Fall 2019, Math 620: Week 3 Preliminary Problems
Due: Thursday, September 12th, 2019
Cosets and Quotient Groups

Preliminary problems. These problems should be completed before discussion on Thursday.

(P1) Let $G = \mathbb{Z}_{12}$. Write out all **distinct** cosets of $H = \{[0]_{12}, [4]_{12}, [8]_{12}\}$.

(P2) Choose 2 cosets $a + H$, $b + H$ from (P1). Verify that for any $a' \in a + H$ and $b' \in b + H$, the element $a' + b'$ lies in the same coset.