

1 Fundamental Theorem of Galois Theory I

Theorem 1.1. *Let $L : K$ be a Galois extension and $G = \text{Gal}_K L$. Define $\mathcal{I}(K, L)$ and $\mathcal{S}(G)$ as the collection of all intermediate fields of $L : K$ and the family of all subgroups of G , respectively. Then for all $P \in \mathcal{I}(K, L)$ we have $L^{G_P} = P$ and for all $H \in \mathcal{S}(G)$ we have $G_{L^H} = H$.*