An Introduction to Proofs

Hassium,

In higher-level mathematics, such as algebra, students need "mathematical maturity" to understand and apply abstract ideas. There is no obvious way to determine this maturity, nor a clear method to teach someone how to write a proof. This note is designed to serve as a transition to proof-based mathematics, guiding students in adapting to the way mathematics operates.

1 Logic

Logic is the formal framework and rules of inference that ensure the validity and coherence of arguments in mathematics. We shall accept that sentences can be either true or wrong.