Fields

1   Why

We generalize the algebraic structure of addition and multiplication over the rationals.

2   Definition

A **field** is two algebras over the same ground set with: (1) both algebras are commutative groups (2) the operation of the second algebra distributes over the operation of the first algebra.

We call the operation of the first algebra **field addition**. We call the operation of the second algebra **field multiplication**.

2.1   Notation

TODO