

Math 330 Section 2 - Fall 2018 - Homework 13

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Running total: 46 points

Update November 3, 2018

Correction to assignment #1: Changed "then m is irrational" to "then \sqrt{m} is irrational".

Status - Reading Assignments:

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

B/G (Beck/Geoghegan) Textbook:

Preface, ch.1 – ch.6, ch.7.1 (only prop.7.9 – prop.7.12), ch.8 – ch.10,
ch.11 until before cor.11.23, ch.12

MF lecture notes:

ch.1 – ch.3, ch.5 – ch.11 (skip ch.6.3 and ch.8.3).
ch.19.7.2 (The Addition Algorithm for Two Nonnegative Numbers (Base 10))
Any "Addenda" subchapters: those will be added to without notice.

B/K lecture notes (optional):

ch.1.1 (Introduction to sets)
ch.1.2 (Introduction to Functions) but skip ch.1.2.4: Floor and Ceiling Functions

Other:

- Stewart Calculus 8ed - ch.1.7: "The Precise Definition of a Limit". If you have a newer or older edition then you may have to search through the table of contents and/or consult the index.

New reading assignments:

Reading assignment 1 - due Monday, October 29:

- a. Read carefully B/G ch.13. There are only very few items you have not yet encountered in MF ch.7 and ch.11.

Reading assignment 2 - due: Wednesday, October 31:

- a. Read MF ch.12.1 and ch.12.2.1: It will not be long and I will lecture about MF ch.12.2.2 (Normed Vector Spaces). If you have taken or are taking one of Calc 3 and linear algebra then ch.12.1 should not pose a problem. If you have no linear algebra background then be sure to read the material from Paul Dawkins' linear algebra lecture notes (bottom of the course materials page) together with MF ch.12.2.1.

Reading assignment 3 - due Friday, November 2:

- a. Read carefully MF ch.12.2.2 (Normed Vector Spaces).

Written assignment 1: Prove B/G prop.11.12: If $m \in \mathbb{N}$ is not a perfect square then \sqrt{m} is irrational.

Written assignment 2: Prove B/G prop.11.13: If m and n are nonzero integers then $\frac{m}{n}\sqrt{2}$ is irrational.