

1. Record Nr.	UNINA9910960715403321
Titolo	Handbook of mathematical cognition // edited by Jamie I.D. Campbell
Pubbl/distr/stampa	New York, : Psychology Press, 2005
ISBN	1-135-42366-0 1-280-17474-9 9786610174744 0-203-99804-9
Edizione	[1st ed.]
Descrizione fisica	1 online resource (527 p.)
Altri autori (Persone)	CampbellJamie I. D
Disciplina	510/.71
Soggetti	Mathematics - Study and teaching - Methodology Mathematical ability
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	HANDBOOK OF MATHEMATICAL COGNITION; Copyright; Contents; About the Editor; Contributors; Preface; Acknowledgments; Part 1: Cognitive Representations for Numbers and Mathematics; 1 About Numerical Representations: Insights from Neuropsychological, Experimental, and Developmental Studies; 2 Number Recognition in Different Formats; 3 Spatial Representation of Numbers; 4 Automaticity in Processing Ordinal Information; 5 Computational Modeling of Numerical Cognition; 6 What Animals Know about Numbers; 7 The Cognitive Foundations of Mathematics: The Role of Conceptual Metaphor Part 2: Learning and Development of Numerical Skills8 The Young Numerical Mind: When Does It Count?; 9 Development of Arithmetic Skills and Knowledge in Preschool Children; 10 Learning Mathematics in China and the United States: Cross-Cultural Insights into the Nature and Course of Preschool Mathematical Development; 11 Magnitude Representation in Children: Its Development and Dysfunction; 12 Development of Numerical Estimation: A Review; 13 Understanding Ratio and Proportion as an Example of the Apprehending Zone and Conceptual-Phase Problem-Solving Models 14 Stereotypes and Math PerformancePart 3: Learning and Performance

Disabilities in Math and Number Processing; 15 Learning Disabilities in Arithmetic and Mathematics: Theoretical and Empirical Perspectives; 16 Math Performance in Girls with Turner or Fragile X Syndrome; 17 Number Processing in Neurodevelopmental Disorders: Spina Bifida Myelomeningocele; 18 Math Anxiety and Its Cognitive Consequences: A Tutorial Review; Part 4: Calculation and Cognition; 19 What Everyone Finds: The Problem-Size Effect; 20 Architectures for Arithmetic; 21 Mathematical Cognition and Working Memory 22 Mathematical Problem Solving: The Roles of Exemplar, Schema, and Relational Representations 23 Aging and Mental Arithmetic; 24 Calculation Abilities in Expert Calculators; Part 5: Neuropsychology of Number Processing and Calculation; 25 Three Parietal Circuits for Number Processing; 26 Developmental Dyscalculia; 27 Rehabilitation of Acquired Calculation and Number Processing Disorders; Author Index; Subject Index

Sommario/riassunto

How does the brain represent number and make mathematical calculations? What underlies the development of numerical and mathematical abilities? What factors affect the learning of numerical concepts and skills? What are the biological bases of number knowledge? Do humans and other animals share similar numerical representations and processes? What underlies numerical and mathematical disabilities and disorders, and what is the prognosis for rehabilitation? These questions are the domain of mathematical cognition, the field of research concerned with the cognitive and neurological processes t
