1. Do Exercise 7.45 on page 331 (344) in the textbook. (For parts (a) and (b) discuss the distribution, mean and standard deviation of the sample means for the different sample sizes).

(d) Must you assume that brain weights of Swedish men are normally distributed to answer parts (a) and (b)? Explain your answer.

2. Do Exercise 7.49 on page 332 (344) in the textbook.

3. Do Exercise 7.56 on page 333 (345) in the textbook.


5. Do Exercise 8.22 on page 356 (370) in the textbook.

Exercises for Recitations

1. 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.

2. The US National Center for Health Statistics estimates mean weights of Americans by age, height, and sex. Forty U.S. women, 5 ft 4 in. tall and age 18-24, are randomly selected and it is found that their average weight is 136.88 lbs.

a. Assuming the population standard deviation of all such weights is 12.0 lb, determine a 70% confidence interval for the mean weight \( \mu \), of all U.S. women 5 ft 4 in. tall and in the age group 18-24 years.

b. Interpret your answer in part (a).