**MATH104: Topology** **Fall 2023**

# Homework 2

David Yang

*Chapter 2 (Topological Spaces and Continuous Functions) Problems.*

Section 17 (Closed Sets and Limit Points), 17.13

**Show that $X$ is Hausdorff if and only if the diagonal $\triangle = \{x \times x \mid x \in X\}$ is closed in $X \times X$.**