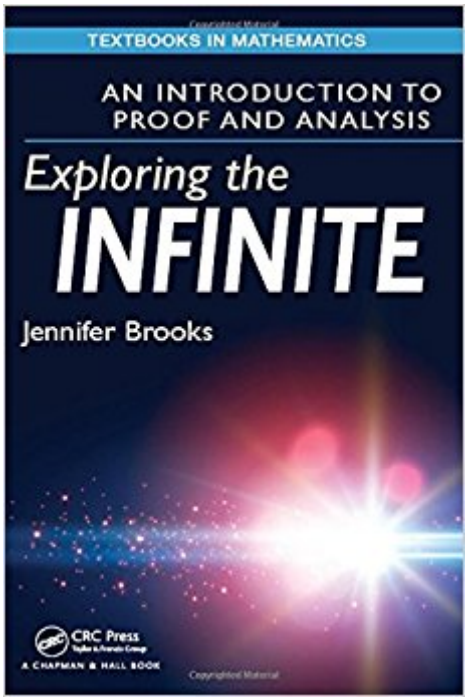
Exploring The Infinite: An Introduction To Proof And Analysis (Textbooks In Mathematics)



Synopsis

Exploring the Infinite addresses the trend toward a combined transition course and introduction to analysis course. It guides the reader through the processes of abstraction and log- ical argumentation, to make the transition from student of mathematics to practitioner of mathematics. This requires more than knowledge of the definitions of mathematical structures, elementary logic, and standard proof techniques. The student focused on only these will develop little more than the ability to identify a number of proof templates and to apply them in predictable ways to standard problems. This book aims to do something more; it aims to help readers learn to explore mathematical situations, to make conjectures, and only then to apply methods of proof. Practitioners of mathematics must do all of these things. The chapters of this text are divided into two parts. Part I serves as an introduction to proof and abstract mathematics and aims to prepare the reader for advanced course work in all areas of mathematics. It thus includes all the standard material from a transition to proof" course. Part II constitutes an introduction to the basic concepts of analysis, including limits of sequences of real numbers and of functions, infinite series, the structure of the real line, and continuous functions. Features Two part text for the combined transition and analysis course New approach focuses on exploration and creative thought Emphasizes the limit and sequences Introduces programming skills to explore concepts in analysis Emphasis in on developing mathematical thought Exploration problems expand more traditional exercise sets

Book Information

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Customer Reviews

Jennifer Halfpap is an Associate Professor in the Department of Mathematical Sciences at the University of Montana, Missoula,Â USA. She is also the Associate Chair of the department, directing the Graduate Program.

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