

Name: _____

Math 256A Quiz 1

Due Thursday 9/5

1. Calculate the abelian group $\mathbb{Z}/m\mathbb{Z} \otimes_{\mathbb{Z}} \mathbb{Z}/n\mathbb{Z}$ for any $m, n \in \mathbb{Z}$.
2. Classify up to equivalence all quadratic forms on a \mathbb{C} -vector space V of dimension n .
3. Describe and compare the \mathbb{C} -algebras $\varprojlim_{m,n} (\mathbb{C}[x]/(x^m) \otimes \mathbb{C}[y]/(y^n))$ and $\varprojlim_m (\mathbb{C}[x]/(x^m)) \otimes \varprojlim_n (\mathbb{C}[y]/(y^n))$.