

The Well-Trained Mind Academy
Geometry (Traditional Approach)

Required Text(s)/Tools:

- *Geometry; Seeing, Doing, Understanding* by Harold Jacobs. Third Edition
- Guided Notes (Provided by instructor)
- Access to Math XL (Provided by instructor)
- Access to Polypad and Whiteboard (Provided by instructor)
- Computer with a working microphone (microphone use is required)
- Computer Printer
- Scanner or phone application to scan and upload PDF documents.
- Compass
- Straightedge/Protractor

Recommended Materials: [Wacom Intuos Graphics Drawing Tablet](#)

Notes:

- *Students must have access to a working printer able to print multiple pages.*
- *All tests will be taken on paper and administered with a proctor.*
- *Students must be able to save and upload documents to Blackboard in PDF format.*

Course Description: WTMA Geometry takes a traditional approach to introductory geometry. In the class students will learn about topics from points, lines, and planes, through triangles, perimeter and area, constructions, quadrilaterals, polygons, circles, three-dimensional geometry, curved surfaces, transformations, and analytical geometry, to an introduction to trigonometry. Students will focus on the two-column proof and applying the concepts to problem solving.

Prerequisite Skills: Successful completion of [WTMA Algebra I](#) or similar algebra course. Students should be able to solve linear equations; simplify fractions containing algebraic expressions; add and subtract quotients with different algebraic denominators; multiply polynomials and binomials; solve polynomial equations; and solve inequalities.

Course Assignments: Assignments consist of problems assigned in Math XL, Whiteboard, and in Blackboard. Some problems each week will involve a two column proof-type response. In addition, students will participate in quarterly projects. Regular quizzes and tests consisting of 10-20 problems must be printed onto paper, completed, and uploaded. Quizzes and tests must be proctored. Active participation during the weekly class times is expected and will be counted for a percentage of a student's overall grade.

Proctoring policy: All tests, quizzes, and major projects must be proctored by an adult. The proctor should be able to certify that the work was completed with no help besides those permitted on the assessment.

Written Assignments:

Daily Problems: Daily assignments will be completed in Math XL and Whiteboard to reinforce the learning in the live classes.

Proofs/Constructions: Students will use a straightedge and compass as well as Polypad to construct various geometric forms. Students will complete both two-column and paragraph proofs.

Quizzes and Tests:

Midterm and Final Exams: There will be two comprehensive exams, one at the end of each term.

Tests: There will be tests, which are designed to help students remember and review topics, at the end of every unit.

Grading Breakdown:

40%	Homework/Proofs (MathXL - 25%, Proofs/Constructions-15%)
25%	Unit Tests
20%	Midterm and Final (each 10%)
15%	Attendance/Participation

Assignments:

- *Math Formatting:* The object of the course is mathematics, not technology. Therefore, while the use of LaTeX, MathType, Geogebra, and other software tools is encouraged, it is not required. A LaTeX editor is built into Blackboard for student use. Students will be expected to demonstrate use of a straightedge and compass, unless a student's documented exceptionality prevents such assignments. Easily legible handwriting/work is required. In addition, all assignments, whether created with software or drawn by hand, must be uploaded to Blackboard in digital format. Therefore, emailed or texted assignments will not be accepted.

- *Partial Credit/Showing Your Work:* Requirements vary by problem type. Students are not required to show their work for short answer problems, however, if they do not show their work, and get the problem wrong, they cannot get partial credit. Partial credit is only given for

problems when all work is shown. Test problems drawn from the book require that students show work in order to receive any credit.

- *Active Participation:* Active class participation consists of responding with a working microphone during class and assigned group work and responding to questions via chat in the live classes.

Sample Schedule:

Semester 1 Week #	Topics
1	Introduction to Geometry
2	Introduction to Geometry
3	Deductive Reasoning
4	Deductive Reasoning
5	Lines and Angle Relationships
6	Lines and Angle Relationships
7	Congruence
8	Congruence
9	Inequalities

10	Inequalities con't, Parallel Lines
11	Parallel Lines
12	Parallel lines, Quadrilaterals
13	Quadrilaterals
14	Quadrilaterals con't, Transformations
15	Transformations
16	Semester Review
17	Exams
	No classes
Semester 2	
1	Area
2	Similarity
3	Similarity
4	The Right Triangle
5	The Right Triangle
6	Law of Sines and Cosine; Circles

7	Circles
8	Concurrence Theorems
9	Concurrence Theorems
10	Regular Polygons and the Circle
11	Regular Polygons and the Circle
12	Geometric Solids
13	Geometric Solids
14	Non-Euclidean Geometries
15	Non-Euclidean Geometries
16	Exam Review
17	Exam