# REVIEW QUESTIONS

1. A man in a nursing home has his pulse taken every day. His pulse readings (beats per minute) over a one-month period appear below.

72 56 56 68 78 72 70 70 60 72 68 74
76 64 70 62 74 70 72 74 72 78 76 74
72 68 70 72 68 74 70

a. Make a stemplot of the pulse data. Break the stem into 5 (for digits 01, 23, 45, 67, and 89).

b. Determine the mean, median and mode for these data. Be sure to include units in your answers.

c. Based on these data, which measure (or measures) from (b) do you think best describes the man's typical pulse rate? Explain your reasoning.

2. Eating fish contaminated with mercury can cause serious health problems. Mercury contamination from historic gold mining operations is fairly common in sediments of rivers, lakes, and reservoirs today. A study was conducted on Lake Natoma in California to determine if the mercury concentration in fish in the lake exceeded guidelines for safe human consumption. A sample of 83 largemouth bass was collected and the concentration of mercury from sample tissue was measured. Mercury concentration is measured in micrograms of mercury per gram or $\mu$g/g. The histogram in Figure 4.8 presents results from this study.

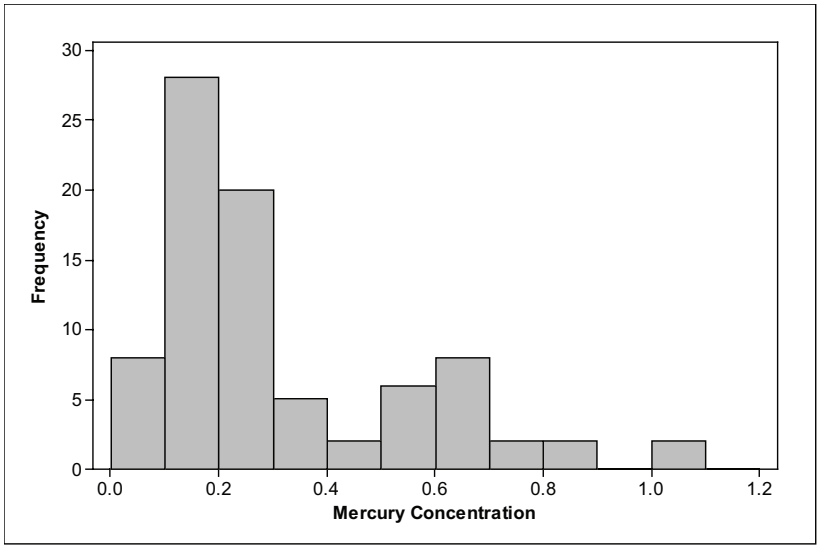


*Figure 4.8. Histogram of mercury concentration in fish.*

a. The primary objective of the study was to determine if mercury concentrations in fish tissue exceeded safety guidelines for human consumption. The U.S. Environmental Protection Agency (USEPA) human health criterion for methylmercury in fish is 0.30 μg/g. Approximately how many of the fish in the sample had mercury concentrations below the level set by the EPA (and hence were considered safe for human consumption)?

b. Approximately what percentage of the sample had mercury concentrations higher than the level set by the EPA? Show how you arrived at your answer.

c. Would the mean mercury concentration be larger, smaller, or about the same as the median mercury concentration? Explain.

3. A student often orders french fries at a local fast-food place. She keeps track of the number of french fries in each small bag she buys. Here are her counts:

42, 47, 49, 58, 43, 47, 44, 38, 38, 28, 55, 40, 46
54, 45, 45, 51, 35, 46, 37, 46, 40, 43, 49, 37

a. Calculate the mean and median for these data. Show how you computed these values.

b. Make a stemplot of the distribution. Describe the overall shape of the distribution. Are there any outliers?

c. Do you prefer the mean or the median as a brief description of the center of this distribution? Why?