

Assignment #5

Due Wednesday, 2 October 2019, at the start of class

The problems below are all from Chapters 5 and 7. While Chapter 5 is clearly topology, i.e. metric space topology, the concept of completeness is not invariant under homeomorphisms; completeness really is analysis.

One exercise below is identified with your initials. Please \LaTeX this problem and send both the `.tex` and `.pdf` to me at `elbueler@alaska.edu` by the same due date as above. See the course website for a \LaTeX template.

DO THE FOLLOWING EXERCISES from the textbook:¹

CHAPTER 5

- Exercise #16 on page 66. ← **WV**
- Exercise #19 on page 66. ← **DD**
- Exercise #25 on page 66. ← **AM**
- Exercise #32 on page 67.

CHAPTER 7

- Exercise #12 on page 94.
- Exercise #18 on page 94.
- Exercise #19 on page 94.

¹Carothers, *Real Analysis*, Cambridge University Press 2000.