Homework 2 – due 11/24/03

Math 603

1. Atiyah-Macdonald, Exercise 4, Chapter 11.

2. Atiyah-Macdonald, Exercise 7, Chapter 11.

3. Atiyah-Macdonald, Exercise 10, Chapter 10.

4. Let k be a ring, A and k' two k-algebras. Let $A' = A \otimes_k k'$. Show that $\Omega_{A'/k'} = \Omega_{A/k} \otimes_k k' = \Omega_{A/k} \otimes_A A'$. If $S \subset A$ is multiplicative, show that $\Omega_{A_S/k} = \Omega_{A/k} \otimes_A A_S$.