MATH 113: DISCRETE STRUCTURES
READING QUESTIONS FOR FRIDAY WEEK 11

Reading assignment. *DM:EB* §6.7.

Problem 1. The book defines $a \equiv b \pmod{m}$ to mean that a and b have the same remainder when divided by m. Prove that this is true if and only if $m \mid a - b$.

Problem 2. Which of the following "rules" are true?

(a) If $a \equiv b \pmod{c}$, then $a + x \equiv b + x \pmod{c}$.
(b) If $a \equiv b \pmod{c}$, then $ax \equiv bx \pmod{cx}$.
(c) If $a \equiv b \pmod{c}$ and $x \equiv y \pmod{z}$, then $a + x \equiv b + y \pmod{c + z}$.