

Homework No.4

student:
due 05/27/2010

Problem A: Use the Chinese Remainder Theorem to show that the following system of linear congruences has a unique solution modulo 600, then find it.

P	C	N
-/6	-/2	-/2

$$5x \equiv 4 \pmod{24}$$

$$11x \equiv 52 \pmod{75}$$

$$17x \equiv 44 \pmod{100}$$

Problem B: Let a, b be integers, and m, n positive numbers, such that $n|m$. Prove that if $a \equiv b \pmod{m}$, then $a \equiv b \pmod{n}$ as well.

P	C	N
-/6	-/2	-/2

Problem C: Using the list of axioms from the workshop, prove that the product $1' \times 1'$ equals 1.

P	C	N
-/6	-/2	-/2

Problem D: Complete the online test 'The Logic of Proofs' available on the course Blackboard site.