

1. Record Nr.	UNINA9910456788603321
Autore	O'Halloran Kay L.
Titolo	Mathematical discourse : language, symbolism and visual images / / Kay L. O'Halloran
Pubbl/distr/stampa	London, [England] ; ; New York, New York : , : Continuum, , 2005 ©2005
ISBN	1-4411-7737-X
Descrizione fisica	1 online resource (239 p.)
Disciplina	510.1/4
Soggetti	Mathematics - Language Mathematics Visualization Electronic books.
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 index.
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Expansion of Experiential Meaning; 4.5 Contraction of Interpersonal Meaning; 4.6 A Resource for Logical Reasoning; 4.7 Specification of Textual Meaning; 4.8 Discourse, Grammar and Display; 4.9 Concluding Comments; 5 The Grammar of Mathematical Visual Images; 5.1 The Role of Visualization in Mathematics; 5.2 SF Framework for Mathematical Visual Images; 5.3 Interpersonally Orientating the Viewer; 5.4 Visual Construction of Experiential Meaning; 5.5 Reasoning through Mathematical Visual Images  
5.6 Compositional Meaning and Conventionalized Styles of Organization  
5.7 Computer Graphics and the New Image of Mathematics; 6 Intersemiosis: Meaning Across Language, Visual Images and Symbolism; 6.1 The Semantic Circuit in Mathematics; 6.2 Intersemiosis: Mechanisms, Systems and Semantics; 6.3 Analysing Intersemiosis in Mathematical Texts; 6.4 Intersemiotic Re-Contextualization in Newton's Writings; 6.5 Semiotic Metaphor and Metaphorical Expansions of Meaning; 6.6 Reconceptualizing Grammatical Metaphor; 7 Mathematical Constructions of Reality  
7.1 Multisemiotic Analysis of a Contemporary Mathematics Problem  
7.2 Educational Implications of a Multisemiotic Approach to Mathematics;  
7.3 Pedagogical Discourse in Mathematics Classrooms; 7.4 The Nature and Use of Mathematical Constructions; References; Index; A; B; C; D; E; F; G; H; I; K; L; M; N; O; P; R; S; T; V; W

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### Sommario/riassunto

This book examines mathematical discourse from the perspective of Michael Halliday's social semiotic theory. In this approach, mathematics is conceptualized as a multisemiotic discourse involving language, visual images and symbolism. The book discusses the evolution of the semiotics of mathematical discourse, and then, proceeds to examine the grammar of mathematical symbolism, the grammar of mathematical visual images, intersemiosis between language, visual images and symbolism and the subsequent ways in which mathematics orders reality. The focus of this investigation is written mathema

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