Review for Math 2300 Quiz 2, Spring 2017

Chapter 5, Sections: 1, 2, 3, 4, 6, 7, 8 (*8 only if homework returned*)
You may bring one 3x5 inch card in your own handwriting and a calculator not connected to the internet.

Define
- Sequence
- Recurrence
- Recursive definition

Sequences
- Find formula, given the terms (must specify index set)
- Write recursive definition, given the terms
- Formulas for arithmetic and geometric finite sums

$$\sum_{i=1}^{n} i \qquad \sum_{i=0}^{n} r^i$$

Sequences that you should know and recognize
- n!
- Towers of Hanoi
- Fibonacci

Induction proofs (5 numbered steps)
- Formulas
- Divisibility
- Inequalities
- Formula, given recursive definition of a sequence

Solving Recurrences
- Iterate and guess (check by induction)

If homework can be returned in time:
- *Theorems (use to find formulas with numbered steps)*
  - *SOLHRRCC – distinct roots*
  - *SOLHRRCC – repeated roots*
  - *SOLRRCC (non-homogeneous)*