

MATH 113: DISCRETE STRUCTURES
HOMEWORK DUE WEDNESDAY WEEK 11

Problem 1. Let r be the remainder when you divide b by a . Assume that $c \mid a$ and $c \mid b$. Prove that $c \mid r$.

Problem 2. Prove that for every integer a and positive integer n ,

$$(a - 1) \mid (a^n - 1).$$

(The proof can be quite short.)