

Math 413 Analysis I
Problem Set 7

Due Friday October 10

Do the following problems from Abbott's *Understanding Analysis*.

Exercise 3.3.5

Exercise 3.3.7

Exercise 3.3.9

Exercise 3.4.7

Exercise 3.4.9

- in 3.4.7 do only a) and the first part of b). You can ignore the part of the question b) about perfect sets.

- In 3.4.9 you need the following definition. A set $X \subseteq \mathbb{R}$ is *totally disconnected* if for any distinct $x, y \in X$ there are separated sets A and B such that $A \cup B = X$, $x \in A$ and $y \in B$.