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Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Understanding the nature of the geometric work through its development and its transformations: Kuzniak Alain (France) -- Integration of technology into mathematics teaching: Past, present and future:Adnan Baki (Turkey) -- Investigating the influence of teachers' pedagogical beliefs and reported practices on student achievement in basic mathematics: Allan B.I. Bernardo (Philippines), Auxencia A. Limjap (Philippines) -- Developing free computer-based learning objects for high school mathematics: Examples, issues and directions: Humberto José Bortolossi(Brazil) -- Doing research within the anthropological theory of the didactic: The case of school algebra: Marianna Bosch (Spain) -- Curriculum reform and mathematics learning: Evidence from two longitudinal studies:Jinfa Cai (USA) -- Mathematical problem solving beyond school: Digital tools and students' mathematical representations: Susana Carreira (Portugal) -- Teaching probability in secondary school: Paulo Cezar Pinto Carvalho (Brazil) -- Mathematics is

alive! Project based mathematics: Kyung Yoon Chang (Korea) -- Weaving exploration in the process of acquisition and development of mathematical knowledge: Marcos Cherinda (Mozambique) -- An illustration of the explanatory and discovery functions of proof: Michael de Villiers (South Africa) -- Constructing abstract mathematical knowledge in context: Tommy Dreyfus (Israel) -- Digital technology in mathematics education: Why it works (or doesn't): Paul Drijvers (Netherlands) -- Mathematical thinking styles in school and across cultures: Rita Borromeo Ferri (Germany) -- Learning to see: The viewpoint of the blind: Lourdes Figueiras (Spain), Abraham Arcavi (Israel) -- Issues and concerns about integrations of ICT into the teaching and learning of mathematics in Africa : Botswana case: Kgomo Gertrude Garegae (Botswana) -- Learning mathematics in secondary school: The case of mathematical modelling enabled by technology: Jonaki B Ghosh (India) -- Doing mathematics in teacher preparation: Giving space and time to think, reflect, share and feel: Frédéric Gourdeau (Canada) -- Resources, at the core of mathematics teachers' work: Ghislaine Gueudet (France) -- Mathematics education reform movement in Indonesia: Sutarto Hadi (Indonesia) -- Emotions in problem solving: Markku S. Hannula (Finland) -- Freudenthal's work continues: Marja van den Heuvel-Panhuizen (Netherlands) -- Hands that see, hands that speak: Investigating relationships between sensory activity, forms of communicating and mathematical cognition: Lulu Healy (Brazil) -- Teachers learning together: Pedagogical reasoning in mathematics teachers' collaborative conversations: Ilana Seidel Horn (USA) -- Transforming education through lesson study: Thailand's decade-long journey: Maitree Inprasitha (Thailand) -- Dialectic on the problem solving approach: Illustrating hermeneutics as the ground theory for lesson study in mathematics education: Masami Isoda (Japan) -- History, application, and philosophy of mathematics in mathematics education: Accessing and assessing students' overview and judgment: Uffe Thomas Jankvist (Denmark) -- Teaching mathematical modelling in school mathematics: Ok-Ki Kang (Korea), Jihwa Noh (Korea) -- Implications from Polya and Krutetskii: Wan Kang (Korea) -- Derivative or derivation? Matthias Kowski (USA) -- The social dimension of argumentation and proof in mathematics classrooms: Christine Knipping (Germany) -- Mathematical literacy for living in the highly constructionism: Theory of learning or theory of design? Chronis Kynigos (Greece) -- Adjacent schools with infinite distance – Narratives from North Korean mathematics classrooms: Jung Hang Lee (USA/Korea) -- Mobile linear algebra with Sage: Sang-Gu Lee (Korea) -- Discernment and reasoning in dynamic geometry environments: Allen Leung (Hong Kong) -- Riding the third wave: Negotiating teacher and students' value preferences relating to effective mathematics lesson: Chap Sam Lim (Malaysia) -- Learning mathematics by creative or imitative reasoning: Johan Lithner (Sweden) -- Features of exemplary lessons under the curriculum reform in China: A case study on thirteen elementary mathematics lessons: Yunpeng Ma (China), Dongchen Zhao (China) -- Teachers, students and resources in mathematics Laboratory: Michela Maschietto (Italy) -- The common core state standards in mathematics: William McCallum (USA) -- From practical geometry to the laboratory method: the search for an alternative to Euclid in the history of teaching geometry: Marta Menghini (Italy) -- Research on mathematics classroom practice: An international perspective: Ida Ah Chee MOK (Hong Kong) -- Information-and-technology-oriented in the 21st Century: Mathematics education from the perspective of human life in society: Eizo Nagasaki (Japan) -- Exploring the nature of the transition to geometric proof through

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Sommario/riassunto

This book comprises the full selected Regular Lectures from the Proceedings of the 12th International Congress on Mathematical Education (ICME-12), which was held at COEX in Seoul, Korea, from July 8th to 15th, 2012. ICME-12 brought together 4700 experts from 100 countries, working to understand all of the intellectual and attitudinal challenges in the subject of mathematics education as a multidisciplinary research and practice. These selected Regular Lectures present the work of fifty-one prominent mathematics educators from all over the globe. The Lectures cover a wide spectrum of topics, themes, and issues and aim to give direction to future research towards educational improvement in the teaching and learning of mathematics education. This book is of particular interest to researchers, teachers and curriculum developers in mathematics education.
