Level 2: Statistics and Probability Pretest Answer Key

Question 1:

The table shows the salary ranges for advertising clerks in a large agency.

Salary Range	Number of Clerks
$30,000–$34,999	3
$35,000–$39,999	16
$40,000–$44,999	23
$45,000–$49000	12

Which type of display is most appropriate to show the data in the table?

a. line graph

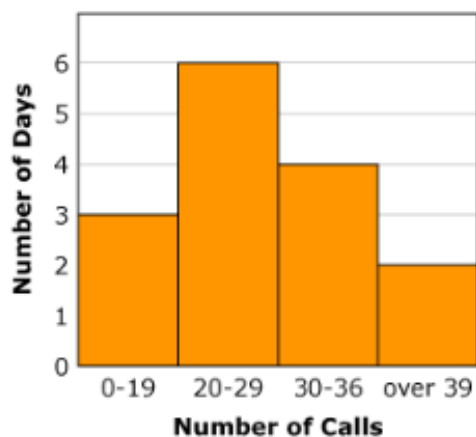b. box plot

c. line plot

d. histogram

Question 2:

The list shows the number of calls the receptionist at an advertising agency answered on 15 different days.
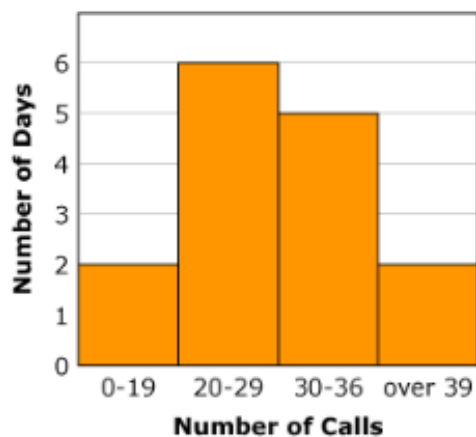
9 35 22 30 46 12 28 25 32 15 25 28 36 52 26
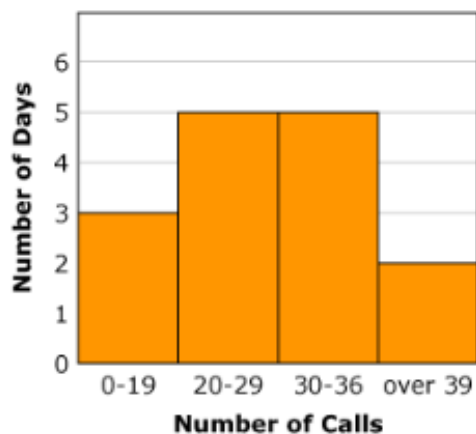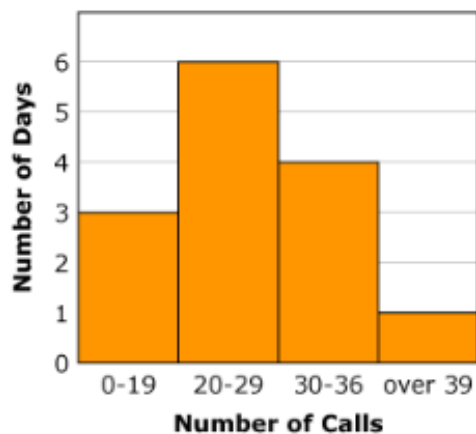
Which histogram correctly displays the data?
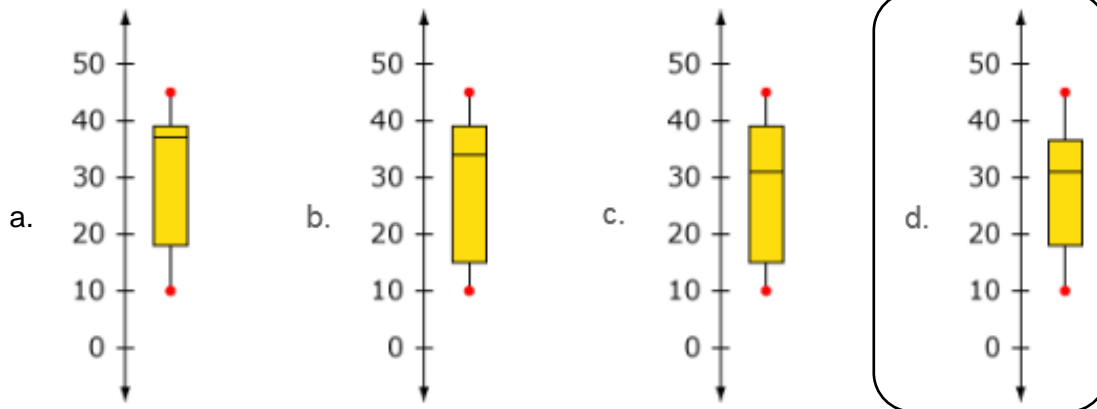
a.

b.

c.

d.

Question 3:

The list shows the number of clients an advertising agency served during each month of the year.

10 15 18 18 19 30 32 35 36 37 39 45

Which box plot correctly shows the data?

a.   b.   c.   d.

Question 4:

This box plot shows the number of new clients for an advertising agency each year over a 7-year period.

New Clients

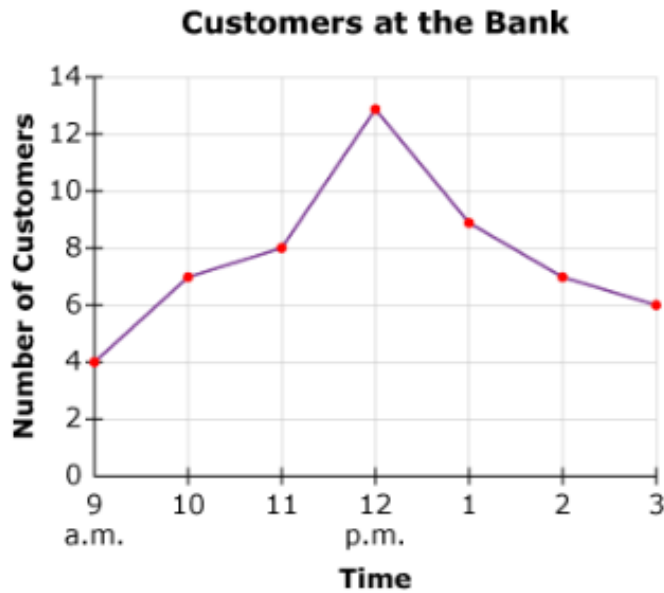What is the median value of the data set used to make this plot?

a. 46

b. 54

c. 61

d. 68

Question 5:

This graph shows the number of customers waiting in line at the bank at different times during a day.

Customers at the Bank

Which of the following is closest to the mean number of customers?

a. 4

b. 6

c. 8

d. 13

Question 6:

A radio station runs ads for 10 companies. This list shows the number of times the radio station plays each company's ad every day.

24 45 36 50 45 65 25 45 36 30

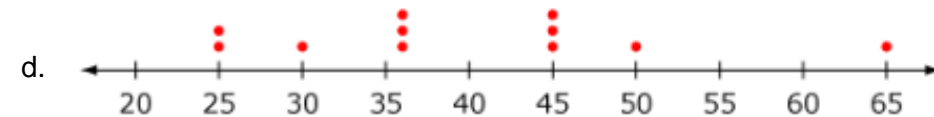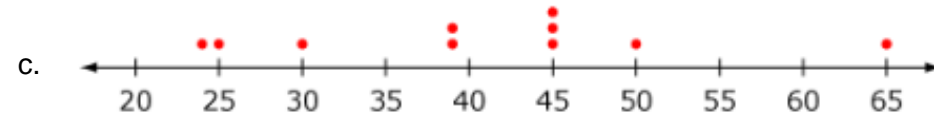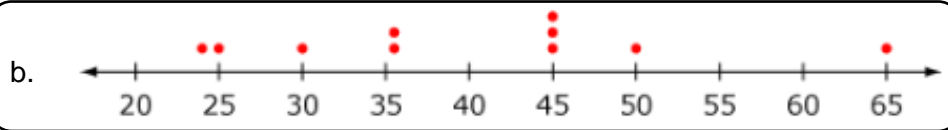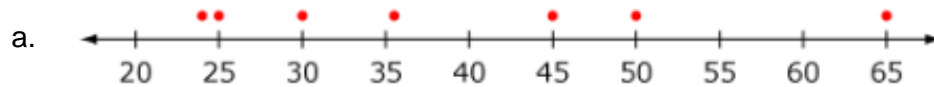What is the interquartile range of the values shown in the list?

15

Question 7:

A radio station runs ads for 10 companies. This list shows the number of times the radio station plays each company's ad every day.

24 45 36 50 45 65 25 45 36 30
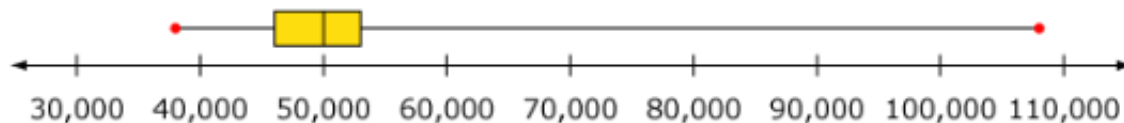
Which dot plot correctly displays the data?

a.

b.

c.

d.

The salaries of 10 employees who work for an advertising agency are shown in the table.

Job Title	Salary (in Dollars)
Advertising Clerk	38,000
Media Specialist	44,000
Artist	46,000
Graphic Designer	47,000
Marketing Specialist	49,000
Marketing Supervisor	51,000
Art Manager	52,000
Media Buyer	53,000
Art Director	105,000
Senior Manager	108,000

The box plot summarizes the data.

Which measure of center is best to describe the data?

a. The mean is best because the distribution is wide.

b. The mean is best because there are two outliers.

c. The median is best because the distribution is wide.

d. The median is best because there are two outliers.

Continue ➡

Question 9:

Allen collected information from his clients and made a histogram to analyze the data. Which of the following could be the question Allen asked his clients?

   a. What kind of advertisement increases your sales the most?

   b. How much do you spend annually on advertising?

   c. Are your products for children, teenagers, or adults?

   d. Where do customers buy your products?

Question 10:

Greg counts and records the number of crackers in 8 different snack packs.

   - The range of his data set is 6 to 20.
   - The median of his data set is 12.
   - There is no mode in his data set.
   - Each of the values in his data set is a whole number.

Which number must be in Greg's data set?

   a. 10

   b. 11

   c. 12

   d. 16

Question 11:

The list shows the cost in dollars for a 30-second ad during 7 different radio programs.

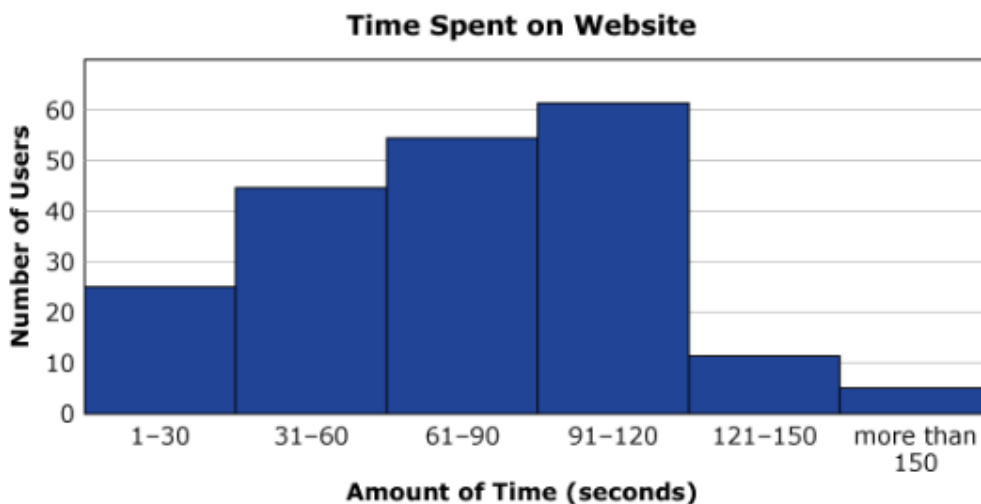275 305 385 287 310 318 295

Which number is an outlier?

385

Question 12:

Which survey question will **most likely** produce categorical data with the greatest variability?

a. How old are you?

b. What is your favorite food?

c. Do you have a brother or sister?

d. What color is your hair?

Question 13:

A company's website records how much time users spend on the site. The histogram shows the amount of time the first 200 users spent on the site.

Time Spent on Website

Which statement describes the data shown in the histogram?

a. The mean is 75 seconds.

b. The range is 1 to 155 seconds.

c. The mode is between 91 and 120 seconds.

d. The median is between 61 and 90 seconds.

e. All of the above are true.

Question 14:

In which situation are the mean and median **most likely** the same number?

a. The range is wide.

b. The graph is symmetrical.

c. The mode is also the middle number.

d. The number of data points is an even number.

Question 15:

Which graph shows data for which the mode is greater than the median and the median is greater than the mean?

a.

b.

c.

d.