Topic Overview

Draw reflections. Draw reflections in the coordinate plane.

Learning Targets

Draw reflections. Draw reflections in the coordinate plane.

Topic: 9-2 Translations

Duration: 2 Day(s)

Topic Overview

Draw translations. Draw translations in the coordinate plane.

Learning Targets

Draw translations. Draw translations in the coordinate plane.

Topic: 9-3 Rotations

Duration: 2 Day(s)

Topic Overview

Draw rotations. Draw rotations in the coordinate plane.

Learning Targets

Draw rotations. Draw rotations in the coordinate plane.

Topic: 9-4 Compositions of Transformations

Duration: 2 Day(s)

Topic Overview

Draw glide reflections and other compositions of isometries in the coordinate plane. Draw composition of reflections in parallel and intersecting lines.

Learning Targets

Draw glide reflections and other compositions of isometries in the coordinate plane. Draw composition of reflections in parallel and intersecting lines.

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Topic: 9-5 Symmetry

Duration: 2 Day(s)

Topic Overview

Identify line and rotational symmetries in two-dimensional figures. Identify plane and axis symmetries in three-dimensional figures.

Learning Targets

Identify line and rotational symmetries in two-dimensional figures. Identify plane and axis symmetries in three-dimensional figures.

Topic: 9-6 Dilations

Duration: 2 Day(s)

Topic Overview

Draw dilations. Draw dilations in the coordinate plane.

Learning Targets

Draw dilations. Draw dilations in the coordinate plane.

Unit: Congruence

Duration: 9 Week(s)

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Unit Overview

Congruent Triangles: Apply special relationships about the interior and exterior angles of triangles. Identify corresponding parts of congruent triangles and prove triangles congruent. Learn about the special properties of isosceles and equilateral triangles. (4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7)

Relationships in Triangles: Learn about special segments and points related to triangles. Learn about relationships between the sides and angles of triangles. Learn to write indirect proofs. (5-1, 5-2, 5-3, 5-4, 5-5, 5-6)

Quadrilaterals: Find and use the sum of the measures of the interior and exterior angles of a polygon. Recognize and apply properties of quadrilaterals. Compare quadrilaterals. (6-1, 6-2, 6-3, 6-4, 6-5, 6-6)

Materials and Resources

Textbook

Online Resources

Academic Vocabulary

Congruent Triangles

acute triangles

auxiliary line

base angles

congruent transformation

congruent polygons

coordinate proof

corollary

corresponding parts

equiangular triangle

equilateral triangle

exterior angle

flow proof

included angle

included side

isosceles triangle

obtuse triangle

reflection

remote interior angles

right triangle

rotation

scalene triangle

translation

vertex angle

Relationships in Triangles

altitude

centroid

circumcenter

concurrent lines

incenter

indirect proof

indirect reasoning

median

orthocenter

perpendicular bisector

point of concurrency

proof by contradiction

Quadrilaterals

base

base angle

diagonal

isosceles trapezoid

kite

legs

midsegment of a trapezoid

parallelogram

rectangle

rhombus

square

trapezoid

Summative Assessment

- Congruent Triangles Assessment
- Relationships in Triangles Assessment
- Quadrilaterals Assessment

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Topic: 4-1 Classifying Triangles

Duration: 2 Day(s)

Topic Overview

Identify and classify triangles by angle measures and by side measures.

Learning Targets

Identify and classify triangles by angle measures and by side measures.

Topic: 4-2 Angles of Triangles

Duration: 2 Day(s)

Topic Overview

Apply the Triangle Angle-Sum Theorem. Apply Exterior-Angle Theorem.

Learning Targets

Apply the Triangle Angle-Sum Theorem. Apply Exterior-Angle Theorem.

Topic: 4-3 Congruent Triangles

Duration: 2 Day(s)

Topic Overview

Name and use corresponding parts of congruent polygons. Prove triangles congruent using the definition of congruency.

Learning Targets

Name and use corresponding parts of congruent polygons. Prove triangles congruent using the definition of congruency.

Topic: 4-4 Proving Triangles Congruent - SSS and SAS

Duration: 2 Day(s)

Topic Overview

Use the SSS Postulate and SAS Postulate to test for triangle congruence.

Learning Targets

Use the SSS Postulate and SAS Postulate to test for triangle congruence.

Topic: 4-5 Proving Triangles Congruent - ASA and AAS

Duration: 2 Day(s)

Topic Overview

Use the ASA and AAS Postulates to test for congruence.

Learning Targets

Use the ASA and AAS Postulates to test for congruence.

Topic: 4-6 Isosceles and Equilateral Triangles

Duration: 2 Day(s)

Topic Overview

Use properties of isosceles and equilateral triangles.

Learning Targets

Use properties of isosceles and equilateral triangles.

Topic: 4-7 Congruence Transformations

Duration: 2 Day(s)

Topic Overview

Identify reflections, translations and rotations. Verify congruence after a congruence transformation.

Learning Targets

Identify reflections, translations and rotations. Verify congruence after a congruence transformation.

Topic: 5-1 Bisectors of Triangles

Duration: 2 Day(s)

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Topic Overview

Identify and use perpendicular bisectors in triangles. Identify and use angle bisectors in triangles.

Learning Targets

Identify and use perpendicular bisectors in triangles. Identify and use angle bisectors in triangles.

Topic: 5-2 Medians and Altitudes of Triangles

Duration: 2 Day(s)

Topic Overview

Identify and use medians and altitudes in triangles.

Learning Targets

Identify and use medians and altitudes in triangles.

Topic: 5-5 The Triangle Inequality

Duration: 2 Day(s)

Topic Overview

Use the Triangle Inequality Theorem to identify possible triangles. Prove triangle relationships using the Triangle Inequality Theorem.

Learning Targets

Use the Triangle Inequality Theorem to identify possible triangles. Prove triangle relationships using the Triangle Inequality Theorem.

Topic: 5-6 Inequalities in Two Triangles

Duration: 2 Day(s)

Topic Overview

Apply the Hinge Theorem or its converse to make comparisons in two triangles. Prove triangle relationships using the Hinge Theorem or its converse.

Learning Targets

Apply the Hinge Theorem or its converse to make comparisons in two triangles. Prove triangle relationships using the Hinge Theorem or its converse.

Topic: 6-1 Angles of Polygons

Duration: 2 Day(s)

Topic Overview

Find and use the sum of measures of the interior and exterior angles of a polygon.

Learning Targets

Find and use the sum of measures of the interior and exterior angles of a polygon.

Topic: 6-2 Parallelograms

Duration: 2 Day(s)

Topic Overview

Recognize and apply properties of the sides and angles of parallelograms. Recognize and apply properties of the diagonals of parallelograms.

Learning Targets

Recognize and apply properties of the sides and angles of parallelograms. Recognize and apply properties of the diagonals of parallelograms.

Topic: 6-3 Tests for Parallelograms

Duration: 2 Day(s)

Topic Overview

Recognize the conditions that ensure a quadrilateral is a parallelogram. Prove that a set of points forms a parallelogram in the coordinate plane.

Learning Targets

Recognize the conditions that ensure a quadrilateral is a parallelogram. Prove that a set of points forms a parallelogram in the coordinate plane.

Geometry

Mathematics

Grade(s) 10th - 12th, Duration 1 Year, 1 Credit
Required Course

Topic: 6-4 Rectangles

Duration: 2 Day(s)

Topic Overview

Recognize and apply properties of rectangles. Determine whether parallelograms are rectangles.

Learning Targets

Recognize and apply properties of rectangles. Determine whether parallelograms are rectangles.

Topic: 6-5 Rhombi and Squares

Duration: 2 Day(s)

Topic Overview

Recognize and apply the properties of rhombi and squares. Determine whether quadrilaterals are rectangles, rhombi or squares.

Learning Targets

Recognize and apply the properties of rhombi and squares. Determine whether quadrilaterals are rectangles, rhombi or squares.

Topic: 6-6 Trapezoids and Kites

Duration: 2 Day(s)

Topic Overview

Apply properties of trapezoids and kites.

Learning Targets

Apply properties of trapezoids and kites.
