

The first midterm will be held on February 29, 2012 and will cover all material up to the end of Chapter 3.

The exam will be closed book. I will provide for you a list of the statements of the propositions from the text and the homework, except:

- I will **not** provide for you the statement of any Axiom.
- I will **not** provide for you the statement of any Theorem.
- I will **not** provide for you the statements of any Proposition that is very closely related to a Theorem or an Axiom, e.g. Proposition 2.16 or Proposition 2.33 fall in this category.
- I will **not** provide for you the statements of any Proposition that is not fundamental: Propositions 2.18, 2.24, 2.26, and 2.27 were largely meant as practice using induction and will not be given to you to use.

Reasonable tasks for the exam include (but are not limited to):

- Prove a brand new result that is not in the text but can be proved from our propositions.
- Prove a result from the text.
- Negate some statements.
- State major definitions, theorems, and axioms. For example: “Define an even integer.” (Answer: “An integer x is even if there exists an integer j such that $x = 2j$ ”)
- Given an implication, write down its contrapositive and its converse.

You should know all major proof techniques:

- Direct proofs.
- Proofs by the contrapositive.
- Proofs by contradiction.
- Proofs by induction.

I promise you there will be a proof by induction.

For any results I ask you to prove, I will tell you whether Chapter 1 rules are in effect or not. You can expect there will be at least one proof requiring full Chapter 1 rules.

For any results I ask you to prove, I will tell you the last available result you can use. For example, if I say “Last available result: Proposition 2.8”), you can use Proposition 2.8 and anything proved earlier in the text.