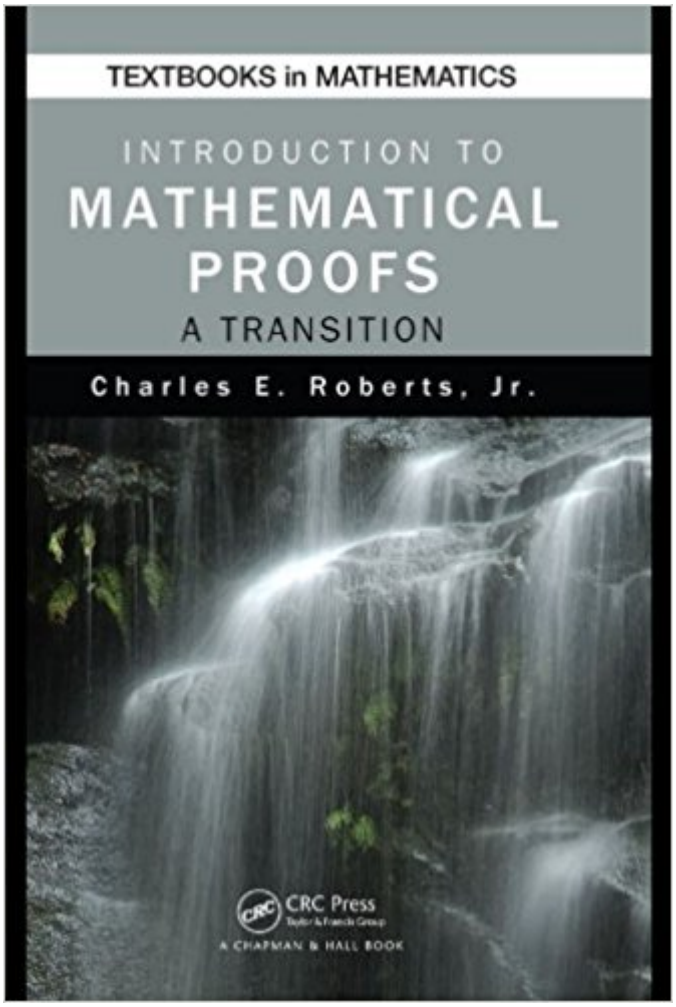
Introduction To Mathematical Proofs: A Transition (Textbooks In Mathematics)



Synopsis

Shows How to Read & Write Mathematical ProofsIdeal Foundation for More Advanced Mathematics CoursesIntroduction to Mathematical Proofs: A Transition facilitates a smooth transition from courses designed to develop computational skills and problem solving abilities to courses that emphasize theorem proving. It helps students develop the skills necessary to write clear, correct, and concise proofs.Unlike similar textbooks, this one begins with logic since it is the underlying language of mathematics and the basis of reasoned arguments. The text then discusses deductive mathematical systems and the systems of natural numbers, integers, rational numbers, and real numbers. It also covers elementary topics in set theory, explores various properties of relations and functions, and proves several theorems using induction. The final chapters introduce the concept of cardinalities of sets and the concepts and proofs of real analysis and group theory. In the appendix, the author includes some basic guidelines to follow when writing proofs.Written in a conversational style, yet maintaining the proper level of mathematical rigor, this accessible book teaches students to reason logically, read proofs critically, and write valid mathematical proofs. It will prepare them to succeed in more advanced mathematics courses, such as abstract algebra and geometry.

Book Information

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Customer Reviews

Perhaps I shouldn't give stars yet, as I just received this book in the mail - but I certainly like the looks of it! I was shopping for a textbook to use in a Foundations / Transition to Advanced Math class that I am slated to teach next term. The target audience is undergrad math majors, mainly freshmen, who have just finished Calculus I, are concurrently taking Calculus II, and should be bridging between computational and theoretical mathematics in their sophomore and junior years. I have taught out of "A Transition to Advanced Mathematics" by Smith, Eggen and St. Andre, for a sophomore class at another institution. I liked the flow in that book (usually did the 4 core chapters on logic and proof, and sometimes parts of the other 3 chapters which sample other areas of math). But that text is quite expensive, and our student body is limited in financial resources. This book by Roberts looks every bit as good - maybe better - and is more affordable. I like the typeface, the clear writing style, the boxed definitions and examples that stand out and are easy to read, the plentiful and clearly stated exercises for practice, the historical notes, and the solutions to odd problems including full proofs. I suspect this book will turn out to be a real gem.

A very well written book. This book is sufficient enough to teach someone to read and write proofs; no professor needed. I don't understand why it's not being used more.I also have the second edition only because the first edition started to fall apart. I feel the first edition Is better organized. Get the first edition!!!!. If your studying mathematics on your own, you should be able to go through Saunders MacLane and Garrett Birkhoff's Algebra after this. You don't need a linear algebra class. It's just going to make you dumber. I can't emphasize enough. Go buy the First edition and do every problem and then buy MacLane Algebra and go through that, which seems to be the perfect transition after this book. You will be able to handle MacLane after this.

This book has allowed me to self-study foundations of Pure Mathematics & Mathematical Proofs in as painless a way possible.Thanks for producing such a fine textbook :)

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