Geometry MYP Level 4
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I. Course Summary

This is a complete high school geometry course that meets MYP Aims and Objectives and the priority standards for geometry selected from the Minnesota Mathematics Standards. The IB learner profile is used as a guide in developing and implementing the curriculum. Focus will be placed on communication, inquiry and reflection, which enables students to better develop, understand, and apply and geometric properties in two and three dimensions. Additionally, an effort is made to consistently connect geometry topics with algebra concepts students studied in Algebra 1 and will return to in Algebra II following this course.

II. Units of Study

Building Blocks of Geometry
Introduction to Proof
Triangle Congruence
Quadrilaterals and Coordinate Proof
Similarity
Special Right Triangles
Right triangle Trigonometry (Trig A)
Polygons
Circles
Space, Shape and Measurement

III. Standards and IB MYP Aims

State Standards	IB Middle Years Program Aims
• 9.3.1.1 Determine the surface area and volume of pyramids, cones and spheres. Use measuring devices or formulas as appropriate. • 9.3.1.2 Compose and decompose two- and three-dimensional figures; use decomposition to determine the perimeter, area, surface area and volume of various figures. • 9.3.2.4 Construct logical arguments and write proofs of theorems and other results in geometry, including proofs by contradiction. Express proofs in a form that clearly justifies the reasoning, such as two-column proofs, paragraph proofs, flow charts or illustrations. • 9.3.3.2 Know and apply properties of angles, including corresponding, exterior, interior, vertical, complementary angles and supplementary angles, to solve problems and logically justify results. • 9.3.3.6 Know and apply properties of congruent and similar figures to solve problems and logically justify results. • 9.3.3.8 Know and apply properties of a circle to solve problems and logically justify results. • 9.3.4.2Apply the trigonometric ratios sine, cosine and tangent to solve problems, such as determining lengths and areas in right triangles and in figures that can be decomposed into right triangles. Know how to use calculators, tables or other technology to evaluate trigonometric ratios. • 9.3.4.4 Use coordinate geometry to represent and analyze line segments and polygons including determining lengths, midpoints and slopes of line segments.	• enjoy mathematics, develop curiosity and begin to appreciate its elegance and power • develop an understanding of the principles and nature of mathematics • communicate clearly and confidently in a variety of contexts • develop logical, critical and creative thinking • develop confidence, perseverance, and independence in mathematical thinking and problem- solving • develop powers of generalization and abstraction • apply and transfer skills to a wide range of real life situations, other areas of knowledge and future developments • appreciate how developments in technology and mathematics have influenced each other • appreciate the moral, social and ethical implications arising from the work of mathematicians and the applications of mathematics • appreciate the international dimension in mathematics through an awareness of the universality of mathematics and its multicultural and historical perspectives • appreciate the contribution of mathematics to other areas of knowledge • develop the knowledge, skills and attitudes necessary to pursue further studies in mathematics • develop the ability to reflect critically upon their own work and the work of others.

IV. Text/Materials

Holt Geometry textbook available online. Additional required materials are pen/pencil, folder/notebook, graphing or scientific calculators and a **charged** IPad. These materials are to be brought to class daily.

V. Methodology

Teachers work collaboratively to incorporate lessons and activities that encourage students to work cooperatively with their peers and develop effective communication skills. Students will take responsibility for their learning through daily reflections and critical thinking activities.

Extra Help

Use your resources! Instructional videos in the Schoology, practice worksheets, Khan Academy, siblings/friends. If you have more homework questions, or want to study I will have office hours

Before School on Thursdays or by appointment

After School on Mondays, Wednesdays, and by appointment

VI. Methods of Assessment

Teachers will regularly use a variety of IB MYP both formative and summative assessments to gauge and guide student success. Formative assessments will be routine, informative and on-going. Among other strategies teachers may choose to use exit cards, warm up problems, visual checks for understanding (thumbs up, note cards, etc.), quick writes, or discussion. Quizzes within a unit might also be used to evaluate student progress and adjust instruction. Summative assessments will commonly take place on Fridays and assess multiple learning targets. Cumulative final exams may also be given.

Formative assessments take place daily, as they serve as a tool to inform and improve the teaching process and prepare students for summative assessment. *Examples* are math review, quick write, daily homework, homework quiz, and think-group-share. These represent *30% of the overall grade* for the marking period.

Summative assessments typically take place weekly. Students must demonstrate their knowledge, understanding of concepts, and/or skills while answering the unit-guiding question based on local, state and national standards and MYP Areas of Interaction. *Examples* of summative assessments are tests and portfolio problems. These represent *70% of the overall grade* for the marking period.

Students are evaluated in four different areas with IB MYP rubrics for this class:

Criterion A	Knowledge and Understanding	Students will demonstrate knowledge of concepts.
Criterion B	Investigating Patterns	Students will work through investigations to develop critical thinking.
Criterion C	Communicating	Students will use appropriate mathematical language and different forms of representation to communicate mathematical ideas.
Criterion D	Applying mathematics in real-life contexts	Student can select appropriate mathematical strategies to solve real-world problems.

IB MYP rubrics use an 8-point scale, with 8 representing “excellent achievement” and 1-point representing “limited achievement.” When these assessments will be counted toward students’ grades in the class, they will be converted to a standard A, B, C, D, N scale and the point value will appear on the rubric. Parents and guardians, please ask your student to share their rubrics with you.

Please also see Highland Park Grading and Assessment Policy on the Highland Park Senior High Webpage for additional information about assessment.

VII. Other course information

Expectations:

- Be Respectful
- Be Responsible (Come on time with required materials and **NO CELLPHONE**)
- Be Safe

Academic Honesty: Highland Park High School expect all students to understand the meaning of academic honesty and demonstrate it in all aspects of their learning. In this class, it is expected that you do not give, receive, or tolerate unauthorized aid in your work. The full policy can be found on the HPSH website.

I can be most easily reached via e-mail at yonas.ghebregzi@spps.org. For the status of assignment completion and class grades please use Schoology.

All school district policies dealing with absences, tardiness, late work and other issues will be followed.