Algebra 4 (2004-05) – Assignment 4

Instructor: Dr. Eyal Goren

Submit by Monday, February 14, 24:00 by mail-box on $10^{\rm th}$ floor.

Do the following exercises from Dummit and Foote (third edition):

1. Exercise 18 on page 530.

2. Exercise 19 (a) and Exercise 20 on page 531.

Also solve the following question.

3. Give an example of a field $K \supset \mathbb{Q}$ such that K is an algebraic extension of \mathbb{Q} and $[K : \mathbb{Q}] = \infty$.