



Definition

Given a group (G, \circ) and a subset $H \subset G$, if $(H, \circ|_H)$ is a group then we call it a *subgroup* of (G, \circ) . As we often refer to the group G we refer to H as the subgroup. If $H \subsetneq G$, we refer to H as a *proper subgroup*.

Examples

Trivial subgroup. Suppose $e \in G$ is the identity element of the group (G, \circ) . Then $\{e\}$ is a subgroup of (G, \circ) .

