

Geometry — 2022-2023 Fall — Fred Kral — The Marin School

Teacher: Fred Kral, Ph.D.

Email: fkral

Call school: 415-339-9336

Zoom: Fred

Get info: <https://teach.kralsite.com> and <https://classroom.google.com>

Course Description

Geometry is the study of points, lines, angles, shapes, surfaces, and solids. Topics include planes, triangles, polygons, parallelism, congruency, similarity, circles, area and volume, symmetry, and transformations. Mathematical ideas are communicated using graphical (drawings, graphs, sketches, geometric constructions), numerical (tables, patterns, calculations), algebraic (formulas, symbolic reasoning, solutions), and verbal approaches (conjectures, proofs, explanations, self-reflection). Applications and hands-on activities are integral parts of the course.

Text and supplemental materials

- Jurgensen, Ray, Richard Brown, and John Jurgensen, *Geometry*, Boston, MA: McDougal Littel, 2000 (and later impressions). ISBN: 0-395-97727-4. Primary text. Recommended.
- Jacobs, Harold R., *Geometry: Seeing, Doing, Understanding*, 3rd Edition, New York: W. H. Freeman, 2003. ISBN-13: 978-0-7167-4361-3. Supplemental.
- Sierra, Michael, *Discovering Geometry : An Investigative Approach*, 4th Edition, Emeryville, CA: Key Curriculum Press, 2008. Supplemental.
- Mathspace: <https://mathspace.co>. Math learning platform online with textbook, examples, and questions that offer feedback.
- Web search results from reputable websites. Strongly recommended.
- 3 ring binder. Required in the classroom.
- Pockets to organize paper that is not hole punched (in the binder). Strongly recommended in the classroom setting.
- Transparent ruler. Recommended. Can be borrowed.
- Transparent protractor: 4 inches in diameter. Can be borrowed.
- High-quality compass. Most compasses sold locally do not work. Optional: only recommended if you get a good one. My choice: Staedtler Mars Comfort 551 Precision Compass. Can be borrowed.
- Paper: Wax, Inch Grid, Metric Grid, Square Dot Grid, and Blank. Supplied by school.
- Basic scientific calculator (solar powered suggested). Required. Can use the Chemistry calculator. Can be borrowed in the classroom. At home, you can use a smartphone turned sideways.
- Laptop computer. Required. Can be borrowed.
- Pencils (mechanical recommended).

Expected School-wide Learning Results (ESLRs):

Students at TMS have the opportunity to become: 1. Self-reliant learners. 2. Self-directed individuals. 3. Critical and creative thinkers. 4. Effective communicators. 5. Responsible members of society. Each of the components of this course prepare students to obtain results 1-4.

Assessment

	Grades are determined by points, roughly 700-800 points per quarter. There are about 8 weeks/quarter.	ESLRs (see the list)
<p>In-Class Work:</p> <ul style="list-style-type: none"> • <i>Making it:</i> (-2 points/absence beyond the first five) (-1 points/tardy beyond the first five) • <i>Joining in:</i> Practice safety first, always; Follow Handbook rules; Phone-away, Packet, Pencil. • <i>Working with:</i> Contributing positive energy and interest level during in-class work including discussing, problem solving, spending time learning online, working on investigations and projects, using notes, reflecting, and practicing during class. Students are expected to talk about math every class and to share their work with other students visually and verbally. Assessed informally. Earned by students who joined in. 	25 points/week	2, 3, 4
<p>Products: written work (solutions to exercises and problems, notes, and reflection), online results, constructions, drawings, and projects. Correctness and quantity of work. Assessed formally and informally.</p>	50 points/unit (or about 25 points/week) plus 10-50 points/project depending on scope	1, 2, 3, 4
<p>Quizzes: written and graphical solutions to problems.</p>	25-50 points/quiz depending on the scope. 100 points/test	1, 2, 3
<p>Final Exam: written and graphical solutions to problems.</p>	up to 150 points/midterm but no more than 15% of the course grade	1, 2, 3
<p>Final Project: product and process for a multi-part, multi-step assignment at the end of the course.</p>	up to 150 points/project but no more than 15% of the course grade	1, 2, 3, 4
<p>Commitment to learning: Taking on what is challenging to you, getting help, communicating with the teacher, engaging with the material, and taking personally meaningful notes. Assessed informally.</p>	100 points per quarter, but not more than 15% of the course grade, and given only if it raises the course grade	1, 2, 3, 4

Safety policy

Only use equipment when and as instructed.

Late work policy

If you talk to me before an assignment is due, you can get an extension (though repeated instances may result in no extension given). Because I enter grades once per week, you can usually get credit for late or partial work up to that weekly deadline.

Cell phone, computer, and device policy

Devices are not allowed in class, except by explicit permission to do class work. In the remote classroom, phones may be used to photograph your work. Personal and school computers shall be used only for class. The Marin School supports the responsible use of technology. See the Parent and Student Handbook.

Collaboration policy

I encourage study groups. You may work with others—not just students—unless instructed otherwise as long as all of you contribute. It is wise to put the name of each contributing student on an assignment to avoid issues with plagiarism. See the Parent and Student Handbook for a description of academic honesty, cheating, and plagiarism.

Please connect and email! – Fred