

## MATH 347 HW 6

due October 19, 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: 4.21, 4.24, 4.31, 4.33, 4.43. Additionally, do the following exercise:

- (1) Suppose that  $f : X \rightarrow Y$  is a bijection. Let  $x \in X$  and let  $y := f(x)$ . Show that  $f$  restricts to a bijection

$$f| : X \setminus \{x\} \rightarrow Y \setminus \{y\}.$$