

Geometry

2010-2011

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Welcome to the 2010-2011 school year! I am excited and looking forward to working with each one of you this year. I expect everyone to be successful and I will be glad to assist you in any way possible. The study of Geometry will provide you with experiences that deepen your understanding of two and three-dimensional objects and their properties. Deductive and inductive reasoning are stressed as well as using investigative strategies in drawing conclusions. Understanding this new material will be enhanced by using Algebra 1 skills when required.

Materials:

HRW Geometry

Three-ring binder to organize notes, homework, handouts, quizzes etc.

TI-83 Plus/TI-84 graphing calculator.

Pencil (mechanical is preferred), eraser, clear ruler with inches and centimeters, compass, protractor, graph paper, and highlighters or colored pencils.

Note: Though we may not use construction tools daily it is important that you have them when needed.

Sequence:

Semester 1

- 1 An Introduction to Geometry
- 2 An Introduction to Proofs
- 3 Parallel Lines and Polygons
- 4 Congruent Triangles

Semester 2

- 5 Area and Perimeter of Polygons
- 6 Introduction to Solids
- 7 Surface Area and Volume of Solids
- 8 Similar Triangles
- 10 Introduction to Trigonometry
- 9 Circles

Grading Policy:

70% of each semester grade will be based on a percentage of total points of tests (usually 100 points each), quizzes (usually 50 points each), homework assignments (2 points each), and projects. Two chapters will have projects associated with them: the Frank Lloyd Wright project and the Name project are both worth 20 points each. Computer lab activities will be 10 - 20 points. There is extra credit: for each correct CAML question you will earn 3 points. Some tests or quizzes will have an extra credit problem as well. You may earn only **30** extra credit points per semester.

30% of each semester grade will be based on the final exam.

Geometry Benchmarks

- Demonstrate understanding by identifying and giving examples of undefined terms, postulates, theorems, and inductive and deductive reasoning.
- Write geometric proofs
- Construct and judge the validity of a logical argument and give counterexamples to disprove a statement.
- Prove basic theorems involving congruence and similarity.
- Prove that triangles are congruent or similar and use the concept of corresponding parts of congruent triangles.
- Know and are able to use the Triangle Inequality Theorem.
- Prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of quadrilaterals, and the properties of circles.
- Know, derive, and solve problems involving perimeter, circumference, area, volume and surface area of common geometric figures and solids and compounds of common figures and solids.
- Determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.
- Find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.
- Prove relationships between angles in figures by using properties of complementary, supplementary, vertical, interior and exterior angles.
- Prove the Pythagorean Theorem and use it to determine distances and find missing side lengths of right triangles and apply it when required for other problems.
- Perform basic constructions with a straight edge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to the given through a point off the line and know how to apply them.
- Know and are able to use angle and side relationships in problems involving special right triangles (30° - 60° - 90° and 45° - 45° - 90°).
- Prove and solve problems regarding relationships among chords, secants, tangents, inscribed angles and inscribed and circumscribed polygons of circles.
- Know the effect of rigid and non-rigid motions on figures in the coordinate plane and space, including rotations, translations, reflections, and dilations.
- Compute probabilities requiring an area model.
- Use Geometer's Sketchpad as a tool for inductive reasoning.
- Draw 3-dimensional objects, including a representation of coordinate space, isometric drawings, and drawings with 1 or 2 vanishing points. Draw orthographic projections of 3 dimensional figures.

Class Information and Expectations

Attendance: Every day is important! Your success in Geometry is directly related to how often you are present. In the event that you are absent, it is your responsibility to get the work and notes that you missed. If you are on campus during any portion of the school day, your homework for that day will be due and any scheduled quizzes or tests must be taken.

Tardiness: It is your responsibility to get to class on time with all of your class supplies. You are tardy if you are not in your seat with your homework on the desk when class begins. It is important that students get in the habit of arriving to school on time.

Office Hours: If you need to talk with me *for any reason* you should drop in at the beginning of break or lunch, or after school. If you are having difficulties with a topic, you should see me IMMEDIATELY. **Do not wait for the morning of a test!** I am available at break and lunch each day. I am also available for one hour after school.

Homework: Homework is assigned on a daily basis. Homework is due **AT THE BEGINNING OF CLASS** on the day after the assignment is given. Homework assignments will also be listed on the class web page. Late homework assignments will be accepted up to one week after the assignment was originally due. You may turn in two late homework assignments each quarter with no penalty. After these two late assignments, late work will be awarded half credit.

All regular homework assignments must include the following elements:

- Your name
- Assignment Name (including the page number and problems)
- Each assigned problem must include:
 - a. the original problem and any picture or graph that is associated with it (you may paraphrase long word problems)
 - b. sufficient work written in a logical, neat and organized way
 - c. your proposed solution

Check the odd-numbered problems in the back of the book before class. Use a red pen to show that the work has been corrected. Use go.hrw.com/gopages/ma/geo.html to look at the solutions to odd-numbered problems when necessary. Ask questions about your homework the following day. Corrections are made during the first ten minutes of class and it is important to pay attention to this part of the class. Knowing what you did wrong helps you to not make the same mistake again. If an assignment is missing a significant number of problems from the assignment, then the assignment will be regarded as incomplete and you will earn no credit for the assignment. **Each problem on the assignment should be attempted in order to receive credit for the assignment.**

Technology:

- Graphing calculators will be used extensively for in-class work. Calculators may be used on all homework assignments unless otherwise specified.
- Cell phones and other technology may never be used in class and I highly recommend turning off cell phones and other electronic devices while completing homework. **Unauthorized use in class will result in a detention.**

Participation: Students are expected to be participants in the learning process. Your contribution to the environment - positive or negative - will be considered when the semester grade is calculated. Participation includes, but is not limited to, making relevant observations, asking questions, remaining on task, having your notebook up-to-date, being civil and helpful.

Make-Ups: Generally, students with extended absence for illness have as many days to make up an exam. Quizzes that have been graded and returned cannot be made-up, and a student who misses a quiz will be given a blank copy for study purposes without penalty. Three missed evaluations is excessive however, and will result in a penalty.

- A student who is absent the day before a test, but present when the test was scheduled, should be prepared to take the test with the class.
- A student who is absent on the test day only should be prepared to take the test on the day she returns.
- Any extenuating circumstances must be discussed with me **PRIOR** to the beginning of class. Feel free to use e-mail.

Learning: Everyone is capable of learning the mathematics taught in this course, though perhaps to a different depth. Learning takes time, patience, practice and willingness to learn from mistakes. For this class, effort and perseverance will be more important than talent.

Gradesheet: You are encouraged to regularly check your grade in this class online. Anytime the cumulative percent falls below 70 you should consider it cause for serious concern. Most chapters will consist of 2 quizzes (50 points) and 1 exam (100 points). Standard percentages are used to convert to letter grade:

A : 93– 100%	B ⁺ : 87 – 89%	C ⁺ : 77 – 79%	D ⁺ : 67 – 69%	F: < 59%
A ⁻ : 90 – 92%	B : 83 – 86%	C : 73– 76%	D : 63– 66%	
	B ⁻ : 80 – 82%	C ⁻ : 70 – 72%	D ⁻ : 60 – 62%	

PARENT/STUDENT ACKNOWLEDGEMENT:

We, _____ (print **student** name) and _____ (print **parent/guardian** name) have read and acknowledge the rules and guidelines set forth in the Geometry syllabus.

Student signature: _____ Date: _____

Parent signature: _____ Date: _____

Please read, sign and return by **Wednesday, August 25th**.