MA3201 - Problem sheet 5 fall 2008

The problem session will be on Thursday November 6th in F3.

Left from last time: Problems 2 and 5 from the Midterm Exam of 2007.

Problem 1. Let R_1, R_2 be rings and $R = R_1 \times R_2$.

a) Show that the left ideals in $R_1 \times R_2$ are of the form $I_1 \times I_2$, where I_1 is an ideal in R_1 and I_2 is an ideal in R_2.
b) Show that I is nilpotent in R if and only if I_1 is nilpotent in R_1 and I_2 is nilpotent in R_2.
c) Show that R is left artinian if and only if R_1 and R_2 are left artinian.

Problem from the book: Problem 1 on p. 401.

Exam problems:

Exam	Problem numbers
MA3201 11/12 -07	1^*, 2^*, 3^*
MNFMA318 7/12 -02	1, 2

Problems marked with * can be handed in at the lecture Monday November 3rd.