Standardized Test
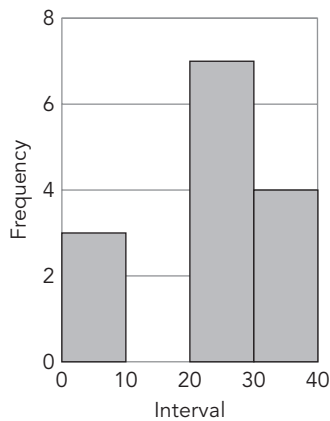
Name _____   Date _____

1. Which of the following are categorical data?
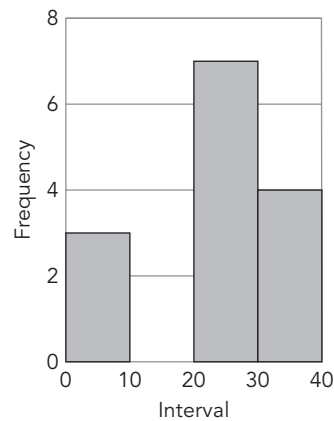
    a. numbers of inches of rain

    b. types of drinks

    c. lengths of movies (in minutes)

    d. weights of students

2. In the histogram shown, which bin would include both of the data values 30 and 35?

    a. 0–10

    b. 10–20

    c. 20–30

    d. 30–40

3. In the histogram shown, how many observations are included in the data set?

    a. 3

    b. 4

    c. 10

    d. 14

4. Bob conducted an experiment in the school yard. He had his classmates run 100 meters and recorded the time it took each classmate to run the distance. He also recorded the gender of each classmate. What question was Bob trying to answer with the experiment?

    a. How tall is the average student?

    b. How quickly can students run 1 kilometer?

    c. Do girls or boys have longer hair?

    d. Do girls or boys complete the 100-meter dash faster?

5. Which of the following allows you to compare the frequency of intervals, but not the frequency of exact values?

    a. a dot plot

    b. a histogram

    c. a stem-and-leaf plot

    d. a circle graph

6. What could 3|4 mean as the key on a stem-and-leaf plot?

    a. 3

    b. 4

    c. 34

    d. 43

7. Which of the following questions is best answered with a survey?

    a. How many students like vanilla ice cream more than any other flavor?

    b. What is the average temperature on the planets in our solar system?

    c. What is the high temperature on Tuesday?

    d. How quickly does the Earth rotate?

8. Which step comes after formulating a statistical question in the statistical process?

    a. collecting data

    b. making graphs

    c. analyzing the data

    d. drawing conclusions

9. Gary gave his class this survey.

> 1. In what month is your birthday?
>
> 2. How many siblings do you have?
>
> 3. How many pets does your family own?
>
> 4. To the nearest half hour, how many minutes each day do you play video games?
>
> 5. What color are your eyes?
>
>   Brown _____ Black _____ Blue _____ Green _____ Gray _____ Other _____

Which data for the class survey would be best to display using a histogram?

    a. eye color

    b. number of pets

    c. birthday month

    d. video game playing time

10. Which best describes a statistical question?

    a. a question that contains numbers

    b. a question about numbers

    c. a question about designing an quantitative experiment

    d. a question that anticipates an answer based on data that vary

11. Nicole recorded the ages of the children attending a family picnic in the table.

Name	Age
Alexis	4
Alyssa	6
Chloe	3
Ethan	6
Grace	9
Hannah	4
Logan	1
Nicholas	2
Noah	4
Sophia	0
Tyler	7
Zachary	4

Which dot plot displays the data in the table?

a.

```
                    ×         ×
                    ×         ×
    ×   ×   ×   ×   ×         ×   ×           ×
  +---+---+---+---+---+---+---+---+---+---+---+---+---+→
    0   1   2   3   4   5   6   7   8   9   10  11  12
```

b.

```
                              ×
                              ×
                    ×         ×
    ×   ×   ×   ×   ×         ×   ×           ×
  +---+---+---+---+---+---+---+---+---+---+---+---+---+→
    0   1   2   3   4   5   6   7   8   9   10  11  12
```

c.

```
                    ×
                    ×
                    ×             ×
        ×   ×   ×   ×             ×   ×       ×   ×
  +---+---+---+---+---+---+---+---+---+---+---+---+---+→
    0   1   2   3   4   5   6   7   8   9   10  11  12
```

d.

```
                    ×
                    ×
                    ×             ×
    ×   ×   ×   ×   ×             ×   ×       ×
  +---+---+---+---+---+---+---+---+---+---+---+---+---+→
    0   1   2   3   4   5   6   7   8   9   10  11  12
```
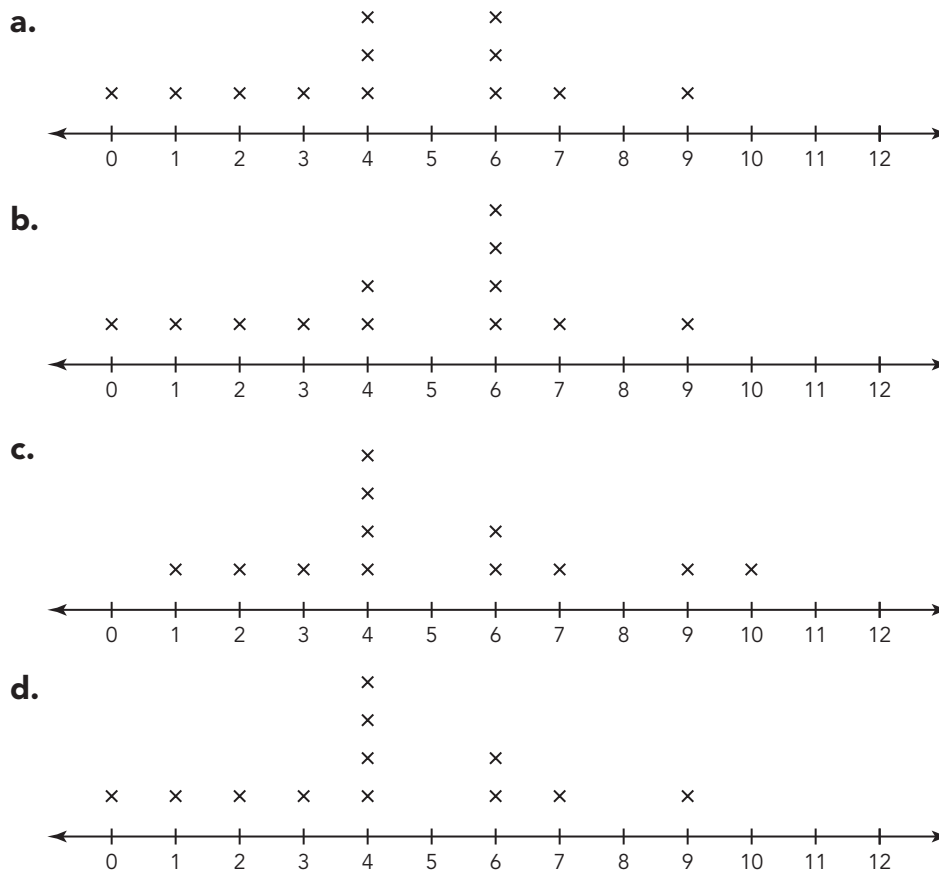
12. What type of table or graph do you use to help you make a histogram?

    a. a dot plot

    b. a frequency table

    c. a circle graph

    d. a bar graph

13. Which distribution is skewed left?

    a.

    b.

    c.

    d.
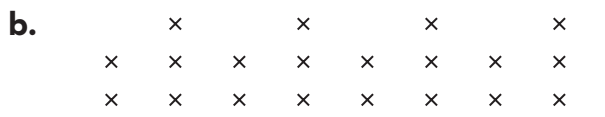
14. Which types of graphs or plots are used to display categorical data?

    a. bar graphs and circle graphs

    b. bar graphs and histograms

    c. dot plots and stem-and-leaf plots

    d. bar graphs only

15. Which distribution is approximately symmetric?

a.

```
×                   ×
×     ×     ×     ×
×     ×     ×     ×     ×
×     ×     ×     ×     ×     ×
_____
```

b.

```
            ×     ×
            ×     ×
      ×     ×     ×     ×
      ×     ×     ×     ×     ×
×     ×     ×     ×     ×     ×
_____
```

c.

```
                        ×     ×
                        ×     ×
            ×     ×     ×     ×
      ×     ×     ×     ×     ×
×     ×     ×     ×     ×     ×
_____
```

d.

```
      ×
      ×                 ×
      ×     ×           ×     ×
×     ×     ×     ×     ×     ×
×     ×     ×     ×     ×     ×
_____
```

16. Which graph or plot would not be used to display each data point in a quantitative data set? Select all that apply.

    a. dot plot

    b. stem-and-leaf plot

    c. histogram

    d. bar graph

17. Which of these is a statistical question. Select all that apply.

    a. What color are the eyes of the students in the middle school?

    b. How many minutes does it take me to get ready for school?

    c. How many students in the sixth grade have pets?

    d. What kinds of pets do students in the sixth grade have?

18. Mr. Wong is a history teacher. In order to study how his 6th period class did on a 100-point test, he made the stem-and-leaf plot shown. Twenty-five students took the test.

Student Scores on History Test

	6th Period Class
0	
1	
2	8
3	
4	
5	2 7 7
6	0 1 8 9
7	0 2 2 3 5 8
8	1 1 5 6 7 9
9	0 2 6 8
10	0

Key: 7|5 = 75 points

Which conclusion can Mr. Wong draw from this data display? Select all that apply.

a. There were no perfect scores on the test.

b. One student's score is an outlier.

c. Most students scored above a 70.

d. The same number of students scored 70-79 and 80-89.

19. Mr. Wong is a history teacher. In order to study how his 1st period class did on a 100-point test, he made the stem-and-leaf plot shown. Twenty-five students took the test.

Student Scores on History Test

	6th Period Class
0	
1	
2	9
3	8 5
4	9 7
5	8 5 3 2
6	8 8 6 4 2
7	9 7 6 3 3 1
8	5 0 0
9	3 2
10	

Key: 7|5 = 75 points

What conclusion can be drawn about the distribution of the data? Select all that apply.

a. The data distribution is approximately symmetric.

b. The data distribution is skewed right.

c. The data distribution is skewed left.

d. There is an outlier in the data.

20. Which distribution is skewed left? Select all that apply.

a.

×	×	×	×	×	×	×
×	×	×	×	×	×	×

b.

```
                              ×
                              ×
                        ×     ×
               ×     ×  ×     ×
   ×     ×     ×     ×  ×     ×
```

c.

```
                     ×
                     ×     ×
               ×     ×     ×
         ×     ×     ×     ×
   ×  ×  ×     ×     ×     ×
```

d.

```
         ×
      ×  ×  ×
   ×  ×  ×  ×  ×  ×
×  ×  ×  ×  ×  ×  ×
```