# How Mean, Median and Mode Work

Four ways to describe a set of numbers.

## 1. One set of data, four ways to describe it

Data: **9, 4, 7, 13, 7**

**In order: 4, 7, 7, 9, 13**

### Mean

the average

Add them all, then divide by how many there are.
9 + 4 + 7 + 13 + 7 = 40
40 ÷ 5 = **8**

### Median

the middle

Put the numbers in order and find the middle one.
4, 7, **7**, 9, 13
The median is **7**.

### Mode

the most common

The number that appears most often.
7 appears twice.
The mode is **7**.

### Range

the spread

Greatest minus least.
13 – 4 = **9**

## 2. When there is an even number of values

**In order: 3, 5, 8, 10**

There are two middle numbers, 5 and 8. The median is halfway between them: (5 + 8) ÷ 2 = **6.5**.

No number repeats, so there is no mode.

## 3. Which one should you use?

The **mean** uses every value, so one very large or very small number pulls it. The **median** is not pulled that way, which is why house prices and incomes are usually reported as medians. The **mode** is the one to use for things that are not numbers, such as the most popular shoe size or color.

## 4. Try it

**Data: 6, 2, 9, 2, 6, 2, 8**

Mean: _____ Median: _____ Mode: _____ Range: _____

Answers: mean 5, median 6, mode 2, range 7