

Name \_\_\_\_\_

**Median and Mode****Essential Question** How can you describe a set of data using median and mode?

The **median** of a set of data is the middle value when the data are written in order. For example, a baseball team scored 6, 2, 6, 0, and 3 runs in five games. The median is 3 runs: 0, 2, **3**, 6, 6.

If there is an even number of data items, the median is the sum of the two middle items divided by 2.

The **mode** of a data set is the data value or values that occur most often. A data set may have no mode, one mode, or several modes. The mode of the data set of baseball runs is 6.

**UNLOCK the Problem** REAL WORLD

For the Science Fair, Ronni grew 9 sweet pea plants under different conditions. Here are the plants' heights, in centimeters: 11, 13, 6, 9, 15, 7, 9, 17, 12.

What are the median and mode of the data?

**?** Find the median and mode.

**STEP 1** Order the heights from least to greatest.

6, 7, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**STEP 2** Circle the middle value.

So, the median is \_\_\_\_\_ centimeters.

**STEP 3** Identify the data value that occurs most often. \_\_\_\_\_ occurs two times.

So, the mode is \_\_\_\_\_ centimeters.

- How can you find the median if there is an even number of data items?

**Math Talk** Give an example of a data set with two modes.

**Try This!** Find the median and mode of the numbers: 8, 11, 13, 6, 4, 3.

**STEP 1** Order the numbers from least to greatest.

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, 13

**STEP 2** There is an even number of data items, so divide the

sum of the two middle items by 2.  $\frac{6 + \quad}{2} = \frac{\quad}{2} = \quad$

So, the median is = \_\_\_\_\_.

**STEP 3** \_\_\_\_\_ data value appears more than once.

So, the data set has \_\_\_\_\_ mode.

## Share and Show



Find the median and the mode of the data.

1. puppies' weights (pounds): 8, 3, 5, 3, 2, 6, 3

Order the weights: \_\_\_\_\_

The median, or middle value, is \_\_\_\_\_ pounds

The mode, or most common value,  
is \_\_\_\_\_ pounds.

3. numbers of 3-point baskets made:  
2, 0, 5, 4, 5, 2, 5, 2

median: \_\_\_\_\_ 3-point baskets

mode: \_\_\_\_\_ 3-point baskets

2. numbers of students in math classes:  
25, 21, 22, 18, 23, 24, 25

median: \_\_\_\_\_ students

mode: \_\_\_\_\_ students

4. movie ticket prices (\$):  
8, 8, 6, 8, 7, 6, 8, 10, 8, 6

median: \$ \_\_\_\_\_

mode: \$ \_\_\_\_\_

## On Your Own

Find the median and the mode of the data.

5. ages of first 10 U.S. presidents  
when inaugurated:  
57, 61, 57, 57, 58, 57, 61, 54, 68, 51

median: \_\_\_\_\_ years

mode: \_\_\_\_\_ years

7. lengths of humpback whale songs (minutes):  
25, 29, 31, 22, 33, 31, 26, 22

median: \_\_\_\_\_ minutes

mode: \_\_\_\_\_ minutes

6. weights of rock samples (pounds):  
39, 28, 21, 47, 40, 33

median: \_\_\_\_\_ pounds

mode: \_\_\_\_\_ pounds

8. Sascha's test scores:  
90, 88, 79, 97, 100, 97, 92, 88, 85, 92

median: \_\_\_\_\_

mode: \_\_\_\_\_

## Problem Solving



9. Adrian recorded the daily high temperatures the first two weeks of July.  
What were the median and mode of her data?

median: \_\_\_\_\_ °F

mode: \_\_\_\_\_ °F

Daily High Temperatures (°F)

101	99	98	96	102	101	98
101	98	95	100	102	98	102