

**MATH 113: DISCRETE STRUCTURES**  
**HOMEWORK DUE MONDAY WEEK 14**

*Problem 1.* Find two integers  $a, b$  such that  $2a \equiv 2b \pmod{6}$ , but  $a \not\equiv b \pmod{6}$ .

*Problem 2.* Prove that if  $a, b, c, m \in \mathbb{Z}$ ,  $c \neq 0$ , and  $ac \equiv bc \pmod{mc}$ , then  $a \equiv b \pmod{m}$ .