**COURSE DESCRIPTION**

**Course Title:** Geometry College Preparatory

**Course Number:** 00250

**Course Prerequisites:**  Grade of 75% or higher in Algebra II CP or Algebra II Honors

**Course Description:** Geometry College Preparatory is an academic course designed to provide an opportunity for students to reason mathematically. Throughout this course, students will extend learning about geometric shapes and structures in order to apply how to analyze their characteristics and relationships to solve problems. The study of two- and three-dimensional models and their properties and measurements is the foundation of this course. Students will use these skills in representing and problem solving in other areas of mathematics and real-world situations. District marking period assessments are required.

**Suggested Grade Level**: Grades 11-12

**Length of Course:** Two Semesters

**Units of Credit:** 1

**PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:**

CSPG #50 Mathematics (7-12)

To find the CSPG information, go to [CSPG](https://www.education.pa.gov/Educators/Certification/Staffing%20Guidelines/Pages/default.aspx)

**Certification verified by the WCSD Human Resources Department:** Yes No

**WCSD STUDENT DATA SYSTEM INFORMATION**

**Course Level:** Academic

**Mark Types:** Check all that apply.

F – Final Average MP – Marking Period EXM – Final Exam

**GPA Type**:  GPAEL-GPA Elementary  GPAML-GPA for Middle Level  NHS-National Honor Society

UGPA-Non-Weighted Grade Point Average  GPA-Weighted Grade Point Average

**State Course Code**: 02072

To find the State Course Code, go to [State Course Code](https://nces.ed.gov/forum/sced.asp), download the Excel file for *SCED*, click on SCED 6.0 tab, and choose the correct code that corresponds with the course.

**TEXTBOOKS AND SUPPLEMENTAL MATERIALS**

**Board Approved Textbooks, Software, and Materials:**

**Title:**  *enVision Geometry*

**Publisher:** SAVVAS Learning Company, LLC.

**ISBN #:**  978-0-328-93155-2

**Copyright Date:** 2018

**WCSD Board Approval Date:** 6/29/2020

**Supplemental Materials:** *enVisionmath 2.0 Grade 6:* SAVVAS Learning Company, LLC.,   
 *enVisionmath 2.0 Grade 7:* SAVVAS Learning Company, LLC.,  
 *enVisionmath 2.0 Grade 8:* SAVVAS Learning Company, LLC.,  
 Kuta Software, Get More Math, SAS pdesas.org, IXL, Brainfuse,  
 Calculator: TI-30XIIS, Online Calculator: Desmos

**Curriculum Document**

**WCSD Board Approval:**

**Date Finalized:** 5/23/2022

**Date Approved:**  6/13/2022

**Date(s) Revised:**  6/12/2023

**Implementation Year:** 2022-2023

**SPECIAL EDUCATION, 504, and GIFTED REQUIREMENTS**

The teacher shall make appropriate modifications to instruction and assessment based on a student’s Individual Education Plan (IEP), Chapter 15 Section 504 Plan (504), and/or Gifted Individual Education Plan (GIEP).

**SCOPE AND SEQUENCE OF CONTENT, AND CONCEPTS**

**Marking Period 1: Perimeter, Circumference, and Area, Geometric Probability,   
 Foundations of Geometry and Coordinate Geometry,   
 and Parallel and Perpendicular Lines**

* Review: Perimeter, Circumference, and Area of Geometric Figures
* Probability of Non-Mutually Exclusive Events
* Identification, Names, and Measurements of Segments and Angles
* Midpoint and Distance
* Polygons in the Coordinate Plane
* Vertical Angles, Congruent Supplements, Congruent Complements
* Properties of Parallel Lines
* Proofs of Parallel Lines
* Parallel Lines and Triangles
* Slopes of Parallel and Perpendicular Lines
* **Marking Period 1 Review and Assessment**

**Marking Period 2: Transformations, Triangle and Polygon Congruence,   
 and Relationships in Triangles**

* Reflections
* Translations
* Rotations
* Classification of Rigid Motion
* Symmetry
* Triangle Congruence
* Isosceles and Equilateral Triangles
* Proofs and Application of SAS, SSS, ASA, and AAS Congruence
* Congruence in Right Triangles - HL
* Congruence in Overlapping Triangles
* Perpendicular and Angle Bisectors
* Bisectors in Triangles (Vocabulary only)
* Medians and Altitudes
* Inequalities in One Triangle and Two Triangles
* **Marking Period 2 Review and Assessment**

**Marking Period 3: Quadrilaterals and Other Polygons, Similarity, and Right Triangles**

* Polygon Angle-Sum Theorems
* Properties of Kites and Trapezoids
* Properties of Parallelograms
* Justification: Quadrilaterals are Parallelograms
* Properties and Conditions of Special Parallelograms
* Dilations
* Similarity Transformations
* Proportions in Triangles
* Right Triangles and the Pythagorean Theorem
* **Marking Period 3 Review and Assessment**

**Marking Period 4: Trigonometry, Circles, and Two-and Three-Dimensional Models**

* Trigonometric Ratios
* Area of a Triangle with Trigonometry
* Problem Solving with Trigonometry
* Arcs and Sectors
* Tangent Lines to a Circle
* Chords
* Inscribed Angles
* Secant Lines and Segments
* Surface Area: Prisms, Cylinders, Cones, Pyramids, Spheres
* Volume: Prisms, Cylinders, Cones, Pyramids, Spheres
* Composite Three-Dimensional Figures
* **Marking Period 4 Review and Assessment**

**Standards/Eligible Content and Skills**

| **Performance Indicator** | **PA Core Standard and/or Eligible Content** | **Marking Period Taught** |
| --- | --- | --- |
| Review: Perimeter, Circumference, Area of Geometric Figures | CC.2.3.HS.A.3 | MP1 |
| Estimate perimeter, circumference, or area of an irregular geometric figure | G.2.2.2.1 | MP1 |
| Find the measurement of a missing length, given the perimeter circumference, or area of a geometric figure | G.2.2.2.2 | MP1 |
| Develop and/or use strategies to estimate the area of a compound/composite figure | G.2.2.2.4 | MP1 |
| Find the side lengths of a polygon with a given perimeter to maximize the area of the polygon | G.2.2.2.3 | MP1 |
| Describe how a change in the linear dimension of a geometric figure affects its perimeter, circumference, and area | G.2.2.3.1 | MP1 |
| Review: Simple Probability | G.2.2.4 | MP1 |
| Use area models to find probabilities of non-mutually exclusive events (Geometric Probability) | G.2.2.4.1 | MP1 |
| Find segment lengths | CC.2.3.HS.A.3 | MP1 |
| Find the length of a segment | CC.2.3.HS.A.3 | MP1 |
| Use the Segment Addition Postulate | CC.2.3.HS.A.3 | MP1 |
| Use the Protractor Postulate to measure an angle | CC.2.3.HS.A.3 | MP1 |
| Apply the Angle Addition Postulate to model and solve real-world and mathematical problems | CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP1 |
| Use congruent angles and congruent segments | CC.2.3.HS.A.3 | MP1 |
| Define vocabulary related to basic constructions | CC.2.3.HS.A.3 | MP1 |
| Find a midpoint | G.2.1.2.1 | MP1 |
| Find the distance | G.2.1.2.1 | MP1 |
| Connect algebra and geometry through coordinates by calculating the distance and midpoint between two points on a coordinate plane | G.2.1.2.3 | MP1 |
| Classify a triangle on the coordinate plane | G.2.1.2.3 | MP1 |
| Classify a parallelogram on the coordinate plane | G.2.1.2.3 | MP1 |
| Classify quadrilaterals as trapezoids and kites on the coordinate plane | G.2.1.2.3 | MP1 |
| Apply the Vertical Angles Theorem to model and solve real-world and mathematical problems | G.2.2.1.1  CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP1 |
| Justify the Vertical Angles Theorem, Congruent Supplements Theorem, and/or Congruent Complements Theorem | G.1.3.2.1  G.2.2.1.1  CC.2.3.HS.A.3 | MP1 |
| Identify angle pairs when parallel lines are intersected by a transversal | G.2.2.1.2 | MP1 |
| Explore angle relationships and find angle measures when parallel lines are intersected by a transversal | G.2.2.1.2 | MP1 |
| Justify angle relationships: Same-Side Interior Angles, Alternate Interior Angles, Corresponding Angles, Alternate Exterior Angles | G.1.3.2.1  G.2.2.1.2  CC.2.3.HS.A.3 | MP1 |
| Use parallel lines to show angle relationships | G.2.2.1.2 | MP1 |
| Apply angle relationships to model and solve real-world and mathematical problems | G.2.2.1.1  G.2.2.1.2  CC.2.3.HS.A.14 | MP1 |
| Understand angle relationships when lines are not parallel | G.2.2.1.1 | MP1 |
| Determine whether lines are parallel | G.2.2.1.2 | MP1 |
| Solve real-world and mathematical problems with parallel lines | G.2.2.1.2  CC.2.3.HS.A.14 | MP1 |
| Investigate the measures of triangle angles | G.1.2.1.1 | MP1 |
| Use the Triangle Angle-Sum Theorem | G.1.2.1.1  CC.2.3.HS.A.3 | MP1 |
| Apply the Triangle Exterior Angle Theorem | G.1.2.1.1  CC.2.3.HS.A.3 | MP1 |
| Apply the triangle theorems to model and solve real-world and mathematical problems | G.1.2.1.1  CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP1 |
| Find the slopes of parallel lines | G.2.1.2.2 | MP1 |
| Check parallelism and perpendicularity | G.2.1.2.2 | MP1 |
| Write equations of parallel and perpendicular lines | G.2.1.2.2 | MP1 |
| **Marking Period 1 Review and Assessment** |  | **MP1** |
| * Review and demonstrate knowledge of Perimeter, Circumference, and Area |  | MP1 |
| * Review and demonstrate knowledge of Geometric Probability |  | MP1 |
| * Review and demonstrate knowledge of the Foundations of Geometry and Coordinate Geometry |  | MP1 |
| * Review and demonstrate knowledge of Parallel and Perpendicular Lines |  | MP1 |
| Identify rigid motions | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Reflect a figure across a line | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Reflect a figure on a coordinate plane | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Describe a reflection on the coordinate plane | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Use reflections to model and solve real-world and mathematical problems | CC.2.3.HS.A.1  CC.2.3.HS.A.2  CC.2.3.HS.A.14 | MP2 |
| Find the image of a translation | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Write a translation rule | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Compose translations | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Relate translations and reflections | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Draw rotations in the coordinate plane about the origin | CC.2.3.HS.A.1  CC.2.3.HS.A.2  CC.2.3.HS.A.4 | MP2 |
| Draw a rotated image about a specific point | CC.2.3.HS.A.1  CC.2.3.HS.A.2  CC.2.3.HS.A.4 | MP2 |
| Use rotations to model and solve real-world and mathematical problems | CC.2.3.HS.A.1  CC.2.3.HS.A.2  CC.2.3.HS.A.14 | MP2 |
| Investigate reflections and rotations | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Draw the image of a glide reflection/composition of transformation | CC.2.3.HS.A.1  CC.2.3.HS.A.2  CC.2.3.HS.A.4 | MP2 |
| Identify transformations for symmetry | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Identify lines of symmetry | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Identify rotational symmetry | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Determine symmetries | CC.2.3.HS.A.1  CC.2.3.HS.A.2 | MP2 |
| Understand and determine congruence | G.1.3.1.1 | MP2 |
| Identify congruent figures | G.1.3.1.1 | MP2 |
| Apply congruence to model and solve real-world and mathematical problems | G.1.3.1.1  CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP2 |
| Understand the angles of isosceles triangles | G.1.2.1.3 | MP2 |
| Solve real-world and mathematical problems using the Isosceles Triangle Theorem and the Converse of the Isosceles Triangle Theorem | G.1.2.1.3  CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP2 |
| Use perpendicular bisectors | G.1.2.1.3 | MP2 |
| Find the angle measures in isosceles and equilateral triangles | G.1.2.1.3 | MP2 |
| Write and complete a two-column proof applying Side-Angle-Side (SAS) and Side-Side-Side (SSS) congruence | G.1.3.1.1  G.1.3.2.1  CC.2.3.HS.A.3 | MP2 |
| Determine congruent triangles: SAS, SSS | G.1.3.1.1  CC.2.3.HS.A.3 | MP2 |
| Apply SAS and SSS congruence to model and solve real-world and mathematical problems | G.1.3.1.1  CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP2 |
| Write and complete a two-column proof applying Angle-Side-Angle (ASA) and Angle-Angle- Side (AAS) congruence | G.1.3.1.1  G.1.3.2.1  CC.2.3.HS.A.3 | MP2 |
| Apply ASA and AAS congruence to model and solve real-world and mathematical problems | G.1.3.1.1  CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP2 |
| Determine congruent triangles: SAS, SSS, ASA, AAS | G.1.3.1.1  CC.2.3.HS.A.3 | MP2 |
| Investigate right triangle congruence using HL (Hypotenuse-Leg) | G.2.1.1  CC.2.3.HS.A.3 | MP2 |
| Write and complete a two-column proof applying HL (Hypotenuse-Leg) congruence | G.1.3.1.1  G.1.3.2.1  CC.2.3.HS.A.3 | MP2 |
| Use HL congruence to model and solve real-world and mathematical problems | G.1.3.1.1  G.2.1.1  CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP2 |
| Determine congruent polygons | G.1.3.1.1  CC.2.3.HS.A.3 | MP2 |
| Separate overlapping triangles | G.1.3.1  G.1.3.1.2 | MP2 |
| Identify the corresponding parts in separate triangles and overlapping triangles | G.1.3.1  G.1.3.1.2  CC.2.3.HS.A.3 | MP2 |
| Use the common parts of separate triangles and overlapping triangles | G.1.3.1.2  CC.2.3.HS.A.3 | MP2 |
| Write and complete a two-column proof applying triangle congruence to two overlapping triangles | G.1.3.1.1  G.1.3.1.2  G.1.3.2.1  CC.2.3.HS.A.3 | MP2 |
| Find equidistant points | CC.2.3.HS.A.3 | MP2 |
| Apply the Perpendicular Bisector Theorem and its converse to model and solve real-world and mathematical problems | CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP2 |
| Find equidistant points from the sides of an angle | CC.2.3.HS.A.3 | MP2 |
| Apply the Angle Bisector Theorem and its converse to model and solve real-world and mathematical problems | CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP2 |
| Define and identify in triangles: Perpendicular Bisectors, Circumcenter, Angle Bisectors, Incenter | G.1.2.1.1 | MP2 |
| Identify the altitude and median in triangles | G.1.2.1.1 | MP2 |
| Find the length of the median | G.1.2.1.1 | MP2 |
| Investigate side and angle relationships in a triangle | G.1.2.1.1 | MP2 |
| Compare angles in a triangle using the Triangle Longer Side Theorem | G.1.3.1.1  CC.2.3.HS.A.3 | MP2 |
| Compare sides in a triangle using the Triangle Larger Angle Theorem | G.1.3.1.1  CC.2.3.HS.A.3 | MP2 |
| Apply the Triangle Inequality Theorem for one triangle to model and solve real-world and mathematical problems | G.1.2.1.1  CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP2 |
| Investigate side lengths in triangles | G.1.2.1.1 | MP2 |
| Apply the Hinge Theorem and its converse to model and solve real-world and mathematical problems | G.1.2.1.1  CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP2 |
| **Marking Period 2 Review and Assessment** |  | **MP2** |
| * Review and demonstrate knowledge of Transformations |  | MP2 |
| * Review and demonstrate knowledge of Triangle and Polygon Congruence |  | MP2 |
| * Review and demonstrate knowledge of Relationships in Triangles |  | MP2 |
| Find the measure of the interior angle(s) of a polygon | G.1.2.1  CC.2.3.HS.A.3 | MP3 |
| Find the exterior angle measure(s) of a polygon | G.1.2.1  CC.2.3.HS.A.3 | MP3 |
| Apply the Polygon Interior Angle-Sum and Polygon Exterior Angle-Sum Theorems to model and solve real-world and mathematical problems | G.1.2.1.4  CC.2.3.HS.A.3  CC.2.3.HS.A.14 | MP3 |
| Investigate and use the diagonals of a kite | G.1.2.1.2 | MP3 |
| Explore parts of an isosceles trapezoid | G.1.2.1.2 | MP3 |
| Model and solve real-world and mathematical problems involving isosceles trapezoids | G.1.2.1.2  CC.2.3.HS.A.14 | MP3 |
| Apply the Trapezoid Midsegment Theorem to model and solve real-world and mathematical problems | G.1.2.1.2  CC.2.3.HS.A.14 | MP3 |
| Explore opposite sides and angle measures of a parallelogram | G.1.2.1.2 | MP3 |
| Use opposite sides and angle measures of a parallelogram to model and solve real-world and mathematical problems | G.1.2.1.2  CC.2.3.HS.A.14 | MP3 |
| Explore the diagonals of a parallelogram | G.1.2.1.2 | MP3 |
| Find unknown lengths in a parallelogram | G.1.2.1.2 | MP3 |
| Investigate sides to confirm a parallelogram | G.1.2.1.2 | MP3 |
| Explore angle measures to confirm a parallelogram | G.1.2.1.2 | MP3 |
| Find values to make parallelograms | G.1.2.1.2 | MP3 |
| Investigate diagonals to confirm a parallelogram | G.1.2.1.2 | MP3 |
| Identify a parallelogram | G.1.2.1.2 | MP3 |
| Find the diagonals of a rhombus | G.1.2.1.2 | MP3 |
| Find lengths and angle measures in a rhombus | G.1.2.1.2 | MP3 |
| Find diagonal lengths of a rectangle | G.1.2.1.2 | MP3 |
| Find diagonal and angle measures of a square | G.1.2.1.2 | MP3 |
| Use properties of rhombuses, rectangles, and squares to model and solve real-world and mathematical problems | G.1.2.1.2  CC.2.3.HS.A.14 | MP3 |
| Use diagonals to identify rhombuses | G.1.2.1.2 | MP3 |
| Use diagonals to identify rectangles | G.1.2.1.2 | MP3 |
| Identify special parallelograms | G.1.2.1.2 | MP3 |
| Use conditions of special parallelograms to model and solve real-world and mathematical problems | G.1.2.1.2  CC.2.3.HS.A.14 | MP3 |
| Determine if the dilatation of a figure exists | G.1.3.1.2  CC.2.3.HS.A.1 | MP3 |
| Find a scale factor | G.1.3.1.2  CC.2.3.HS.A.1 | MP3 |
| Draw a dilation of a figure | G.1.3.1.2  CC.2.3.HS.A.1 | MP3 |
| Graph a composition of a rigid motion and a dilation | G.1.3.1.2  CC.2.3.HS.A.1  CC.2.3.HS.A.2  CC.2.3.HS.A.4 | MP3 |
| Determine similarity | G.1.3.1.1  G.1.3.1.2  CC.2.3.HS.A.6 | MP3 |
| Establish the Angle-Angle (AA), Side-Side-Side (SSS) and Side-Angle-Side (SAS) Similarity Theorems | G.1.3.1.1  G.1.3.1.2  CC.2.3.HS.A.6 | MP3 |
| Determine if triangles are similar | G.1.3.1.1  G.1.3.1.2  CC.2.3.HS.A.6 | MP3 |
| Find lengths in similar triangles | G.1.3.1.1  G.1.3.1.2 | MP3 |
| Explore proportions from parallel lines in triangles | G.1.2.1.1  G.1.3.1.2 | MP3 |
| Find lengths in triangles using the Side-Splitter and Triangle Midsegment Theorems | G.1.2.1.1  G.1.3.1.2  CC.2.3.HS.A.3 | MP3 |
| Find a length in a diagram with three parallel lines using the Corollary to the Side-Splitter Theorem | CC.2.3.HS.A.3 | MP3 |
| Use the Triangle Angle Bisector Theorem | G.1.2.1.1  CC.2.3.HS.A.3 | MP3 |
| Use the Pythagorean Theorem and its converse to model and solve real-world and mathematical problems involving right triangles | G.2.1.1.1 | MP3 |
| Find the side lengths of 45-45-90 and 30-60-90 triangles | G.2.1.1.1 | MP3 |
| Apply special right triangle relationships to model and solve real-world and mathematical problems | G.2.1.1.1 | MP3 |
| **Marking Period 3 Review and Assessment** |  | **MP3** |
| * Review and demonstrate knowledge of Quadrilaterals and Other Polygons |  | MP3 |
| * Review and demonstrate knowledge of Similarity |  | MP3 |
| * Review and demonstrate knowledge of Right Triangles |  | MP3 |
| Identify trigonometric ratios: Sine (Sin), Cosine (Cos), Tangent (Tan) | G.2.1.1.2 | MP4 |
| Write trigonometric ratios: Sin, Cos, Tan | G.2.1.1.2 | MP4 |
| Find trigonometric ratios of special angles: 30, 45, 60 | G.2.1.1.2 | MP4 |
| Express cosine and sine in terms of congruent complements | G.2.1.1.2 | MP4 |
| Use trigonometric ratios to model and solve real-world and mathematical problems to find distances | G.2.1.1.2  CC.2.3.HS.A.14 | MP4 |
| Use trigonometric inverses to model and solve real-world and mathematical problems to find angle measures | G.2.1.1.2  CC.2.3.HS.A.14 | MP4 |
| Identify angles of elevation and angles of depression | G.2.1.1.2 | MP4 |
| Use angles of elevation and angles of depression to model and solve real-world and mathematical problems | G.2.1.1.2  CC.2.3.HS.A.14 | MP4 |
| Find the area of a triangle using trigonometric functions to model and solve real-world and mathematical problems | G.2.1.1.2  CC.2.3.HS.A.14 | MP4 |
| Use properties of central angles and arc measures | G.1.1.1.2 | MP4 |
| Use properties of arc length and circumference | CC.2.3.HS.A.8 | MP4 |
| Apply arc length of circles to model and solve real-world and mathematical problems | G.1.1.1.2  CC.2.3.HS.A.8  CC.2.3.HS.A.14 | MP4 |
| Relate the area of a circle to the area of a sector | G.2.2.2.5 | MP4 |
| Find the area of a segment of a circle | G.2.2.2.5 | MP4 |
| Model and solve real-world and mathematical problems involving circles | G.1.1.1.2  G.2.2.2.5  CC.2.3.HS.A.8  CC.2.3.HS.A.14 | MP4 |
| Understand the properties of a tangent to a circle | G.1.1.1.1 | MP4 |
| Use tangents to model and solve real-world and mathematical problems | G.1.1.1.1  G.1.1.1.3 | MP4 |
| Find lengths of segments tangent to a circle | G.1.1.1.1 | MP4 |
| Find measures involving tangent lines | G.1.1.1.3 | MP4 |
| Use properties of central angles and chords | G.1.1.1.3 | MP4 |
| Use properties of arcs and chords | G.1.1.1.1  G.1.1.1.3 | MP4 |
| Use properties of chords equidistant from the center | G.1.1.1.1 | MP4 |
| Model and solve real-world and mathematical problems involving chords of circles | G.1.1.1.1  G.1.1.1.3  CC.2.3.HS.A.14 | MP4 |
| Use properties to relate inscribed angles to intercepted arcs | G.1.1.1.2 | MP4 |
| Use the Inscribed Angles Theorem and its corollaries | G.1.1.1.2  CC.2.3.HS.A.3 | MP4 |
| Explore angles formed by a tangent and a chord | G.1.1.1.3 | MP4 |
| Use arc measure to model and solve real-world and mathematical problems involving circles | G.1.1.1.2  G.1.1.1.3  CC.2.3.HS.A.14 | MP4 |
| Use properties of secants and angle measures | G.1.1.1.3 | MP4 |
| Use secants and tangents to model and solve real-world and mathematical problems | G.1.1.1.3  CC.2.3.HS.A.14 | MP4 |
| Use chord length relationships | G.1.1.1.3 | MP4 |
| Use segment relationships of circles to model and solve real-world and mathematical problems to find lengths | G.1.1.1.1  G.1.1.1.2  G.1.1.1.3  CC.2.3.HS.A.14 | MP4 |
| Apply Euler’s Formula to a polyhedron | G.2.3.2.1  CC.2.3.HS.A.3  CC.2.3.HS.A.13 | MP4 |
| Describe a cross section of a polyhedron | G.2.3.1  CC.2.3.HS.A.13 | MP4 |
| Apply Cavalieri’s Principle | G.2.3.1  CC.2.3.HS.A.3  CC.2.3.HS.A.13 | MP4 |
| Calculate the surface area of prisms, cylinders, cones, pyramids, and spheres. | G.2.3.1  G.2.3.1.1  CC.2.3.HS.A.13 | MP4 |
| Calculate the volume of prisms, cylinders, cones, pyramids, and spheres | G.2.3.1  G.2.3.1.2  CC.2.3.HS.A.13 | MP4 |
| Find the measurement of a missing length given the surface area or volume | G.2.3.1.3 | MP4 |
| Apply the concepts of surface area and volume of prisms, cylinders, cones, pyramids, and spheres to model and solve real-world and mathematical problems | G.2.3.1  CC.2.3.HS.A.3  CC.2.3.HS.A.13  CC.2.3.HS.A.14 | MP4 |
| Find the measure of a composite three-dimensional figure containing prisms, cylinders, cones, pyramids, and spheres | G.2.3.1.1  G.2.3.1.2  CC.2.3.HS.A.13 | MP4 |
| **Marking Period 4 Review and Assessment** |  | **MP4** |
| * Review and demonstrate knowledge of Trigonometry |  | MP4 |
| * Review and demonstrate knowledge of Circles |  | MP4 |
| * Review and demonstrate knowledge of Two- and Three-Dimensional Models |  | MP4 |

**ASSESSMENTS**

**PDE Academic Standards, Assessment Anchors, and Eligible Content:** The teacher must be knowledgeable of the PDE Academic Standards, Assessment Anchors, and Eligible Content and incorporate them regularly into planned instruction.

**Formative Assessments:** The teacher will utilize a variety of assessment methods to conduct in-process evaluations of student learning.

**Effective formative assessments for this course include:  
Suggested but not limited to:**

* Pre-assessments of prior knowledge (e.g., Entrance cards or KWL chart)
* Bellringers/Problems of the Day (PODs)
* Discussions
* Exit ticket
* Teacher observations/Questioning
* Graphic organizers (e.g., Venn Diagrams, word mapping, webbing, KWL chart, etc.)
* Outlining
* Cooperative learning
* Written work
* Quizzes
* Oral response
* Self-evaluation
* Homework
* Summarizing
* Note-taking

**Summative Assessments:** The teacher will utilize a variety of assessment methods to evaluate student learning at the end of an instructional task, lesson, and/or unit.

**Effective summative assessments for this course include:  
Suggested but not limited to:**

* Performance assessment
* Chapter/unit tests
* Quizzes
* Marking period assessments
* Projects
* Student presentations