

Analysis of Several Variables

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Chapter 1

Topology of Euclidean Space

1.1 Open and Closed Sets

1.2 Compactness

1.3 Connectedness

Chapter 2

Differentiation

2.1 The Derivative as a Linear Map

2.2 The Chain Rule

2.3 Inverse and Implicit Function Theorems

Chapter 3

Integration

3.1 Multiple Integrals

3.2 Change of Variables

3.3 Fubini's Theorem

Chapter 4

Manifolds

4.1 Submanifolds of Euclidean Space

4.2 Tangent Spaces

4.3 Differential Forms