

Welcome to
Geometry!

Lisa Hutson

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lhutson@immaculateheart.org

Office Hours: Even days, 2:35 – 3:15pm

I look forward to working with each and every one of you this year. I expect everyone to be successful and I will gladly assist you in any way possible. Geometry is the mathematical study of two- and three-dimensional objects and their properties. Members of ancient cultures such as the Greeks, Egyptians, Chinese, and Babylonians all used Geometry to explore physical objects around them. We will learn about their discoveries and make some of our own using art, construction tools, cubes, 3D solids, and computers.

Materials:

- HRW Geometry (Bring your book to class each day.)
- Access **from home** to <http://my.hrw.com>, username **pstudent396**, password **d9h5j**
- 2 GB flash drive for downloading videos
- Three ring binder or a section in your main binder if that's what you use – no dividers please
- TI-83 or TI-84 graphing calculator (TI-84 Silver Edition if buying new).
- Ruler with inches and centimeters, Compass, Protractor, and Triangle (a set is fine)
- Lined paper, graph paper, pencil (mechanical preferred), eraser
- Highlighters or colored pencils (at least 3 colors)

Grading Policy:

Seventy percent of each semester grade will be based on a percentage of total points of tests (usually 100 points each), quizzes (30- 50 points each), homework assignments (2 points each), and class participation. **Thirty percent of each semester grade will be based on a comprehensive final exam.**

Assignments

1. **Homework:** Homework is assigned daily and due AT THE BEGINNING OF CLASS. Each assignment is worth **two** points. You will earn only **one** point if it's late, written in pen, or incomplete. Assignments are worth **zero** points if no work is shown. All assignments are listed on the class website. Check odd-numbered problems in the back of the book.
2. **Tests:** Each chapter test will be worth a maximum of **100 points**. I will announce tests in class and on the website.
3. **Quizzes:** There will be one quiz per week on the last day of the week (Thursday or Friday). I will not announce quizzes unless there is a change in plans, so expect a quiz at the end of each week.
4. **Extra Credit:** Opportunities for extra credit will be posted on my website. Each correct CAML question is worth 3 extra credit points, and some tests or quizzes will have an extra credit problem. You may earn only **20** extra credit points per semester.
5. **Projects:** We will have 1-2 projects per semester. Projects are generally worth a quiz grade.

Class Information & Expectations

1. **Attendance:** Every day is important! Your success in math is directly related to how often you are present. In the event that you are absent, it is your responsibility to: 1) check the website for assignments, 2) get any notes you missed, 3) attempt missed assignments, and 4) see me for help if needed. If the homework is a video, I expect you to watch it before returning to class.

Sports/Medical Visits: If you are on campus for any part of the school day, then you are expected to turn in assignments before you leave. Complete steps #1-4 before returning to class the next day.

If any questions arise, please email me.

2. **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 & supplies on the desk when class begins.
3. **Supplies:** In order to participate in class activities, you must have all your math tools. If you do not have your supplies, you will receive a detention. You may use your “oops” slips to get out of detention.
4. **Office Hours:** If you need to talk with me *for any reason* you should drop in during office hours, or email me to make an appointment. If you are having difficulties with a topic, you should see me IMMEDIATELY. Do not wait for the day before a test!
5. **Email:** Check your IH email account regularly. I may email you from time to time about the course, especially to communicate with you about an absence or a change to a homework assignment. Email is the best way to reach me too.
6. **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, and being civil and helpful.
7. **Make-Ups:** Generally, students with extended absence for illness have as many days to make up their work, but quizzes and tests must be made up within one week of returning to school.
 - 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. Fill out a Study Hall Test Request if you want to take the test in your study hall period.
 - Any extenuating circumstances must be discussed with me PRIOR to the beginning of class. Please feel free to use e-mail to contact me.
8. **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. Effort and perseverance will be more important than talent.
9. **Grading:** 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.
10. **Outside Materials:** Books and work for other classes must remain in your backpack during class. Also, there is no food or drink in Media Building classrooms (except water).
11. **Homework Help:** You may answer specific questions on homework for a classmate or discuss how to solve a problem together, but each student should write her solution independently. You can (and should) use the textbook and the internet for extra review problems and homework help. BUT... Copying, cheating, or receiving other types of inappropriate help will NOT be tolerated! **Try Hotmath.com for extra help on homework problems. The password is... xe63070de.**

NOTE: I reserve the right to make changes to this syllabus at any time!

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

Geometry Benchmarks

Revised 7/06

- 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.