Winter 2017, Math 148: Week 4 Preliminary Problems
Due: Thursday, February 2nd, 2017
Finite Fields

Preliminary problems. These problems should be completed before discussion on Thursday.

(P1) Let $\mathbb{F}_4 = \mathbb{Z}_2[z]/\langle z^2 + z + 1 \rangle$ as in Wednesday's class. Fill in the addition and multiplication tables for $\mathbb{F}_4$, and verify that they coincide with those you found in discussion on Monday.

(P2) Find all irreducible polynomials in $\mathbb{Z}_2[z]$ of degree at most 3.