

Name of Course: 085 Plane Geometry

Name of Instructor: Mrs. Schnowske

Course Length: 2010-2011

Class Textbook/Materials - Geometry Concepts and Skills by McDougal Littell, 2003.
ISBN: 0-618-08758-3

Calculator recommended: TI-34II or TI-84Plus

Description of the course: This course is a two-semester course where the emphasis will be on a less algebraic approach to geometry. Topics to be covered will be the same as a standard geometry course such as point, line, plane, segments, triangles, polygons, circles, and coordinate plane. It also includes construction techniques, congruency, angles and triangles, similar polygons, parallel lines and planes, area and volume, logic, and formal proofs. This course is designed for students who did not perform well in Algebra I.

Course content and learning objectives:

Unit I: Basics of Geometry

Students will find patterns and use them to make predictions. They will use postulates and undefined terms. Students will be able to sketch simple figures and their intersections. Students will measure segments and angles and add the segment lengths and angle measures.

Unit II: Segments and Angles

Students will bisect a segment and compute the midpoint of the segment. Students will bisect an angle. Students will find measures of complementary and supplementary angles. They will find the measures formed by intersecting lines and use properties of equality and congruence.

Unit III: Parallel and Perpendicular Lines

Students will identify relationships between lines. Students will use theorems about perpendicular lines. Students will identify angles formed by transversals. They will find the congruent angles formed when a transversal cuts parallel lines. Students will show that two lines are parallel. Students will construct parallel and perpendicular lines and will use the properties of parallel and perpendicular lines. Students will identify and use translations.

Unit IV: Triangle Relationships

Students will classify triangles by their sides and their angles. Students will find angle measures in triangles. Students will use properties of isosceles and equilateral triangles. Students will use the Pythagorean theorem and the Distance Formula. Students will use the converse of the Pythagorean theorem and use side lengths to classify triangles. Students will identify medians in triangles. Students will use triangle measurements to decide which side is longest and which angle is largest.

Unit V: Congruent Triangles

Students will identify congruent triangles and corresponding parts. Students will prove triangles congruent by SSS, SAS, ASA, AAS, and HL. Students will show corresponding parts of congruent triangles are congruent. Students will use angle bisectors and perpendicular bisectors. Students will identify and use reflections and lines of symmetry.

Unit VI: Quadrilaterals

Students will be able to identify and classify polygons and also to find angle measures of quadrilaterals. Students will be able to use properties of parallelograms. Students will be able to show that a quadrilateral is a parallelogram. Students will use properties of special types of parallelograms. Students will use properties of trapezoids. Students will identify special quadrilaterals based on limited information.

Unit VII: Similarity

Students will use ratios and proportions. Students will identify similar polygons. Students will show that two triangles are similar using AA, SSS, or SAS relationships. Students will use the triangle proportionality theorem and its converse. Students will identify and draw dilations.

Unit VIII: Polygons and Area

Students will describe polygons. Students will find the measure of interior and exterior angles of polygons. Students will find the area of squares, rectangles, triangles, parallelograms, and trapezoids. Students will find the area and circumference of a circle.

Unit IX: Surface Area and Volume

Students will identify and name figures. Students will find the surface areas of prisms, cylinders, pyramids and cones. Students will find the volumes of prisms, cylinders, pyramids and cones. Students will find the surface area and volume of spheres.

Unit X: Right Triangles and Trigonometry

Students will simplify square roots. Students will find the side lengths of 45-45-90 degree triangles. Students will find the side lengths of 30-60-90 degree triangles. Students will use sine, cosine, and tangent ratios to solve for missing side and angle measures. Students will solve right triangles.

Unit XI: Circles

Students will identify segments and lines related to circles. Students will use properties of a tangent to a circle. Students will use properties of arcs of circles. Students will use properties of inscribed angles. Students will write and graph the equation of a circle. Students will identify rotations and rotational symmetry.

Grading Procedures:

Your grade will be based upon two areas: Homework- 25% and 75% Quizzes and Tests.

All homework assignments are 10 points, quizzes are 100 points and tests are 100 points.

Homework: Homework is collected on a daily basis. Students will receive completion points for their homework, however, **the assignment must always show work and corrections must be made on the problems missed.** Late work is due the following class period for half credit.

Absences: If you are absent, it is **YOUR** responsibility to get the missing assignments when you return or go to <http://www.gcsdblogs.org/schnowske//> If the absence was excused, you have two days to complete the assignment. If the absence was unexcused, you only have one day to complete the assignment. If you will be absent because of a school function or doctor's appointment, you are required to get the assignment before you leave school.

Supplies:

1. Textbook
2. ***3-Ring Binder**
3. Loose-leaf paper
4. Dividers: Bell work, notes, homework, quizzes, and journal entries
5. A pencil and a pen
6. Calculator TI-34II or TI-83 or 84 models
7. Graphing paper

***Students are to save all homework in order, handouts, notes, bell work, journal entries and quizzes in their binder for a test grade each quarter.**

Classroom Rules:

1. *Come prepared to class.
 2. Be in your seat by the time the bell rings or you will be issued a tardy.
 3. Raise your hand to participate and only talk when given permission.
 4. Be respectful and act appropriate towards the teacher and students.
- *A tardy will be issued if you have to go back to your locker.**

If you do not follow the rules, I will issue a verbal warning. If the behavior continues, you will be asked to stay after class a minute. If the behavior still continues, I will send you to the office.

Conference hours: Before school: 7:30 A.M. – 8 :00 A.M.

7th hour: 1:59 P.M. – 3:00 P.M.

After school: 3:00 P.M. – 3:30 P.M.

During this time, I am happy to conference with parents and help students with any questions or concerns. If you stop by during my conference hour, please make arrangements ahead of time. I also can be contacted at sschnowske@dist228.org.

