

Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write.

H.G. Wells, English Science Fiction Author

1. Interpret the quote in the context of what you learned.
2. Find the mean, median, mode, and range for each data set given.
 - a. 7, 12, 1, 7, 6, 5, 11
 - b. 85, 105, 95, 90, 115
 - c. 10, 14, 16, 16, 8, 9, 11, 12, 3
 - d. 10, 8, 7, 5, 9, 10, 7
 - e. 45, 50, 40, 35, 75
 - f. 15, 11, 11, 16, 16, 9

3. Which of the data sets from Exercise 2 are skewed?
4. Courtney wants to sell her grandfather's antique 1932 Ford. She begins to set her price by looking at ads and finds these prices: \$24,600, \$19,000, \$33,000, \$15,000, and 20,000. What is the mean price?

5. Five Smithtown High School students are saving up to buy their first cars. They all have after-school jobs, and their weekly salaries are listed in the table.

Emily	\$110
Sam	\$145
Danielle	\$130
Katie	\$160
Stephanie	\$400

- a. What is the mean weekly salary for these students?
 - b. What is the median salary?
 - c. Whose salary would you consider to be an outlier?
 - d. Which number do you think is better representative of the data, the mean or the median?
 - e. Explain your answer to part d.
6. Rosanne is selling her Corvette. She wants to include a photo of her car in the ad. Three publications give her prices for her ad with the photograph:

<i>Lake Success Shopsaver</i>	\$59.00
<i>Glen Head Buyer</i>	\$71.00
<i>Floral Park Moneysaver</i>	\$50.00

- a. What is the mean price of these ads? Round to the nearest cent.
 - b. What would it cost her to run all three ads?
 - c. If each of the three newspapers used the mean price as their ad price, what would it cost Rosanne to run ads in all three papers?
 - d. Find the range of these ad prices.
7. Dan's parents are going to pay for half of his car if he gets a 90 average in math for all four marking periods and the final exam. Here are his grades for the first four quarters: 91, 82, 90, and 89. What grade does he need on his final exam to have a 90 average?

8. Elliot is saving to buy a used car next year on his 18th birthday. He plans on spending \$6,000. How much must he save each week, if he plans to work the entire year with only two weeks off?
9. The mean of five numbers is 16. If four of the numbers are 13, 20, 11 and 21, what is the fifth number?
10. The quartiles of a data set are $Q_1 = 50$, $Q_2 = 72$, $Q_3 = 110$, and $Q_4 = 140$. Find the interquartile range.
11. The following list of prices is for a used original radio for a 1955 Thunderbird. The prices vary depending on the condition of the radio.
- \$210, \$210, \$320, \$200, \$300, \$10, \$340,
\$300, \$245, \$325, \$700, \$250, \$240, \$200
- Find the mean of the radio prices.
 - Find the median of the radio prices.
 - Find the mode of the radio prices.
 - Find the four quartiles.
 - Find the interquartile range for this data set.
 - Find the boundary for the lower outliers. Are there any lower outliers?
 - Find the boundary for the upper outliers. Are there any upper outliers?
12. Bill is looking for original taillights for his 1932 Ford. The prices vary depending on the condition. He finds these prices:
\$450, \$100, \$180, \$600, \$300, \$350, \$300, and \$400.
- Find the four quartiles.
 - Find the interquartile range.
 - Find the boundary for the lower outliers. Are there any lower outliers?
 - Find the boundary for the upper outliers. Are there any upper outliers?
13. Eliza wants to sell a used car stereo online. From her research on the website she will post to, she found 8 similar stereos listed. She decides to list her stereo for 20% less than the mean price of the stereos already for sale on the site. Let x represent the sum of the prices of the stereos she found in her research. Write an expression to calculate the price she will list as the cost of her stereo.
14. Create a list of five different numbers whose mean is 50.
15. Create a list of six different numbers whose median is 10.
16. Create a list of five numbers whose mean and median are both 12.
17. Create a list of numbers whose mean, median, and mode are all 10.
18. Create a list of numbers with two upper outliers and one lower outlier.
19. Explain why you cannot find the range of a data set if you are given the four quartiles.