Introduction to Analysis I (Fall 2025): Homework 2

- 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 LaTeX to typeset your homework submission, you will get 5 extra points!** You could use a LaTeX 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 Scott Tenorman, you should name your submission ScottTenorman_Hw2.pdf (and **NOT** Scott_Tenorman*, or TenormanScott*..., or Hw2_scotttenorman..., or ...). You are welcome to add anything more to your filename *after* these terms, e.g., ScottTenorman_Hw2_Math401.pdf. Please avoid white spaces in the file name :-).
- **Begin the SUBJECT of your email submission with the same `FirstnameLastname`, e.g., "ScottTenorman Hw2 submission".**
- The total points (given in parentheses) add up to 125.
- **This homework is due in my email inbox by 5:00 PM on Thursday, September 4**.

0. If you have **not** yet met me (on Zoom or in person) for Homework 1, you can still do so, and get the credit for that problem.

1. (15) LSIRA Section 1.2 Problem 8 **(b)** (Page 11).

2. (20) LSIRA Section 1.3 Problem 2 (Page 12).

3. (35) LSIRA Section 1.3 Problem 7 (Pages 12–13).

4. (25) LSIRA Section 1.4 Problem 7 (Page 17).
   There is a typo in the statement of part (a)—equality may not always hold. Just prove the inclusion in the direction ($\subseteq$ or $\supseteq$) for which you can give a valid argument.

5. (30) LSIRA Section 1.4 Problem 8 (Page 17).