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Nota di contenuto	Contents; Chapter 1 Reasoning, Communication and Connections in Mathematics: An Introduction Berinderjeet KAUR TOH Tin Lam; 1 Introduction; 2 Mathematical Tasks; 3 Classroom Discourse; 4 Connections Within and Beyond Mathematics; 4 Some Concluding Thoughts; References; Chapter 2 The Epistemic Framing of Mathematical Tasks in Secondary Three Mathematics Lessons in Singapore Ridzuan Abdul RAHIM David HOGAN Melvin CHAN; 1 Introduction; 2 Epistemic Framing 1: Knowledge Focus; 3 Epistemic Framing 2: Domain-Specific Knowledge Practices 4 Tying the Epistemic Knot: Structural Equation Models of Knowledge Focus and Knowledge Practices5 Conclusion; Acknowledgement; References; Chapter 3 Modifying Textbook Exercises to Incorporate Reasoning and Communication into the Primary Mathematics Classroom Denisse R. THOMPSON; 1 Introduction; 2 Reasoning and Communication as Essential Mathematical Processes; 3 Strategies for Modifying Textbook Exercises; 3.1 Reframe a basic problem by including one or more conditions; 3.2 Use relationships to find patterns

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3.4 Encourage students to solve a problem in multiple ways3.5 Evaluate student solutions; 3.6 Write a question appropriate for a given answer; 3.7 Connect procedural and conceptual knowledge; 4 Conclusion; References; Chapter 4 Some "What" Strategies that Advance Reasoning and Communication in Primary Mathematics Classrooms Berinderjeet KAUR; 1 Mathematical Tasks; 2 "What..." Strategies; 2.1 What number makes sense?; 2.2 "What's wrong?"; 2.3 "What if?"; 2.4 "What's the question if you know the answer?"; 3 A Primary One Mathematics Lesson; 3.1 Objectives of the tasks
3.2 How the tasks were enacted3.3 Teacher's self-evaluation of her lesson; 4 Conclusion; Acknowledgement; References; Chapter 5 Reasoning and Justification in the Secondary Mathematics Classroom Denisse R. THOMPSON; 1 Introduction; 2 Importance of the Textbook in Providing Opportunities for Reasoning; 3 Aspects of Reasoning to Incorporate into the Curriculum; 3.1 Finding counter examples; 3.2 Investigating conjectures; 3.3 Making conjectures; 3.4 Developing arguments; 3.5 Evaluating arguments; 3.6 Correcting mistakes in reasoning; 4 Including Reasoning in Assessment; 5 Conclusion; References
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Chapter 7 Reasoning, Communication and Connections in A-Level Mathematics TOH Tin Lam

Sommario/riassunto

This fourth volume in the series of yearbooks by the Association of Mathematics Educators in Singapore entitled Reasoning, Communication and Connections in Mathematics is unique in that it focuses on a single theme in mathematics education. The objective is to encourage teachers and researchers to advance reasoning, communication and connections in mathematics classrooms. Several renowned international researchers in the field have published their work in this volume. The fifteen chapters of the book illustrate evidence-based practices that school teachers and researchers can experiment with i