

This assignment includes problems related to regression. We will cover more material in lecture than will be covered by this assignment. (I chose not to give you an assignment due the very last day of class so that you could use the last week to concentrate more fully on preparing for final exams.) However, the material in the last week of the class will be fair game for level 4 exams during the final exam time. I will distribute sample problems next week that you may do, but do not need to turn in.

For each of these problems, I recommend using R to do the calculations and the plotting, but you may do the work with a hand calculator if you choose. Example code is below.

1. Exercise 12.4 (page 511).
2. Exercise 12.8 (page 514).
3. Exercise 12.11 (page 521).
4. Exercise 12.20 (page 526).
5. Exercise 12.21 (page 539).

--- file 12-4.txt is between these lines ---

```
tempDrop dose
0.2      1.5
1.9      1.5
-1.0     1.5
0.5      1.5
0.8      1.5
4.0      3.0
3.2      3.0
2.3      3.0
2.9      3.0
3.8      3.0
3.3      6.0
5.1      6.0
5.3      6.0
6.7      6.0
5.9      6.0
```

Here are commands to do parts of the exercise (and a number of other related things). Again, reading in the data may be different under different operating systems.

```
> ethanol <- read.table("12-4.txt",header=T)
> attach(ethanol)
> fit1 <- lm(tempDrop ~ dose)
> plot(dose,tempDrop)
> abline(fit1)
> summary(fit1)
> plot(fit1)
> fit2 <- lm(tempDrop ~ log10(dose))
> plot(dose,tempDrop)
> abline(fit2)
> summary(fit2)
> plot(fit2)
```