Martin Luther High School
Geometry
2018 - 2019
Mr. Taylor

Class Room Rules
1. Follow all rules as printed in the student handbook.
2. The student will be in their seat when the bell rings.
3. It is the student's responsibility to take proper care of the equipment issued to them. Books will be covered.
4. Homework is to be turned in on its given due date at the beginning of class (when I ask for it). If for some reason you are unable to turn in your homework on time, then it will be docked 50% of the grade for that day. If it is two days late, then it loses the other half of the value bringing it down to a 0%. If, however, you have most of your assignment finished but had trouble with a certain section you will be allowed to turn it in as long as you finish it before the end of the school day. (I will verify that you do indeed have most of it finished.) It is in your best interest to do your homework and turn it in on time. If you do not do your homework, don't bother asking for extra credit.
5. If you are absent, you will be allowed as many days that you were absent to make up the work that was missed. Tests, however, will be made up on the day that you return unless you were absent prior to the announcement of the test. Quizzes will be made up as soon as you complete the work covered on the quiz. If you were absent it is your responsibility to get any assignments that were missed.
6. The student will respect all others as fellow human beings created by God. Put downs will not be tolerated.
7. Homework is to be done in pencil and <u>work is to be shown</u>. Failure to show your work will result in loss of points. Each assignment is worth 10 points. If you are between a 9.5 and a 10 but did not show your work you will get a 9.5. **I absolutely will not accept homework done in pen unless you need it to compare different graphs**.
8. Anytime the book says "graph" you will graph that problem on **GRAPH PAPER**.

Consequences for the Violation of Rules
Depending on severity. Students are subject to detention, parental phone call, an unexcused absence (and a zero for the day) and class suspension.

Grading
Each quarter grade will count as 40% of your semester grade and the final will count as 20% of your semester grade. In order to receive credit for the semester the student must pass at least two of the three grading units. For example they must pass both quarters or a quarter and a final.

Each quarter is made up of the following:
Chapter tests	Worth 100 points each
Homework	Worth 10 points each
Two Day Assignments	Worth 20 points each

Your grade is then calculated with the following equation. **Points earned / points possible**.

Materials to Bring
1. Textbook
2. Pencil
3. Paper (including graph paper)
4. Notebook / Folder
5. Scientific Calculator
6. A compass, a protractor, and a ruler.

Each student will also be allowed a birthday assignment, which is one assignment during the course of the year that they do not need to turn in. You will automatically receive a 10 out of 10 for your birthday assignment. This assignment can but does not need to be taken on the student's birthday. Since a student only has one birthday per year, a student will only get one birthday assignment per year. (No it does not count for tests and quizzes.) You are, however, still responsible for the material covered on that lesson. Birthday assignments may not be taken on review assignments or two day assignments.

GEOMETRY

COURSE DESCRIPTION

This course is a study in Euclidean geometry utilizing inductive and deductive reasoning. This course develops and deals with angle relations, trigonometry; area, surface area, and volume of different geometric shapes and solids, as well as formal deductive proofs. A compass, protractor, and scientific calculator is required for this course.

COURSE OBJECTIVES

The student will:

1. Grow in their faith in Jesus Christ
2. Recognize and develop models for points, lines, and planes.
3. Distinguish between inductive and deductive reasoning.
4. Prove theorems using deductive and inductive reasoning.
5. Become familiar with parallel lines and the pairs of angles they form.
6. Recognize the different types of triangles and ways to show congruence or similarity.
7. Know the three trig ratios that go with right triangles, as well as the ratios that go with 45-45-90 and 30-60-90 degree triangles.
8. Learn about special segments as they apply to triangles (median, angle bisector, perpendicular bisector, and altitude) as well as their crossings (centroid, incenter, circumcenter, and orthocenter).
9. Learn the relationship between circles and segments that go with them.
10. Become familiar and recognize geometric shapes.
11. Learn to apply formulas for finding the area of the geometric shapes.
12. Learn to apply formulas for finding the lateral area, surface area, and volume for geometric solids.
13. Graph lines and find their slopes.
14. Find the distance between two points, midpoint, and set up a coordinate proof.
15. Work with the various types of transformations.
16. Work with the basics of probability.

COURSE OUTLINE

Assignment key
ITF   Integrating the Faith
TEC   Technology

I.   Foundations for Geometry
          A. Points, Lines, Planes   ITF
          B. Constructions
               i   Segemnts
               ii Angles
          C. Pairs of Angles
          D. Formulas
               i   Midpoint
               ii Distance
          E. Transformations   TEC

II.   Geometric Reasoning
          A. Inductive Reasoning   ITF
          B. Conditional Statements   ITF

C. Deductive Reasoning ITF
D. Biconditional Statements ITF
E. Proofs
    i   Algebraic
    ii Geometric
    iii Flowchart
    iv Paragraph

III. Parallel and Perpendicular Lines
A. Measure
B. Types of Angles
C. Pairs of Angles
D. Slopes

IV. Triangle Congruence
A. Transformations
B. Classifying Triangle ITF
    i   By Sides
    ii By angles
C. Angle Relationships
D. Congruence Tests
E. Coordinate Proofs

V. Properties and Attributes of Triangles
A. Perpendicular Bisectors
B. Angle Bisectors
C. Atlitudes
D. Medians
E. Triangle Inequalities
F. Right Triangles TEC
    i   Pythagorean Theorem
    ii Special Right Triangles

VI. Polygons and Quadrilaterals
A. Properties of Polygons
B. Parallelograms
C. Rectangles
D. Rhombi
E. Squares
F. Trapezoids
G. Kites

VII. Similarity
A. Ratios
B. Proportions
C. Transformations
D. Tests for Similarity
E. Proportional parts of Triangles

VIII. Right Triangles and Trigonometry
A. Similarity in Right Triangles
B. Trigonometric Ratios
C. Solving Right Triangles
D. Angles of Elevation and Depression

E. Law of Sines   TEC
F. Law of Cosines   TEC
G. Vectors

IX. Transformations
  A. Reflections   ITF
  B. Translation
  C. Rotations
  D. Compositions of Transformations
  E. Tesselattions   TEC
  F. Dilations

X. Perimeter, Circumference and Area
  A. Developing Formulas for Triangles
  B. Developing Formulas for Quadrilaterals
  C. Developing Formulas for Circles
  D. Developing Formulas for Regular Polygons
  E. Working with shapes on the Coordinate Plane
  F. Geometric Probability   ITF

XI. Spatial Reasoning
  A. Solid Geometry
  B. Volume
    i Prisms
    ii Cylinders
    iii Pyramids
    iv Cones
  C. Cube Roots
  D. Spheres
    i Area
    ii Volume

XII. Circles
  A. Special Lines and segments
  B. Arcs
  C. Chords
  D. Sectors
    i Area
    ii Arc Length
  E. Inscribed Angles
  F. Angle Relationships
  G. Segment Relationships
  H. Coordinate Plane

XIII Probability
  A. Permutations   ITF
  B. Combinations
  C. Theoretical and Experimental
  D. Independent Events
  E. Dependent Events
  F. Two-Way Tables
  G. Compound Events

Geometry – Common Core Edition. Holt McDougal, 2012.