

GEOMETRY (MATH 2)--THE BIG PICTURE

- Covers the expected content in any geometry course.
- Reviews 85% of Algebra 1 topics explicitly and uses algebra in geometric applications (e.g., supplementary angle problems contain numerical and algebraic expressions as angle measures).
- Focuses logical explanations throughout the text. Provides two and a half chapters specifically focused on proof. Allows as rigorous or relaxed an approach to proof as appropriate for the students.
- The first half of the book introduces the fundamentals of lines, angles, and plane figures (about 70% of the content). The first half of the book:
 - Starts with familiar, concrete topics in an enjoyable format designed for early student success. Topics include the Pythagorean Theorem, area of triangles and quadrilaterals, and linear equations.
 - Introduces proof through logic games and puzzles.
 - Uses the problem solving strategies of organizing data, making tables and lists, and looking for patterns to introduce the concepts for lines and angles.
 - Explores three dimensional visualization, studying prisms and pyramids for the first of two times in the course.
 - Studies transformations and then triangle congruence.
 - The sixth chapter serves as a review of the first half of the course. It introduces several styles of proof and applies them to prove most of the conjectures developed inductively in chapters 0-5.
- The second half of the course concentrates on bigger ideas. Except for circles, each chapter focuses on one or two topics. The second half of the course:
 - Starts with right triangle trigonometry so that students may solve more interesting, complex problems in subsequent chapters.
 - Emphasizes similarity for two dimensional and three dimensional figures.
 - Explores polygons, spending the latter portion of the chapter on proof, including characteristics of quadrilaterals.
 - Introduces the fundamentals of circles, including arcs and angles, followed by the second study of prisms and pyramids, along with cylinders and cones.
 - The last two chapters apply ideas from the course. The first chapter (11) uses area models to study geometric probability. The last chapter offers applications and big problems that use many of the main ideas from the course.
- Constructions are offered in an appendix that can provide an interlude unit of two or three days between the first and second parts of the book.