

2-5 Statistics: Displaying and Analyzing Data (Pages 88–94)

Two common methods of displaying data are line plots and stem-and-leaf plots. Data are analyzed most often by frequency and central tendency. The **frequency** is the number of times an individual element occurs within the data. Central tendency consists of the mean (the average of the elements in the data), median (the middle most number when the data are arranged numerically), and mode (the number that occurs the most).

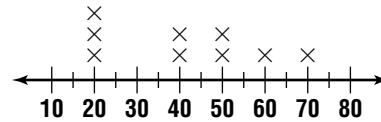
You can display numerical data on a number line with a **line plot**.

Drawing a Line Plot	<ul style="list-style-type: none"> • Draw and label a number line. • Choose a scale that includes the range of values in the data from least to greatest. • Choose an interval and divide the number line into these intervals. • Draw the line plot making a mark (such as an X) above the number line to show each item in the data.
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Example

Draw a line plot for this data: 20, 40, 70, 50, 40, 20, 60, 20, 50

These values range from 20 to 70, so the scale on the number line must include these values.



An interval of 10 fits this data.

In a **stem-and-leaf plot**, the greatest common place-value of the data is used to form the **stems**. The numbers in the next greatest place-value position are then used to form the **leaves**.

Example

Organize the following test scores into a stem-and-leaf plot.

72, 69, 98, 77, 92, 85, 79, 86, 90, 98, 83, 100, 77, 98, 91

Stem	Leaf
6	9
7	2 7 7 9
8	3 5 6
9	0 1 2 8 8 8
10	0

8|3 = 83

- a. Which grade occurred most frequently? 98 (three times)
- b. What were the highest and lowest grades? 69 and 100
- c. How many people scored 80 or above? 10 people

Practice

Use the stem-and-leaf plot above to answer the following questions.

1. What is the frequency of 77?
2. What is the mean of the data rounded to the hundredths place?
3. What is the median of the data?
4. What is the mode of the data?
5. **Standardized Test Practice** Use the above line plot to answer the following question. What is the mode of the data?

- A** 3 **B** 20 **C** 40 **D** 41.1

Answers: 1. 2 2. 86.3 3. 86 4. 98 5. B