9.2

Choosing a Data Display

Do Now

Find the mean, median, mode, and range.

33, 76, 86, 92, 86

Mean = _____

Median = _____

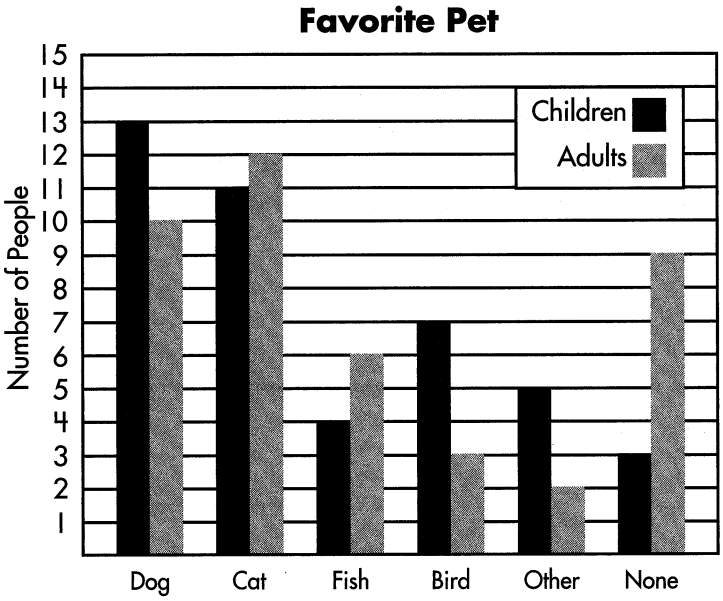
Mode = _____

Range = _____

NAME _____

Interpreting Different Types of Graphs

Bar graphs are used to compare data that has been collected from two or more data sets. Different colors or patterns are used for the bars to identify each category of a **multiple bar graph.**



This graph shows the favorite pets of adults and children who were surveyed.

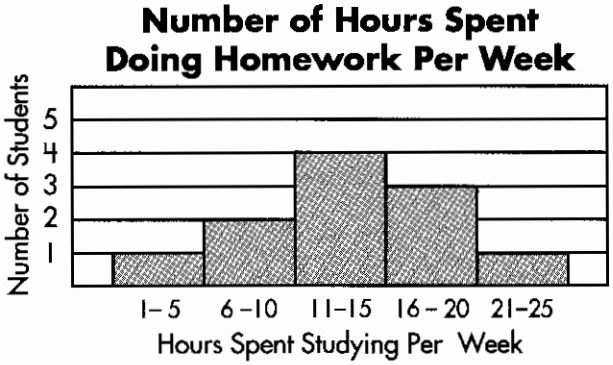
Use the bar graph above to answer each question.

1. How many people responded to the survey? _____
2. How many adults responded? How many children? adults: _____ children: _____
3. How many adults chose fish? _____
4. How many children chose cat? _____
5. How many more adults than children preferred cats? _____
6. How many more children chose dog than bird? _____
7. Which pet was chosen by the most adults? _____
8. Which pet (other than none) was chosen by the fewest children? _____
9. How many total people chose bird? _____

NAME _____

Lesson 9.2 Histograms

A **histogram** is a type of bar chart in which the categories are consecutive and the intervals are equal.



In this histogram, each bar represents an **interval** of 5 hours. The intervals are equal. The bars are **consecutive**, or in sequence one after the other.

Use the histogram above to answer each question.

1. How many students were surveyed? _____

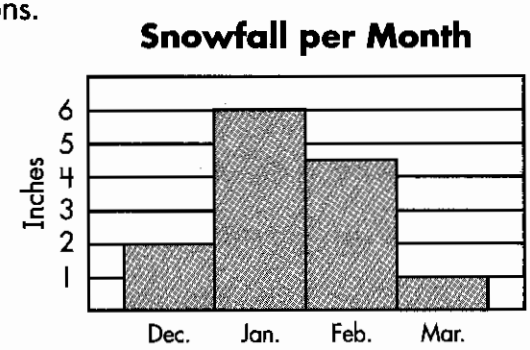
2. Which two intervals (bars) were selected by an equal number of students? _____ and _____

   How many students chose each of those intervals? _____

3. Which interval was selected by the most students? _____

4. How many more students do 16–20 hours of homework than 1–5 hours? _____

Use the histogram at the right to answer the following questions.



5. Which month had the most snowfall? _____

6. How many inches of snow fell in January through March? _____

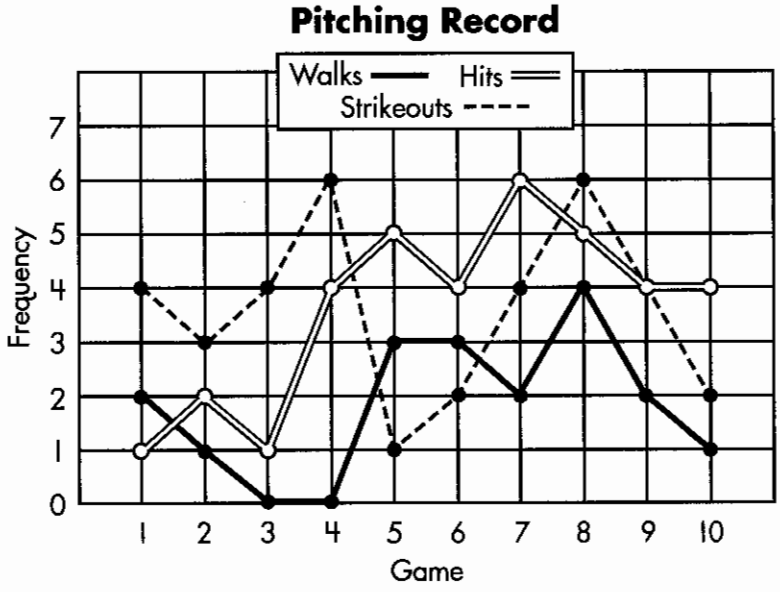
7. How many more inches of snow fell in February than in March? _____

8. How many inches of snow fell in December? _____

NAME _____

Lesson 9.3 Line Graphs

Line graphs are used to show how a variable changes over time. Multiple lines can be used on the same graph to compare 2 or more variables.



This graph shows the pitching record for the first 10 baseball games. As shown in the key, a different kind of line is used for each event being recorded.

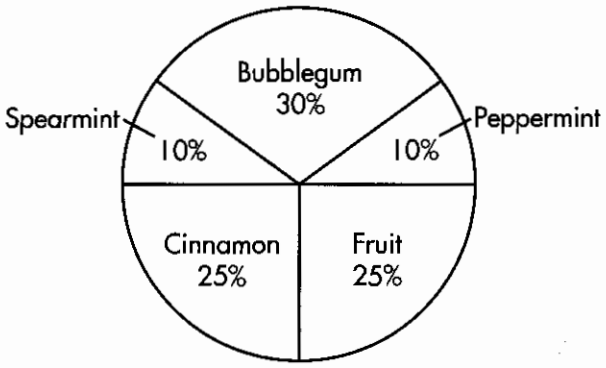
Use the line graph above to answer the following questions.

1. How many total hits were given up? _____
2. What was the total number of walks? _____
3. Which game had the same number of strikeouts and hits? _____
4. How many games had no walks? _____
5. Which game(s) had 6 strikeouts? _____
6. In which game(s) did the pitcher give up the fewest hits? _____
7. Over the course of 10 games, were there more walks or more strikeouts? _____
8. How many more hits were there in game 5 than in game 4? _____

NAME _____

Lesson 9.4 Circle Graphs

A **circle graph** shows the relationship of parts to a whole. The circle is divided into sectors which add up to 100%. The sectors are determined by the central angles, and the sum of all those angles is 360°.



Favorite Gum Flavor

This circle graph shows the favorite gum flavor of 400 people. The sectors show the percent who prefer each flavor.

Use the circle graph above to answer each question.

1. Which flavor is preferred by the most people? _____
2. How many people prefer spearmint? _____
3. How many people prefer cinnamon? _____
4. Which flavor is preferred by the same number of people who prefer cinnamon? _____
5. Which two flavors combined account for exactly half of the people? _____
6. How many people prefer bubblegum? _____
7. What is the measure of the angle for the peppermint sector of the graph? _____
8. What is the measure of the angle for the fruit sector of the graph? _____
9. What is the measure of the angle for the bubblegum sector of the graph? _____

NAME _____

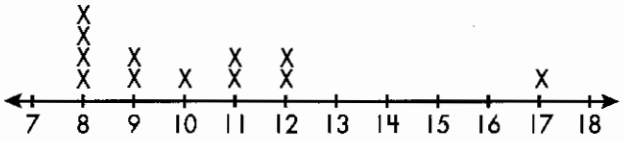
Lesson 9.9 Line Plots

A **line plot** is a graph that shows the frequency of data on a number line. Line plots make it easy to identify the mode, range, and any outliers in a data set. **Outliers** are data points that are much larger or smaller than other values.

To make a line plot, draw a number line from the least to the greatest value in the number set. Then, make an x above each number every time it appears in the set.

Make a line plot for the following data:

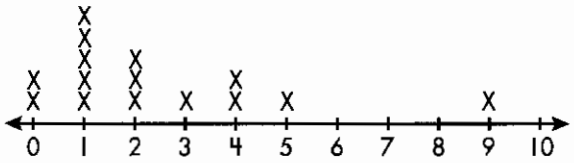
8, 9, 11, 8, 10, 11, 8, 9, 12, 8, 17, 12



The mode is 8. The range is 17 − 8 = 9.
17 is an outlier.

Answer the questions about the line plots below.

Number of Siblings



1. How many people responded to the sibling survey? _____

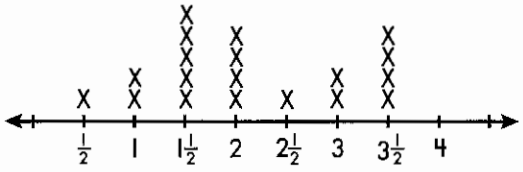
2. What is the mode of the sibling survey? What is the range?

   mode: _____ range: _____

3. How many people have 3 or more siblings? _____

4. What number is an outlier on the sibling survey? _____

Hours Studying For Test



5. How many people responded to the test survey? _____

6. What is the mode of the test survey? What is the range?

   mode: _____ range: _____

7. How many people studied 2 or fewer hours? _____

8. How many people studied 4 or more hours? _____

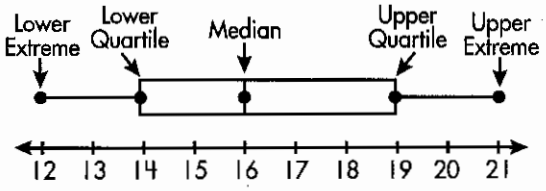
9. Did more people study 2 or more hours or less than 2 hours?

   More people studied _____ hours.

NAME _____

Lesson 9.10 Box-and-Whisker Plots

A **box-and-whisker** plot displays data along a number line. Quartiles are used to divide the data into four equal parts. Each quartile is 25% of the number of items. The upper and lower quartiles, representing 50% of the data, form the box. The upper extreme (highest value) and lower extreme (lowest value) form the whiskers.



This box-and-whisker plot represents the following data:

12, 13, 14, 14, 15, 16, 17, 18, 19, 19, 21

Upper Extreme: 21

Lower Extreme: 12

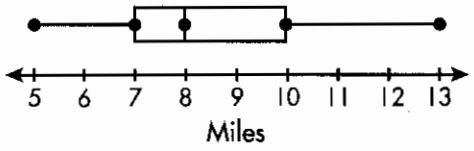
Middle Quartile (median): 16

Upper Quartile (median of upper half): 19

Lower Quartile (median of lower half): 14

Use the box-and-whisker plots below to answer the following questions.

Miles Walked in Walk-a-Thon



1. What is the median number of miles walked? _____

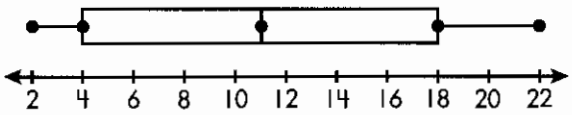
2. What are the lowest and highest numbers of miles walked?

   lowest: _____ highest: _____

3. If 126 people participated in the walkathon, how many people walked 7–10 miles? _____

4. What percentage of the people walked more than 10 miles? _____

Books Read Over the Summer



5. What is the median number of books read? _____

6. What is the upper quartile? _____

7. What percentage of the people who responded to the survey read 4 or fewer books? _____

8. What is the most number of books anyone read? _____

9. If 82 people responded to this survey, how many read from 4 to 18 books? _____

Stem-and-Leaf Plots

A **stem-and-leaf** plot is used to arrange data in order from least to greatest. It is displayed in two columns. The right column shows the **leaves**—the ones digit of each number. The other digits form the **stems** and are shown in the left column. The **key** explains how to read the plot.

Use the following data to create a stem-and-leaf plot.

71, 73, 87, 106, 95, 73, 86,
99, 104, 82, 93, 74, 101, 90

Stem	Leaves
7	1 3 3 4
8	2 6 7
9	0 3 5 9
10	1 4 6

Key: 7 | 1 = 71

Use the following stem and leaf plot:

1) What is the least value?

2) What is the greatest value?

3) What is the median?

2	0 1 1 3
3	5 7 9
4	1 8
5	0 2 3
6	4 6 6 8

6 | 4 represents 64

Stem-and-Leaf Plots

The list below are the grades of 20 students on a math test.

93%, 84%, 100%, 92%, 66%, 89%, 78%, 52%, 71%, 85%, 83%,
95%, 81%, 80%, 79%, 67%, 59%, 90%, 85%, 77%

4) What is the least value?

5) What is the greatest value?

6) What is the median?