## MATH 113: DISCRETE STRUCTURES HOMEWORK DUE WEDNESDAY WEEK 14

*Problem* 1. Prove that if integers *a* and *n* are relatively prime, then *a* has an inverse modulo *n*, *i.e.*, there exists an integer *x* such that  $ax \equiv 1 \pmod{n}$ .

*Problem* 2. Solve the congruence  $2x^2 - x \equiv 0 \pmod{11}$ .