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Titolo	3000 years of analysis : mathematics in history and culture // Thomas Sonar; Patricia Morton; Keith William Morton
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ISBN	3-030-58223-X
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XX, 706 p. 396 illus., 267 illus. in color.)
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Soggetti	Mathematical analysis - History Mathematical analysis
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Prologue: 3000 Years of Analysis -- The Continuum in Greek-Hellenistic Antiquity -- How Knowledge Migrates -- From Orient to Occident -- Continuum and Atomism in Scholasticism -- Indivisibles and Infinitesimals in the Renaissance -- At the Turn from the 16th to the 17th Century -- Newton and Leibniz-Giants and Opponents -- Absolutism, Enlightenment, Departure to New Shores -- On the Way to Conceptual Rigor in the 19th Century -- At the Turn to the 20th Century: Set Theory and the Search for the True Continuum -- Coming to full circle: Infinitesimals in Nonstandard Analysis.
Sommario/riassunto	What exactly is analysis? What are infinitely small or infinitely large quantities? What are indivisibles and infinitesimals? What are real numbers, continuity, the continuum, differentials, and integrals? You'll find the answers to these and other questions in this unique book! It explains in detail the origins and evolution of this important branch of mathematics, which Euler dubbed the "analysis of the infinite." A wealth of diagrams, tables, color images and figures serve to illustrate the fascinating history of analysis from Antiquity to the present. Further, the content is presented in connection with the historical and cultural events of the respective epochs, the lives of the scholars seeking knowledge, and insights into the subfields of analysis they created and shaped, as well as the applications in virtually every aspect of modern

life that were made possible by analysis. From the reviews of the German edition: Three wishes granted at once: the book “3000 Jahre Analysis” is anything but a dry mixture of mathematical facts and formulae. Instead, it is a skillful blend of textbook, nonfiction, and history book rolled into one, which has been very vibrantly written. The author Thomas Sonar has managed to present the history of Analysis vividly, thrillingly, and full of intriguing details. Florian Modler, Spektrum der Wissenschaft The book [...] is simply wonderful. Everybody [...] picks up this book with a certain expectation, of course, and they won’t be disappointed! ... It is truly fun browsing the book. Peter Littelmann, Mitteilungen der DMV.

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