

Reminder

We'll have the in-class portion of our Celebration of Learning on Friday in class. It will be a lot like the quizzes, with question from Chapters 1–3 and somewhat heavier emphasis on Chapter 3 since we didn't have a quiz on that chapter.

Part I: Read and Respond (prepare for class Wednesday, March 26)

Read Section 4.2, taking notes for yourself and answering the following questions to turn in as your Part I assignment. Review the syllabus for parts (a)–(c) that should be included in this assignment.

Reading Questions

1. Compare and contrast the definitions of functional limit (Definitions 4.2.1 and 4.2.1B) with the definition of sequence convergence.
2. Here's a formal version of the proof of the limit in Example 4.2.2 (i) (minus the side work that's thrown in the middle in the text):

Proof. Let $\epsilon > 0$. Choose $\delta = \frac{\epsilon}{3}$. Then for all x such that $0 < |x - 2| < \delta$, we have

$$|f(x) - 7| = |(3x + 1) - 7| = |3x - 6| = 3|x - 2| < 3\left(\frac{\epsilon}{3}\right) = \epsilon,$$

which implies that

$$\lim_{x \rightarrow 2} f(x) = 7.$$

□

Rewrite the proof in part (ii) of that example formally in a similar way.

Part II: Exercises (prepare for class for Wednesday, March 26)

1. Exercise 4.2.5

Part III: Problems (due Wednesday, April 2 at the beginning of class)

1. Exercise 3.3.7b (P) (part (a) is bonus)