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| Nota di bibliografia    | Includes bibliographical references and index.   |
| Nota di contenuto       | Cover ; Title Page ; Contents ; Preface ; PART I MATHEMATICS IN HISTORY; 1 the Ancient Roots of Mathematics ; 1.1 Introduction ; 1.2 Ancient Mesopotamia and Egypt ; 1.3 Early Greek Mathematics: the First Theorists ; 1.4 the Apex: Third Century Hellenistic Mathematics ; 1.5 the Slow Decline ; 2 the Growth of Mathematics to 1600 ; 2.1 China ; 2.2 India ; 2.3 Islam ; 2.4 European Mathematics Awakens ; 3 Modern Mathematics ; 3.1 the 17th Century: Scientific Revolution ; 3.2 the 18th Century: Consolidation ; 3.3 the 19th Century: Expansion ; 3.4 the 20th and 21st Centuries: Explosion<br>3.5 the Future PART II TWO PILLARS OF MATHEMATICS; 4 Calculus ; 4.1 What Is Calculus? ; 4.2 Average and Instantaneous Velocity ; 4.3 Tangent Line to a Curve ; 4.4 the Derivative ; 4.5 Formulas for Derivatives ; 4.6 the Product Rule and Quotient Rule ; 4.7 the Chain Rule ; 4.8 Slopes and Optimization ; 4.9 Applying Optimization Methods ; 4.10 Differential Notation and Estimates ; 4.11 Marginal Revenue, Cost, and Profit ; 4.12 Exponential Growth ; 4.13 Periodic Functions and Trigonometry ; 4.14 the Fundamental Theorem of Calculus ; 4.15 the Riemann Integral<br>4.16 Signed Areas and Other Integrals 4.17 Application: Rocket Science |

; 4.18 Infinite Sums ; 4.19 Exponential Growth and Doubling Times ;  
4.20 Beyond Calculus ; 5 Number Theory ; 5.1 What Is Number Theory?  
; 5.2 Divisibility ; 5.3 Irrational Numbers ; 5.4 Greatest Common  
Divisors ; 5.5 Primes ; 5.6 Relatively Prime Integers ; 5.7 Mersenne and  
Fermat Primes ; 5.8 the Fundamental Theorem of Arithmetic ; 5.9  
Diophantine Equations ; 5.10 Linear Diophantine Equations ; 5.11  
Pythagorean Triples ; 5.12 an Introduction to Modular Arithmetic ; 5.13  
Congruence ; 5.14 Arithmetic with Congruences  
5.15 Division with Congruences Finite Fields ; 5.16 Fermat's Last  
Theorem ; 5.17 Unfinished Business ; A Answers to Selected Exercises ;  
B Suggested Reading ; Index

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Sommario/riassunto

"With an emphasis on the history of mathematics, this book offers a well-written introduction to number theory and calculus and presents numerous applications throughout to illustrate the accessibility and practicality of the topic. It features numerous figures and diagrams and hundreds of worked examples and exercises--and includes six chapters that allow for a flexible format for a one-semester course or complete coverage for a two-semester course"--

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