## **C**ONTENTS

Prefa	ncevi
Part	1: Mathematical Reasoning: In Search of Understanding
1.	Mathematical Reasoning in the Elementary Grades
	Developing Mathematical Reasoning in the Middle Grades: Recognizing Diversity
	Reasoning by Analogy: A Fundamental Process in Children's  Mathematical Learning
4.	The Nature of Mathematical Reasoning
Part	2: Reasoning in the Early Grades
	Young Children's Mathematical Reasoning:  A Psychological View
	Reasoning about Operations: Early Algebraic Thinking in Grades K–6
7.	Teaching Fractions: Fostering Children's Own Reasoning

8.	Developing Mathematical Reasoning within the Context of Measurement
	PAUL COBB  Vanderbilt University, Nashville, Tennessee  KOENO GRAVEMEIJER  Freudenthal Institute, Utrecht University, Utrecht, Netherlands  BETH ESTES  Franklin Road Academy, Nashville, Tennessee
9.	Mathematics Is for the Birds: Reasoning for a Reason
Par	t 3: Reasoning in the Middle Grades
10.	Mathematical Reasoning during Small-Group Problem Solving 115  ALICE F. ARTZT  Queens College of the City University of New York, Flushing, New York  SHIREL YALOZ-FEMIA  Hunter College High School, New York, New York
11.	Developing Students' Algebraic Reasoning Abilities
12.	Innovative Tasks to Improve Critical- and Creative-Thinking Skills
13.	Understanding Students' Probabilistic Reasoning

14.	Analyzing Mathematical Reasoning in Students' Responses across Multiple Performance Assessment Tasks
Par	t 4: Reasoning in High School
15.	Mathematical Reasoning: In the Eye of the Beholder
16.	The Language of Quantification in Mathematics Instruction 188 SUSANNA S. EPP DePaul University, Chicago, Illinois
17.	Mathematics Journal Articles: Anchors for the Guided Development and Practice of Reasoning Skills
18.	Teaching and Assessing Statistical Reasoning
Par	t 5: Mathematical Reasoning: Charting a Future of Success
19.	Mathematical Reasoning and Educational Policy:  Moving beyond the Politics of Dead Language
20.	Adventures in Mathematical Inquiry
21.	Using Short Questions to Develop and Assess Reasoning247 WILLIAM M. CARROLL Saint Ignatius College Preparatory School, Chicago, Illinois

	~
V1	CONTENTS

22.	Helping Elementary- and Middle-Grades Preservice Teachers
	Understand and Develop Mathematical Reasoning
	George W. Bright
	University of North Carolina at Greensboro, Greensboro, North Carolina
23.	Twenty Questions about Mathematical Reasoning270
	Lynn Arthur Steen
	Saint Olaf College, Northfield, Minnesota
Inde	ex