

HOMEWORK #1

STAT 651, Dr. Dahl

Please answer the following questions:

1. What indicate your college?
 - Agriculture
 - Architecture
 - Business
 - Education
 - Engineering
 - General Studies
 - Geosciences
 - Liberal Arts
 - Medicine
 - Science
 - Vet. Medicine
 - Other
2. What is name of your major? (No abbreviations, please)
3. What degree on you working on? (Doctorate, masters, bachelors)
4. About how many years do you have left?
5. Is this course required for your degree?
6. Have you taken a statistics class before?
7. What do you hope to learn in this course?
8. Is there anything else you would like me to know?

If you would like to access your grades online, please submit a Grades Posting Request with your homework. The form and more information are available on the course website.

Please do the following exercises. **Note:** It is okay to produce a frequency histogram when the book asks for a *relative* frequency histogram.

1. Give four examples of quantitative variables. Give both discrete and continuous examples. Classify each as either discrete or continuous.
2. Give four examples of qualitative variables. Classify each as either discrete or continuous.
3. Ex. 4.82, 4.83.
4. Ex. 4.84 (you can use the computer instead of Table 13 if you prefer).
5. Suppose you want to make inference about the entire student body at Texas A&M. Which of the following would you rather have? Why?
 - A sample of 100 students randomly chosen from the registrar's list of all students.
 - A sample of 1,000 students chosen among those attending the A&M basketball game against Oklahoma.
6. Among a population of 10 items, how many simple random samples of size 4 are there?
7. Ex. 3.13, 3.14.
8. Using the (rounded) data from Ex. 3.35:
 - Compute the mean and median.
 - Generate a histogram.
 - Are the orchard managers doing a good job of maintaining the nitrogen content approximately 2.5%? In what way might they improve?
 - Replace the fourth measurement (i.e., 2.94) with 29.40. Recompute the mean and median. Describe what has changed compared to the previous computations.
9. Ex. 3.40, 3.44.
10. Ex. 3.50-3.51.
11. Construct side-by-side box plots of the data in Exercise 3.20.
12. Looking at Figure 4.8,
 - Among (a) or (b), which distribution has heavier tails?
 - Which distributions are symmetric?
 - Which distributions are left skewed?
 - Which distributions are right skewed?
13. Ex. 4.5-4.7, Ex. 4.10, Ex. 4.12-4.13, Ex. 4.18.