

Winter 2018, Math 148: Week 5 Preliminary Problems
Due: Thursday, February 8th, 2018
Applications of Finite Fields

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

(P1) Draw \mathbb{F}_3^2 , the 2-dimensional vector space over \mathbb{F}_3 . Circle the points in the line $\text{span}\{(1, 2)\}$, and box the points in the translated line $(2, 1) + \text{span}\{(1, 1)\}$.

(P2) Solve the following system of linear equations in \mathbb{F}_5 *algebraically* (i.e. by standard equation manipulation). Identify where in the solving process you used division.

$$2x + 3y = 3$$

$$3x + 4y = 3$$