MATH 113: DISCRETE STRUCTURES
READING QUESTIONS FOR WEDNESDAY WEEK 13

Reading assignment. *DM:EB* §6.8.

Problem 1. Show that division by a nonzero number cannot always be carried out in the mod 6 number system, *i.e.*, find $a \in \mathbb{Z}$ such that $a \not\equiv 0 \pmod 6$ and for which there is no $b \in \mathbb{Z}$ such that $ab \equiv 1 \pmod 6$. Generalize your example to every composite modulus.

Problem 2. Compute $\overline{1}/\overline{53}$ modulo 234527.