

ANOTHER CORRESPONDENCE THEOREM – PRACTICE

Theorem: Let G be a group, N a normal subgroup of G , and let M be a subgroup of G/N . Also, define $f : G \rightarrow G/N$ by $f(g) = Ng$, and define $f^{-1} : G/N \rightarrow G$ by $f^{-1}(Ng) = \{g \in G \mid f(g) \in Ng\}$. Similarly, for any set $A \subseteq G/N$ let $f^{-1}(A) = \{g \in G \mid f(g) \in A\}$. Then if M is a subgroup of G/N , $f^{-1}(M)$ is a subgroup of G .

Proof: