

- d. Does the difference between the two percentages from part (c) appear to have statistical significance?
- e. Does the difference between the two percentages from part (c) appear to have practical significance?

### Cumulative Review Exercises

For Chapter 2 through Chapter 14, the Cumulative Review Exercises include topics from preceding chapters. For this chapter, we present a few *calculator warm-up exercises*, with expressions similar to those found throughout this book. Use your calculator to find the indicated values.

**1. Flights** Refer to the flight numbers listed in the first column of Data Set 15 in Appendix B. What value is obtained when those 48 numbers are added and the total is then divided by 48? (This result, called the *mean*, is discussed in Chapter 3.) Does the result have any meaning?

**2. IQ Scores** Refer to the IQ scores listed in Data Set 6 in Appendix B. What value is obtained when those 20 IQ scores are added and the total is then divided by 20? (This result, called the *mean*, is discussed in Chapter 3.) Is the result reasonably close to 100, which is the mean IQ score for the population?

**3. Height of Tallest Man** Sultan Kosen is the tallest man, and the expression below converts his height of 247 cm to a standardized score. Find this value and round the result to two decimal places. Such standardized scores are considered to be unusually high if they are greater than 2 or 3. Is the result unusually high?

$$\frac{247 - 176}{6}$$

**4. Transportation Safety** The given expression is used for determining the likelihood that a water taxi will have a total passenger weight that exceeds the maximum safe weight of 3500 lb. Find the given value and round the result to two decimal places.

$$\frac{175 - 172}{\frac{29}{\sqrt{20}}}$$

**5. Determining Sample Size** The given expression is used to determine the size of the sample necessary to estimate the proportion of college students who have the profound wisdom to take a statistics course. Find the value and round the result to the nearest whole number.

$$\frac{1.96^2 \cdot 0.25}{0.03^2}$$

**6. Testing the Effectiveness of Echinacea** The given expression is part of a calculation used to study the effectiveness of Echinacea in treating colds. Round the result to four decimal places.

$$\frac{(88 - 88.570)^2}{88.570}$$

**7. Variation in Body Temperatures** The given expression is used to compute a measure of the variation (variance) of three IQ scores.

$$\frac{(96 - 100)^2 + (106 - 100)^2 + (98 - 100)^2}{3 - 1}$$

**8. Standard Deviation** The given expression is used to compute the standard deviation of three IQ scores. (The standard deviation is introduced in Section 3-3.) Round the result to one decimal place.

$$\sqrt{\frac{(96 - 100)^2 + (106 - 100)^2 + (98 - 100)^2}{3 - 1}}$$