

Lesson 9.3 Measures of Center

Key Ideas

Median

Words Order the data. For a set with an odd number of values, the **median** is the middle value. For a set with an even number of values, the **median** is the mean of the two middle values.

Numbers Data: 5, 8, 9, 12, 14 The median is 9.

Data: 2, 3, 5, 7, 10, 11

The median is $\frac{5 + 7}{2}$, or 6.

Mode

Words The **mode** of a data set is the value or values that occur most often. Data can have one mode, more than one mode, or no mode. When all values occur only once, there is no mode.

Numbers Data: 11, 13, 15, 15, 18, 21, 24, 24

The modes are 15 and 24.

Example 1: Finding the Median and Mode

Find the median and mode of the bowling scores.

Bowling Scores				
120	135	160	125	90
205	160	175	105	145

Example 1: On Your Own

Find the median and mode of the data.

1. 20, 4, 17, 8, 12, 9, 5, 20, 13

2. 100, 75, 90, 80, 110, 102

Example 2: Finding the Mode

The list shows the favorite types of movies for students in a class. Organize the data in a frequency table. Then find the mode.

Favorite Types of Movies

Comedy	Drama	Horror
Horror	Drama	Horror
Comedy	Comedy	Action
Action	Comedy	Action
Horror	Drama	Comedy
Comedy	Comedy	Horror
Horror	Comedy	Action
Horror	Action	Drama

Example 3: Choosing the Best Measure of Center

Find the mean, median, and mode of the sneaker prices. Which measure best represents the data?



IMPORTANT: When choosing the best measure of center, the _____ is always the best representation of your data unless there is an _____. Then, the _____ would be the next best representation. The _____ is rarely the best representation of data.

Find the mean, median, and mode of the data. Choose the measure that best represents the data. Explain your reasoning.

4. 1, 93, 46, 48, 34, 194, 67, 55

5. 96, 150, 102, 87, 150, 75

The prices of six video games at an online store are shown in the table. The price of each game increases by \$4.98 when a shipping charge is included. How does this increase affect the mean, median, and mode?

Video Game Prices	
\$53.42	\$35.69
\$18.99	\$25.13
\$27.97	\$53.42

7. **WHAT IF?** The store decreases the price of each video game by \$3. How does this decrease affect the mean, median, and mode?