Proofs

The main tool is a **mathematical proof**.

A proof is a carefully constructed reasoning that shows that the concluding statement is true.

A proof is a mathematical reasoning over statements that follows **precise steps**, and **only those**.

A proof is constructed as a sequence of those steps.

Intuition or **insight** is never part of a proof.

Acceptable Statements

We cannot simply state that $3 + 4 = 7$, but would need to prove this.

We will insist on **rigour** and only accept proofs that are constructed correctly.

However, there will be basic statements, on arithmetic for example, that we can accept without proof, that are facts that ‘we know’ and assume have been proven elsewhere.