

0.1 Group order

For finite groups, each element e has:

$$e^n = I$$

For some $n \in \mathbb{N}$

Where I is the identity element.

The order of the group is the smallest value of n such that that holds for all elements.

For example in the multiplicative group $G = \{-1, 1\}$ the order is 2.

Or:

$$|G| = 2$$

Additionally

$$|-1| = 2$$

$$|1| = 1$$