Homework

due on Monday, February 7

Read carefully sections 2.3 and 7.1 in the book.

Problem 1. a) Define 2^n for every natural number *n* using the induction axiom.

b) Prove that $n < 2^n$ for every natural number n

c) Let a, b be natural numbers. Prove that if a|b then $a \leq b$. Make sure you justify every step of your argument.

d) Prove that if a|b then -a|b, a|(-b) and -a|(-b). Conclude that if a|1 then either a = 1 or a = -1.

Explain in details each step of your reasoning. Mimic the proofs we did in class.