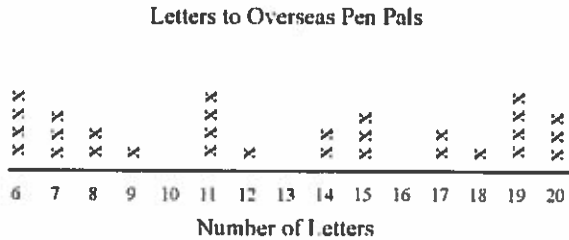


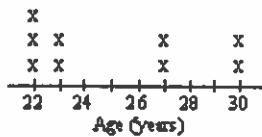
**Algebra 1, practice test for Data Analysis**

1. The line plot below represents the number of letters written to overseas pen pals by the students at Waverly Middle School. Each x represents 10 students. How many students wrote more than 6 and fewer than 20 letters?

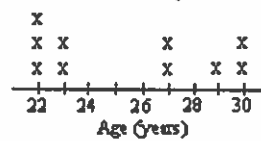


- a. 250                      b. 240                      c. 230                      d. 220
2. The numbers below represent the ages of the first ten people in line at the movie theater. Make a line plot for the data  
22, 30, 23, 22, 27, 27, 29, 23, 30, 22

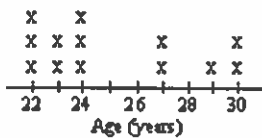
a. Movie Ticket Buyers' Ages



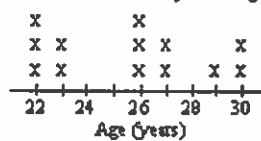
c. Movie Ticket Buyers' Ages



b. Movie Ticket Buyers' Ages



d. Movie Ticket Buyers' Ages



The stem-and-leaf plot shows the test scores of a science class. Use it to answer the questions.

**Science Test Scores**



Key: 8|2 means 82

3. How many students scored 78?  
a. 1 student                      b. 2 students                      c. 3 students                      d. 4 students

4. What is the median of the data?  
a. 23                      b. 78                      c. 82                      d. 82.5

5. Find the mean, median, mode and range of the altitude of lakes in feet:  
-12, -9, -14, -39, -49, -49, -18, -43  
a. mean = -28.5, median = -29.1, mode = -49, range = 40  
b. mean = -29.1, median = -49, mode = -28.5, range = 41  
c. mean = -49, median = -29.1, mode = -28.5, range = 41  
d. mean = -29.1, median = -28.5, mode = -49, range = 40

**Find the mean, median, and mode of the data set. Round to the nearest tenth.**

6. test scores on a math exam:  
88, 89, 65, 62, 83, 63, 84, 63, 74, 64, 71, 82, 66, 88, 79, 60, 86, 63, 93, 99, 60, 85  
a. mean = 75.8,      b. mean = 75.8,      c. mean = 69.5,      d. mean = 69.5,  
    median = 79.5,      median = 76.5,      median = 76.5,      median = 76.5,  
    mode = 63              mode = 63              mode = 63              mode = 79.5

7. Suppose that to make the golf team you need to score no more than 81 on average over 5 games. If you scored 75, 74, 100, and 69 in your first 4 games what is the highest score you can shoot in your 5th game and still make the team?  
a. 88                      b. 85                      c. 87                      d. 89

8. The test scores of the students in room 312 are listed.  
80, 69, 65, 95, 78, 74, 72, 96, 62, 90, 94, 44, 75, 68, 71, 94  
Jay was absent and took a makeup test. What was Jay's score if the class mean was 76?

9. Teams from two colleges competed in a 10 km cross-country race. The data below show the finish times in minutes for the two teams.  
**Team A:** 25, 30, 25, 30, 30, 35, 34, 26, 35, 32  
**Team B:** 32, 28, 28, 26, 31, 30, 32, 29, 32, 30

Find the mean and the range of the data for Team A and for Team B. Use your results to compare the two teams.

**How many modes, if any, does the group of data have?**

10. Kate, Tim, John, John, Angela, Tim, Sue  
a. 1 mode                      b. 2 modes                      c. 3 modes                      d. no mode

11. For which set of data is the mean 8.1?  
a. 6.6, 7.5, 8.1, 9.2, 9.8                      c. 4.2, 6.7, 8.1, 5.5, 9.1  
b. 8.1, 8.1, 8.7, 8.8, 9.9                      d. 8.5, 8.0, 8.0, 9.0, 7.0

12. Which measure of central tendency best describes this situation: the favorite fruit sold in the cafeteria?  
Explain.  
a. Median; there likely are no outliers.  
b. Mean; there likely are no outliers.  
c. Median; there likely are outliers.  
d. Mode; the data are not numerical.

- \_\_\_\_\_ 13. 22.6 is an outlier for which of the following sets of data?
- 22.6, 21.5, 23.7, 22.6, 28.9, 22.6, 20.9
  - 2.4, 5.3, 3.5, 22.6, 1.8, 2.1, 4.6, 1.9
  - 20.5, 20.8, 21.6, 22.6, 23.7, 24.5, 25.1
  - 13.6, 31.7, 25.8, 22.6, 18.9, 21.6, 30.5
- \_\_\_\_\_ 14. Which is the best measure of central tendency for the type of data below—the mean, the median, or the mode? Explain.  
amount of time it takes to get to school
- Median; there will be outliers.
  - Mode; the data are non-numeric.
  - Range; there are no outliers.
  - Mean; the outliers are limited.
- \_\_\_\_\_ 15. A teacher asks her class of 22 students, “What is your age?” Their responses are shown below.  
19, 19, 14, 14, 16, 19, 19, 16, 16, 15, 17, 16, 17, 16, 15, 14, 15, 15, 17, 14, 16, 15  
Find the mean, median, and mode for the data. If necessary, round to the nearest tenth.
- 16.5; 17; 17
  - 16.1; 16; 16
  - 16.1; 17; 16
  - 16.5; 16; 17
- \_\_\_\_\_ 16. Using the frequency table below, find how many students received a score of 70 or better on a mathematics test.

Score Interval	Frequency
50 – 59	2
60 – 69	5
70 – 79	5
80 – 89	7
90 – 100	2

- 19
- 12
- 17
- 14

17. Make a frequency table to show the following test times (in minutes) for a reading test.

81, 63, 61, 58, 72, 70, 79, 68, 82, 64, 54, 82, 72, 63, 64, 76, 57, 65, 73, 58

a.

Test Times in Minutes	Tally	Frequency
50-59		7
60-69		3
70-79		6
80-89		4

c.

Test Times in Minutes	Tally	Frequency
50-59		8
60-69		5
70-79		4
80-89		7

b.

Test Times in Minutes	Tally	Frequency
50-59		4
60-69		7
70-79		6
80-89		3

d.

Test Times in Minutes	Tally	Frequency
50-59		6
60-69		7
70-79		3
80-89		4

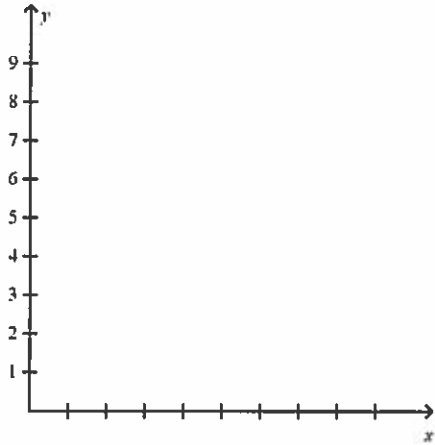
18. The chart below shows the average number of movies seen per person in selected countries.

Country	Average Number of Movies a Person Sees per Year
Turkey	0.5
Japan	1.2
United Kingdom	1.3
Finland	1.3
Austria	1.5
Germany	1.8
Spain	2.2
Sweden	2.2
Denmark	2.2
Switzerland	2.5
France	2.5
Norway	3.0
Canada	3.0
United States	4.5

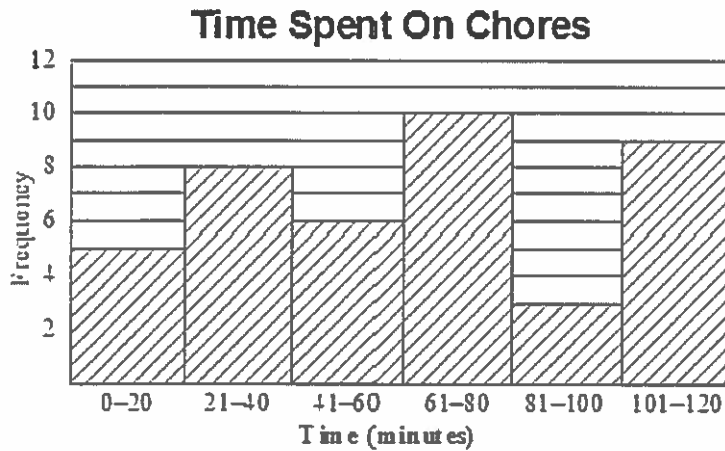
Use equal intervals to make a frequency table and histogram for the average number of movies per person.

19. Make a histogram for drivers' ages using the data from the table below.

Drivers' Ages	
Age	Frequency
17-19	2
20-22	3
23-25	5
26-28	6



20. The histogram shows the number of minutes students at Montrose Junior High typically spend on household chores each day. How many students spend 81 to 100 minutes on chores?

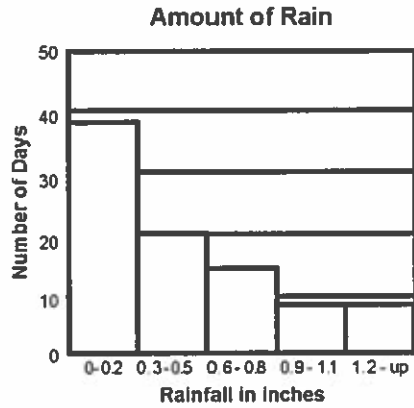


- a. 9                      b. 3                      c. 2                      d. 4

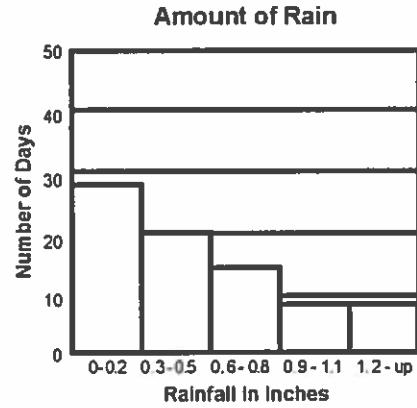
21. The frequency table shows the rainfall amounts over a three-month period in Carlsville. Use the data to make a histogram.

Rainfall in Inches	0.0 – 0.2	0.3 – 0.5	0.6 – 0.8	0.9 – 1.1	1.2+
Number of Days	38	20	14	9	9

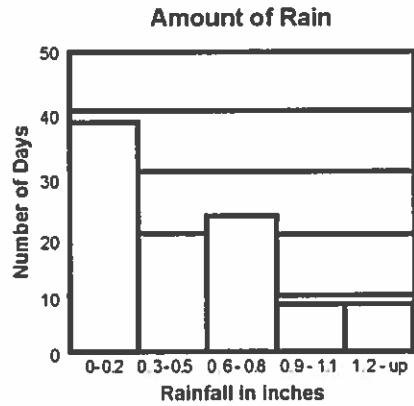
a.



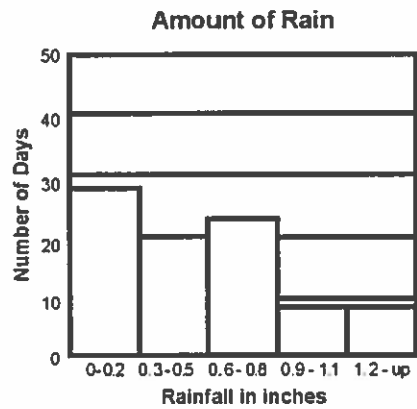
c.



b.

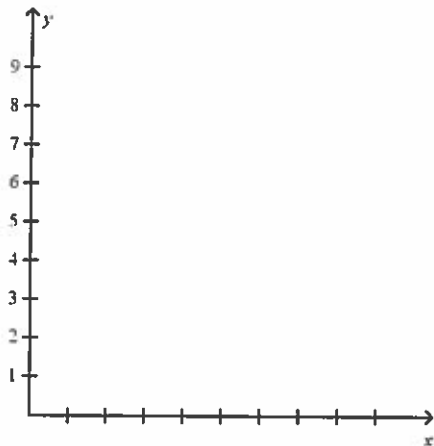


d.

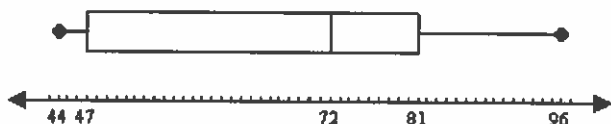


22. You take a survey of your classmates to find out how many books each of them read during the summer vacation. Graph the data in a histogram.

Number of books read: 1, 0, 5, 3, 1, 2, 7, 4, 2, 1, 1, 0, 11, 3, 10, 2

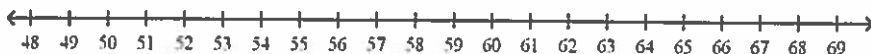


23. When a box-and-whisker plot has a median exactly in the middle of the box, what do you know about the data?
- The data are evenly distributed.
  - The data are spread out and not very consistent.
  - The data are tightly grouped around the median.
  - none of these
24. Ms. Alison drew a box-and-whisker plot to represent her students' scores on a mid-term test.

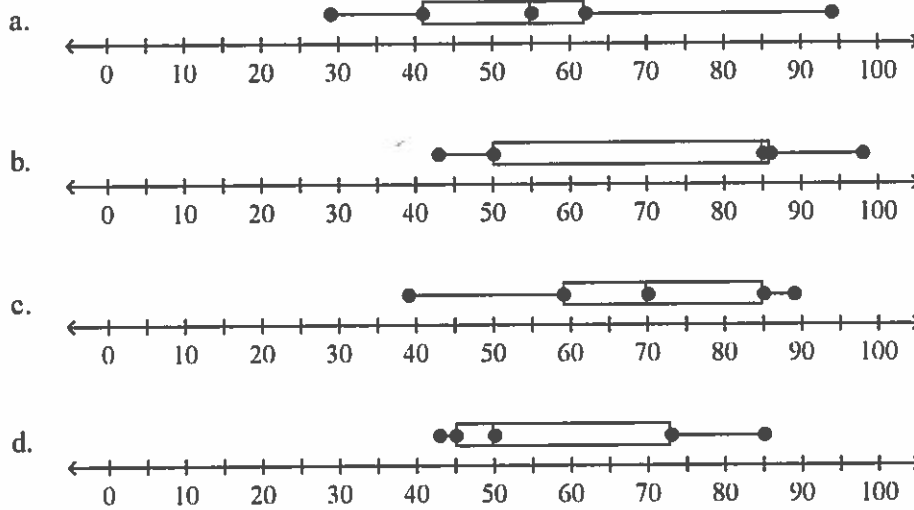


Josh received 72 on the test. Describe how his score compared to those of his classmates.

- About 25% scored higher; about 75% scored lower.
  - Everyone scored higher.
  - No one scored higher.
  - About 50% scored higher; about 50% scored lower.
- Make a box-and-whisker plot for the set of data.**
25. 60, 63, 53, 66, 65, 58, 51, 55, 58, 51, 58, 62, 53, 66, 61, 51, 65, 52, 54, 50



26. The box-and-whisker plots show data for the test scores of four groups of students in the same class. Which plot represents data with the greatest range of scores?

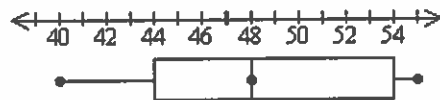
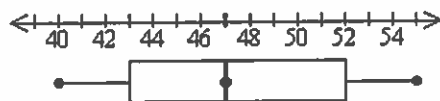


27. Describe the data in the box-and-whisker plot.



- a. The lowest value is 58.5 and the highest value is 74. The median is 67. At least half of the data are within 8.5 points of the median.
- b. The values range from 50 to 83. At least half of the data are within 7 points of the median, 67.
- c. The lowest value is 50 and the highest value is 83. The median is 67. At most half of the data are within 7 points of the median.
- d. The values range from 50 to 83. At least half of the data are within 8.5 points of the median, 67.

28. Use the two box-and-whisker plots shown below to determine which of the following statements is true.



- a. The lower quartiles are equal.
- b. The upper quartiles are equal.
- c. They both have the same median.
- d. The range is the same for both sets of data.