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	Nota di contenuto	INTRODUCTION TO DIFFERENTIAL CALCULUS: Systematic Studies with Engineering Applications for Beginners; CONTENTS; Foreword; Preface; Biographies; Introduction; Acknowledgments; 1 From Arithmetic to Algebra (What must you know to learn Calculus?); 1.1 Introduction; 1.2 The Set of Whole Numbers; 1.3 The Set of Integers; 1.4 The Set of Rational Numbers; 1.5 The Set of Irrational Numbers; 1.6 The Set of Real Numbers; 1.7 Even and Odd Numbers; 1.8 Factors; 1.9 Prime and Composite Numbers; 1.10 Coprime Numbers; 1.11 Highest Common Factor (H.C.F.); 1.12 Least Common Multiple (L.C.M.) 1.13 The Language of Algebra1.14 Algebra as a Language for Thinking; 1.15 Induction; 1.16 An Important Result: The Number of Primes is Infinite; 1.17 Algebra as the Shorthand of Mathematics; 1.18 Notations in Algebra; 1.19 Expressions and Identities in Algebra; 1.20 Operations Involving Negative Numbers; 1.21 Division by Zero; 2 The Concept of a Function (What must you know to learn Calculus?); 2.1 Introduction; 2.2 Equality of Ordered Pairs; 2.3 Relations and Functions; 2.4 Definition;

2.5 Domain, Codomain, Image, and Range of a Function; 2.6 Distinction Between "f " and "f(x)"
3 Discovery of Real Numbers: Through Traditional Algebra (What must you know to learn Calculus?)3.1 Introduction; 3.2 Prime and Composite Numbers; 3.3 The Set of Rational Numbers; 3.3 The Set of Rational Numbers; 3.4 The Set of Irrational Numbers; 3.5 The Set of Real Numbers; 3.6 Definition of a Real Number; 3.7 Geometrical Picture of Real Numbers; 3.8 Algebraic Properties of Real Numbers; 3.9 Inequalities (Order Properties in Real Numbers); 3.10 Intervals; 3.11 Properties of Absolute Values; 3.12 Neighborhood of a Point; 3.13 Property of Denseness; 3.14 Completeness Property of Real Numbers 3.15 (Modified) Definition II (l.u.b.)3.16 (Modified) Definition II (g.l.b.); 4 From Geometry to Coordinate Geometry (What must you know to learn Calculus?); 4.1 Introduction; 4.2 Coordinate Geometry (or Analytic Geometry); 4.3 The Distance Formula; 4.4 Section Formula; 4.5 The Angle of Inclination of a Line; 4.6 Solution(s) of an Equation and its Graph; 4.7 Equations of a Line; 4.8 Parallel Lines; 4.9 Relation Between the Slopes of (Nonvertical) Lines that are Perpendicular to One Another; 4.10 Angle Between Two Lines; 4.11 Polar Coordinate System
5 Trigonometry and Trigonometric Functions (What must you know to learn Calculus?)

| Sommario/riassunto | "Through the use of examples and graphs, this book maintains a high level of precision in clarifying prerequisite materials such as algebra, geometry, coordinate geometry, trigonometry, and the concept of limits. The book explores concepts of limits of a function, limits of algebraic functions, applications and limitations for limits, and the algebra of limits. It also discusses methods for computing limits of algebraic functions, and explains the concept of continuity and related concepts in depth. This introductory submersion into differential calculus is an essential guide for engineering and the physical sciences students"-- |