

# An Introduction to Proofs and Proof Techniques

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This segment introduces the concept of a proof and the basic proof techniques that are used in discrete math. I include (weak) mathematical induction here because it is a useful technique which I'd like to be able to use in the coming segments. In the future, there will be a segment going into much more detail on induction and well ordering.

## 1 What is a Proof?

I don't know about a formal definition of a proof, but basically it's an argument which guarantees the truth of a proposition according to certain rules.

**Definition 1** *A proposition is a statement which can be true or false.*

**Example 1** *dsf*

*Solution* trivial