Mathematical Reasoning: Writing and Proof is designed to be a text for the first course in the college mathematics curriculum that introduces students to the processes of constructing and writing proofs and focuses on the formal development of mathematics.

1: Introduction to Writing Proofs in Mathematics
2: Logical Reasoning

3: Constructing and Writing Proofs in Mathematics

4: Mathematical Induction

5: Set Theory
6: Functions

7: Equivalence Relations

8: Topics in Number Theory

9: Finite and Infinite Sets

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Thumbnail: P. Oxy. 29, one of the oldest surviving fragments of Euclid's Elements, a textbook used for millennia to teach proof-writing techniques. The diagram accompanies Book II, Proposition 5. (Public Domain).