Math 103B Winter 2006 HW 2

HW Due Friday 1/20/06 in class

All exercise and page numbers refer to Gallian, 6th edition.

0. These exercises are suggestions for extra practice at home or in section and are not to be turned in.

Gallian Chapter 13, #5, 15, 21, 25, 29, 33, 39, 45, 53.

Gallian Chapter 14, #1, 5, 7, 17, 19.

1. Gallian Chapter 13, #4, 6, 13, 14, 16, 22, 44, 54.

2. Gallian Chapter 14, #2, 4.

For exercise Chap 13 #22, here is a bit more information. R in this exercise consists of all functions $f : \mathbb{R} \to \mathbb{R}$. The addition and multiplication operations are done by defining $[f + g](x) = f(x) + g(x)$ and $[fg](x) = f(x)g(x)$ for any $f, g \in R$. For example, if $f(x) = 2x$ and $g(x) = x^2$, then $[f + g](x) = 2x + x^2$ and $[fg](x) = 2x^3$. It may be helpful to visualize the graphs of such functions in the xy-plane, just as in calculus.

For exercise Chap 13 #54, think about Lagrange's theorem from last quarter. What can you say about the set $F \setminus 0$ under multiplication?