

Your Name: _____ Group Members: _____

Problem 1 *Let $x, y, z \in \mathbb{Z}$ and let p be a prime number.*

(a) *Prove that if $x^{p-1} + y^{p-1} = z^{p-1}$, then $p \mid xyz$.*

(b) *Prove that if $x^p + y^p = z^p$, then $p \mid (x + y - z)$.*
