Stat 31 Spring 2003 Hw 5 covering Sections 2.3, 2.4, 2.5, 3.1

Instructions: Please include this as the cover page of your answers and make sure to sign the pledge. Please see homework guidelines when completing your homework. In particular, all sheets must be stapled together, otherwise your quiz will not be accepted; and please write legibly. The assignment is due Thursday 20th February.

Name in CAPITALS (First Last): ________________________________________

Questions not from textbook:

1. (Trying to determine whether the height of UNC undergraduate students is normally distributed.)

Write down at random the heights of 20 students on campus (in inches). It doesn’t matter who you pick, as long as

- Your choices are reasonably random. Please don’t make obviously non-random choices like all male students, or all the members of some sports team.
- They are UNC undergraduate students.

Based on this data, plot a normal quantile plot using Excel. Does the plot appear to be a straight line? Plot a linear regression line on the graph using Excel. Write down the slope and intercept of the line and the mean and standard deviation of the data. Theory says the slope and the mean, and the intercept and the standard deviation should be similar. State what your results are. Please try to do this exercise on one sheet of paper.

2. Assume we are given a population of data. Suppose we know the mean and standard deviation of the sampling distribution of the mean of samples of size 20 from a population are 1.7 and 0.2 respectively. What are the mean and standard deviation of the sampling distribution of the mean of samples of size 100? (Yes, there is sufficient information given to answer the question).

Exercises from the textbook:
3.9, 3.10, 3.11, 3.12, 3.39, 3.47 (start at the beginning of line 181 for choosing random number for student members, and at the beginning of line 191 for choosing random numbers for faculty members. If it is not clear, note the two strata are students and faculty), 3.50, 3.55, 3.56(part (a) only), 3.59, 3.61.

Excel Exercises: (See Statistics 31 EXCEL Course Companion at (http://www.stat.unc.edu/teach/rosu/Stat31/Companion.html). Please take note of the fact that datasets may be downloaded on the web from http://www.stat.unc.edu/teach/rosu/DATASETS/)

Do Excel exercises 4 and 5 in Primer: (http://www.stat.unc.edu/teach/rosu/Stat31/Primer.html).
I have neither given nor received any unauthorized help on this exam and I have conducted myself within the guidelines of the University Honor Code.

Pledge: ________________________________