

- b. Find P_{10} , which is the 10th percentile.
- c. The Rockland Medical Center requires special treatment for babies that are less than 2450 g (unusually underweight) or more than 4390 g (unusually overweight). What is the percentage of babies who require special treatment? Under these conditions, do many babies require special treatment?

7. Honesty In a *USA Today* survey of 456 subjects, 269 answered “yes” to this question: “Is honesty always the best policy?”

- a. Use a 0.05 significance level to test the claim that the majority of us say that honesty is always the best policy.
- b. The survey results were obtained from Internet users who visited the *USA Today* web site and chose to respond to the question that was posted. What is the term used to describe this type of sample? What does this sampling method suggest about the results given in part (a)?

Congress and Religion. *Based on data from the Pew Forum on Religion and Political Life, the members of Congress have these religious affiliations: Catholic (156), Jewish (39), Protestant (304), Mormon (15), other (15). There were six members of Congress who did not specify a religious affiliation, and the data are current at the time of this writing. Ignore the six unspecified religious affiliations and use these data for Exercises 8–10.*

8. Congress and Religion

- a. What is the level of measurement of the religious affiliations (Catholic, Jewish, and so on)?
- b. What is the level of measurement of the frequency counts (156, 39, and so on)?
- c. Are the frequency counts data that are discrete or continuous?
- d. What proportion of the members of Congress are Protestant?
- e. Given that the data describe the population of members of Congress, is the result from part (c) a statistic or a parameter?

9. Congress and Religion: Probability

- a. If two different members of Congress are randomly selected, what is the probability that they are both Protestant?
- b. If a member of Congress is randomly selected, what is the probability that he or she is Catholic or Protestant?
- c. If a member of Congress is randomly selected, what is the probability that he or she is not Mormon?
- d. What *percentage* of members of Congress are Jewish?

10. Congress and Religion: Graph Construct the graph that is most effective in depicting the religious affiliations of members of Congress.

Technology Project

IQ scores are commonly measured using the Wechsler Adult Intelligence Scale (WAIS). Scores are obtained from tests. WAIS scores are normally distributed with a mean of 100 and a standard deviation of 15.

Much effort is spent studying IQ scores of identical twins that were separated at birth and raised apart in different environments. Identical twins occur when a single fertilized egg splits in two, so both twins share the same genetic makeup. By obtaining IQ scores of identical twins separated at birth, researchers hope to identify the effects of heredity and environment on intelligence.