

1. Record Nr.	UNINA9910438159603321
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Titolo	An Invitation to Abstract Mathematics / / by Béla Bajnok
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 2013
ISBN	1-4614-6636-9
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (406 p.)
Collana	Undergraduate Texts in Mathematics, , 0172-6056
Disciplina	153.43
Soggetti	Mathematics History Logic, Symbolic and mathematical Mathematics, general History of Mathematical Sciences Mathematical Logic and Foundations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Preface to Instructors -- Preface to Students -- Acknowledgments -- I What's Mathematics -- 1 Let's Play a Game! -- 2 What's the Name of the Game? -- 3 How to Make a Statement? -- 4 What's True in Mathematics? -- 5 Famous Classical Theorems -- 6 Recent Progress in Mathematics -- II How to Solve It? -- 7 Let's be Logical! -- 8 Setting Examples -- 9 Quantifier Mechanics -- 10 Mathematical Structures -- 11 Working in the Fields (and Other Structures) -- 12 Universal Proofs -- 13 The Domino Effect -- 14 More Domino Games -- 15 Existential Proofs -- 16 A Cornucopia of Famous Problems -- III Advanced Math for Beginners -- 17 Good Relations -- 18 Order, Please! -- 19 Let's be Functional! -- 20 Now That's the Limit! -- 21 Sizing It Up -- 22 Infinite Delights -- 23 Number Systems Systematically -- 24 Games Are Valuable! -- IV. Appendices -- A. Famous Conjectures in Mathematics -- B The Foundations of Set Theory -- C All Games Considered -- D Top 40 List of Math Theorems. - Index.
Sommario/riassunto	This undergraduate textbook is intended primarily for a transition course into higher mathematics, although it is written with a broader audience in mind. The heart and soul of this book is problem solving, where each problem is carefully chosen to clarify a concept,

demonstrate a technique, or to enthuse. The exercises require relatively extensive arguments, creative approaches, or both, thus providing motivation for the reader. With a unified approach to a diverse collection of topics, this text points out connections, similarities, and differences among subjects whenever possible. This book shows students that mathematics is a vibrant and dynamic human enterprise by including historical perspectives and notes on the giants of mathematics, by mentioning current activity in the mathematical community, and by discussing many famous and less well-known questions that remain open for future mathematicians. Ideally, this text should be used for a two semester course, where the first course has no prerequisites and the second is a more challenging course for math majors; yet, the flexible structure of the book allows it to be used in a variety of settings, including as a source of various independent-study and research projects.

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