Quiz 3: October 18, 2018

Left Neighbor: _____ Right Neighbor: _____

Name: _____ Student ID: _____

Section TA: _____

This is a closed book quiz

1. **(4 points total)** if $(a \mid b) \wedge (c \mid d)$, prove that $ac \mid bd$.

2. **(4 points total)** Prove if $a, b, c, d, m \in \mathbb{Z}$ and $m \geq 2$ and $a \equiv b \pmod{m}$ and $c \equiv d \pmod{m}$ then $(a + c) \equiv (b + d) \pmod{m}$.

3. **(2 points total)** Rewrite $\neg\forall x P(x)$ so that the negation sign comes after the quantifier, and briefly explain why it is the correct negation.