



Natural Sums

1 Why

TODO We want to combine two groups.

2 Definition

Let m and n be two natural numbers. If we apply the successor function to m n times we obtain a number. If we apply the successor function to n m times we obtain a number. Indeed, we obtain the same number in both cases. We call this number the *sum* of m and n . We say we *add* m to n , or vice versa. We call this correspondence, between (m, n) and the sum, *addition*.

2.1 Notation

We denote the function addition by $+$ and so denote the sum of the naturals m and n by $m + n$.