

# Order of a group

baudo81[at]gmail.com

June 12, 2017

## 1 DEFINIZIONE

The order of a group is its cardinality, i.e., the number of elements in its set. Also, the order, sometimes period, of an element  $a$  of a group is the smallest positive integer  $m$  such that  $a^m = e$  (where  $e$  denotes the identity element of the group, and  $a^m$  denotes the product of  $m$  copies of  $a$ ). If no such  $m$  exists,  $a$  is said to have infinite order.

NB: La stessa definizione può essere data con la notazione additiva.

## 2 NOTAZIONE

The order of a group  $G$  is denoted by  $\text{ord}(G)$  or  $|G|$  and the order of an element  $a$  is denoted by  $\text{ord}(a)$  or  $|a|$ .

## 3 APPROFONDIMENTI

- EN.WIKIPEDIA.ORG: Order (group theory) [?]
- EN.WIKIPEDIA.ORG: Lagrange's theorem (group theory) [?]