

## 1.1: Abelian group

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An **abelian group**, also called a *commutative group*, is a group  $(G, *)$  such that

$$g_1 * g_2 = g_2 * g_1$$

for all  $g_1$  and  $g_2$  in  $G$ , where  $*$  is a **binary operation** in  $G$ . This means that the order in which the binary operation is performed does not matter, and any two elements of the group commute.

Groups that are not commutative are called **non-abelian** (rather than non-commutative).

Abelian groups are named after Niels Henrik Abel.

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