1. In the problem set that was due today, you proved that if $R$ is a ring with ideals $I$ and $J$ such that $I + J = R$ and $IJ = 0$, then the following map is a ring isomorphism:

$$R \rightarrow R/I \times R/J, \quad r \mapsto (r + I, r + J)$$

Use this result to prove that $\mathbb{Z}/(12)$ is isomorphic to $\mathbb{Z}/(3) \times \mathbb{Z}/(4)$.

2. What are the maximal ideals of $\mathbb{Z}$?

3. Any questions about the upcoming midterm?