

Geometry

COURSE SYLLABUS

Course Description:

Unit 1: Students will perform **transformations in the coordinate plane**, describe a sequence of transformations that will map one figure onto another, and describe transformations that will map a figure onto itself. Students will compare transformations that preserve distance and angle to those that do not.

Unit 2: Students will use transformations and proportional reasoning to develop a formal understanding of **similarity and congruence**. Students will identify criteria for similarity and congruence of triangles, develop facility with **geometric proofs** (variety of formats), and use the concepts of similarity and congruence to prove theorems involving lines, angles, triangles, and other polygons.

Unit 3: Students will apply similarity in right triangles to understand **right triangle trigonometry**. Students will use the Pythagorean Theorem and the relationship between the sine and cosine of complementary angles to solve problems involving right triangles.

Unit 4: Students will understand and apply theorems about circles, find arc lengths of circles, and find areas of sectors of circles. Students will develop and explain formulas related to **circles and the volume** of solid figures and use the formulas to solve problems. Building on standards from middle school, students will extend the study of identifying cross-sections of three-dimensional shapes to identifying three-dimensional objects generated by rotations of two-dimensional objects.

Unit 5: Students will use the concepts of distance, midpoint, and slope to verify algebraically geometric **relationships of figures in the coordinate plane** (triangles, quadrilaterals, and circles). Students will solve problems involving parallel and perpendicular lines, perimeters and areas of polygons, and the partitioning of a segment in a given ratio. Students will derive the equation of a circle and model real-world objects using geometric shapes and concepts.

Unit 6: Students will understand independence and conditional **probability** and use them to interpret data. Building on standards from middle school, students will formalize the rules of probability and use the rules to compute probabilities of compound events in a uniform probability model.

Supplies

Students need to be prepared with the following materials:

1.5 inch-ring binder with paper, dividers (5 tabs), *sharpened* pencils, Colored pen or pencils, TI 30X or TI 84 plus graphing calculator ;, Optional: Graph paper, Tracing paper, compass and ruler.

Performance Standards and Resources

Geometry Text

Georgia Performance Standards – <https://www.georgiastandards.org/Georgia-Standards/Pages/Math.aspx>

Douglas County School System website – <http://www.douglas.k12.ga.us>

Anticipated Classroom Format:

Directive and discovery based presentation of units incorporating individual and cooperative methods and tasks. Additional assistance and assignments will be provided to enhance the student's comprehension of mathematical concepts.

Teacher Policies and Behavior Expectations:

Policies:

- Each class will begin with a warm up. The student will be responsible for completing these, as warm ups are given to prepare for the DCSS CDAs and the End of Course Test (EOC)
- In order to prepare you for quizzes and tests, homework will be given on a nightly basis. Homework assignments must be **COMPLETELY COMPLETED!!!** to earn credit (**EFFORT BASED Completed assignments earn a 100 and Incomplete assignments earn a 0**).
- In the event of an absence, **YOU** are responsible for bringing an excuse and getting / completing all of your makeup assignments.

Expectations:

- Be in your seat ready to begin when the late bell rings.
- Bring all supplies and textbook to class and have your homework out at the beginning of class.
- **Be respectful** and cooperative to your teacher and classmates.
- Follow school rules stated in the student handbook.

Assessment/Evaluations/Required Student Products:

Student learning/performance will be evaluated using a variety of assessment tools including the following: Homework and class work activities, quizzes, tasks, and tests.

Grading Plans:

Daily/HW/Quiz	40%
Formal Assessments/CDAs	40%
EOC	20%

Strategies for Student Learning:

The best way to be successful is to be **present each day** and to always **give your best effort**. You should let your teacher know immediately if you are giving your best effort and are still struggling in this course. We will work together to find strategies that will help you be more successful.

Each student will be issued a textbook that they are expected to bring to class daily. If this textbook is lost, students may have to continue without a book. Each student will also be using other resources within the math class.

Learning Focused Strategies are research proven strategies that have a strong effect on student achievement. Therefore, in each class, students will:

- Preview new class topics to accelerate learning
- Learn through use of Collaborative Pairs, Guided Practice, and Graphic Organizers
- Learn through thinking skills activities such as compare/contrast, classifying, induction, deduction, and error analysis
- Take notes and summarize new information
- Be able to answer Essential Question(s) at the end of each lesson
- Complete homework/practice
- Represent ideas in nonlinguistic manners
- Learn cooperatively

Academic Honesty:

Cheating is defined to be the willful or deliberate unauthorized use of the work of another person for academic purposes, or inappropriate use of notes or other material in the completion of an academic assignment or test. In addition to disciplinary responses, the granting of credit for this assignment **will be** null and void for all parties knowingly involved.

Contact information:

Throughout the year, please contact me if you have any questions or concerns. The best way to reach me is by email at sue.protzman@douglas.k12.ga.us

Civil Rights Clause

The Douglas County Board of Education does not discriminate on the basis of sex, race, religion, national origin, disability or age in educational programs or activities, or employment practices.