

Common Finite Groups

Mathematics

The standard examples every conjecture should be tested against first.

The examples every proof is tested against.

Group	Order	Notes
$\mathbb{Z}_n$	n	Cyclic, so abelian
S_n	$n!$	All permutations of n
A_n	$n!/2$	The even permutations
D_n	$2n$	Symmetries of an n -gon
Q_8	8	Quaternions, non-abelian
Klein four group	4	Abelian but not cyclic
$GL(n, F)$	Varies	Invertible $n \times n$ matrices

Every group of order p is cyclic, and every group of order p^2 is abelian.
The smallest non-abelian group is S_3 , of order 6.