# MA3201 - Problem sheet 2

Time and place: Thursday October 25th $08^{\underline{15}} - 10^{\underline{00}}$ in F3.

**Problem 1*.** Let $R$ be a commutative ring and $x$ an element in $R$. Show the following: $x$ is invertible if and only if $x$ is not an element in any maximal ideal in $R$.

**Problems from the book:**

| Page | Exercise number |
|---|---|
| 209 | 2, 6* |
| 211 | 1 |
| 248 | 2 |
| 252 | 5, 8 |
| 260 | 2, 6* |

Problems marked with * can be handed in at the lecture Monday September 22nd.