

Topological and Smooth Manifolds

December 24, 2023

Contents

A Other Chapters	1
-------------------------------	----------

Appendices

A Other Chapters

Sets

1. [Sets](#)
2. [Constructions With Sets](#)
3. [Pointed Sets](#)
4. [Tensor Products of Pointed Sets](#)
5. [Relations](#)
6. [Spans](#)
7. [Posets](#)

Indexed and Fibred Sets

7. Indexed Sets
8. Fibred Sets

9. Un/Straightening for Indexed and Fibred Sets

Category Theory

11. [Categories](#)
12. Types of Morphisms in Categories
13. Adjunctions and the Yoneda Lemma
14. [Constructions With Categories](#)
15. [Kan Extensions](#)

Bicategories

17. [Bicategories](#)
18. [Internal Adjunctions](#)

Internal Category Theory

19. Internal Categories

Cyclic Stuff

20. The Cycle Category

Cubical Stuff

21. The Cube Category

Globular Stuff

22. The Globe Category

Cellular Stuff

23. The Cell Category

Monoids

24. Monoids

25. Constructions With Monoids

Monoids With Zero

26. Monoids With Zero

27. Constructions With Monoids With Zero

Groups

28. Groups

29. Constructions With Groups

Hyper Algebra

30. Hypermonoids

31. Hypergroups

32. Hypersemirings and Hyperrings

33. Quantaes

Near-Rings

34. Near-Semirings

35. Near-Rings

Real Analysis

36. Real Analysis in One Variable

37. Real Analysis in Several Variables

Measure Theory

38. Measurable Spaces

39. Measures and Integration

Probability Theory

39. Probability Theory

Stochastic Analysis

40. Stochastic Processes, Martingales, and Brownian Motion

41. Itô Calculus

42. Stochastic Differential Equations

Differential Geometry

43. Topological and Smooth Manifolds

Schemes

44. Schemes