Contents

Prologue **8**

Preface **10**

1 Preliminaries **13**
1.1 Binary relations 13
1.2 Equivalence relations 15
1.3 Order relations 16
1.4 Lattices 18

2 Boolean Algebras **21**
2.1 Definition of Boolean algebras 21
2.2 Some alternative definitions and properties of Boolean algebras 25
2.3 Some examples of Boolean algebras 35
2.4 Infinite operations 44
2.5 Measures on Boolean algebras 46
2.6 Properties VHS, N and G 57

3 Effect algebras **78**
3.1 Introduction 78
3.2 Definition and properties of effect algebras . . . 80

3.3 Additional examples of effect algebras 94
3.4 Equivalent definitions of effect algebras 97
3.5 Measures on effect algebras 106
3.6 Properties VHS, N and G 129
3.7 Phillips Lemma for natural effect algebras . . . 132
3.8 Some open problems 141

Bibliography **142**

Index **149**