

1. Record Nr.	UNINA9910480848803321
Autore	Exner George R
Titolo	An Accompaniment to Higher Mathematics [[electronic resource] /] / by George R. Exner
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 1996
ISBN	1-4612-3998-2
Edizione	[1st ed. 1996.]
Descrizione fisica	1 online resource (XVII, 200 p.)
Collana	Undergraduate Texts in Mathematics, , 0172-6056
Disciplina	511.3
Soggetti	Mathematical analysis Analysis (Mathematics) Topology Mathematical logic Analysis Mathematical Logic and Foundations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1 Examples -- 1.1 Propaganda -- 1.2 Basic Examples for Definitions -- 1.3 Basic Examples for Theorems -- 1.4 Extended Examples -- 1.5 Notational Interlude -- 1.6 Examples Again: Standard Sources -- 1.7 Non-examples for Definitions -- 1.8 Non-examples for Theorems -- 1.9 Summary and More Propaganda -- 1.10 What Next? -- 2 Informal Language and Proof -- 2.1 Ordinary Language Clues -- 2.2 Real-Life Proofs vs. Rules of Thumb -- 2.3 Proof Forms for Implication -- 2.4 Two More Proof Forms -- 2.5 The Other Shoe, and Propaganda -- 3 Formal Language and Proof -- 3.1 Propaganda -- 3.2 Formal Language: Basics -- 3.3 Quantifiers -- 3.4 Finding Proofs from Structure -- 3.5 Summary, Propaganda, and What Next? -- 4 Laboratories -- 4.1 Lab I: Sets by Example -- 4.2 Lab II: Functions by Example -- 4.3 Lab III: Sets and Proof -- 4.4 Lab IV: Functions and Proof -- 4.5 Lab V: Function of Sets -- 4.6 Lab VI: Families of Sets -- A Theoretical Apologia -- B Hints -- References.
Sommario/riassunto	For Students Congratulations! You are about to take a course in mathematical proof. If you are nervous about the whole thing, this book is for you (if not, please read the second and third paragraphs in

the introduction for professors following this, so you won't feel left out). The rumors are true; a first course in proof may be very hard because you will have to do three things that are probably new to you: 1. Read mathematics independently. 2. Understand proofs on your own. 3. Discover and write your own proofs. This book is all about what to do if this list is threatening because you "never read your calculus book" or "can't do proofs." Here's the good news: you must be good at mathematics or you wouldn't have gotten this far. Here's the bad news: what worked before may not work this time. Success may lie in improving or discarding many habits that were good enough once but aren't now. Let's see how we've gotten to a point at which someone could dare to imply that you have bad habits. The typical elementary and high school mathematics education in the United States tends to teach students to have ineffective learning habits, 1 In the first paragraph, yet. xiv Introduction and we blush to admit college can be just as bad.
