Math 2001, Spring 2023. Katherine E. Stange.

1 Assignment

Prove the following theorem.

Theorem 1. Let $n \in \mathbb{Z}$. If $n = x^2 + y^2$ then $n \neq 3$ modulo 4.

Hint: There are only four 'numbers' in the mod 4 world. Try squaring and adding them in all possible ways.