1. Record Nr. UNINA9910452953803321

Autore	Herz-Fischler Roger <1940->
Titolo	A mathematical history of the golden number [[electronic resource] /] / Roger Herz-Fischler
Pubbl/distr/stampa	Mineola, N.Y., : Dover Publications, 1998
ISBN	0-486-15232-4 1-4593-0545-0
Edizione	[Dover ed.]
Descrizione fisica	1 online resource (738 p.)
Collana	Dover Books on Mathematics
Soggetti	Ratio and proportion - History Geometry Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Originally published: A mathematical history of division in extreme and mean ratio. Waterloo, Ont., Canada : Wilfrid Laurier University Press, c1987. "Incorporates ... a new preface and a section of 'Corrections and additions,' both prepared specially for this edition by the author"--T.p. verso.
Nota di bibliografia	Includes bibliographical references (p. 180-195).
Nota di contenuto	Cover; Title Page; Copyright Page; Contents; Preface to the Dover Edition; Foreword; A Guide for Readers; A. Internal Organization; B. Bibliographical Details; C. Abbreviations; D. Symbols; E. Dates; F. Quotations from Primary Sources; Introduction; Chapter I. The Euclidean Text; Section 1. The Text; Section 2. An Examination of the Euclidean Text; A. Preliminary Observations; B. A Proposal Concerning the Origin of DEMR; C. Theorem XIII,8; D. Theorems XIII,1-5; E. Stages in the Development of DEMR in Book XIII; Chapter II. Mathematical Topics; Section 3. Complements and the Gnomon Section 4. Transformation of AreasSection 5. Geometrical Algebra, Application of Areas, and Solutions of Equations; A. Geometrical Algebra-Level 1; B. Geometrical Algebra-Level 2; C. Application of Areas-Level 3; D. Historical References; E. Setting Out the Debate; F. Other Interpretations in Terms of Equations; G. Problems in Interpretation; H. Division of Figures; I. Theorems VI,28,29 vs 11,5,6; J. Euclid's Data; K. Theorem II,11; L. II,11-Application of Areas, Various

Views; i. Szabo; ii. Junge; iii. Valabrega-Gibellato; Section 6. Side and Diagonal Numbers; Section 7. Incommensurability
Section 8. The Euclidean Algorithm, Anthyphairesis, and Continued FractionsChapter III. Examples of The Pentagon, Pentagram, and Dodecahedron Before -400; Section 9. Examples before Pythagoras (before c. -550); A. Prehistoric Egypt; B. Prehistoric Mesopotamia; C. Sumerian and Akkadian Cuneiform Ideograms; i. Fuye's Theory; D. A Babylonian Approximation for the Area of the Pentagon; i. Stapleton's Theory; E. Palestine; Section 10. From Pythagoras until -400; A. Vases from Greece and its Italian Colonies , Etruria (Italy); B. Shield Devices on Vases; C. Coins; D. Dodecahedra
E. Additional MaterialConclusions; Chapter IV. The Pythagoreans; i. Pythagoras; ii. Hippasus; iii. Hippocrates of Chios; iv. Theodorus of Cyrene; v. Archytas; Section 11. Ancient References to the Pythagoreans; A. The Pentagram as a Symbol of the Pythagoreans; B. The Pythagoreans and the Construction of the Dodecahedron; C. Other References to the Pythagoreans; Section 12. Theories Linking DEMR with the Pythagoreans; i. The Pentagram; ii. Scholia Assigning Book IV to the Pythagoreans; iii. Equations and Application of Areas; iv. The Dodecahedron
v. A Marked Straight-Edge Construction of the Pentagonvi. A Gnomon Theory; vii. Allman's Theory: The Discovery of Incommensurability; viii. Fritz-Junge Theory: The Discovery of Incommensurability; ix. Heller's Theory: The Discovery of DEMR; x. Neuenschwander's Analysis; xi. Stapleton; Chapter V. Miscellaneous Theories; Section 13. Miscellaneous Theories; i. Michel; ii. Fowler: An Anthyphairesis Development of DEMR; iii. Knorr: Anthyphairesis and DEMR; iv. Itard: Theorem IX,15; Section 14. Theorems XIII,1-5; i. Bretschneider; ii. Allman; iii. Michel; iv. Dijksterhuis and Van der Waerden
v. Lasserre

Sommario/riassunto

<DIV>A comprehensive study of the historic development of division in extreme and mean ratio (""the golden number""), this text traces the concept's development from its first appearance in Euclid's <I>Elements</I> through the 18th century. The coherent but rigorous presentation offers clear explanations of DEMR's historical transmission and features numerous illustrations.
</DIV>