



## ELEMENT FUNCTIONS

### Why

Take an element of an algebra, and consider the function defined on the ground set which maps elements to the result of the operation applied to the fixed element and the given element.

### Definition

Let  $(A, +)$  be an algebra. For each  $a \in A$ , denote by  $+_a : A \rightarrow A$  the function defined by

$$+_a(b) = a + b.$$

We call  $+_a$  the *left element function* of  $a$ .

Similarly, denote by  $+^a : A \rightarrow A$  the function defined by

$$+^a(b) = b + a.$$

We call  $+^a$  the *right element function* of  $a$

The idea is that elements of an algebra can always be associated with functions.



