Math 330 Section 1 - Spring 2016 - Homework 17

Due date: Fri, May 6, 2016   *Running total: 56 points*
Last submission Wednesday, May 11, 2016(!!)

> **Note:** *You may make a last submission of this homework and homework 16 on May 11 by 5:00 PM and you can pick it up on Thursday, May 12, during my office hours which I extend from 10:00 to 2:00.*

Status - Reading Assignments:

Here is the status of the reading assignments you were asked to complete by this date.

B/G (Beck/Geoghegan) Textbook:
    all of ch.1 - ch.6
    all of ch.7.1; ch.7.2 until before thm.7.15
    all of ch.8 - ch.12
    ch.13.1 and 13.2 **without looking at the proofs**
    ch.13.3, 13.4 and 13.5 **including proofs**
    Appendix A "Continuity and Uniform Continuity"

"MF additional material":
    ch.2 - ch.6 (prop.5.3 through prop.5.5 without proofs)
    ch.6
    all of ch.7 but see this footnote [1] .
    all of ch.8, but omit the proof of prop.8.2. and ch.8.6.1.
    ch.9, until lemma 9.2

Other course material:
    "Logic part 1"
    "Sets part 1", "Sets part 2",
    "Functions part 1", "Functions part 2"
    Stewart Calculus 7ed - ch.1.7: "The Precise Definition of a Limit"

New reading assignments:

Reading assignment - due: Monday, May 9
Finish MF ch.9.1.2 (Existence of bases in vector spaces).

Assignment 1:

Give an alternate proof of Theorem 8.7 (Continuous images of compact spaces are compact) (ch.8.5) using sequence compactness. You can find an outline of the proof in remark 8.3 but you must flesh it out.

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[1] Ch.7.1.3: Read carefully only until def.7.10 (Basis and neighborhood basis) and skim through the remainder of ch.7.1.3.