



# Contents

---

<b>Preface</b>	<b>vii</b>
Organization of the Book	<b>vii</b>
Organization of the Content Chapters	<b>ix</b>
<b>Acknowledgments</b>	<b>xi</b>
<b>1 Why and How to Differentiate Math Instruction</b>	<b>1</b>
The Challenge in Math Classrooms	<b>1</b>
The Particular Challenge in Grades 6–12	<b>2</b>
What It Means to Meet Student Needs	<b>2</b>
Assessing Students' Needs	<b>3</b>
Principles and Approaches to Differentiating Instruction	<b>3</b>
Two Core Strategies for Differentiating Mathematics Instruction:	
Open Questions and Parallel Tasks	<b>7</b>
Creating a Math Talk Community	<b>16</b>
<b>2 Algebra</b>	<b>17</b>
Topics	<b>17</b>
The Big Ideas for Algebra	<b>18</b>
Open Questions for Grades 6–8	<b>19</b>
Open Questions for Grades 9–12	<b>29</b>
Parallel Tasks for Grades 6–8	<b>46</b>
Parallel Tasks for Grades 9–12	<b>52</b>
Summing Up	<b>61</b>
<b>3 Number and Operations</b>	<b>63</b>
Topics	<b>63</b>
The Big Ideas for Number and Operations	<b>64</b>
Open Questions for Grades 6–8	<b>64</b>
Open Questions for Grades 9–12	<b>73</b>
Parallel Tasks for Grades 6–8	<b>78</b>
Parallel Tasks for Grades 9–12	<b>84</b>
Summing Up	<b>88</b>

<b>4</b>	<b>Geometry</b>	<b>89</b>
	Topics	89
	The Big Ideas for Geometry	90
	Open Questions for Grades 6–8	91
	Open Questions for Grades 9–12	100
	Parallel Tasks for Grades 6–8	109
	Parallel Tasks for Grades 9–12	115
	Summing Up	122
<b>5</b>	<b>Measurement</b>	<b>123</b>
	Topics	123
	The Big Ideas for Measurement	124
	Open Questions for Grades 6–8	124
	Open Questions for Grades 9–12	132
	Parallel Tasks for Grades 6–8	141
	Parallel Tasks for Grades 9–12	145
	Summing Up	151
<b>6</b>	<b>Data Analysis and Probability</b>	<b>153</b>
	Topics	153
	The Big Ideas for Data Analysis and Probability	154
	Open Questions for Grades 6–8	155
	Open Questions for Grades 9–12	163
	Parallel Tasks for Grades 6–8	172
	Parallel Tasks for Grades 9–12	178
	Summing Up	186
	<b>Conclusions</b>	<b>187</b>
	The Need for Manageable Strategies	187
	Developing Open Questions and Parallel Tasks	188
	The Benefits of These Strategies	189
	<b>Appendix: Worksheet for Open Questions and Parallel Tasks</b>	<b>191</b>
	<b>Glossary</b>	<b>193</b>
	<b>Bibliography</b>	<b>206</b>
	<b>Index</b>	<b>208</b>
	Index of Subjects and Cited Authors	208
	Index of Big Ideas	210
	<b>About the Authors</b>	<b>212</b>