



# Algebras

## 1 Why

We name a set together with an operation.

## 2 Definition

An *algebra* is an ordered pair whose first element is a non-empty set and whose second element is an operation on that set. The *ground set* of the algebra is the set on which the operation is defined.

### 2.1 Notation

Let  $A$  be a non-empty set and let  $+: A \times A \rightarrow A$  be an operation on  $A$ . As usual, we denote the ordered pair by  $(A, +)$ .