

Modern Algebra
MATH 325W – Spring 2015

Monday: Chapter 13: Automorphism of fields
Wednesday: Chapter 14: Counting automorphisms
Friday: Chapter 15: Groups

Week 10

HOMEWORK

Homework #17

due Friday, April 10

Ch. 13: # 30
Ch. 14: # 22, 28, 30

WRITING ASSIGNMENTS

On writing assignments, part of your grade will reflect the quality of your *style*. Style includes everything from the basic mechanics of writing (complete, grammatically correct sentences with capitalization and proper punctuation) to the conventions of writing mathematics developed in Linear Algebra.

Writing Assignment #9

due Friday, April 10

Problem 1. Let F be a subfield of \mathbb{C} , and let $p(x) \in F[x]$ with $\deg(p(x)) = n$. Prove that $[F^{p(x)} : F] \leq n^n$.

Extra Credit. Let F be a subfield of \mathbb{C} , and let $p(x) \in F[x]$ with $\deg(p(x)) = n$. Prove that $[F^{p(x)} : F] \leq n!$. *If you choose to do this problem and are confident in your solution, then this is the only proof you need to turn in.*