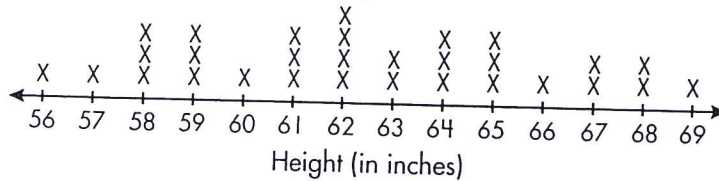


Lesson 6.8 Line Plots

A **line plot** uses a number line to clearly illustrate the frequency of data. A line plot makes measures of central tendency, such as range and mode, very easy to identify. Leslie made this line plot:

Height of My Classmates



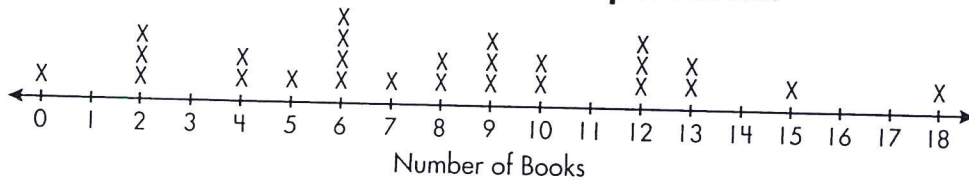
What is the **mode**, or most frequent height? (Look for the tallest stack of Xs.) The mode is 62 inches. What is the range of heights in the class? Subtract the least height from the greatest: $69 - 56 = 13$ inches.

How many students were polled? (Count the total number of Xs.) Thirty students were polled.

What is the median height of the students? Count 15 Xs in from the left and 15 Xs in from the right. The median is the average of these two numbers. Because both numbers are 62 inches, the median is 62 inches.

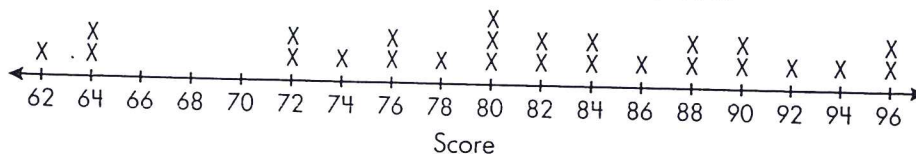
Interpret each line plot to answer the questions that follow.

Number of Books Read per Month



1. What is the mode of the data? _____ What is the range of the data? _____
2. How many data points are there? _____ What is the median of the data? _____
3. Outliers are data points that are at the extreme ends of the data. What are the outlier numbers? _____

Scores on Last Week's Math Test



4. What score was most frequent? _____ What is the range of the scores? _____
5. How many students scored 80 or better? _____ What was the mean score? _____

Lesson 6.1 Bar Graphs

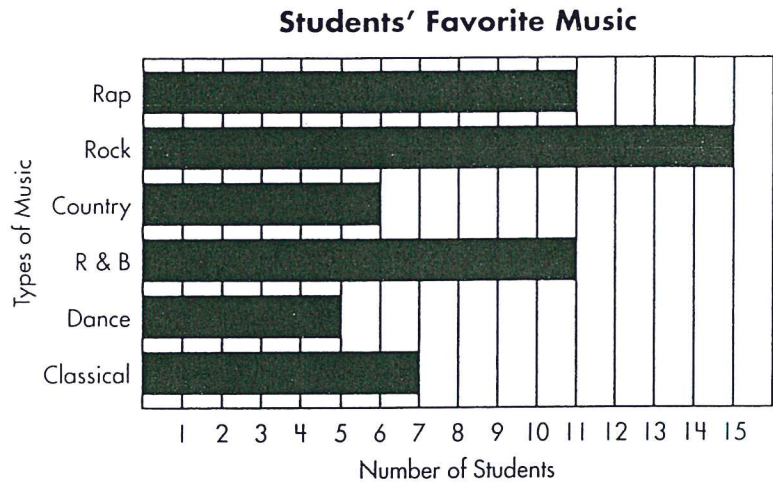
Bar graphs are used to compare data.

This graph shows the results of an eighth grade poll that asked, "What is your favorite type of music?"

Which type of music did the most students pick? Rock How many picked it? 15

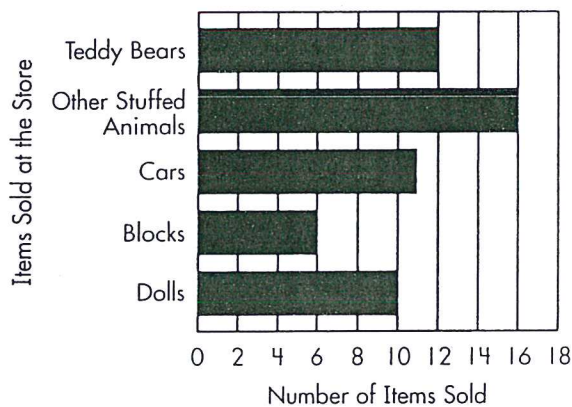
Which two types of music had the same number of fans? R & B and Rap

How many people in all chose either dance music or country music? (Add the two amounts: $5 + 6$) 11



Answer the questions by interpreting data from the bar graphs.

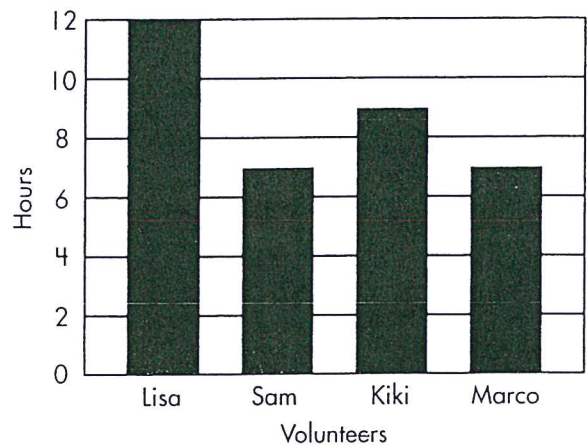
Toy Store Sales for March



- How many stuffed animals were sold, including teddy bears? _____
- What toy was purchased twice as many times as blocks? _____
- How many more teddy bears than cars were sold? _____
- The store manager hoped to sell 13 dolls in March. How far short of this goal was she? _____

- Which two people volunteered for the same number of hours? _____
- Which two people have 21 combined volunteer hours? _____
- Lisa worked 16 hours in April. Compared to to May, how many more hours did she work in April? _____
- Sam volunteered 5 hours in April. How many more hours did he volunteer in May? _____

Volunteers' Hours Worked in May

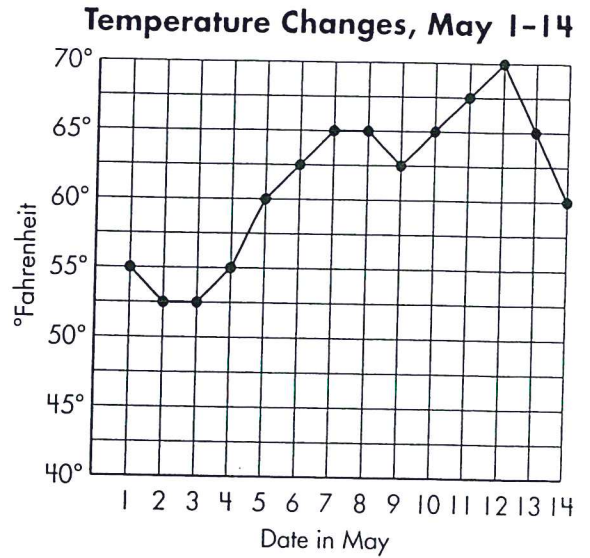


Lesson 6.3 Line Graphs

A **line graph** shows how data changes over time. This line graph shows how the temperature changed over the course of two weeks in May.

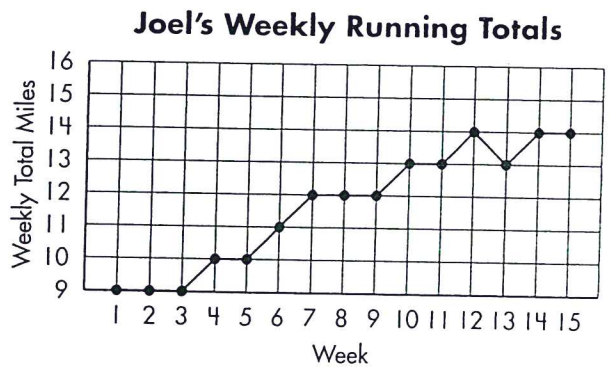
What are the lowest and highest temperatures that could be displayed on the graph? The graph does not start at 0° . The lowest temperature that can be recorded on the graph is 40° . The highest temperature that can be recorded is 70° .

What is the highest temperature that was recorded during the two weeks? On what day was it recorded? Look for the highest point on the line. The highest temperature was 70° . It was recorded on May 12.

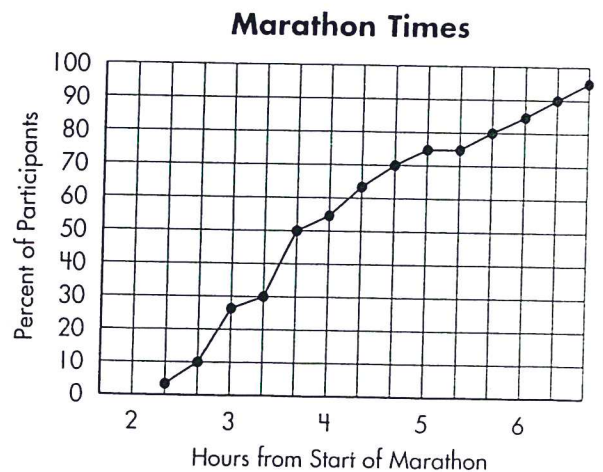


Answer the questions by interpreting data from the line graphs.

- For how many weeks did Joel track his weekly running totals? _____
- How far did Joel run during week 3? _____
- How many more miles did Joel run in week 6 than in week 5? _____
- How many miles in all did Joel run during weeks 5, 6, 7, and 8? _____



- What was the earliest that anyone finished the marathon? _____
- Approximately what percent of the people had finished after $3\frac{1}{2}$ hours? _____
- Approximately what percent of the people had finished after 6 hours? _____
- By what time had more than 50% of the people finished? _____





Quartiles

Quartiles group data points into quarters—four equal parts.

Nineteen students had the following test results:
 67, 75, 45, 89, 91, 70, 80, 85, 77, 62, 72, 95, 81, 76, 55, 59, 68, 88, 100

1. Arrange the test scores from least to greatest.

2. Find and circle the median (middle) of the scores. It is called the **second quartile**.

3. Find and put an x on the median of the lower half of the scores. It is called the **first quartile**.

4. Find and draw a square around the median of the upper half of the scores. It is called the **third quartile**.

5. If your score is 85, is it in the **upper quartile** (greater than the third quartile)? _____

Percentiles group data points into hundredths.

▶ Follow these steps to find the percentile ranking for a test score of 85.

6. Find the total number of scores. _____

7. How many scores are less than or equal to your score? _____

8. Calculate the percent of scores (to the nearest 1%) that are less than or equal to your score. _____

9. Your score is in the _____ percentile. Your score is at least as good as the scores of _____ % of the scores.

10. a. Find the quartiles for the set of data. 67, 93, 88, 75, 99, 94, 81, 82, 76, 85, 79

1st _____ 2nd _____ 3rd _____

b. Find the percentile for the score of 94. _____