



ALGEBRA II
FALL 2017

ASSIGNMENT 12.3
DUE DECEMBER 4

Exercise 1. Let G be a group of automorphisms of a field K . If $H \leq G$, show that $K^{\sigma H \sigma^{-1}} = \sigma K^H$ for all $\sigma \in G$.

Exercise 2. Let p and q be distinct primes. Use exercise 12.1.2 and the Fundamental Theorem to find all intermediate fields of $\mathbb{Q}(\sqrt{p}, \sqrt{q})/\mathbb{Q}$.