1. The article “Drive for Show and Putt for Dough (Chance, Vol 12(4), pg 50-54) discussed driving distances of PGA players. The mean distance for tee shots on the 1999 men’s PGA tour is 272.2 yards with a standard deviation of 8.12 yards. Assuming that the 1999 tee-shot distances are normally distributed answer the following questions:

   a. Determine the quartiles of the driving distances
   b. Find the 95th percentile.
   c. Obtain the third decile
   d. Interpret your answers in parts a-c

2. According to the US Bureau of Labor Statistics publication News, self-employed persons with home-based businesses work a mean of 23 hours per week at home with a standard deviation of 10 hours.

   a. Identify the population and variable.
   b. For samples of size 100, find the mean and standard deviation of all possible sample mean hours worked per week at home.
   c. Repeat part (b) for samples of size 1000.
   d. What effect has increasing the sample size on the mean and standard deviation of all possible sample mean hours worked per week at home?

3. In 1905 R Pearl published the article “Biometrical Studies on Man. I. Variation and Correlation in Brain Weight”. According to the study, brain weights of Swedish men are normally distributed with a mean of 1.4 kg and a standard deviation of 0.11 kg.

   a. Determine the sampling distribution of the sample mean for samples of size 3.
   b. Repeat part (a) for samples of size 12.

   That is, for parts (a) and (b) discuss the distribution, mean and standard deviation of the sample means for the different sample sizes.

   c. Construct graphs similar to those shown in Fig 7.4 on page 311 in the textbook.
d. Do you need to assume that brain weights of Swedish men are normally distributed to answer parts (a) and (b)? Explain your answer

4. Refer to question (3) in this assignment.
   
a. Determine the percentage of all samples of three Swedish men that have mean brain weights within 0.1 kg of the population mean brain weight of 1.40 kg
b. Repeat part (a) for samples of size 12

5. Do Exercise 7.82, parts (a) and (b), on page 316 in the textbook.

**Exercises for Recitations (10/20 - 10/26)**

1. As reported by the US National Center for Health Statistics, males who are 6 ft tall and between 18 and 24 years of age have a mean weight of 175 lb. If the weights are normally distributed with a sd of 14 lb determine the first, second and third quartiles

2. As reported by *Runner’s World* magazine, the times of the finishers in the New York City 10-km run are normally distributed with a mean of 61 minutes and a standard deviation of 9 minutes.
   
a. Determine the sampling distribution of the mean for samples of size four. Interpret your answer in terms of the distribution of the possible sample means for samples of four finishing times.
   
b. Plot the distributions of the parent population and the distribution found in part (a) in the same graph and label each one of them.
   
c. Determine the percentage of samples of size four that have mean finishing times within 5 minutes of the population mean finishing time of 61 minutes. Interpret your answer in terms of sampling error.