Please turn in this homework on Tuesday, September 8, at the **beginning**of class.  Homework turned in 20 minutes and more after the hour will be considered late and points will be taken off.

Problem 1. From *Stat Labs*, chapter 1.

The data is available at the Stat Labs home page at <http://www.stat.berkeley.edu/~statlabs/labs.html>. It is called babies1.csv.

Please refer to the first chapter of the book *Stat Labs,* by Nolan and Speed. There is an electronic copy available in our library. The material below is reproduced from this chapter:

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``One of the US Surgeon General's health warnings placed on the side panel of cigarette packages reads:  
  
Smoking by pregnant women may result in fetal injury, premature birth, and low birthweight.  
  
In this lab, you will have the opportunity to compare the birthweights of babies born to smokers and nonsmokers in order to determine whether they corroborate on the Surgeon General's warning. The data provided here are part of the Child Health and Development Studies (CHDS) - a comprehensive investigation of all pregancies that occurred between 1960 and 1967 among women in the Kaiser Foundation Health Plan in the San Francisco-East Bay area. This study is noted for its unexpected findings that ounce for ounce the babies of smokers did not have a higher death rate than the babies of nonsmokers...''

15,000 people participated in the study, and the data here are a subset of the much larger study. The data consist of 1236 baby boys born during one year of the study, that lived at least 28 days, and who were single births (not part of a set of twins or triplets). The information available for each baby is the baby's birthweight, and whether or not the mother smoked during her pregnancy (smoked (value 1), did not smoke (value 0), or unknown (value 9)).

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(a) Summarize numerically the two distributions of birth weight for babies born to women who smoked during their pregnancy and for babies born to women who did not smoke during their pregnancy. (3 points)

(b) Use graphical methods to compare the two distributions of birth weight. If you make separate plots for smokers and nonsmokers, be sure to scale the axes identically for both graphs. (4 points)

(c) Assess the importance of the differences you found in your comparisons . (3 points)

Problem 2:  #2 from section 7.7 of the text (3 points)

Problem 3: #10, section 7.7 (2 points)

Problem 4: #24, section 7.7 (2 + 3 points)