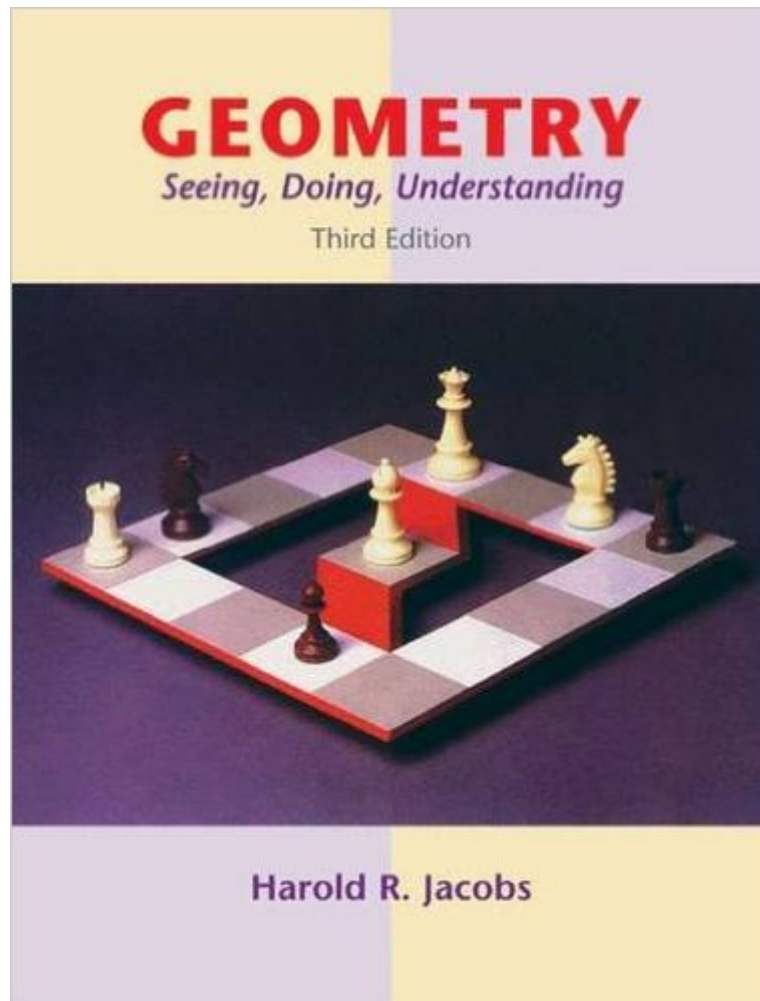


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# Geometry: Seeing, Doing, Understanding, 3rd Edition



## Synopsis

Harold Jacobs's Geometry created a revolution in the approach to teaching this subject, one that gave rise to many ideas now seen in the NCTM Standards. Since its publication nearly one million students have used this legendary text. Suitable for either classroom use or self-paced study, it uses innovative discussions, cartoons, anecdotes, examples, and exercises that unfailingly capture and hold student interest. This edition is the Jacobs for a new generation. It has all the features that have kept the text in class by itself for nearly 3 decades, all in a thoroughly revised, full-color presentation that shows today's students how fun geometry can be. The text remains proof-based although the presentation is in the less formal paragraph format. The approach focuses on guided discovery to help students develop geometric intuition.

## Book Information

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## Customer Reviews

There is some criticism that this textbook has lost the rigor of the 2nd edition. Having used that for 5 years and this for two years, I would argue that the current edition demonstrates far more care toward the reluctant student and causes the math nerds to stop and think about who is interested in knowing or needing geometry. There are good reasons for every change. One is simply that there are only 180 days in the school year. I use this text with homeschoolers. We meet 72 days per year, and we do every chapter, every problem, plus a fair bit of other supplements. I do not understand the criticism that the book is disorganized and chaotic. In the last 8 years I have taught math from more than 10 different texts, from pre-algebra to pre-calculus. Harold Jacobs sense of organization is a relief. I suspect that since the 2nd edition has been around since 1987 and has stood the test of

time, that the criticism stems from the fact that even mathematicians dislike change. (What in the world is wrong with geometry students using a protractor?) I do not believe the book is a nod to political correctness defined by the NCTM. I think it rather corrects the course taken by other publishers in their interpretation of the NCTM standards. Proofs from the 2nd edition are available online from the Freeman publisher website, so you can add that back in, as I do. The teacher guide that accompanies the text, written by Peter Renz (above reviewer), adds several more levels of richness and complexity. Use as much or as little as you want. You now have the flexibility to use this text with those enthralled by math as well as those resistant to math. In my first review, since withdrawn, I was critical of the tests provided by the publisher as being for weenies.

reviews let you know what teachers and students think about texts. Type in the following ISBNs to see the reviews of the second edition (ISBN 071671745X) of this text or of the author's *Mathematics: A Human Endeavor* (ISBN 071672426X). These comments on the third edition are based on close reading, not classroom experience. With an initial review up, I hope to see what others have to say. I taught at Reed, Wellesley, and Bard Colleges and watched the reform mathematics program develop when I was associate director of the Mathematical Association of America, in Washington, DC. Geometry is my research area. I worked in publishing as an editor for more than 20 years. I have read every word of this book and worked all of the exercises because I was its freelance editor. I am a knowledgeable, interested party. The third edition towers over the second edition, which is described by its most recent reviewer, Edward Lee, as "the best geometry text in existence, bar none" (January 25, 2003). Begin by noticing the use color throughout, then notice how color has been used to make key material in the text and diagrams stand out more clearly. Detailed comparisons will show you that every part of the book has been scrutinized and reworked, adding a host of new examples and exercises, fine-tuning the concepts and wording. Coordinates are used throughout, so that analytic methods are now another tool rather than the subject of a special chapter, late in the book. Chapter 1, *An Introduction to Geometry* is completely new and shows the reader how geometry has been used from the dawn of history, in the East and the West, to design cities, measure the earth's circumference, design pyramids, and figure land taxes.

I am a retired chemist who teaches math to homeschooled students. Early in my career I was also a math teacher so I'm fortunate to be able to see how the approach to math has changed over the years. Jacob's book is clear and concise with an enormous number of problems after each lesson. I

personally believe math is learned by doing problems. It is the constant application of concepts in solving problems that enables understanding to take place; the problems in Jacob's book reinforce the postulates and theorems by applying them in different situations. The problems are also practical, amusing and interesting which certainly helps to engage students. The layout of the book is very consistent and well organized developing a pattern which makes it easy to thumb backwards to find previous information. Consistency is important in the learning process. I think many textbooks today make the mistake of trying to sell the subject to the student with glitz and graphics. I believe this makes those books distracting and confusing. Jacob's approach is to state a few postulates or theorems clearly with a few examples. The problem sets demonstrate their use exhaustively. I typically assign 150 problems to my students a week. This takes about 45-60 minutes a day. We typically go over the answers and discuss the next topic very briefly. Even if the number of assigned problems is cut in half, the arrangement of the problem sets enables competency to be attained. Of course in the world of today where homework is a thing of the past, many educators believe students need to be seduced with fluff but fluff doesn't drive concepts home. Practice makes perfect still works for me.

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