

# Math 21-341 - Linear Algebra

Part of Homework Assignment 1

Due Sep 4

1. Let  $\mathbb{F}_4$  be the set  $\mathbb{F}_4 = \{0, 1, 2, 3\}$ . If we define the operations of addition and multiplication on  $\mathbb{F}_4$  by adding and multiplying modulo 4, will  $\mathbb{F}_4$  be a field? Justify your answer.