

1. Record Nr.	UNINA9910682599603321
Autore	Dorrego Lopez Eduardo
Titolo	Irrationality, Transcendence and the Circle-Squaring Problem : An Annotated Translation of J. H. Lambert's Vorläufige Kenntnisse and Mémoire / / by Eduardo Dorrego López, Elías Fuentes Guillén
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	3-031-24363-3
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (178 pages)
Collana	Logic, Epistemology, and the Unity of Science, , 2214-9783 ; ; 58
Disciplina	128
Soggetti	Mathematics History Mathematics - Philosophy History of Mathematical Sciences Philosophy of Mathematics Filosofia de la matemàtica Irracionalisme (Filosofia) Transcendència (Filosofia) Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I: Antecedents -- Chapter 1. From Geometry to Analysis -- Chapter 2. The situation in the first half of the 18th century. Euler and continued fractions -- Part II: Johann Heinrich Lambert (1728—1777) -- Chapter 3. A biographical approach to Johann Heinrich Lambert -- Chapter 4. Outline of Lambert's Mémoire (1761/1768) -- Chapter 5. An annotated translation of Lambert's Mémoire (1761/1768) -- Chapter 6. Outline of Lambert's Vorläufige Kenntnisse (1766/1770) -- Chapter 6. An annotated translation of Lambert's Vorläufige Kenntnisse (1766/1770) -- Part III: The influence of Lambert's work and the development of irrational numbers -- Chapter 8. The state of irrationals until the turn of the century -- Chapter 9. Title to be set up.
Sommario/riassunto	This publication includes an unabridged and annotated translation of two works by Johann Heinrich Lambert (1728—1777) written in the

1760s: Vorläufige Kenntnisse für die, so die Quadratur und Rectification des Circuls suchen and Mémoire sur quelques propriétés remarquables des quantités transcendentes circulaires et logarithmiques. The translations are accompanied by a contextualised study of each of these works and provide an overview of Lambert's contributions, showing both the background and the influence of his work. In addition, by adopting a biographical approach, it allows readers to better get to know the scientist himself. Lambert was a highly relevant scientist and polymath in his time, admired by the likes of Kant, who despite having made a wide variety of contributions to different branches of knowledge, later faded into an undeserved secondary place with respect to other scientists of the eighteenth century. In mathematics, in particular, he is famous for his research on non-Euclidean geometries, although he is likely best known for having been the first who proved the irrationality of  $\pi$ . In his Mémoire, he conducted one of the first studies on hyperbolic functions, offered a surprisingly rigorous proof of the irrationality of  $\pi$ , established for the first time the modern distinction between algebraic and transcendental numbers, and based on such distinction, he conjectured the transcendence of  $\pi$  and therefore the impossibility of squaring the circle.

---