# Theory of Computation 

## Homework 3

Due: 2010/11/23
Problem 1. Show that if a coNP-complete problem is in NP, then $N P=$ coNP.

Problem 2. It is known that 3-coloring is NP-complete. Show that 4coloring is NP-complete. (You do not need to show that it is in NP.)

