**Math 3520 - Quiz 1**

**Name:**_____

Prove or disprove each of the following. For this assignment prove or disprove the following. Write out your answers with correct mathematics, and with correct English.

1. Prove if $n^2$ is odd then $n$ is odd.
2. Prove for all $n \in \mathbb{Z}$ we have $4|n^2 - 1$.
3. Let $n \in Z$ and $n > 2$. If $n$ is prime then $2^n - 1$ is prime.
4. Let $n \in Z$ and $n > 2$. If $2^n - 1$ is prime $n$ is prime.