

## Introduction to Analysis I (Fall 2025): Homework 7

- LSIRA stands for the textbook (Lindstrøm: Spaces An Introduction to Real Analysis).
- You **must email your submission as a PDF file** to kbala@wsu.edu. You are welcome to write answers by hand, and scan the writings.
- **If you use L<sup>A</sup>T<sub>E</sub>X to typeset your homework submission, you will get 5 extra points!** You could use a L<sup>A</sup>T<sub>E</sub>X locally on your computer or use a web service, e.g., Overleaf. Sorry, but using MS Word does not count here!
- Your file name should identify you in the following manner. If you are Steamy Ray Vaughan, you should name your submission SteamyVaughan\_Hw7.pdf (and **NOT** Steamy\_Vaughan\_Hw7.pdf or StyVaughan\* or Steamyvaughan\*..., or Hw7\_SteamyVaughan..., or ...). You are welcome to add anything more to your filename *after* these terms, e.g., SteamyVaughan\_Hw7\_Math401.pdf. Please avoid white spaces in the file name; TIA! *Steamy is popular, so gets the spotlight for one more week!*
- **Begin the SUBJECT of your email submission with the same FirstnameLastname, e.g., “SteamyVaughan Hw7 submission”.**
- The total points (given in parentheses) add up to 105.
- **This homework is due in my email inbox by 11:59 PM on Thursday, October 23.**

1. (20) LSIRA Section 3.2 Problem 6 (Page 52).
2. (30) LSIRA Section 3.2 Problem 8 (Page 52).
3. (25) LSIRA Section 3.3 Problem 2 (Page 58).
4. (30) LSIRA Section 3.3 Problem 3 (Page 58).  
There are **typos** in the last sentence. You want to find a set  $F$  that is not closed such that  $\sup F \notin F$  and  $\inf F \notin F$ .