This text is intended to serve as an IBL style workbook to be used in an undergraduate introductory proof writing course. It covers direct, contrapositive, contradiction, biconditional, existence, uniqueness, induction, and set equality proofs while also covering fundamental topics from number theory, elementary real analysis, functions, and sets with infinite cardinality. It is assumed that the audience has attained a degree of mathematical maturity and has had some exposure to sets and logic, but knowledge of calculus or linear algebra is not required.

KEYWORDS: proofs, IBL, direct proof, proof by contrapositive, proof by contradiction, induction, injection, surjection, bijection, infinite cardinality