

**Homework 3**

**Due: September 27, 2012, beginning of the lecture**

PLEASE READ THE INSTRUCTIONS/SUGGESTIONS WRITTEN IN THE SYLLABUS!

Problems from the textbook:

- *I 4.7, Page 40:* 2, 8, 9
- *I 4.9, Page 43:* 1, e), j), 2 (just find the equivalent inequality to  $a_4, a_8$  and  $a_9$ ), 3,
- *1.5, Page 56:* 4 a), b), c), 6, 9, 10

BONUS PROBLEM: We call a real function  $g$  even, if  $g(x) = g(-x)$  for all  $x$ , and we call it odd if  $g(x) = -g(-x)$  for all  $x$ .

Is it true that any real function  $f$  (with  $\mathbb{R}$  as its domain) can be written as the sum of an even and an odd function?

DISCLAIMER: It is easy to find the solutions to (some of) these questions. (E.g. the internet, your fellow classmates ...) However, do NOT consult any of these solutions when working on this assignment or you will learn nothing from it and your chance of passing the course will be greatly diminished. If it becomes apparent to the grader that your solution is copied from existing solutions, you will be assigned a grade of zero for lack of originality.