

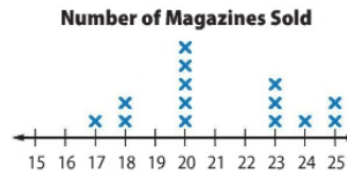
17, 18, 18, 20, 20, 20, 20, 20, 23, 23, 23, 24, 25, 25

Median:
20
and Mode

range:
 $25 - 17$
 $= 8$

Got It? Do this problem to find out.

- b. The line plot shows the number of magazines each member of the student council sold. Find the median, mode, range, and any outliers of the data. Then describe the data using them.



b. council members sold more than 20 magazines and half sold less than 20. The mode is 20, which means more members sold 20 magazines than any other number of magazines. The range is 8, and there are no outliers.

Lesson 1 Line Plots 865

Independent Practice

Go online for Step-by-Step Solutions



Make a line plot for each set of data. Find the median, mode, range, and any outliers of the data shown in the line plot. Then describe the data using them. (Examples 1–3)

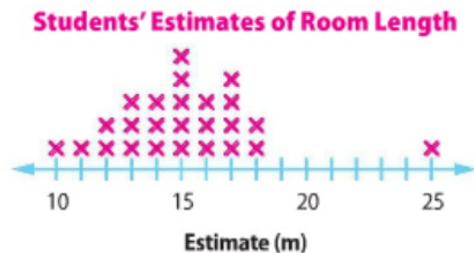
- 1 Length of summer camps in days:
7, 7, 12, 10, 5, 10, 5, 7, 10, 9, 7, 9, 6, 10, 5, 8, 7, and 8

median: 7.5; mode: 7; range: 7; no outlier; There are a total of 18 summer camps represented. The median means that one-half of the summer camps are longer than 7.5 days and one-half are less. More camps are 7 days than any other number of days.



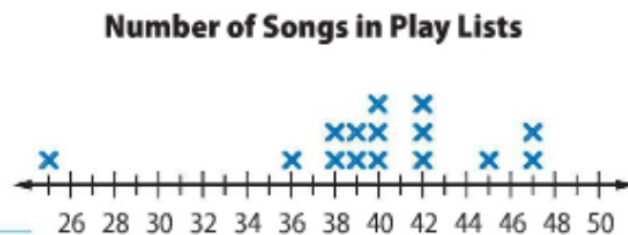
2. **Students' Estimates of Room Length (m)**

10	11	12	12	13
13	13	14	14	14
15	15	15	15	15
16	16	16	17	17
17	17	18	18	25



median: 15; mode: 15; range: 15; outlier: 25; There are 25 room lengths, in meters, represented. The median means that one-half of the rooms are greater than 15 meters and one-half are less. More rooms are 15 meters than any other length.

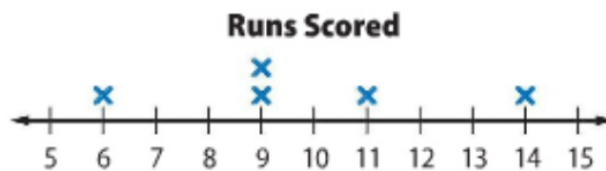
- 3** The line plot shows the number of songs in play lists. Describe the data. Include measures of center and variability. (Example 4)



Sample answer: There are 15 play lists represented.
mean: 40; median: 40; modes: 40 and 42; So, the majority of the data is close to the measures of center. Q_1 : 38; Q_3 : 42; IQR: 4, which means half the playlists have between 38 and 42 songs; there is an outlier at 25.

- CCSS Inductive Reasoning** The number of runs a softball team scored in their last five games is shown in the line plot. How many runs would the team need to score in the next game so that each statement is true?

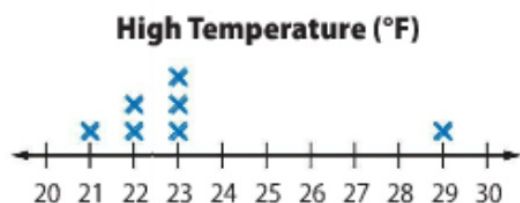
4. The range is 10. 4 or 16
5. Another mode is 11. 11
6. The median is 9.5. 10





H.O.T. Problems Higher Order Thinking

7. **CCSS Find the Error** Dwayne is analyzing the data in the line plot. Find his mistake and correct it.



The outlier of the data set is 29°F, not 20°F.

The median and the mode are 23°F. The outlier of the data set is 20°F.



8. **CCSS Model with Mathematics** Write a survey question that has a numerical answer. Some examples are “How many CDs do you have?” or “How many feet long is your bedroom?” Ask your friends and family the question. Record the results and organize the data in a line plot. Use the line plot to make conclusions about your data. For example, describe the data using the measures of center and variability.

See students' work.

9. **CCSS Persevere with Problems** There are several sizes of flying disks in a collection. The range is 8 centimeters. The median is 22 centimeters. The smallest size is 16 centimeters. What is the largest disk in the collection?

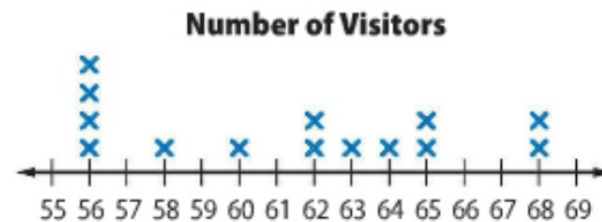
24 cm

10. **CCSS Construct an Argument** Determine whether the statement is *true* or *false*. Explain.

Line plots display individual data.

true; Sample answer: Each piece of data is represented as a dot or an X on the line plot.

11. **CCSS Reason Inductively** The line plot shows the number of student visitors to the National Wildlife Refuge each day for two weeks. If the four Xs at 56 were not included in the data set, which measure of center would be most affected? Justify your response.



mode; Sample answer: With the four values, the mean is 61.36, the median is 62, and the mode is 56. Without the four values, the mean is 63.5, the median is 63.5, and the modes are 62, 65, and 68. Not including the four values changes the mode more drastically.