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Titolo	A Readable Introduction to Real Mathematics // by Daniel Rosenthal, David Rosenthal, Peter Rosenthal
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ISBN	3-319-05654-9
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (XII, 161 p. 50 illus.)
Collana	Undergraduate Texts in Mathematics, , 0172-6056
Disciplina	510
Soggetti	Mathematics Number theory Geometry Mathematics, general Number Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	1. Introduction to the Natural Numbers -- 2. Mathematical Induction -- 3. Modular Arithmetic -- 4. The Fundamental Theorem of Arithmetic -- 5. Fermat's Theorem and Wilson's Theorem -- 6. Sending and Receiving Coded Messages -- 7. The Euclidean Algorithm and Applications -- 8. Rational Numbers and Irrational Numbers -- 9. The Complex Numbers -- 10. Sizes of Infinite Sets -- 11. Fundamentals of Euclidean Plane Geometry -- 12. Constructability.
Sommario/riassunto	Designed for an undergraduate course or for independent study, this text presents sophisticated mathematical ideas in an elementary and friendly fashion. The fundamental purpose of this book is to engage the reader and to teach a real understanding of mathematical thinking while conveying the beauty and elegance of mathematics. The text focuses on teaching the understanding of mathematical proofs. The material covered has applications both to mathematics and to other subjects. The book contains a large number of exercises of varying difficulty, designed to help reinforce basic concepts and to motivate and challenge the reader. The sole prerequisite for understanding the text is basic high school algebra; some trigonometry is needed for

Chapters 9 and 12. Topics covered include: * mathematical induction * modular arithmetic * the fundamental theorem of arithmetic * Fermat's little theorem * RSA encryption * the Euclidean algorithm * rational and irrational numbers * complex numbers * cardinality * Euclidean plane geometry * constructability (including a proof that an angle of 60 degrees cannot be trisected with a straightedge and compass) This textbook is suitable for a wide variety of courses and for a broad range of students in the fields of education, liberal arts, physical sciences and mathematics. Students at the senior high school level who like mathematics will also be able to further their understanding of mathematical thinking by reading this book.
