Recommended Problems
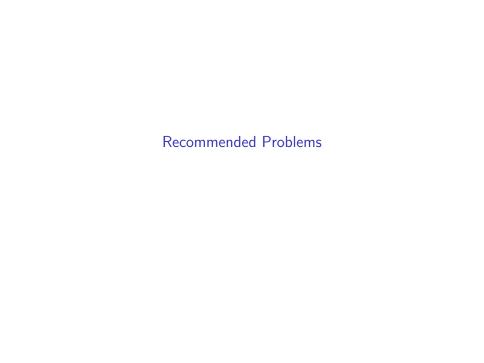
Recommended Problems

Let R be an integral domain with field of fractions Q. Prove that $(Q/R) \otimes_R (Q/R) = 0$. In particular $\mathbb{Q}/\mathbb{Z} \otimes \mathbb{Q}/\mathbb{Z} = 0$.

Let G be a finite abelian group and let p^k be the highest power of a prime p dividing $|G|$. Prove that $Z/p^k\mathbb{Z} \otimes G$ is the Sylow p-subgroup of G.

Ranks