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6 Well-Ordered Sets; 6.1 Successors of Elements; 6.2 Constructing Well Ordered Sets; 6.3 Cardinals as Ordinals; 6.4 Magnitude versus Cardinality; 7 Inductions and Numbers; 7.1 Mathematical Induction; 7.2 Sums of Powers of Integers; 7.3 Transfinite Induction; 7.4 Mathematical Recursion; 7.5 Number Theory; 7.6 The Fundamental Theorem of Arithmetic; 7.7 Perfect Numbers
8 Prime Numbers 8.1 Prime Number Generators; 8.2 The Prime Number Theorem; 8.3 Products of Geometric Series; 8.4 The Riemann Zeta Function; 8.5 Real Numbers; 9 Logic and Meta-Mathematics; 9.1 The Collection of All Sets; 9.2 Other Than True or False; 9.3 The Logic of A Theory of Everything; 9.3.1 Godel's Incompleteness Theorem; 9.3.2 Logically Closed Sets; 9.3.3 Applications; Bibliography; Index

Sommario/riassunto

Praise for the First Edition "" . . . an enchanting book for those people in computer science or mathematics who are fascinated by the concept of infinity.""-Computing Reviews "" . . . a very well written introduction to set theory . . . easy to read and well suited for self-study . . . highly recommended.""-Choice The concept of infinity has fascinated and confused mankind for centuries with theories and ideas that cause even seasoned mathematicians to wonder. The Mathematics of Infinity: A Guide to Great Ideas, Second Edition uniquely explores how we can manipulate these idea
