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Summary Exercises; 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 Numbers
C.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
