

# Isomorphism of Subgroups in Finite Group

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## **Abstract**

The main objective of this thesis is to give some interesting results for the class of finite groups in which two subgroups of the same order are isomorphic. For example, we will give necessary and sufficient conditions for  $p$ -groups to be in such a class. The main result is proving the homomorphic image of a group in such a class is also in that class of groups. If time permits, we will establish several results and make conjectures about groups of order  $p^m q^n$  (where  $p$  and  $q$  are distinct primes).