

Wyoming Department of Education Required Virtual Education Course Syllabus

Niobrara County School District # 1

Program Name	Wyoming Virtual Academy	Content Area	MA
Course ID	D-MTH-208BV1-K	Grade Level	9-12
Course Name	Summit Geometry-Semester 2	# of Credits	0.5
SCED Code	02072G0.5022	Curriculum Type	K12 Inc

COURSE DESCRIPTION

Generally offered 2nd semester. K12's Geometry Summit course builds on the geometry covered in middle school to explore more complex geometric situations and deepen students' ability to explain geometric relationships, moving toward formal mathematical arguments. Specific topics include triangle symmetry, area and volume, circles, right triangle trigonometry, conic sections, and geometric modeling.

WYOMING CONTENT AND PERFORMANCE STANDARDS

STANDARD#	BENCHMARK (Standard/Indicator) Use the Standards and Benchmarks as Spreadsheets
A.CED.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R .*
G.C.1	Prove that all circles are similar.
G.C.2	Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.
G.C.3	Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.
G.C.4	(+)Construct a tangent line from a point outside a given circle to the circle.
G.C.5	Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.
G.CO.1	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
G.GMD.1	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.
G.GMD.2	(+)Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.

G.GMD.3	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.*
G.GMD.4	Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.
G.GPE.1	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
G.GPE.2	Derive the equation of a parabola given a focus and directrix.
G.MG.1	Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*
G.MG.2	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).*
G.MG.3	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*
G.SRT.10	(+)Prove the Laws of Sines and Cosines and use them to solve problems.
G.SRT.11	(+)Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).
G.SRT.3	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
G.SRT.4	Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.
G.SRT.5	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
G.SRT.6	Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
G.SRT.7	Explain and use the relationship between the sine and cosine of complementary angles.
G.SRT.8	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.
G.SRT.9	(+)Derive the formula $A = (1/2)ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.
N.Q.2	Define appropriate quantities for the purpose of descriptive modeling.*

SCOPE AND SEQUENCE

UNIT OUTLINE	STANDARD#	OUTCOMES OBJECTIVES/STUDENT CENTERED GOALS
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<p>Unit 1: Triangle Similarity Lesson 1: Exchange Ideas: Triangle Similarity</p>	<p>G.SRT.3 G.SRT.5</p>	<p>Determine missing measures in similar triangles.</p> <p>Determine the postulate or theorem that proves two triangles are similar.</p>
<p>Unit 1: Triangle Similarity Lesson 2: Triangle Similarity 1</p>	<p>G.SRT.3 G.SRT.5</p>	<p>Determine missing measures in similar triangles.</p> <p>Determine the postulate or theorem that proves two triangles are similar.</p>
<p>Unit 1: Triangle Similarity Lesson 3: Triangle Similarity 2</p>	<p>G.SRT.3 G.SRT.5</p>	<p>Solve mathematical problems using congruent triangle theorems.</p> <p>Solve real-world problems using congruent triangle theorems.</p>
<p>Unit 1: Triangle Similarity Lesson 4: Applications of Triangle Similarity</p>	<p>G.SRT.4</p>	<p>Prove theorems about triangles.</p> <p>Prove the triangle proportionality theorem.</p> <p>Prove the triangle angle bisector theorem.</p> <p>Solve problems using the triangle proportionality theorem.</p> <p>Solve problems using the triangle angle bisector theorem.</p>
<p>Unit 1: Triangle Similarity Lesson 5: Your Choice</p>	<p>G.SRT.3 G.SRT.4 G.SRT.5 G.SRT.8</p>	<p>You may use today's lesson time to</p> <ul style="list-style-type: none"> • Complete work in progress. • Review prior lessons in the unit to prepare for the Unit Test. • Post or respond to posts on the discussion board for the Exchange Ideas activity in this unit. • Prepare for your state standardized test. <p>Go on to the next lesson.</p>
<p>Unit 1: Triangle Similarity Lesson 6: Triangle Proportionality Theorem 1</p>	<p>G.SRT.4 G.SRT.5 G.SRT.8</p>	<p>Prove the angle bisector theorem.</p> <p>Prove the Pythagorean theorem using triangle similarity.</p> <p>Solve problems using the angle bisector theorem.</p> <p>Solve problems using the Pythagorean theorem.</p>

<p>Unit 1: Triangle Similarity Lesson 7: Triangle Proportionality Theorem 2</p>	<p>G.SRT.4 G.SRT.5 G.SRT.8</p>	<p>Prove the angle bisector theorem.</p> <p>Prove the Pythagorean theorem using triangle similarity.</p> <p>Solve problems using the angle bisector theorem.</p> <p>Solve problems using the Pythagorean theorem.</p>
<p>Unit 1: Triangle Similarity Lesson 8: Similarity and the Pythagorean Theorem</p>	<p>G.SRT.4 G.SRT.5 G.SRT.8</p>	<p>Prove the angle bisector theorem.</p> <p>Prove the Pythagorean theorem using triangle similarity.</p> <p>Solve problems using the angle bisector theorem.</p> <p>Solve problems using the Pythagorean theorem.</p> <p>Solve real-world problems using the Pythagorean theorem.</p>
<p>Unit 1: Triangle Similarity Lesson 9: Unit Review</p>	<p>G.SRT.3 G.SRT.4 G.SRT.5 G.SRT.8</p>	<p>Use today’s lesson time to prepare for the Unit Test. You may</p> <ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson. • Read through the Reference Guide pages linked in each lesson. <p>Ask for help on any Practice problems you did not fully understand.</p>
<p>Unit 1: Triangle Similarity Lesson 10: Unit Test</p>	<p>G.SRT.3 G.SRT.4 G.SRT.5 G.SRT.8</p>	<p>Demonstrate knowledge on concepts in this unit.</p>
<p>Unit 2: Area and Volume Lesson 1: Exchange Ideas: Area and Volume</p>	<p>G.GPE.7</p>	<p>Solve mathematical problems involving the area of two-dimensional figures composed of triangles, quadrilaterals, and polygons.</p> <p>Determine the area of a composite figure using coordinates.</p>
<p>Unit 2: Area and Volume Lesson 2: Circumferences and Areas of Circles 1</p>	<p>A.CED.4 G.CO.1 G.GMD.1</p>	<p>Determine the area of a circle, using a formula.</p>

		<p>Determine the circumference of a circle, using a formula.</p> <p>Define the term <i>circle</i>.</p> <p>Explain how to derive the formula for the area of a circle.</p> <p>Explain how to derive the formula for the circumference of a circle.</p>
<p>Unit 2: Area and Volume Lesson 3: Circumferences and Areas of Circles 2</p>	<p>G.CO.1 G.GMD.1</p>	<p>Determine the area of a circle, using a formula.</p> <p>Determine the circumference of a circle, using a formula.</p> <p>Define the term <i>circle</i>.</p> <p>Explain how to derive the formula for the area of a circle.</p> <p>Explain how to derive the formula for the circumference of a circle.</p>
<p>Unit 2: Area and Volume Lesson 4: Composite Figures</p>	<p>G.GPE.7</p>	<p>Solve mathematical problems involving the area of two-dimensional figures composed of triangles, quadrilaterals, and polygons.</p> <p>Determine the area of a composite figure using coordinates.</p>
<p>Unit 2: Area and Volume Lesson 5: Your Choice</p>	<p>A.CED.4 G.CO.1 G.GMD.1 G.GMD.2 G.GMD.3 G.GPE.7 G.SRT.5</p>	<p>Use today’s lesson time to prepare for the Unit Test. You may</p> <ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson. • Read through the Reference Guide pages linked in each lesson. <p>Ask for help on any Practice problems you did not fully understand.</p>
<p>Unit 2: Area and Volume Lesson 6: Volumes of Prisms and Cylinders</p>	<p>G.GMD.1 G.GMD.3</p>	<p>Determine the volume of a right prism.</p> <p>Determine the volume of a cylinder.</p> <p>Solve real-world problems involving the volume of a cylinder.</p>

		<p>Explain how to derive the formula for the volume of a cylinder.</p>
<p>Unit 2: Area and Volume Lesson 7: Volumes of Pyramids</p>	<p>G.GMD.1 G.GMD.3</p>	<p>Explain how to derive the formula for the volume of a cone.</p> <p>Explain how to derive the formula for the volume of a pyramid.</p> <p>Solve real-world problems involving the volume of a pyramid.</p> <p>Determine the volume of a pyramid.</p> <p>Name the parts of a pyramid.</p> <p>Solve problems involving the volume of a cone, using a formula.</p> <p>Solve real-world problems involving the volume of a cone, using a formula.</p>
<p>Unit 2: Area and Volume Lesson 8: Volumes of Cones</p>	<p>G.GMD.1 G.GMD.3</p>	<p>Determine the surface area of cones or spheres.</p> <p>Explain how to derive the formula for the volume of a cone.</p> <p>Solve problems involving the volume of a cone, using a formula.</p> <p>Solve real-world problems involving the volume of a cone, using a formula.</p>
<p>Unit 2: Area and Volume Lesson 9: Volume and Surface Area of Spheres</p>	<p>G.GMD.2 G.GMD.3</p>	<p>Explain how to derive the formula for the volume of a sphere using Cavalieri's principle.</p> <p>Solve problems involving volume of a sphere.</p> <p>Solve real-world problems involving the volume of a sphere.</p>
<p>Unit 2: Area and Volume Lesson 10: Volume Ratios</p>	<p>G.SRT.5</p>	<p>Determine the ratio of perimeters of similar figures.</p> <p>Solve perimeter problems using similarity criteria.</p>

		<p>Use similarity criteria to prove relationships in geometric figures.</p> <p>Determine the ratio of areas of similar figures.</p> <p>Solve area problems using similarity criteria.</p> <p>Determine the ratio of volumes of similar objects.</p> <p>Solve volume problems using similarity criteria.</p>
<p>Unit 2: Area and Volume Lesson 11: Reasoning About Area and Volume</p>	<p>G.SRT.5</p>	<p>Use dilations to compare the area of scaled images.</p> <p>Solve area problems using dilations.</p> <p>Use dilations to compare the volumes of scaled images.</p> <p>Solve volume problems using dilations.</p>
<p>Unit 2: Area and Volume Lesson 12: Unit Review</p>	<p>A.CED.4 G.CO.1 G.GMD.1 G.GMD.2 G.GMD.3 G.GPE.7 G.SRT.5</p>	<p>Use today's lesson time to prepare for the Unit Test. You may</p> <ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson. • Read through the Reference Guide pages linked in each lesson. <p>Ask for help on any Practice problems you did not fully understand.</p>
<p>Unit 2: Area and Volume Lesson 13: Unit Test</p>	<p>A.CED.4 G.CO.1 G.GMD.1 G.GMD.2 G.GMD.3 G.GPE.7 G.SRT.5</p>	<p>Demonstrate knowledge on concepts in this unit.</p>
<p>Geometry Checkpoint 3</p>	<p>A.CED.4 G.CO.1 G.GMD.1 G.GMD.2 G.GMD.3 G.GPE.7 G.SRT.3 G.SRT.4 G.SRT.5</p>	<p>Demonstrate knowledge on concepts in this semester.</p>

	G.SRT.8	
<p style="text-align: center;">Unit 3: Circles Lesson 1: Exchange Ideas: Circles</p>	<p style="text-align: center;">G.C.2 G.C.4</p>	<p>Describe angle and arc relationships formed by intersecting tangents and secants.</p> <p>Describe relationships between chords and arcs.</p> <p>Describe the relationship between a circle's tangent and the radius drawn to the point of tangency.</p> <p>Describe the relationship between the measure of a minor arc and the measure of its central angle.</p> <p>Solve problems using relationships between chords and arcs.</p> <p>Solve problems using the angle and arc relationships formed by intersecting tangents and secants.</p> <p>Solve problems using the relationship between a circle's tangent and the radius drawn to the point of tangency.</p> <p>Solve problems using the relationship between the measure of a minor arc and the measure of its central angle.</p> <p>Construct the inscribed circle of a triangle.</p> <p>Prove that if a quadrilateral is inscribed in a circle, then the opposite angles are supplementary.</p> <p>Solve problems involving a quadrilateral inscribed in a circle.</p>
<p style="text-align: center;">Unit 3: Circles Lesson 2: Relationships Between Triangles and Circles 1</p>	<p style="text-align: center;">G.C.3</p>	<p>Construct the inscribed circle of a triangle.</p>
<p style="text-align: center;">Unit 3: Circles Lesson 3: Relationships Between Triangles and Circles 2</p>	<p style="text-align: center;">G.C.3</p>	<p>Construct the circle that circumscribes a given triangle.</p>
<p style="text-align: center;">Unit 3: Circles Lesson 4: Your Choice</p>	<p style="text-align: center;">G.C.1 G.C.2 G.C.3</p>	<p>Use today's lesson time to prepare for the Unit Test. You may</p>

	G.C.4 G.C.5	<ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson. • Read through the Reference Guide pages linked in each lesson. <p>Ask for help on any Practice problems you did not fully understand.</p>
Unit 3: Circles Lesson 5: Chords and Arcs 1	G.C.2	<p>Describe relationships between chords and arcs.</p> <p>Describe the relationship between the measure of a minor arc and the measure of its central angle.</p> <p>Solve problems using relationships between chords and arcs.</p>
Unit 3: Circles Lesson 6: Chords and Arcs 2	G.C.2	<p>Describe the relationship between the measure of an inscribed angle and the measure of its intercepted arc.</p> <p>Solve problems using the relationship between the measure of an inscribed angle and the measure of its intercepted arc.</p>
Unit 3: Circles Lesson 7: Tangents to Circles 1	G.C.2 G.C.4	<p>Describe angle and arc relationships formed by intersecting tangents and secants.</p> <p>Describe the relationship between a circle's tangent and the radius drawn to the point of tangency.</p> <p>Solve problems using the angle and arc relationships formed by intersecting tangents and secants.</p> <p>Solve problems using the relationship between a circle's tangent and the radius drawn to the point of tangency.</p>
Unit 3: Circles Lesson 8: Your Choice	G.C.1 G.C.2 G.C.3 G.C.4 G.C.5	<p>Use today's lesson time to prepare for the Unit Test. You may</p> <ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson. • Read through the Reference Guide pages linked in each lesson.

		Ask for help on any Practice problems you did not fully understand.
Unit 3: Circles Lesson 9: Tangents to Circles 2	G.C.2 G.C.4	Describe segment relationships formed by secant and tangent segments drawn from the same exterior point. Describe the segment relationship between two intersecting chords. Solve problems using the segment relationship between two intersecting chords. Solve problems using the segment relationships formed by secant and tangent segments drawn from the same exterior point.
Unit 3: Circles Lesson 10: Inscribed Angles and Arcs 1	G.C.3	Prove that if a quadrilateral is inscribed in a circle, then the opposite angles are supplementary. Solve problems involving a quadrilateral inscribed in a circle.
Unit 3: Circles Lesson 11: Inscribed Angles and Arcs 2	G.C.3	Solve problems involving a quadrilateral inscribed in a circle.
Unit 3: Circles Lesson 12: Similarity in Circles	G.C.1	Prove that all circles are similar.
Unit 3: Circles Lesson 13: Radian Measure	G.C.5	Solve problems using the formula for the length of the arc of a circle in terms of radians. Derive the formula for the length of the arc of a circle in terms of radians.
Unit 3: Circles Lesson 14: Sector Areas	G.C.5	Derive the formula for the area of a sector of a circle in terms of radians. Solve problems using the formula for the area of a sector of a circle in terms of radians.
Unit 3: Circles Lesson 15: Unit Review	G.C.1 G.C.2 G.C.3 G.C.4 G.C.5	Use today's lesson time to prepare for the Unit Test. You may <ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson.

		<ul style="list-style-type: none"> • Read through the Reference Guide pages linked in each lesson. <p>Ask for help on any Practice problems you did not fully understand.</p>
<p>Unit 3: Circles Lesson 16: Unit Test</p>	<p>G.C.1 G.C.2 G.C.3 G.C.4 G.C.5</p>	<p>Demonstrate knowledge on concepts in this unit.</p>
<p>Unit 4: Right Triangle Trigonometry Lesson 1: Exchange Ideas: Right Triangle Trigonometry</p>	<p>G.SRT.8</p>	<p>Solve real-world problems using trigonometric ratios.</p> <p>Represent a real-world problem using a right triangle.</p> <p>Solve real-world problems using the Pythagorean theorem.</p>
<p>Unit 4: Right Triangle Trigonometry Lesson 2: Trigonometric Ratios 1</p>	<p>G.SRT.6 G.SRT.8</p>	<p>Determine specified trigonometric ratios, given side lengths of a right triangle.</p> <p>Define trigonometric ratios for acute angles.</p>
<p>Unit 4: Right Triangle Trigonometry Lesson 3: Trigonometric Ratios 2</p>	<p>G.SRT.6 G.SRT.8</p>	<p>Determine an unknown side length in a right triangle using a trigonometric ratio.</p> <p>Solve real-world problems using trigonometric ratios.</p>
<p>Unit 4: Right Triangle Trigonometry Lesson 4: Angles and Trigonometric Ratios</p>	<p>G.SRT.6 G.SRT.8</p>	<p>Determine an unknown angle measure in a right triangle using a trigonometric ratio.</p> <p>Solve real-world problems using trigonometric ratios.</p>
<p>Unit 4: Right Triangle Trigonometry Lesson 5: Sines and Cosines</p>	<p>G.SRT.7</p>	<p>Solve problems involving the relationship between the sine of an acute angle and the cosine of its complement.</p> <p>Determine the sine (or cosine) of an acute angle, given the cosine (or sine) of its complement.</p>
<p>Unit 4: Right Triangle Trigonometry Lesson 6: Discuss: Applications of Trigonometry</p>	<p>G.SRT.8</p>	<p>Solve real-world problems using trigonometric ratios.</p> <p>Represent a real-world problem using a right triangle.</p> <p>Solve real-world problems using the Pythagorean theorem.</p>

<p>Unit 4: Right Triangle Trigonometry Lesson 7: Your Choice</p>	<p>G.SRT.5 G.SRT.6 G.SRT.7 G.SRT.8 G.SRT.9 G.SRT.10 G.SRT.11</p>	<p>Use today’s lesson time to prepare for the Unit Test. You may</p> <ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson. • Read through the Reference Guide pages linked in each lesson. <p>Ask for help on any Practice problems you did not fully understand.</p>
<p>Unit 4: Right Triangle Trigonometry Lesson 8: Special Right Triangles 1</p>	<p>G.SRT.5</p>	<p>Solve problems using congruence and similarity criteria for triangles.</p> <p>Solve problems using properties of special right triangles.</p>
<p>Unit 4: Right Triangle Trigonometry Lesson 9: Special Right Triangles 2</p>	<p>G.SRT.5</p>	<p>Identify corresponding sides and angles in similar polygons.</p> <p>Solve problems using properties of special right triangles.</p>
<p>Unit 4: Right Triangle Trigonometry Lesson 10: Use Special Right Triangles to Determine the Surface Area of a Regular Pyramid</p>	<p>G.SRT.5</p>	<p>Solve problems using congruence and similarity criteria for triangles.</p> <p>Solve problems using properties of special right triangles.</p>
<p>Unit 4: Right Triangle Trigonometry Lesson 11: Derive Formula for Area of a Triangle</p>	<p>G.SRT.8 G.SRT.9</p>	<p>Solve real-world problems using trigonometric ratios.</p> <p>Determine the area of a triangle using trigonometric ratios.</p> <p>Derive the formula $A = \frac{1}{2} ab \sin(C)$ for the area of a triangle.</p> <p>Determine the area of a triangle given two side lengths and the measure of the included angle.</p>
<p>Unit 4: Right Triangle Trigonometry Lesson 12: Law of Sines</p>	<p>G.SRT.10 G.SRT.11</p>	<p>Prove the law of sines.</p> <p>Use the law of sines to determine the missing angle measure or side lengths in a triangle.</p> <p>Solve real-word problems using the law of sines.</p>

Unit 4: Right Triangle Trigonometry Lesson 13: Law of Cosines	G.SRT.10 G.SRT.11	Prove the law of cosines. Solve real-world problems using the law of cosines.
Unit 4: Right Triangle Trigonometry Lesson 14: Apply the Laws of Sines and Cosines	G.SRT.11	Use the law of sines to determine the missing angle measure or side lengths in a triangle. Use the law of cosines to determine the missing angle measure or side lengths in a triangle.
Unit 4: Right Triangle Trigonometry Lesson 15: Unit Review	G.SRT.5 G.SRT.6 G.SRT.7 G.SRT.8 G.SRT.9 G.SRT.10 G.SRT.11	Use today's lesson time to prepare for the Unit Test. You may <ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson. • Read through the Reference Guide pages linked in each lesson. Ask for help on any Practice problems you did not fully understand.
Unit 4: Right Triangle Trigonometry Lesson 16: Unit Test	G.SRT.5 G.SRT.6 G.SRT.7 G.SRT.8 G.SRT.9 G.SRT.10 G.SRT.11	Demonstrate knowledge on concepts in this unit.
Geometry Checkpoint 4	A.CED.4 G.C.1 G.C.2 G.C.3 G.C.4 G.C.5 G.CO.1 G.GMD.1 G.GMD.2 G.GMD.3 G.GPE.7 G.SRT.3 G.SRT.4 G.SRT.5 G.SRT.6 G.SRT.7 G.SRT.8	Demonstrate knowledge on concepts in this semester.

	G.SRT.9 G.SRT.10 G.SRT.11	
Unit 5: Conic Sections Lesson 1: Exchange Ideas: Conic Sections	G.GPE.1	Derive the equation of a specific circle, given its center and radius. Determine the center or radius of a circle, given its equation in standard form. Determine the equation of a circle in standard form.
Unit 5: Conic Sections Lesson 2: Introduction to Conic Sections	G.GMD.4	Identify the shapes of two-dimensional cross sections of three-dimensional objects. Identify the conic section that results from the intersection of a cone and a plane.
Unit 5: Conic Sections Lesson 3: Circles 1	G.GPE.1	Derive the equation of a specific circle, given its center and radius. Determine the center or radius of a circle, given its equation in standard form. Determine the equation of a circle in standard form.
Unit 5: Conic Sections Lesson 4: Your Choice	G.GMD.4 G.GPE.1 G.GPE.2 N.Q.2	Use today's lesson time to prepare for the Unit Test. You may <ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson. • Read through the Reference Guide pages linked in each lesson. Ask for help on any Practice problems you did not fully understand.
Unit 5: Conic Sections Lesson 5: Circles 2	G.GPE.1	Determine the equation of a circle in general form. Determine the center or radius of a circle, given its equation in general form.
Unit 5: Conic Sections Lesson 6: Parabolas 1	G.GPE.2 N.Q.2	Determine the coordinates of the vertex of a parabola, given its equation in graphing form. Determine the coordinates of the focus of a parabola, given its equation in graphing form.

		Determine the equation of the directrix of a parabola, given its equation in graphing form.
Unit 5: Conic Sections Lesson 7: Parabolas 2	G.GPE.2 N.Q.2	Derive the equation of a specific parabola, given its focus and directrix. Determine the coordinates of the directrix of a parabola, given its equation in standard form. Determine the coordinates of the vertex of a parabola, given its equation in standard form. Determine the coordinates of the focus of a parabola, given its equation in standard form.
Unit 5: Conic Sections Lesson 8: Unit Review	G.GMD.4 G.GPE.1 G.GPE.2 N.Q.2	Use today's lesson time to prepare for the Unit Test. You may <ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson. • Read through the Reference Guide pages linked in each lesson. Ask for help on any Practice problems you did not fully understand.
Unit 5: Conic Sections Lesson 9: Unit Test	G.GMD.4 G.GPE.1 G.GPE.2 N.Q.2	Demonstrate knowledge on concepts in this unit.
Unit 6: Modeling with Geometry Lesson 1: Exchange Ideas: Modeling with Geometry	G.MG.3	Solve design or optimization problems using properties of geometric figures.
Unit 6: Modeling with Geometry Lesson 2: Cross Sections of Three-Dimensional Objects	G.GMD.4	Identify the shapes of two-dimensional cross sections of three-dimensional objects.
Unit 6: Modeling with Geometry Lesson 3: Three-Dimensional Objects Generated by Rotating Two-Dimensional Objects	G.GMD.4	Determine the shape that will be created when a two-dimensional object is rotated about an axis.
Unit 6: Modeling with Geometry Lesson 4: Your Choice	G.GMD.4 G.MG.1 G.MG.2 G.MG.3	Use today's lesson time to prepare for the Unit Test. You may

		<ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson. • Read through the Reference Guide pages linked in each lesson. <p>Ask for help on any Practice problems you did not fully understand.</p>
Unit 6: Modeling with Geometry Lesson 5: Geometry on Earth	G.MG.1 N.Q.3	Use properties of geometric shapes to describe or approximate measures of real-world objects.
Unit 6: Modeling with Geometry Lesson 6: Manufacturing: Design and Optimization	G.MG.3	Solve design or optimization problems using properties of geometric figures.
Unit 6: Modeling with Geometry Lesson 7: Geometric Modeling	G.MG.1 N.Q.3	Approximate measures of real-world objects using properties of geometric shapes.
Unit 6: Modeling with Geometry Lesson 8: Density	G.MG.2	Solve problems involving population density. Solve problems involving density, mass, and volume.
Unit 6: Modeling with Geometry Lesson 9: Fermi Problems	G.MG.2	Solve real-world problems using concepts of density. Solve a Fermi problem.
Unit 6: Modeling with Geometry Lesson 10: Unit Review	G.GMD.4 G.MG.1 G.MG.2 G.MG.3	Use today's lesson time to prepare for the Unit Test. You may <ul style="list-style-type: none"> • Revisit Review activities located before each quiz in the unit. • Look at the Summary activities in each lesson. • Read through the Reference Guide pages linked in each lesson. <p>Ask for help on any Practice problems you did not fully understand.</p>
Unit 6: Modeling with Geometry Lesson 11: Unit Test	G.GMD.4 G.MG.1 G.MG.2 G.MG.3	Demonstrate knowledge on concepts in this unit.
Unit 7: Project: Storage Site Lesson 1: Project: Storage Site	G.MG.1 G.MG.2 G.MG.3 N.Q.3	Use properties of geometric shapes to describe or approximate measures of real-world objects.

		<p>Solve real-world problems using concepts of density.</p> <p>Solve design or optimization problems using properties of geometric figures.</p>
<p>Unit 7: Project: Storage Site Lesson 2: Project Writing 1</p>	<p>G.MG.1 G.MG.2 G.MG.3 N.Q.3</p>	<p>Use properties of geometric shapes to describe or approximate measures of real-world objects.</p> <p>Solve real-world problems using concepts of density.</p> <p>Solve design or optimization problems using properties of geometric figures.</p>
<p>Unit 7: Project: Storage Site Lesson 3: Project Writing 2</p>	<p>G.MG.1 G.MG.2 G.MG.3 N.Q.3</p>	<p>Use properties of geometric shapes to describe or approximate measures of real-world objects.</p> <p>Solve real-world problems using concepts of density.</p> <p>Solve design or optimization problems using properties of geometric figures.</p>
<p>Unit 7: Project: Storage Site Lesson 4: Project Writing 3</p>	<p>G.MG.1 G.MG.2 G.MG.3 N.Q.3</p>	<p>Use properties of geometric shapes to describe or approximate measures of real-world objects.</p> <p>Solve real-world problems using concepts of density.</p> <p>Solve design or optimization problems using properties of geometric figures.</p>
<p>Unit 7: Project: Storage Site Lesson 5: Project Reflection</p>	<p>G.MG.1 G.MG.2 G.MG.3 N.Q.3</p>	<p>Use properties of geometric shapes to describe or approximate measures of real-world objects.</p> <p>Solve real-world problems using concepts of density.</p> <p>Solve design or optimization problems using properties of geometric figures.</p>
<p>Unit 8: Geometry Semester A and B Assessments Lesson 1: Semester A Test, Parts 1 and 2</p>	<p>A.CED.4 G.C.1 G.C.2 G.C.3 G.C.4 G.C.5 G.CO.1 G.GMD.1</p>	<p>Demonstrate knowledge on concepts in this semester.</p>

	<p>G.GMD.2 G.GMD.3 G.GMD.4 G.GPE.7 G.MG.1 G.MG.2 G.MG.3 G.GPE.1 G.GPE.2 G.SRT.3 G.SRT.4 G.SRT.5 G.SRT.6 G.SRT.7 G.SRT.8 G.SRT.9 G.SRT.10 G.SRT.11 N.Q.2</p>	
<p>Unit 8: Geometry Semester A and B Assessments Lesson 2: Your Choice</p>	<p>A.CED.4 G.C.1 G.C.2 G.C.3 G.C.4 G.C.5 G.CO.1 G.GMD.1 G.GMD.2 G.GMD.3 G.GMD.4 G.GPE.7 G.MG.1 G.MG.2 G.MG.3 G.GPE.1 G.GPE.2 G.SRT.3 G.SRT.4 G.SRT.5 G.SRT.6 G.SRT.7 G.SRT.8 G.SRT.9 G.SRT.10 G.SRT.11 N.Q.2</p>	<p>Demonstrate knowledge on concepts in this semester.</p>
<p>Unit 8: Geometry Semester A and B Assessments</p>	<p>A.CED.4 G.C.1 G.C.2 G.C.3</p>	<p>Demonstrate knowledge on concepts in this semester.</p>

<p>Lesson 3: Semester B Test, Parts 1 and 2</p>	<p>G.C.4 G.C.5 G.CO.1 G.GMD.1 G.GMD.2 G.GMD.3 G.GMD.4 G.GPE.7 G.MG.1 G.MG.2 G.MG.3 G.GPE.1 G.GPE.2 G.SRT.3 G.SRT.4 G.SRT.5 G.SRT.6 G.SRT.7 G.SRT.8 G.SRT.9 G.SRT.10 G.SRT.11 N.Q.2</p>	
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