Name: __My Name Goes Here__

PROPOSITION: Let $a, b, n \in \mathbb{Z}$ and $n > 1$. In addition, suppose $\gcd(a, n) = 1$ and $\gcd(b, n) = 1$.

Then $\gcd(ab, n) = 1$.

Proof: Suppose $a, b, n \in \mathbb{Z}$, $n > 1$, $\gcd(a, n) = 1$, and $\gcd(b, n) = 1$.

MY AWESOME PROOF.

MORE OF MY AWESOME PROOF.

DONE. $\square$