## Math 131A Winter 2018: Homework 1, Due 1/18

1. Exercise 1.8.
2. Using induction, show that every integer $n>1$ is either a prime or a product of primes.
3. Show that $\sqrt{p}$, where $p$ is a prime number, is not a rational number.
4. Exercise 3.4.
5. Let $(F,+, ;<)$ be an ordered field. Show that for given two elements $x, y \in F$ which satisfies $x, y>0$ we have $x<y$ if and only if $x^{2}<y^{2}$. Specify what axioms or theorems in the book you are using.

6-8. Exercise 4.7, 4.8, 4.10.

