

### Homework 3

Due Monday February 9, 2009 at the beginning of class.

Please write your home work neatly and use dark ink or a dark pencil. Please write in complete sentences. If you do something clever, you might want to give me a hint about what you are doing. If you want to replace some of the problems I have assigned with something more interesting, that is fine with me.

I won't mind if you get Macaulay, Macaulay2, maple, ... (your favorite Computer Algebra System) to do the calculations for you.

- (10) Page 31, problem 2.17. (You may use the lexicographic order or the reverse lexicographic order, which ever you like.)
- (11) Page 30, problem 2.12. (I don't think that we are given enough information to do the problem using reverse lexicographic order. I guess we have to use the lexicographic order.)
- (12) Page 30, problem 2.10. (If you don't want to do the problem using both orders, then just do one. If we are lucky, somebody will do it one way and somebody else will do it the other way and we can compare answers.)
- (13) Page 30, problem 2.9 (It looks like a calculus problem.)