

York University

Faculty of Science and Engineering
MATH 1090. Problem Set #2
Posted October 6, 2011

Due: October 21, 2011; 2:00pm, in the course box



Worth reproducing (from the course outline):

“The homework must be each individual’s own work. While consultations with the instructor, tutor, and among students, are part of the learning process and are encouraged, nevertheless, at the end of all this consultation **each student will have to produce an individual report** rather than a copy (full or partial) of somebody else’s report.

See

<http://www.yorku.ca/secretariat/legislation/senate/acadhone.htm>

to familiarise yourselves with Senate’s expectations regarding Academic Honesty.

The concept of late assignments does not exist.



In what follows, “give a proof of $\Gamma \vdash A$ ” means to give an equational or Hilbert-style proof of A from Γ . What style —Hilbert or equational— is up to you, *unless I ask specifically otherwise*, but I advise that in the following problems equational proofs have the advantage.

Annotation —the “reason” part in every step of a proof— is required throughout!

(3 MARKS/Each) **Do the following problems from the text, Section 1.5.**

1. Number 18.

(5 MARKS/Each) **Do the following problems from the text, Section 2.7.**

2. Numbers 1, 9, 16, 17.

3. Number 8. **Note the restriction!**

(5 MARKS/Each) **Do the following problems related to the text’s Section 3.6.**

4. Number 14 of Section 3.6.
5. We know that $\vdash \neg A \vee A$. Is it the case that we must have at least one of $\vdash \neg A$ or $\vdash A$?
Why *exactly*?
6. Is it the case that $A, B \rightarrow A \vdash B$?
Why *exactly*?