

Problem 10.6: Fix $H \leq G$ and $K \leq G$ with $(|H|, |K|) = 1$
Prove $H \cap K = \{e\}$

Group # 1
Team
Awesome

Proof:

$H \cap K \leq H$ and $H \cap K \leq K$.

So $|H \cap K| \mid |H|$ and $|H \cap K| \mid |K|$.

But since $(|H|, |K|) = 1$, then $|H \cap K| = 1$.

So $H \cap K = \{e\}$