

Since we're not fully into a Parts I, II, and III cycle yet, you'll only have Parts I and II for Wednesday.

## Part I (prepare for class Wednesday, January 15)

First, read the syllabus carefully. Ask at least one good question about syllabus in part (b) of your Part I assignment.

Next, carefully read Sections 1.1–2 up to but not including the subsection entitled “Logic and Proofs” of Abbott, taking notes for yourself and answering the following questions. Much of this material should be review from previous math classes. Review the syllabus for parts (a)–(c) that should be included in this assignment. Here are the reading questions for part (a):

### Reading Questions

1. Purely informational for me: what topics in these two sections did you remember well from previous math courses, which ones did you recall having seen before but don't feel you remember well, and which ones seemed completely new to you?
2. What results and proofs have you seen that you would deem beautiful as Hardy feels about the proof that  $\sqrt{2}$  is irrational?
3. What were the downfalls of the Pythagoreans' concept of number?
4. Why are the rational numbers not sufficient for all we've ever wanted?
5. What were the main implications of Dirichlet's definition of function (Definition 1.2.3)?
6. Why is Example 1.2.4 a function?
7. Why is the Triangle Inequality so named?

## Part II: Exercises (prepare for class for Wednesday, January 15)

1. Exercise 1.2.1
2. Exercise 1.2.6