



Reteaching

12.2 Stem-and-Leaf Plots, Histograms, and Circle Graphs

◆ Skill A Making and using a stem-and-leaf plot

Recall The leaves in a stem-and-leaf plot are usually single digits.

◆ Example

For a class of students, the following data represent the number of hours each student spent during the week watching television.

10 43 5 27 25 14 26 42 18 8 7 10 16 30 35 22

- a.** Make a stem-and-leaf plot. **b.** Find the median and mode.

◆ Solution

a.

stem	leaf
0	5, 7, 8
1	0, 0, 4, 6, 8
2	2, 5, 6, 7
3	0, 5
4	2, 3

- b.** You should list the leaves for each stem from least to greatest. Because there are 16 data items, the median is the average of the eighth and ninth items counting from the least value.

$$\frac{18 + 22}{2} = 20 \quad \text{The median is 20.}$$

The mode is 10 because this number occurs most often.

Use your own paper to make a stem-and-leaf plot for each data set. Then find the median and the mode.

- 1.** 91, 89, 58, 41, 68, 97, 44, 55, 80, 77, 37, 48, 43, 70, 89, 78, 12, 30, 33, 79, 46, 45, 53, 72, 41, 20, 37, 37, 57, 66, 54, 24, 91, 13, 52
- 2.** 130, 114, 155, 124, 178, 178, 106, 168, 145, 169, 168, 125, 131, 105, 102, 108, 146, 153, 141, 184, 159, 194, 142, 185

median: _____ mode: _____

median: _____ mode: _____

◆ Skill B Making a histogram

Recall The height of each vertical bar in a histogram represents the frequency of the value or values marked below it on the horizontal axis.

◆ Example

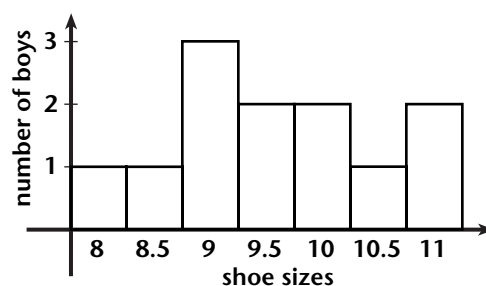
This set of data represents shoe sizes for a group of boys.

Make a frequency table and a histogram for this set of data.

◆ Solution

size	8	8.5	9	9.5	10	10.5	11
frequency	1	1	3	2	2	1	2

9 9.5 10 8.5 9 11
9 9.5 10.5 10 11 8



On your own paper, make a frequency table and histogram for each data set.

3. ounces in canned goods: 11, 15, 16, 16, 14, 15, 10, 8, 8, 12, 15, 16, 8, 15, 8, 14, 10, 10
4. lengths of jeans in inches: 33, 34, 32, 34, 30, 34, 32, 34, 30, 34, 36, 33, 32, 32, 35, 36, 35, 31, 34, 36, 36

◆ Skill C Making a circle graph

Recall Each sector of a circle graph is some fraction or percent of 360° .

◆ Example

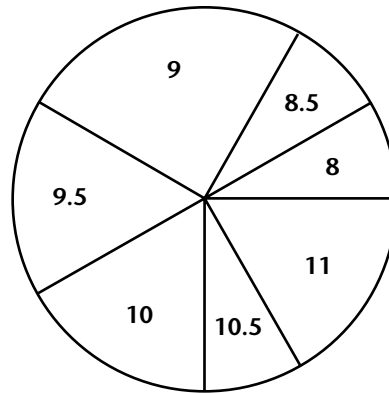
Make a circle graph for the data about shoe sizes shown in the Skill B example.

◆ Solution

You must find the total number of boys and then find fractions of 360° for the number of boys having each shoe size.

There are 12 boys and 1 of them wears size 8. So, $\frac{1}{12}$ of them have shoe size 8.

size	frequency	sector of circle
8	1	$\frac{1}{12} \cdot 360^\circ = 30^\circ$
8.5	1	$\frac{1}{12} \cdot 360^\circ = 30^\circ$
9	3	$\frac{3}{12} \cdot 360^\circ = 90^\circ$
9.5	2	$\frac{2}{12} \cdot 360^\circ = 60^\circ$
10	2	$\frac{2}{12} \cdot 360^\circ = 60^\circ$
10.5	1	$\frac{1}{12} \cdot 360^\circ = 30^\circ$
11	2	$\frac{2}{12} \cdot 360^\circ = 60^\circ$



Make a circle graph for the following data. Round degree measures to the nearest whole degree.

5. Students were asked about their favorite type of music. The responses of 500 students are recorded in the following table.

Classical	43
Rock	115
Rhythm & Blues	78
Country	181
Jazz	57
Other	26

