1. Record Nr. UNINA9910814166703321 **Autore** Henle Michael Titolo Which numbers are real? // Michael Henle [[electronic resource]] Washington:,: Mathematical Association of America,, 2012 Pubbl/distr/stampa **ISBN** 1-61444-107-3 1 online resource (x, 219 pages): digital, PDF file(s) Descrizione fisica Collana Classroom resource materials Disciplina 512.786 Soggetti Numbers, Real Numbers, Complex Number theory Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Title from publisher's bibliographic system (viewed on 02 Oct 2015). Nota di bibliografia Includes bibliographical references (p. 205-208) and index. Nota di contenuto [Pt.] I. The reals. Axioms for the reals -- Construction of the reals --[pt.] II. Multi-dimensional numbers. The complex numbers -- The quaternions -- [pt.] III. Alternative lines. The constructive reals -- The hyperreals -- The surreals. Which Numbers are Real? surveys alternative real number systems: Sommario/riassunto systems that generalize and extend the real numbers while staying close to the properties that make the reals central to mathematics. These systems include, for example, multi-dimensional numbers (the complex numbers, the quaternions, and others), systems that include infinitely small and infinitely large numbers (the hyperreal numbers and the surreal numbers), and numbers that represent positions in games (the surreal numbers). All the systems presented have applications and several are the subject of current mathematical research. Which Numbers are Real? will be of interest to anyone who likes numbers, but particularly upper-level undergraduates, graduate students, and

mathematics teachers at all levels.