Midterm 2 Info

Time & place: Wednesday, October 26 at 6-7pm in MSEB 119.

Topics: Everything we covered in class in Chapters 4, 13, and basic limit theorems.

Format: The midterm exam is closed book.

Be aware:

- To get full credit you must write **complete**, **clear**, and **concise** solutions.
- Clearly label the important steps and techniques you use.
- Everything must be proven, exept for the true/false questions.
- The exam will consist of several "prove this statement" type questions; at least one about cardinality and at least one about limits. There will be one question with true/false problems. Also, you will be asked to provide at least one definition of an important concept we have covered and to state at least one important theorem.

Preview: One of the exam questions will come from the following list.

1. Prove that $\mathbb{Z}$ is countable.
2. Prove that any subset of $\mathbb{N}$ is either finite or countable.
3. Prove that every bounded, nonincreasing sequence of real numbers converges to its infimum.
4. Prove that every convergent sequence has a unique limit.
5. Prove the Archimedean property for $\mathbb{R}$.