

# **A Primer of Mathematical Writing**

Being a Disquisition on Having Your  
Ideas Recorded, Typeset, Published,  
Read, and Appreciated

**Steven G. Krantz**



**American Mathematical Society**  
Providence, Rhode Island

# Table of Contents

<b>Preface</b>	xi
<b>CHAPTER 1: The Basics</b>	1
1.1 What It Is All About	2
1.2 Who Is My Audience?	3
1.3 Writing and Thought	4
1.4 Say What You Mean; Mean What You Say	5
1.5 Proofreading, Reading for Sound, Reading for Sense	10
1.6 Compound Sentences, Passive Voice	14
1.7 Technical Aspects of Writing a Paper	18
1.8 More Specifics of Mathematical Writing	23
1.9 Pretension and Lack of Pretension	31
1.10 We vs. I vs. One	33
1.11 Essential Rules of Grammar, Syntax, and Usage	34
1.12 More Rules of Grammar, Syntax, and Usage	46
<b>CHAPTER 2: Topics Specific to the Writing of Mathematics</b>	59
2.1 How to Organize a Paper	60
2.2 How to State a Theorem	64
2.3 How to Prove a Theorem	67
2.4 How to State a Definition	69
2.5 How to Write an Abstract	72
2.6 How to Write a Bibliography	73
2.7 What to Do with the Paper Once It Is Written	78
2.8 A Coda on Collaborative Work	88

<b>CHAPTER 3: Exposition</b>	91
3.1 What Is Exposition?	92
3.2 How to Write an Expository Article	93
3.3 How to Write an Opinion Piece	96
3.4 The Spirit of the Preface	98
3.5 How Important Is Exposition?	100
<b>CHAPTER 4: Other Types of Writing</b>	103
4.1 The Letter of Recommendation	104
4.2 The Book Review	121
4.3 The Referee's Report	124
4.4 The Talk	126
4.5 Your Vita, Your Grant, Your Job, Your Life	135
4.6 Electronic Mail	147
<b>CHAPTER 5: Books</b>	155
5.1 What Constitutes a Good Book?	156
5.2 How to Plan a Book	158
5.3 The Importance of the Preface	160
5.4 The Table of Contents	161
5.5 Technical Aspects: The Bibliography, the Index, Appendices, etc.	162
5.6 How to Manage Your Time When Writing a Book	165
5.7 What to Do with the Book Once It Is Written	168
<b>CHAPTER 6: The Modern Writing Environment</b>	181
6.1 Writing on a Computer	182
6.2 Word Processors	187
6.3 Using a Text Editor	189
6.4 Spell-Checkers, Grammar Checkers, and the Like	191
6.5 What Is T <sub>E</sub> X and Why Should You Use It?	194
6.6 Other Document Preparation Systems	197

<i>TABLE OF CONTENTS</i>	ix
<b>6.7</b> Graphics	198
<b>6.8</b> The Internet and <b>hypertext</b>	201
<b>6.9</b> Collaboration by <i>e-Mail</i> ; Uploading and Downloading	204
<b>CHAPTER 7: Closing Thoughts</b>	207
<b>7.1</b> Why Is Writing Important?	208
<b>BIBLIOGRAPHY</b>	211
<b>INDEX</b>	215