Module 19Analyzing Data and StatisticsLesson 1Finding Mean, Median, and Mode



Find the mean, median, and mode of the data sets. Round answers to the nearest hundredth.

1. 2, 7, 8, 9, 9, 12, 17

9.14; 9; 9

3. 84, 96, 73, 32, 57, 99, 83, 83, 73, 79, 95, 90, 80, 79, 94, 73, 84, 88, 92, 65, 67

79.33; 83; 73

5. 72, 77, 94, 73, 82, 65, 91, 88, 72, 82

79.6; 79.5; 72 and 82

7. $\frac{5}{6}$, $\frac{2}{3}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{4}$

 $\frac{7}{15}$; $\frac{1}{3}$; $\frac{1}{4}$

9. $3\frac{1}{2}$, $12\frac{2}{3}$, $4\frac{3}{5}$, $8\frac{9}{10}$, $12\frac{2}{3}$, $4\frac{2}{5}$ **7\frac{71}{90}; 6\frac{3}{4}; 12\frac{2}{3}** **2.** 14, 38, 26, 26, 26, 38, 38, 92

37.25; 32; 38 and 26

4. 3, 3, 3, 3, 3

3; 3; 3

- 6. 22, 25, 26, 21, 25, 22, 23, 22, 23
 23.22; 23; 22
- **8.** 8.2, 9.7, 14.3, 17.6, 9.7, 4.3, 7.8, 6.9, 8.8, 9.7

9.7; 9.25; 9.7

Use this set of data to answer Problems 10–13.

Length in miles of the ten longest car trips taken by the Riveras last year: 418, 391, 371, 360, 345, 350, 360, 349, 415, 391

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11. Find the mean. 375 miles
  10. Make a stem-and-leaf plot.
      34 | 5 9
      35
           0
      36
           00
      37
           1
                        27|1 = 271
      38
      39
           1 1
      40
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      41 5 8
                                                         13. Find the mode. 360 miles and 391 miles
  12. Find the median. 365.5 miles
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nea	this set of data to answer Problems 14–16. rest cent.	Round answers to the	
Wee \$29 \$32	kly summer-job salaries for Mrs. Grumbacher's 18 3, \$431, \$229, \$460, \$241, \$357, \$260, \$238 9, \$250, \$309, \$251, \$255, \$306	3 homeroom students: , \$312, \$290, \$399, \$245,	
14.	Find the mean \$303.06	15. Find the median. \$291.50	
16.	Find the mode. no mode		
Use nea	this set of data to answer Problems 17–20. rest thousandth.	Round answers to the	
Top 0.32	Top 15 batting averages for the American League: 0.301, 0.304, 0.306, 0.349, 0.321, 0.312, 0.301, 0.340, 0.333, 0.303, 0.304, 0.333, 0.308, 0.314, 0.320		
17.	Make a stem-and-leaf plot. 0.30 1 1 3 4 4 6 8 0.31 2 4 0.32 0 1 0.30 1 = 0.301 0.33 3 3 0.34 0 9	18. Find the mean. 0.317	
19.	Find the median. 0.312	20. Find the mode. 0.301, 0.304, 0.333	
Use nea	this set of data to answer Problems 21–24.		
	rest tenth.	Round answers to the	
Grad	rest tenth. des in Mrs. Morris's kindergarten class: 92, 98, 7	5, 83, 83, 90, 70, 82, 88, 75	
Grad 21 .	rest tenth. des in Mrs. Morris's kindergarten class: 92, 98, 7 Make a stem-and-leaf plot. 7 0 5 5 8 2 3 3 8 7 10 - 70	Round answers to the 5, 83, 83, 90, 70, 82, 88, 75 22. Find the mean. 83.6	



- 1. Find five numbers between one and ten, inclusive, whose mean is seven and whose median is seven. No number may be used more than one time.
- **2.** Find five numbers between one and ten, inclusive, whose mean is seven and whose median is eight. No number may be used more than one time.
- **3.** Mickey is looking for a new house in a certain neighborhood. The last four houses in the neighborhood sold for \$67,300, \$125,000, \$78,000, and \$69,500. When Mickey is bargaining with the real estate agent, how could he describe the average selling price to his advantage? How should the real estate agent describe the average selling price?
- **4.** Why is the mean not the best measure of central tendency to use to describe the following data set: 1, 3, 4, 4, 27.

Cumulative Review

Write, in slope-intercept form, the equation of the line that satisfies the following conditions:

1. slope = 4, *y*-intercept = -3.

$$y = 4x - 3$$

- **3.** passes through (4, 6) and has a slope of $-\frac{2}{3}$. $y = -\frac{2}{3}x + \frac{26}{3}$
- **5.** passes through (2, 1) and (0, 7).

$$y = -3x + 7$$

7. passes through (-1, 2) and (3, -6).

$$y = -2x$$

9. passes through (1, 8) and is parallel to the line whose equation is y = -2x - 6.

$$y = -2x - 6$$

Possible Journal Answers

- 1. One possible answer is 5, 6, 7, 8, 9.
- 2. One possible answer is 3, 5, 8, 9, 10.
- 3. The mean selling price of the houses in the neighborhood is \$84,950. The median selling price is \$73,750. In order to make the houses seem less expensive, Mickey should describe the average selling price using the median. In order to make the houses seem more expensive, the real estate agent should describe the average selling price using the mean.
- 4. The mean of the data set is 7.8, but there is only one number in the set that is larger than four. That is because there is an outlier which affects the results. Both the median and the mode of the set are four, which is much more representative of the central tendency of the data set.
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- **2.** slope $= \frac{1}{2}$, *y*-intercept = 6. $y = \frac{1}{2}x + 6$
- **4.** passes through (–2, 3) and has a slope of 6.

y = 6x + 15

- 6. passes through (0, 0) and (-5, -8). $y = \frac{8}{5}x$
- 8. passes through (5, 6) and (-3, -4). $y = \frac{5}{4}x - \frac{1}{4}$
- **10.** passes through (-2, -3) and is perpendicular to the line whose equation is 2x 4y = 5.

y = -2x - 7

Manipulatives

Use cups and beans to find the mean of the following set of data: 2, 5, 7, 6. Use four cups. Place two beans in the first cup, five in the second, seven in the third, and six in the fourth.



Redistribute the beans so that each cup contains the same number of beans.



The mean is five.

Use cups and beans to find the mean of each set of data.

1. 3, 5, 4 <u>4</u>	2. 1, 5, 7, 7, 5 5
3. 6, 2, 3, 1 <u>3</u>	4. 5, 2 <u>3.5</u>