



Let  $K/F$  be a field extension with Galois group  $G = \text{Gal}(K/F)$ , and let  $H$  be a subgroup of  $G$ . The *fixed field* of  $H$  in  $K$  is the set

$$K^H := \{x \in K \mid \sigma(x) = x \text{ for all } \sigma \in H\}.$$

The set  $K^H$  is always a field, and  $F \subset K^H \subset K$ .