

MATH 311: Homework 3

Due: February 10, 2021

1. Upcoming office hours are Monday February 8 9:00-10:00 and Wednesday February 10 9:00-10:00.
2. Reminder that Quiz 1 is on Monday, February 8 and covers Chapter 1 in Abbott. The quiz will be thirty minutes long and consist of three questions. After submitting your quiz, you will be asked to record and submit a short video of yourself explaining your solution to one of the problems for authentication.
3. Read Sections 2.1-4 in Abbott.
4. Find bijections between the following pairs of sets.
 - (a) $[0, 1)$ and $[0, 1]$.
 - (b) The interval (a, b) for $a < b$ and \mathbb{R} .
 - (c) The set S consisting of sequences $(s_i)_{i=0}^{\infty}$ such that s_i is 0 or 1 and the set of subsets of the natural numbers.
5. Do Abbott Exercise 1.5.1, 1.5.9, 2.2.2, 2.2.3, 2.3.2, 2.3.4, 2.3.8 [This is not as long as it looks, some of these are fairly straightforward.]