

Homework 3A

This is a voluntary homework. Solving it, you can gain extra points to the exam. Hand in before the next lecture i.e. 11 Oct 16:15 (either on my desk in the classroom or send to my e-mail). You are eligible for getting points only if you hand in on time and only if it is solved (more or less) correctly.

Problem. Prove that Euclid's algorithm works without using Bézout's theorem. In particular, try to prove directly that $\gcd(a, b) = \gcd(b, r)$ for $a = kb + r$.