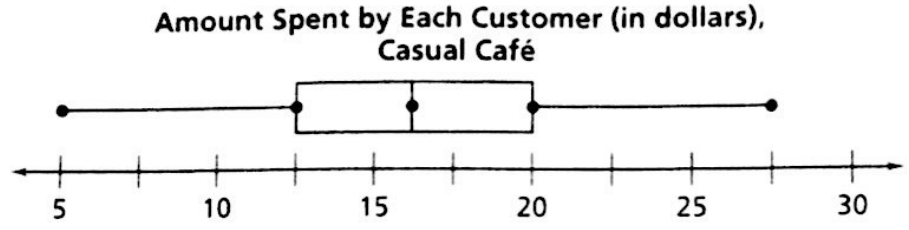
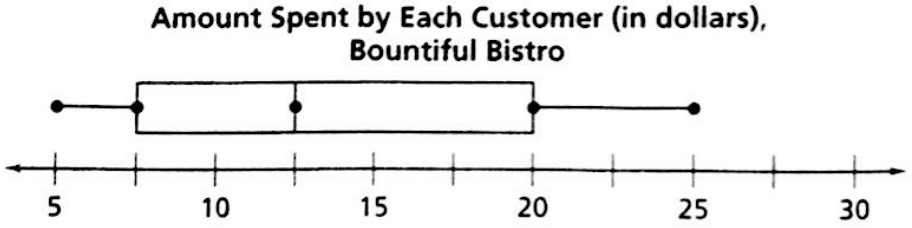
Exercises

For Exercises 1–4, tell whether the sample is representative of the population.

1. You want to know what type of music students at your school like best. You ask a group of your friends which music they like best.
2. You want to know which type of food students at your school like best. You ask every 20th student in your school yearbook.
3. You want to know how many hours students at your school spend on the computer each day. You ask students from different grades as they leave school.
4. You want to know how many hours students at your school exercise each week. You ask the members of the soccer team how often they exercise each week.
5. Suppose you are taking a poll of students in your grade to see whom they are going to select in the election for president of your class. Describe one way you could find a sample that is representative of the population.
6. A student is trying to determine the average length of a song in her large music library. She randomly selects 20 songs and finds that the mean length is 4 minutes 9 seconds. Then, she randomly selects another 20 songs and finds that the mean length is 3 minutes 52 seconds. What would you expect the mean length of a third set of 20 songs would be? Why?

For Exercises 7–11, use the data displayed in the box plots below.





7. Find the following for each set of data.

a. median

b. range

c. interquartile range

8. Use the medians of the data to compare the amounts spent by customers at each restaurant.

9. Use the ranges and interquartile ranges of the data to compare how the amounts spent by customers at each restaurant vary.

10. Use the symmetry or lack of symmetry in each box plot. Compare how the amounts spent by customers at each restaurant are distributed.

11. Use the evidence of clusters or no clusters to compare the amounts spent by customers at each restaurant.

For Exercises 12–14, use the information about the numbers of cats and dogs that were adopted at a local shelter each month last year.

Cats	12	13	16	18	21	15	14	13	15	22	19	26
Dogs	25	30	38	29	27	40	33	26	32	34	41	29

12. What is the mean number of cats adopted each month?

13. What is the mean number of dogs adopted each month?

14. A worker knows that either 20 cats or 20 dogs were adopted one month recently. Based on your answers to Exercises 12 and 13, do you think it was 20 cats or 20 dogs? Explain.