1. Record Nr. UNINA9910825631503321

Titolo	Revolutions and continuity in Greek mathematics / / edited by Michalis Sialaros
Pubbl/distr/stampa	Berlin ; ; Boston : , : De Gruyter, , [2018] ©2018
ISBN	3-11-056527-7 3-11-056595-1
Descrizione fisica	1 online resource (404 pages)
Collana	Science, Technology, and Medicine in Ancient Cultures ; ; 8
Disciplina	510.938
Soggetti	Mathematics, Greek Geometry - History
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Frontmatter -- Preface / Sialaros, Michalis -- Contents -- Notes on Contributors -- Introduction: Revolutions in Greek Mathematics / Sialaros, Michalis -- Counter-Revolutions in Mathematics / Unguru, Sabetai -- Diophantus and Premodern Algebra: New Light on an Old Image / Christianidis, Jean -- Geometer, in a Landscape: Embodied Mathematics in Hero's Dioptra / Roby, Courtney -- How Much Does a Theorem Cost? / Sialaros, Michalis -- Diagrammatizing Mathematics: Some Remarks on a Revolutionary Aspect of Ancient Greek Mathematics / Lattmann, Claas -- Composition and Removal of Ratios in Geometric and Logistic Texts from the Hellenistic to the Byzantine Period / Acerbi, Fabio -- Why Did the Greeks Develop Proportion Theory? A Conjecture / Mendell, Henry -- Recursive Knowledge Procedures Informing the Design of the Parthenon : One Instance of Continuity between Greek and Near Eastern Mathematical Practices / Lehman, Geoff / Weinman, Michael -- Diophantus, al-Karaj, and Quadratic Equations / Oaks, Jeffrey A. -- Substantiae sunt sicut numeri: Aristotle on the Structure of Numbers / Galluzzo, Gabriele -- The Axiomatization of Mathematics and Plato's Conception of Knowledge in the Meno and the Republic / Karasmanis, Vassilis -- The Anthyphairetic Revolutions of the Platonic Ideas / Negrepontis, Stelios -- Name index -- General index

Sommario/riassunto

This volume brings together a number of leading scholars working in the field of ancient Greek mathematics to present their latest research. In their respective area of specialization, all contributors offer stimulating approaches to questions of historical and historiographical 'revolutions' and 'continuity'. Taken together, they provide a powerful lens for evaluating the applicability of Thomas Kuhn's ideas on 'scientific revolutions' to the discipline of ancient Greek mathematics. Besides the latest historiographical studies on 'geometrical algebra' and 'premodern algebra', the reader will find here some papers which offer new insights into the controversial relationship between Greek and pre-Hellenic mathematical practices. Some other contributions place emphasis on the other edge of the historical spectrum, by exploring historical lines of 'continuity' between ancient Greek, Byzantine and post-Hellenic mathematics. The terminology employed by Greek mathematicians, along with various non-textual and material elements, is another topic which some of the essays in the volume explore. Finally, the last three articles focus on a traditionally rich source on ancient Greek mathematics; namely the works of Plato and Aristotle.