Mathematical Logic

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Contents

Part I

Set theory

Chapter 1

1.1 Predicate logic

geometry, algebra, set theory

$$variables \xrightarrow{functions} terms \xrightarrow{predicates} literals \xrightarrow{connectives} formulas \xrightarrow{quantifiers} sentences$$

1.2 ZFC axioms

ZC^- as statements of faith: assumptions on which every informal finite reasoning in mathematics relies.
ZFC as definitional axioms: an interesting example of formal theories.

Existence Extensionality Foundation Comprehension scheme Pairing Union Replacement scheme Infinity Power set Choice

1.1.

Chapter 2

Part II

Model theory

Part III

Proof theory

Part IV

Computability theory