
Accelerated Geometry

Period 1

Course Description

During high school, students begin to formalize their geometry experiences from elementary and middle school, using more precise definitions and developing careful proofs. Geometry includes the study of properties and relationships of two and three-dimensional figures through reasoning and transformations. Applications of geometry include proportional reasoning in measurements and scale drawings, trigonometry, constructions, and appropriate use of technology. Analytic geometry connects algebra and geometry, resulting in powerful methods of analysis and problem solving. Additionally, students will have the opportunities to reinforce their Algebra skills. Students will hopefully develop an appreciation for the beauty of mathematics and a growth mindset that fosters confidence in their own problem solving abilities.

Course Outline based on the KY Core Academic Standards

Fall

Shapes and Transformations
Angles and Measurement
Justification and Similarity
Trigonometry
Probability
Congruent Triangles

Spring

Proof and Quadrilaterals
Polygons and Circles
Solids and Constructions
Circle Relationships
Conditional Probability
Conics

Methodology

This course employs a problem centered active learning approach, which is guided by three research-based principles: (1) Students engage in problem-based lessons structured around a core idea; (2) Guided by a knowledgeable teacher, students interact in groups to foster mathematical discourse; (3) Practice with concepts and procedures should be spread over time, mastery comes over time. Class activities include learning through discovery with cooperative learning using study team and teaching strategies, direct instruction with note taking, guided practice, class discussions, modeling simulated real world events with dynamic computer software and graphing calculator activities.

Growth Mindset: “Think about effort as a positive, constructive force, not as a big drag. Your brain actually grows as you learn from mistakes!” C.Dweck

Atherton High School

2015-16

Instructor: Erin Murphy Schneider

Phone: (502) 485-8202

E-Mail: erin.schneider@jefferson.kyschools.us

Website: www.schneideratherton.weebly.com

Follow me on twitter! @MsSchneider018

Textbook

Core Connections Geometry, College Preparatory Mathematics (CPM Educational Program) with eBook

Materials

The following materials and textbook are expected to be with you every day in class:

- **Folder:** Two-pockets with center clasps or a three-ring binder (with 3 divider tabs)
- pencil, paper and graph paper
- ruler, protractor, compass
- **Calculator:** TI-84 plus graphics is recommended for national & state exams (\$100), but a class set is provided at school ****OR** a scientific calculator (\$12) will be sufficient for homework
- access to TCA Website (preparation for the ACT)

Performance Standards

Students will demonstrate proficiency in solving problems using the 8 Standards for Mathematical Practice as defined by KY Core Academic Standards (KCAS).

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others

Teacher Availability and Homework Help

During school: Fridays, 4th – 7th periods with teacher permission

After school: Typically Wednesdays and/or Thursdays from 2:30-3:15

(See classroom weekly calendar)

Student Evaluation

Grading Scale		Explanation of Grades*
A	90-100	Student performs above standards
B	80-89	Student meets standards
C	75-79	Student is approaching standards.
D	70-74	Student performs below standards.
U	Below 70	Student performance is substantially Below standards.

*The student demonstrates proficiency in 3 identified algebra KCAS each quarterly cycle (9 weeks), totaling to 12 content standards that must be mastered by the end of the course. See www.corestandards.org for more information.

Tests

Individual tests are typically worth 100 points. You can expect a test about every three weeks. The best way to prepare for a test is by being an active participant with your study team in class (asking questions, explaining your thinking) and by completing your daily work and homework.

Math Notebook

You will keep all course work (notes, homework, quizzes, tests, etc.) organized in a folder or binder divided into 3 sections: (1) daily work, (2) notes, (3) year-long handouts & tests. Keeping your materials organized will help you maintain a sense of continuity and prepare for exams. You can see where we've been, where we're going, and how the topics fit together. At the end of the year, your notebook will be a good resource for future reference.

Expectations for SUCCESS:

- Arrive on time—warm-up activities at the beginning of class will be missed.
- Be prepared for class. This includes textbooks, paper, pencil, notebook, calculator & homework.
- Respect yourself, the property and space of others. Encourage and listen to your classmates' questions and responses in class.
- Consistently make your best effort to participate in class and complete assignments.
- Keep up with deadlines--see below to receive text messages.
- Student signature** _____ **parent signature** _____

4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

10% - Student Engagement with

Standards: group work, warm ups, class discussion, math notebook, student reflection

30% - Student Progression Towards

Standards: daily work, homework, exit slips, short weekly assessments, team tasks

60% - Student Mastery of Standards:

40% from individual chapter tests and proficiency assessments, team projects and presentations

20% Midterm & Final Exam

Homework

Expect about 20 minutes of homework every night. Homework is always due the following day unless otherwise noted. These are my homework expectations:

- ❖ Attempt every problem. There is always something you can do, even if it is simply in writing down the information or questions about the problem. Go to the Homework Help provided with your eBook. You are expected to ask about it in class and seek extra help if needed.
- ❖ Clearly show all work. An answer alone is not sufficient. I want to see how you arrived at your response.
- ❖ Check your answers, learn from your mistakes, and make sure the problems are complete.
- ❖ Remember that mastery comes over time with lots of hard work and practice.

Ms. Schneider would like you to join 1st period Accelerated Geometry!

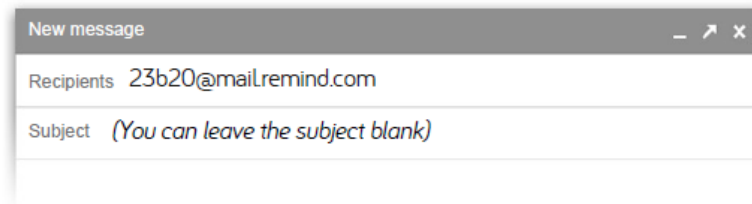


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