Math 3520 - Quiz 6

Name:_____

Type up your answers in complete English.

11.5: 46, 47, 52, 55, 56

1. Prove Euclid's Lemma: Let a, b and $c \in \mathbb{Z}$ with $a \neq 0$. If $a|bc$ and $gcd(a, b) = 1$ then $a|c$.

2. Prove the following: Let b and $c \in \mathbb{Z}$ and lt p be a prime. If $p|bc$ then $p|b$ or $p|c$. This is a Corollary to Euclid's Lemma.

3. Prove the following: Let $c \in \mathbb{Z}$ and lt p be a prime. If $p|a^2$ then $p^2|a^2$. This is a Corollary to Problem 2.