

24F-MATH-131B HOMEWORK 2
DUE SUNDAY, OCTOBER 20

- (1) Exercise: 1.5.6, 1.5.7, 1.5.8, 2.1.1, 2.1.2, 2.3.3, 2.3.4, 2.4.4.
- (2) Complete the proof of case 3 of Theorem 1.5.8.
- (3) Given following examples.
 - (a) A continuous function $f : (X, d_X) \rightarrow (Y, d_Y)$ and an open set $U \subset X$ such that $f(U) \subset Y$ is not open.
 - (b) A continuous function $f : (X, d_X) \rightarrow (Y, d_Y)$ and a closed set $K \subset X$ such that $f(K) \subset Y$ is not closed.