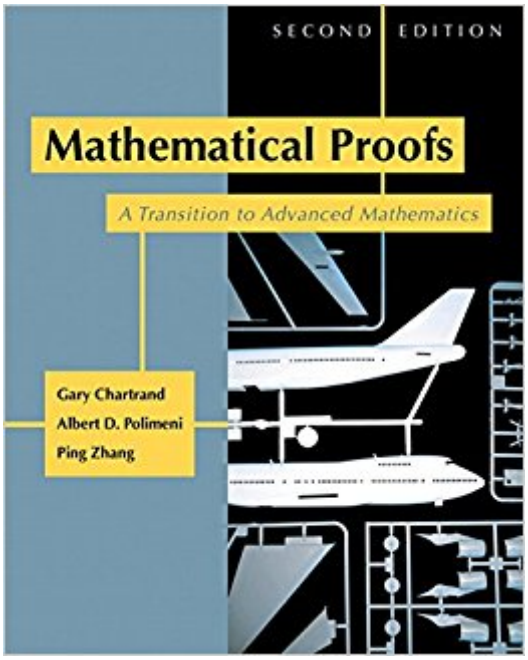
# Mathematical Proofs: A Transition To Advanced Mathematics (2nd Edition)



## Synopsis

Mathematical Proofs: A Transition to Advanced Mathematics,Â 2/e, prepares students for the more abstract mathematics courses that follow calculus. This text introduces students to proof techniques and writing proofs of their own. As such, it is an introduction to the mathematics enterprise, providing solid introductions to relations, functions, and cardinalities of sets. KEY TOPICS: Communicating Mathematics, Sets, Logic, Direct Proof and Proof by Contrapositive, More on Direct Proof and Proof by Contrapositive, Existence and Proof by Contradiction, Mathematical Induction, Prove or Disprove, Equivalence Relations, Functions, Cardinalities of Sets, Proofs in Number Theory, Proofs in Calculus, Proofs in Group Theory. MARKET: For all readers interested in advanced mathematics and logic.

## Book Information

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## Customer Reviews

Gary Chartrand is Professor Emeritus of Mathematics at Western Michigan University. He received his Ph.D. in mathematics from Michigan State University. His research is in the area of graph theory. Professor Chartrand has authored or co-authored more than 275 research papers and a number of textbooks in discrete mathematics and graph theory as well as the textbook on mathematical proofs. He has given over 100 lectures at regional, national and international conferences and has been a co-director of many conferences. He has supervised 22 doctoral students and numerous undergraduate research projects and has taught a wide range of subjects in undergraduate and graduate mathematics. He is the recipient of the University Distinguished Faculty Scholar Award and the Alumni Association Teaching Award from Western Michigan

University and the Distinguished Faculty Award from the State of Michigan. He was the first managing editor of the Journal of Graph Theory. He is a member of the Institute of Combinatorics and Its Applications, the American Mathematical Society, the Mathematical Association of America and the editorial boards of the Journal of Graph Theory and Discrete Mathematics. Albert D. Polimeni is an Emeritus Professor of Mathematics at the State University of New York at Fredonia. He received his Ph.D. degree in mathematics from Michigan State University. During his tenure at Fredonia he taught a full range of undergraduate courses in mathematics and graduate mathematics. In addition to the textbook on mathematical proofs, he co-authored a textbook in discrete mathematics. His research interests are in the area of finite group theory and graph theory, having published several papers in both areas. He has given addresses in mathematics to regional, national and international conferences. He served as chairperson of the Department of Mathematics for nine years. Ping Zhang is Professor of Mathematics at Western Michigan University. She received her Ph.D. in mathematics from Michigan State University. Her research is in the area of graph theory and algebraic combinatorics. Professor Zhang has authored or co-authored more than 200 research papers and four textbooks in discrete mathematics and graph theory as well as the textbook on mathematical proofs. She serves as an editor for a series of books on special topics in mathematics. She has supervised 7 doctoral students and has taught a wide variety of undergraduate and graduate mathematics courses including courses on introduction to research. She has given over 60 lectures at regional, national and international conferences. She is a council member of the Institute of Combinatorics and Its Applications and a member of the American Mathematical Society and the Association of Women in Mathematics.

A good book for an introduction to mathematical proofs. It gives the different types of proofs and how to go about each one. It’s easy to read and most of the time doesn’t feel like you’re reading a textbook at all. The book assumes you are unfamiliar with proofs so it’s a great jumping off point for someone a the beginning. While I don’t think I would recommend it as casual reading, if you are interested in learning more about mathematical proofs and plan to start studying computer science or high level math, I strongly recommend it.

As a math major who wants to continue on to an advanced math degree, I could not have made it this far without this book. The authors do a wonderful job of making the aspects of writing an effective proof easy to learn and, more importantly, understand. Specifically, the way they teach both Proof by Contradiction and Proof by Mathematical Induction, two techniques that are vital to

any upper level analysis/algebra/geometry class, is phenomenal. Vellman's "How to Prove It" is also a great one, but it lacks the completeness of this book. Highly recommended!!!

My book arrived in exactly the condition it was described. I am very happy with it!

Great book! Easy to understand and it also helps in college level mathemtics. I think any math major should have this in their library

I lke the book

This is one of the most well-written textbooks that I have ever had the pleasure to read. I come from a mechanical engineering background, but have a strong interest in mathematics and regularly tutor undergraduates. I picked up this book not for a course, but for self-study. From this book alone I was about to learn the material, teach it to one of my tutoring students, and get her an 'A'! I can't say that about most textbooks I suffered through in college.The only downside, as some reviewers have mentioned, is the hefty price tag. C'est la vie. I actually like the presentation of this book so much that I'm now looking into other works that the authors have.

Loved this book and I was able to be taught by the author.

It's an all around great book. Some people might complain about it holding the reader's hand too much, but that's what makes the book so great. It assumes you never seen a proof before, and it helps guide you towards writing and analyzing proofs. The examples provided are clear. The section problems for the most part mirror the examples provided, so usually you have a model solution to work with. All in all, it's a great book for self study. If you have to purchase it for a class your instructor made an excellent choice.

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