

Contents

Preface	vii
Introduction	1
Chapter 1. Theory	25
1. Basic definitions	25
2. Duality in convex analysis	39
3. Convex calculus	48
4. Finite-dimensional convex geometry	57
5. Convex extremal problems	69
6. Supplement: Convex analysis in vector spaces	79
Chapter 2. Applications	87
7. Convex analysis of subspaces and cones and the theory of linear equations and inequalities	87
8. Classical inequalities, problems of geometry and mechanics	92
9. Kolmogorov-type inequalities for derivatives	99
10. Convex analysis and extremal problems of approximation and recovery	118
Chapter 3. Appendix	153
11. Basic theorems of convex analysis	153
12. Supplementary topics of convex analysis	157
13. Convex analysis and the theory of extremum	163
Bibliography	177
Index	181