

## MATH 347 HW 3

due September 21, at the beginning of class

### HOMEWORK GUIDLINES

Obviously, your solutions need to be complete and correct, but to receive full credit your write-up should also satisfy the following:

- All the important logical steps in the proof should be present and fully explained.
- All assumptions should be clearly identified.
- Your solutions should be clear and concise. If a sentence does not further the reader's understanding of the solution then it has no place in your write up.
- Use full and grammatically correct English sentences. Mathematical symbols should be used only to render complex mathematical relationships into a readable form.

Moreover, in order to obtain full credit for the homework, you must write down, in the very least, an attempt at a solution for each problem.

### PROBLEMS

Do the following problems from your book: 2.21, 2.48, 2.50, 2.51, and 2.53. Additionally, do the following:

- Show that  $(p \vee q) \wedge \neg q$  implies  $p$ .
- Is the proposition  $p \implies (q \implies r)$  equivalent to  $(p \wedge q) \implies r$ ? If they are, give a proof. If they are not, provide a counterexample.