

# Contents

	<b>Preface</b> .....	v
	<b>Mathematical Reasoning and Sense Making</b> .....	1
<b>1</b>	Michael T. Battista, The Ohio State University, Columbus, Ohio	
	<b>Numerical Reasoning: Making Sense of Numbers and Operations through Multiplication in Grades 3–5</b> .....	23
<b>2</b>	Jae Meen Baek, Illinois State University Normal, Illinois	
	<b>Numerical Reasoning: Number and Operations with Fractions</b> .....	43
<b>3</b>	Kathleen Cramer, University of Minnesota, St. Paul, Minn.	
	<b>Algebraic Reasoning in Grades 3–5</b> .....	67
<b>4</b>	Maria Blanton, TERC, Cambridge, Mass.	
	<b>Understanding and Developing Intermediate Students’ Reasoning and Sense Making in Decomposing Shapes to Reason About Area and Volume Measurement</b> .....	103
<b>5</b>	Michael T. Battista, The Ohio State University, Columbus, Ohio	
	<b>Appendix A: Abbreviated List of the Common Core State Standards for Mathematics Standards for Mathematical Practice</b> .....	141
	<b>Appendix B: Abbreviated List of the National Council of Teachers of Mathematics Principles and Standards for School Mathematics Process Standards</b> .....	145