

Find the mode of these same values used in Example 1: 22 chips, 22 chips, 26 chips, 24 chips, and 23 chips.

## Solution

The mode is 22 chips, because it is the data value with the greatest frequency.

In Example 4 the mode is a single value. Here are two other possible circumstances:

Two modes: The values of 22, 22, 23, 23, 23, 24, 24, 26, and 27 have

two modes: 22 and 23.

No mode: The values of 22, 23, 24, 26, and 27 have no mode because

no value is repeated.

In reality, the mode isn't used much with numerical data. However, the mode is the only measure of center that can be used with data at the nominal level of measurement. (Remember, the nominal level of measurement applies to data that consist of names, labels, or categories only.)

## Midrange

Another measure of center is the midrange.

**DEFINITION** The **midrange** of a data set is the measure of center that is the value midway between the maximum and minimum values in the original data set. It is found by adding the maximum data value to the minimum data value and then dividing the sum by 2, as in the following formula:

$$midrange = \frac{maximum data value + minimum data value}{2}$$

## Important Properties of the Midrange

- Because the midrange uses only the maximum and minimum values, it is very sensitive to those extremes.
- In practice, the midrange is rarely used, but it has three redeeming features:
- The midrange is very easy to compute.
- The midrange helps reinforce the very important point that there are several different ways to define the center of a data set.
- The value of the midrange is sometimes used incorrectly for the median, so confusion can be reduced by clearly defining the midrange along with the median.



Find the midrange of these values from Example 1: 22 chips, 22 chips, 26 chips, 24 chips, and 23 chips.