

**Topics to study for the second test:**

- Recursion: writing recursive formulas for sequences, in particular in word problems (like the one with climbing a staircase);
- Induction: this will probably be a large part of the test. Be prepared to explain how induction works and use induction to prove claims. Also be able to tell why an induction proof is wrong: typically, the base case is not established, or two or more base cases are needed when only one has been established. Know how to use induction to find closed form of recursive formulas.
- Relations: know how to prove that a relation has or does not have certain properties. In particular, know equivalence and partial order relations. Also be aware of equivalence classes. There will be no problems about functions.
- Counting and probability: problems similar to the ones from the hand-out. If there is a probability problem, it will only be one that will use basic probability formulas, and not conditional probability.

To study for the test, go over all the worksheets and homework assignments, both daily and weekly. We will review on Wednesday. Make up a cheat sheet for the test!