

Math 81. *Abstract Algebra*.

Homework 7. Due on Wednesday, 3/4/2009.

- Determine all the subfields of the splitting field of $x^4 - 2$ which are Galois over \mathbb{Q} .
- Page 582, problem 11.
Hint: For the first part, it helps to show first that A_4 is the only subgroup of S_4 with index 2. Also, Figure 8 from Chapter 3.5 may be useful.
- Page 589, problems 1, 3, 8.
- Page 595, problem 1.