MATH 311H: Homework 9

Due: Monday, November 6 at 5 pm

1. No office hours with me this week; instead, Ishaan has extra office hours Monday 1-3 pm (in addition to his regular office hours on Wednesday).

2. Read Sections 4.1-3 in Abbott.

3. Do exercises 3.3.5, 3.3.8*, 3.3.12, 3.4.1*, 3.4.4(a), 3.4.7* in Abbott.

Remark: If you are ambitious or bored, go through Chapter 3 and decide how much of what we've proved would be true with $\mathbb{R}$ replaced by $\mathbb{Q}$ throughout. (For example, setting $A \subseteq \mathbb{Q}$ to be *open in* $\mathbb{Q}$ if every $y \in A$ has a neighborhood $W_\epsilon(y) = \{z \in \mathbb{Q} : |y - z| < \epsilon\}$ also contained in A, and constructing a similar definition of closed which considers only rationals.)