Geometry Syllabus

INSTRUCTOR: Mrs. Clark
ROOM: 9
CONTACT INFO: rclark@meadowheights.k12.mo.us or (573)866-2924
WEBSITE: https://goo.gl/PKHTBL

Course Description:

This course is designed to teach the student the fundamentals of Geometry through instruction, class work, homework, and tests. This course provides the foundation for more advanced mathematics courses and develops the skills needed to solve mathematical problems. Study includes tools of geometry, logical arguments and line relationships, rigid transformations and symmetry, triangles and congruence, relationships in triangles, quadrilaterals, similarity, right triangles and trigonometry, circles, extending area and volume, and probability. This course will meet the state requirements (Missouri Learning Standards).

REQUIRED SUPPLIES

- ✓ Pencils
- ✓ Erasers
- ✓ Notebook paper
- ✓ Graph paper
- ✓ Chromebook (charged)
- ✓ Calculator (TI-30X IIS recommended)

*All required supplies above must be brought to class ***every*** day. If students are not prepared, disciplinary action may result as deemed by the student handbook. Limited pencils and paper available, but students must ask for/obtain the supplies before the bell or during the first minute of class.

GRADING

Geometry is a subject that takes practice to fully understand. There will be a high emphasis placed on problems done in class and independent work. Credit for assignments will be given for accuracy and/or effort. All work shall be saved and organized. Assessments will be given throughout the year to check for understanding. Dates for tests and longer assignments will be posted on the classroom calendar. Homework is due the day after it is assigned unless otherwise noted. **Late work is accepted but will results in disciplinary actions as stated in the student handbook**. For the semester grades, each quarter is worth 40% and the semester exam is worth 20%.

Grading Scale

A = 90 – 100
B+ = 87 – 89
B = 84 – 86
B- = 83 – 80
C+ = 77 – 79
C = 74 – 76
C- = 73 – 70
D+ = 67- 69
D = 64 – 66
D- = 63 – 60
F = 0 – 59

EXTRA CREDIT:* There will be various opportunities for extra credit throughout the year. It is **highly advised that students take advantage of it when offered.

STUDENTS RESPONSIBILITIES-HOMEWORK

1. Homework is the responsibility of the student.
2. Students should record assignments and ensure the required materials are taken home. Completed homework should be returned to school when due.
3. Students should allocate a time and place for homework.
4. When missing class, it is the student's responsibility to complete the work assigned.

PARENTS/GUARDIANS RESPONSIBILITIES-HOMEWORK

1. Parents should demonstrate an interest in the children's' homework and monitor their work habits.
2. Parents should ensure that students have a time and place for homework.
3. Parents are urged to attend information evenings and parent conferences to become aware of the homework and testing schedules in their child's courses.
4. Parents should regularly monitor Parent Portal and converse with teachers by email, telephone or in person.

TEACHERS RESPONSIBILITIES-HOMEWORK

1. Teachers should assign meaningful homework experiences.
2. Teachers must be clear on homework assignments; make sure students have the prerequisite skills; vary and individualize types of assignments.
3. Teachers should grade homework and provide timely and specific feedback.
4. Teachers should review homework in class and discuss any questions, problems, or concerns as needed.
5. Teachers will contact parents if students are not fulfilling their homework responsibilities.

MAKE-UP WORK

All assignments are available to students in the classroom. Students are responsible to obtain any work they miss for an absence including suspensions.

TECHNOLOGY

Students are expected to bring their chromebook, charged, to call each day. The use of personal wireless communication devices (cell phones, iPods, mp3 players, etc…) is not permitted in class without permission each time. Students are allowed access to calculators for use in class when permitted and they are the only allowable electronic devices. Students will be respectful of provided technology. If broken, students may be responsible for replacement cost.

RULES

1. Come to class prepared and on time.
2. Keep desk clear of non-class items.
3. Focus on teacher while teaching.
4. Raise your hand to ask questions.
5. Be respectful of teacher, students, and school.

CONSEQUENCES

If a student continuously exhibits negative behavior, the following are the actions that will be taken by the teacher:

1. Conference with student
2. Notification to parents/guardians
3. Office Referral
4. Parent/teacher conference

PROCEDURES

Class procedures must be followed as listed below and discussed in class.

Entering class:

Student has before class and the first minute of class to:

- ✓ Make sure that you have all materials for class.
- ✓ Students are to be in assigned seat ready to begin class.
- ✓ Complete weekly google classroom forum.

If a student needs to use leave the classroom:

Students are encouraged to use the restroom and take care of personal business during breaks between classes and before/after school. If a student needs to leave the classroom for any reason, they will ask permission and if warranted teacher will write them a pass.

How to submit work:

- ✓ Everything written for class must be legible and done in **PENCIL**!
- ✓ If your name is not on something submitted, credit may not be given.
- ✓ **No credit will be given unless work is shown.**

1st Semester Agenda:

Chapter 0: Preparing for Geometry
Lesson 1: Changing Units of Measure Within Systems
Lesson 2: Changing Units of Measure Between Systems
Lesson 3: Simple Probability
Lesson 4: Algebraic Expressions
Lesson 5: Linear Equations
Lesson 6: Linear Inequalities
Lesson 7: Ordered Pairs
Lesson 8: Systems of Linear Equations
Lesson 9: Square Roots and Simplifying Radicals

Chapter 1: Tools of Geometry
Lesson 1: Points, Lines, and Planes
Lesson 2: Line Segments and Distance
Lesson 3: Locating Points and Midpoints
Lesson 4: Angle Measures
Lesson 5: Angle Relationships
Lesson 6: Two-Dimensional Figures
Lesson 7: Transformations in the Plane
Lesson 8: Three-Dimensional Figures
Lesson 9: Two-Dimensional Representations of Three-Dimensional Figures
Lesson 10: Precision and Accuracy

Chapter 2: Logical Arguments and Line Relationships
Lesson 1: Conjectures and Counterexamples
Lesson 2: Statements, Conditionals, and Biconditionals
Lesson 3: Deductive Reasoning
Lesson 4: Writing Proofs
Lesson 5: Proving Segment Relationships
Lesson 6: Proving Angle Relationships
Lesson 7: Parallel Lines and Transversals
Lesson 8: Slope and Equations of Lines
Lesson 9: Proving Lines Parallel
Lesson 10: Perpendiculars and Distance

Chapter 3: Rigid Transformations and Symmetry
Lesson 1: Reflections
Lesson 2: Translations
Lesson 3: Rotations
Lesson 4: Compositions of Transformations
Lesson 5: Symmetry

Chapter 4: Triangles and Congruence
Lesson 1: Angles of Triangles
Lesson 2: Congruent Triangles
Lesson 3: Proving Triangles Congruent – SSS, SAS
Lesson 4: Proving Triangles Congruent – ASA, AAS
Lesson 5: Proving Right Triangles Congruent
Lesson 6: Isosceles and Equilateral Triangles
Lesson 7: Triangles and Coordinate Proof

Chapter 5: Relationships in Triangles
Lesson 1: Bisectors of Triangles
Lesson 2: Medians and Altitudes of Triangles
Lesson 3: Inequalities in One Triangle
Lesson 4: Indirect Proof
Lesson 5: The Triangle Inequality
Lesson 6: Inequalities in Two Triangles

2nd Semester Agenda:

Chapter 6: Quadrilaterals
Lesson 1: Angles of Polygons
Lesson 2: Parallelograms
Lesson 3: Tests for Parallelograms
Lesson 4: Special Parallelograms: Rectangles
Lesson 5: Special Parallelograms: Rhombi, Squares
Lesson 6: Trapezoids and Kites

Chapter 7: Similarity
Lesson 1: Dilations
Lesson 2: Similar Polygons
Lesson 3: Similar Triangles: AA Similarity
Lesson 4: Similar Triangles: SSS and SAS Similarity
Lesson 5: Parallel Lines and Proportional Parts
Lesson 6: Parts of Similar Triangles

Chapter 8: Right Triangles and Trigonometry
Lesson 1: Geometric Mean
Lesson 2: The Pythagorean Theorem and Its Converse
Lesson 3: Special Right Triangles
Lesson 4: Trigonometry
Lesson 5: Angles of Elevation and Depression
Lesson 6: The Law of Sines
Lesson 7: The Law of Cosines

Chapter 9: Circles
Lesson 1: Circles and Circumference
Lesson 2: Measuring Angles and Arcs
Lesson 3: Arcs and Chords
Lesson 4: Inscribed Angles
Lesson 5: Tangents
Lesson 6: Secants, Tangents, and Angle Measures
Lesson 7: Equations of Circles
Lesson 8: Equations of Parabolas

Chapter 10: Extending Area
Lesson 1: Areas of Parallelograms and Triangles
Lesson 2: Areas of Trapezoids, Rhombi, and Kites
Lesson 3: Areas of Circles and Sectors
Lesson 4: Area of Regular Polygons and Compound Figures
Lesson 5: Area and Nonrigid Transformations
Lesson 6: Surface Area

Chapter 11: Extending Volume
Lesson 1: Cross Sections and Solids of Revolution
Lesson 2: Volumes of Prisms and Cylinders
Lesson 3: Volumes of Pyramids and Cones
Lesson 4: Spheres
Lesson 5: Spherical Geometry
Lesson 6: Volume and Nonrigid Transformations
Lesson 7: Applying Measurements

Chapter 12: Probability
Lesson 1: Representing Sample Spaces
Lesson 2: Probability and Counting
Lesson 3: Probability with Permutations and Combinations
Lesson 4: Geometric Probability
Lesson 5: Probability and the Multiplication Rule
Lesson 6: Probability and the Addition Rule
Lesson 7: Conditional Probability
Lesson 8: Two-Way Frequency Tables