1.	Record Nr.	UNINA9910824933103321
	Autore	Ash Avner
	Titolo	Fearless Symmetry : Exposing the Hidden Patterns of Numbers - New Edition / / Robert Gross, Avner Ash
	Pubbl/distr/stampa	Princeton, NJ : , : Princeton University Press, , [2008] ©2008
	ISBN	1-282-96489-5 9786612964893 1-4008-3777-4
	Edizione	[New edition with a New preface by the authors]
	Descrizione fisica	1 online resource (307 p.)
	Classificazione	SK 180
	Disciplina	512.7
	Soggetti	Number theory
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di contenuto	Frontmatter -- Contents -- Foreword -- Preface To The Paperback Edition -- Preface -- Acknowledgments -- Greek Alphabet -- Part One. Algebraic Preliminaries -- Chapter 1. Representations -- Chapter 2. Groups -- Chapter 3. Permutations -- Chapter 4. Modular Arithmetic -- Chapter 5. Complex Numbers -- Chapter 6. Equations and Varieties -- Chapter 7. Quadratic Reciprocity -- Part Two. Galois Theory and Representations -- Chapter 8. Galois Theory -- Chapter 9. Elliptic Curves -- Chapter 10. Matrices -- Chapter 11. Groups of Matrices -- Chapter 12. Group Representations -- Chapter 13. The Galois Group Of A Polynomial -- Chapter 14. The Restriction Morphism -- Chapter 15. The Greeks Had a Name for it -- Chapter 16. Frobenius -- Part Three. Reciprocity Laws -- Chapter 17. Reciprocity Laws -- Chapter 18. One- And Two-Dimensional Representations -- Chapter 19. Quadratic Reciprocity Revisited -- Chapter 20. A Machine for Making Galois Representations -- Chapter 21. A Last Look at Reciprocity -- Chapter 22. Fermat's Last Theorem and Generalized Fermat Equations -- Chapter 23. Retrospect -- Bibliography -- Index
	Sommario/riassunto	Mathematicians solve equations, or try to. But sometimes the solutions are not as interesting as the beautiful symmetric patterns that lead to them. Written in a friendly style for a general audience, Fearless

Symmetry is the first popular math book to discuss these elegant and mysterious patterns and the ingenious techniques mathematicians use to uncover them. Hidden symmetries were first discovered nearly two hundred years ago by French mathematician évariste Galois. They have been used extensively in the oldest and largest branch of mathematics--number theory--for such diverse applications as acoustics, radar, and codes and ciphers. They have also been employed in the study of Fibonacci numbers and to attack well-known problems such as Fermat's Last Theorem, Pythagorean Triples, and the ever-elusive Riemann Hypothesis. Mathematicians are still devising techniques for teasing out these mysterious patterns, and their uses are limited only by the imagination. The first popular book to address representation theory and reciprocity laws, Fearless Symmetry focuses on how mathematicians solve equations and prove theorems. It discusses rules of math and why they are just as important as those in any games one might play. The book starts with basic properties of integers and permutations and reaches current research in number theory. Along the way, it takes delightful historical and philosophical digressions. Required reading for all math buffs, the book will appeal to anyone curious about popular mathematics and its myriad contributions to everyday life.