1. Record Nr. UNINA9910554493703321 Autore Van Brummelen Glen Titolo The doctrine of triangles: a history of modern trigonometry / / Glen Van Brummelen Princeton, New Jersey:,: Princeton University Press,, [2021] Pubbl/distr/stampa ©2021 **ISBN** 9780691219875 0691219877 0-691-21987-7 9780691179414 Descrizione fisica 1 online resource (xvi, 372 pages): illustrations Disciplina 516.240903 Soggetti Trigonometry - History Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Frontmatter -- Contents -- Preface -- ; 1. European Trigonometry Comes of Age --; 2. Logarithms --; 3. Calculus --; 4. China --; 5. Europe After Euler -- Bibliography -- Index. "An interdisciplinary history of trigonometry from the mid-sixteenth Sommario/riassunto century through to the early twentieth century. The Doctrine of Triangles offers an interdisciplinary history of trigonometry that spans four centuries, starting in 1550 and concluding in the 1900s. Glen Van Brummelen tells the story of trigonometry as it evolved from an instrument for understanding the heavens to a practical tool, used in fields such as surveying and navigation. In Europe, China, and America, trigonometry aided and was itself transformed by concurrent mathematical revolutions, as well as the rise of science and technology. Following its uses in mid-sixteenth-century Europe as the "foot of the ladder to the stars" and the mathematical helpmate of astronomy. trigonometry became a ubiquitous tool for modeling various phenomena, including animal populations and sound waves. In the late sixteenth century, trigonometry increasingly entered the physical world through the practical disciplines, and its societal reach expanded with

the invention of logarithms. Calculus shifted mathematical reasoning

from geometric to algebraic patterns of thought, and trigonometry's participation in this new mathematical analysis grew, encouraging such innovations as complex numbers and non-Euclidean geometry. Meanwhile in China, trigonometry was evolving rapidly too, sometimes merging with indigenous forms of knowledge, and with Western discoveries. In the nineteenth century, trigonometry became even more integral to science and industry as a fundamental part of the science and engineering toolbox, and a staple subject in high school classrooms" --