LEARNING CHECK

1. A researcher surveyed 10 undergraduate psychology majors about their study behaviors. The following is a list of the number of hours they spent studying on the weekend:

   6 5 3 4 9

   7 3 7 8 3

   Calculate the mean.

$$\text{A}: \frac{\Sigma x}{N}$$

$$\text{Mean} = \frac{55}{10}$$

$$\text{Mean} = 5.50$$

   Calculate the median.
   Remember to arrange the scores from lowest to highest:

   3, 3, 3, 4, 5, 6, 7, 7, 8, 9

   A: 5.50 (which is the mean of the middle two numbers of 5 and 6)

   Calculate the mode.

   A: 3

2. In the previous chapter, you saw this frequency graph, which displays the distribution of scores on a midterm exam. Use the graph in Figure 4.1 on the next page to calculate each measure of central tendency.

   A: mean = 83.0

   median = 85.0

   mode = 85.0

3. What is an "outlier?" Why do outliers tend to affect the mean more than the median?

   A: An outlier is a score that is extremely high or extremely low compared with most other scores in a dataset. The mean uses all numbers in its calculation, so an outlier will pull the mean up or drag it down. The median needs only the middle number or middle two numbers in a dataset, so an outlier will not be as likely to affect the median as it is to affect the mean.

4. The value of one score in a dataset is changed from 20 to 30. Which measure(s) of central tendency is (are) certain to change?

   a) the mean
   b) the median
   c) the mean and the median
   d) the mode

   A: a

(Continued)