Math 3325 **PRINCIPLES OF MATH** Fall 2017
Dr. Duval **Homework 2**
due Thursday, September 21

**1.** Let $a, b, c$ be positive integers. Prove that if $a \mid a+b$ and $b \mid b+c$, then $a \mid a+c$.

**2.** Let $x, y, z$ are real numbers such that $10 \leq w \leq x \leq y \leq z \leq 30$. Prove that $x-w \leq 7$, $y-x \leq 7$, or $z-y \leq 7$.