

# Contents



The Author	v
Acknowledgments	vi
Introduction	xi
Geometry Time Line of the Most Important Geometers and Concepts	xiii

## PART ONE Reading to Learn Geometry

<b>1</b>	<b>Prereading Strategies and Activities</b>	
	Prelude	5
	Review/Preview Process	7
	Knowledge Ratings	10
	Anticipation Guides	15
	PreP (Prereading Plan)	19
	Problem-Solving PreP	21
	Wordsmithing	27
<b>2</b>	<b>Reading and Vocabulary-Building Strategies and Activities</b>	
	Prelude	33
	Magic Square Activity	35
	Vocabulary Scramble	40

Concept Circles	42
K-W-L	44
Semantic Feature Analysis	48
Graphic Organizers	55
Reading Math Symbols	59
Reading Proofs	60
Semantic Word Maps	63

### **3 Postreading Strategies and Activities**

Prelude	69
Fill in the Picture	70
Concept Cards	74
Fruyer Model	80
Question-Answer Relationship (QAR)	84
Comparison and Contrast Matrix	90

### **4 Readings in Geometry**

Prelude	95
Reading 1: Early Geometry	96
Reading 2: Types of Geometries	99
Reading 3: Important Women Geometers	104
Reading 4: A Geometric Awakening	106

## **PART TWO Writing to Learn Geometry**

### **5 Writing to Understand Geometry**

Prelude	111
In Your Own Words: A Paraphrasing Activity	113
Method of Operation	117
Geometric Figure Description Activity	123
Crib Sheets	127

Math Story Activity	131
Math Advertisements	136
The Writing Is on the Wall	140
Creating a Math Mnemonic	142
Creation of Written Problems	147
Geometric Concept Paragraphs	148
Biographies of Geometers	151
Experimenting-to-Learn-Geometry Reports	155
Concept Math	162
Learning Logs	166

## **6 Writing to Communicate Geometry**

Prelude	171
Writing Across Campus	172
Group Exposition	174
Guided Math Poetry	178
Math Letters	182
Geometer Profiling	186
Math Journals	191
Mathematical Investigator	199

## **7 Writing as Authentic Assessment**

Prelude	205
Muddiest Point	206
Geometry Analogies	209
One-Minute Summary	212
Geometry as a Four-Letter Word!	215
E-Writing	217
Geometry Similes, Metaphors, and Analogies	220
Targeted Problem-Solving Assessments	225
Self-Portrait as a Learner of Geometry	230

<b>8</b>	<b>Writing for Assessment</b>	
	Prelude	235
	Math Portfolios	237
	Math Essays	241
	Write Questions	246
	The Geometry of Tessellations	249
	<b>References</b>	<b>257</b>