

22S:008 Exam 2, Part I, Oct. 29, 1998 Form A

Name: _____ **Please circle one.** Section: 10:30 or 11:30

Do not print anything on the Lab printers. Please enter all of your answers from the computer screen onto these exam pages. Each part is worth two points.

1. Enter the dataset named Trees.mtw from the 22S-008 MTW data folder.
 - a) What is the equation for the fitted regression model that predicts Volume from Diameter and Height together?

 - b) What is the residual for the tree with Diameter = 8.8 and Height = 63 ?

 - c) The tree with the ***largest*** residual has Diameter = ? and Height = ?

 - d) What is the value of the residual standard deviation for the model fit in part a)?

2. Enter the dataset named Cars.mtw from the 22S-008 MTW data folder.
 - a) The column named ExpMPG is the miles per gallon for expressway driving measured for 45 different cars. Create a new variable called ExpGP100M that gives gallons used per 100 miles in expressway driving. What formula do you use to get ExpGP100M from ExpMPG?

 - b) What are the mean and standard deviation for ExpGP100M?

 - c) What is the equation for the fitted parallel-lines regression model that predicts ExpGP100M from a cars Weight together with the indicator variable Foreign?

 - d) What is the correlation coefficient between ExpGP100M and Weight?