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Collana	Advances in Mathematics Education, , 1869-4918
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Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	1. Introduction to interdisciplinary perspectives on creativity and giftedness (Roza Leikin and Bharath Sriraman) -- Section 1: Perspectives on Creativity -- 2.Creativity, Imagination and Early Math Education (Maciej Karwowski Dorota Dziedziewicz) -- 3. Assessment of Creativity in Undergraduate Mathematics: Using a Creativity-in-Progress Rubric on Proving (Milos Savic, Gulden Karakok, Gail Tang, Molly Stubblefield and Hussein El Turkey) -- 4. Teacher's views on modeling as a creative mathematical activity (Gudbjorg Palsdottir and Bharath Sriraman) -- 5. The prominence of affect in creativity (Eric L. Mann and Scott A. Chamberlin) -- 6. When mathematics meets reality: How much creative are math students? (Cristian Voica and Florence Mihaela Singer) -- 7. Constraints, Competency and Creativity in the Classroom (Catrinel Haught and Patricia D. Stokes) -- 8. Convergence in creativity development for mathematical capacity (Ai-Girl Tan and Bharath Sriraman) -- 9. The origin of insight in mathematics (Reuben

Hersh and Vera John-Steiner) -- 10. Creativity in Doubt: Toward Understanding What Drives Creativity in Learning (Ronald Beghetto and James B. Schreiber) -- Section 2: Perspectives on giftedness -- 11. What is special in brain activity of mathematically gifted adolescents (Roza Leikin, Mark Leikin, Ilana Waissman) -- 12. Psychological and Neuro-scientific Perspectives on Mathematical Creativity and Giftedness (David Cropley, Martin Westwell and Florence Gabriel) -- 13. What have we learned about giftedness and creativity? An overview of a five years journey (Demetra Pitta-Pantazi) -- 14. The interplay between excellence in school mathematics and general giftedness: Focusing on mathematical creativity (Miriam Lev and Roza Leikin) -- 15. Mathematically gifted education: Political perspective (Alexander Karp) -- 16. New directions for research in creativity and giftedness: The case of mathematics (Bharath Sriraman and Roza Leikin).

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### Sommario/riassunto

This volume provides readers with a broad view on the variety of issues related to the educational research and practices in the field of Creativity in Mathematics and Mathematical Giftedness. The book explores (a) the relationship between creativity and giftedness; (b) empirical work with high ability (or gifted) students in the classroom and its implications for teaching mathematics; (c) interdisciplinary work which views creativity as a complex phenomena that cannot be understood from within the borders of disciplines, i.e., to present research and theorists from disciplines such as neuroscience and complexity theory; and (d) findings from psychology that pertain the creatively gifted students. As a whole, this volume brings together perspectives from mathematics educators, psychologists, neuroscientists, and teachers to present a collection of empirical, theoretical and philosophical works that address the complexity of mathematical creativity and giftedness, its origins, nature, nurture and ways forward. In keeping with the spirit of the series, the anthology substantially builds on previous ZDM volumes on interdisciplinarity (2009), creativity and giftedness (2013).

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