Introduction vii

Part I	THE COMPLETE OVERVIEW 1
Chapter 1	The Very Basics 3
Chapter 2	A Sample Project in Mathematica 11
Chapter 3	Input and Output 21
Chapter 4	Word Processing and Typesetting 47
Chapter 5	Presenting with Slide Shows 63
Chapter 6	Fundamentals of the Wolfram Language 79
Chapter 7	Creating Interactive Models with a Single Command 99
Chapter 8	Wolfram Alpha-Mode Notebooks 119
Chapter 9	Sharing Mathematica Documents 145
Chapter 10	Finding Help 161
Part II	EXTENDING KNOWLEDGE 169
Chapter 11	2D and 3D Graphics 171
Chapter 12	Visualizing Data 193
Chapter 13	Styling and Customizing Graphics 213
Chapter 14	Creating Figures and Diagrams with Graphics Primitives 249
Chapter 15	Algebraic Manipulation and Equation Solving 267
Chapter 16	Calculus 279
Chapter 17	Differential Equations 293
Chapter 18	Linear Algebra 303
Chapter 19	Probability and Statistics 321
Chapter 20	Importing and Exporting Data 337
Chapter 21	Data Filtering and Manipulation 359
Chapter 22	Working with Curated Data 389
Chapter 23	Using Wolfram Alpha Data in Mathematica 419
Chapter 24	Statistical Functionality for Data Analysis 443
Chapter 25	Machine Learning and Neural Networks 461
Chapter 26	Image Processing 483
Chapter 27	Creating Programs 513
Chapter 28	Creating Parallel and GPU Programs 535