Contents

Basic Notation	IX
Chapter I. Equivalent Axiomatic Definitions	
Elementary Properties of Matroids	!•
§1.1. The first rank-axiomatic definition of	•
a matroid	1
§1.2. The independence-axiomatic definition	of
a matroid	7
§1.3. The second rank-axiomatic definition of	of
a matroid	9
§1.4. The circuit-axiomatic definition of a	
§1.5. The basis-axiomatic definition of a ma	atroid 12
A Material In	
Chapter II. Further Properties of Matroids.	
§2.1. The span mapping ${\mathcal F}$	15
§2.2. The span-axiomatic definition of a mat	troid 20
§2.3. Hyperplanes and cocircuits	22
§2.4. The dual matroid	28
Chapter III. Examples.	
fo 4 . Idam alaskasis sysmalas	33
§3.1. Linear algebraic examples §3.2. Binary matroids	37
§3.3. Elementary definitions and results from	O TO
graph theory	50
	55
§3.4. Graph-theoretic examples	64
§3.5. Combinatorial examples	04
Chapter IV. Matroids and the Greedy Algorit	hm.
§4.1. Matroids and the greedy algorithm	73

Chapter V. Exchange Properties for Bases of Matroids.

Index

§5.1.	Symmetric point exchange	80
§5.2.	Bijective point replacement	82
§5.3.	More on minors of a matroid	86
§5.4.	Symmetric set exchange	88
§5.5.	Bijective set replacement	91
§5.6.	A further symmetric set exchange property	92
Biblio	graphy	96
Index		101

80