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		2.6 Pointwise and Uniform ConvergenceSummary; Exercises; Interlude: Euler and the ""Basel Problem""; 3 A Brief Introduction to Lebesgue Theory; 3.1 Lebesgue Measure and Measurable Sets; 3.2 The Lebesgue Integral; 3.3 Measure, Integral, and Convergence; 3.4 Littlewood's Three Principles; Summary; Exercises; Interlude: The Set of Rational Numbers Is Very Large and Very Small; 4 Special Topics; 4.1 Modeling with Logistic Functions-Numerical Derivatives; 4.2 Numerical Quadrature; 4.3 Fourier Series; 4.4 Special Functions-The Gamma Function; 4.5 Calculus Without Limits: Differential Algebra

SummaryExercises; Appendix A: Definitions & Theorems of Elementary Real Analysis; A.1 Limits; A.2 Continuity; A.3 The Derivative; A.4 Riemann Integration; A.5 Riemann-Stieltjes Integration; A.6 Sequences and Series of Constants; A.7 Sequences and Series of Functions; Appendix B: A Brief Calculus Chronology; Appendix C: Projects in Real Analysis; C.1 Historical Writing Projects; C.2 Induction Proofs: Summations, Inequalities, and Divisibility; C.3 Series Rearrangements; C.4 Newton and the Binomial Theorem; C.5 Symmetric Sums of Logarithms

C.6 Logical Equivalence: Completeness of the Real NumbersC.7 Vitali's Nonmeasurable Set; C.8 Sources for Real Analysis Projects; C.9 Sources for Projects for Calculus Students; Bibliography; Index

| Sommario/riassunto | An accessible introduction to real analysis and its connection to elementary calculus Bridging the gap between the development and history of real analysis, Introduction to Real Analysis: An Educational Approach presents a comprehensive introduction to real analysis while also offering a survey of the field. With its balance of historical background, key calculus methods, and hands-on applications, this book provides readers with a solid foundation and fundamental understanding of real analysis. The book begins with an outline of basic calculus, including a close examination |