



Students will explore variability of data by determining the mean absolute deviation (the average of the absolute values of the deviations).

**Find the mean, median, and mode(s) of the data.**

- 6, 1, 3, 8, 5, 11, 1, 5
- 15, 27, 10, 25, 9, 22, 25
- 23, 6, 8, 14, 28, 8, 13, 28
- 4.2, 2.2, 3.7, 2.8, 1.1

**For the set of data, determine which measure of central tendency best represents the data.**

- 89, 86, 96, 87, 100, 86
- 38, 35, 40, 36, 36, 33, 42, 37, 39, 34
- 87, 77, 151, 105, 65, 141, 104, 166
- 100, 106, 180, 41, 161, 292, 116, 213

**Find the range and mean absolute deviation of the data. Round to the nearest hundredth, if necessary.**

- 10, 7, 13, 10, 8
  - 110, 114, 104, 108, 106
  - 87, 75, 85, 77, 74, 82
  - 15, 17, 15, 17, 21, 17, 15, 23
  - 40, 46, 41, 46, 49, 49, 46, 44, 44
  - 50.8, 51.6, 51.9, 52, 52.5, 52.8, 53.1
- 15. Bean Plants** The heights (in inches) of eight bean plants are 28, 36, 41, 50, 35, 42, 46, and 52.
- What is the range of the bean plant heights?
  - Find the mean, median, and mode(s) of the bean plant heights.
  - Which measure of central tendency best represents the data? *Explain.*
- 16. Hotel Stay** You are planning a trip to Washington, D.C. and are looking up hotel room rates. On the Internet, you find the following rates for a one-night stay in a hotel in Washington, D.C.  
\$109, \$126.50, \$175.95, \$139, \$77.50, \$145, \$162.35, \$173, \$181.50, \$105
- Find the mean, median, and mode(s) of the rates.
  - Which measure of central tendency best represents the data? *Explain.*
- 17. Temperature** The high and low temperatures for the last seven days are given.  
High temperatures: 81°F, 78°F, 83°F, 89°F, 90°F, 87°F, 89°F  
Low temperatures: 64°F, 53°F, 62°F, 66°F, 68°F, 69°F, 67°F
- Find the mean, median, and mode of each data set. Round your answers to the nearest tenth.
  - For each data set, determine which measure of central tendency best represents the data. *Explain.*
  - Compare* the spreads of data by using the range.
  - Compare* the spreads of data by using the mean absolute deviation. Round your answers to the nearest hundredth.



Students will explore variability of data by determining the mean absolute deviation (the average of the absolute values of the deviations).

**Find the mean, median, and mode(s) of the data.**

1. 48, 23, 97, 36, 27, 72, 48, 41, 58
2. 420, 360, 398, 196, 398, 400
3. 330, 410, 212, 335, 245, 410, 390, 300
4. 5.04, 5.13, 4.68, 4.52, 5.08
5. 7.8, 7.2, 8.0, 7.5, 8.2, 7.5
6. 15.8, 15.2, 14.9, 15.9, 15.4, 15.2

**For the set of data, determine which measure of central tendency best represents the data.**

7. 6.2, 4.8, 5.8, 5.4, 5.2
8. 161, 200, 239, 252, 278, 317, 382, 395
9. 25, 27, 27, 25, 25, 29, 33, 27
10. 9.04, 8.88, 5.2, 9.52, 5.6, 12.44

**Find the range and mean absolute deviation of the data. Round to the nearest hundredth, if necessary.**

11. 13, 15, 9, 35, 25
12. 43, 57, 58, 47, 40, 50, 38, 52
13. 1.10, 1.70, 1.35, 1.45, 1.60, 1.85, 1.50
14. 410, 408, 505, 530, 490, 485, 492, 510
15. 64.2, 68.1, 55.7, 59.2, 48.3, 54.7, 77.3
16. 80, 125, 146, 134, 290, 125, 116, 125

17. Create a data set that has a mean of 15, a median of 15, and modes of 7 and 10.

18. **Population Densities** The population densities (in people per square mile) of the 10 fastest-growing big cities in the United States in 2003 were 2696, 3649, 4563, 3380, 1183, 4180, 3459, 2396, 2764, and 2924. The population densities of the 10 fastest-shrinking big cities in the United States in 2003 were 5367, 7781, 7020, 5851, 4069, 6566, 1579, 4501, 5945, and 3833.

- a. Find the mean, median, and mode of each data set.
- b. For each data set, determine which measure of central tendency best represents the data. *Explain.*
- c. *Compare* the spreads of data by using the range.
- d. *Compare* the spreads of data by using the mean absolute deviation.

19. **Golf** So far this season, your golfing scores have been 90, 108, 88, 75, 95, and 101. You will golf one more time this season, and want to finish the season with an average of 90 or less.

- a. Let  $x$  represent your last golf score. Write an expression for the mean of your golf scores. Then write and solve an inequality to find the possible scores you can achieve in order to meet your goal.
- b. After you finish the last round, your friend adds up your score and tells you that the median of your seven scores is 100. Can you tell whether you met your goal? *Explain.*