Contents

Chapter I **Arguments** 1

I Reasoning 1
II Arguments 2
III Sentences 5
IV Arguments (again) 7
V Valid arguments and Sound Arguments 16
VI Artificial Languages 18
VII Summary 18

Chapter II **Formal Logic** 21

I Syntax 21
II Object Language and Metalanguage 25
III Use and Mention 28
IV The Sentential Calculus (SC): Syntax 31
V The Sentential Calculus (SC): Semantics 38

Chapter III **Translating the Natural Language into the SC** 59

I Introduction 59
II Translation 61
III Translating English into the SC 62
IV Concluding Remarks 87

Chapter IV **Analysis of Arguments** 89

I Introduction 89
II Analysis of Arguments 92

Chapter V **Syntax of L*** 127

I Introduction 127
II Syntax of L* 128

Chapter VI **Semantics of L*** 147

I Introduction 147
II Sets and Relations 147
III Interpretations 158
IV Truth 171
V Logical Consequence 195

Chapter VII **Translating English Sentences into Sentences of L*** 207

I Introduction and Review 207
II English Predicates 210
III Translating English Sentences into L* 216

Chapter VIII **Evaluation of English Arguments** 231

Chapter IX **Natural Deduction** 263

I Introduction 263
II Derivations 264
III Rules of Derivation 264

Chapter X **The Grand Finale** 301

I Proof Theory, Model Theory and Strategies 301
II Bringing it All Together 313

Answers to Selected Exercises 337

Index 387