

Winter 2018, Math 148: Week 1 Preliminary Problems
Due: Friday, January 12th, 2018
Modular Arithmetic

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

(P1) Fill in the multiplication table for \mathbb{Z}_5 below. You may omit the $[\]_5$ notation if you prefer.

\cdot	$[0]_5$	$[1]_5$	$[2]_5$	$[3]_5$	$[4]_5$
$[0]_5$					
$[1]_5$					
$[2]_5$					
$[3]_5$					
$[4]_5$					

(P2) Find all $x \in \mathbb{Z}_7$ that satisfy $x^2 = [4]_7$.