

## Calculating the range

The range is the **difference between the highest and lowest values** in a set of data.

### Example 1

Find the range of these numbers: 6, 4, 6, 5, 3.

First put them in order to make it easier to see the lowest and highest.

3, 4, 5, 6, 6

The lowest number is 3 and the highest is 6.

Find the difference. Subtract 3 from 6.

$$6 - 3 = 3$$

**So the range of this set of data is 3.**

### Example 2

Compare the range of temperatures for Cardiff and London for a week in July. Temperatures are given in the table in degrees centigrade.

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Cardiff	19°	19°	20°	20°	20°	18°	18°
London	20°	22°	22°	21°	20°	21°	19°

Find the range for Cardiff. First put the data into order.

Cardiff: 18, 18, 19, 19, 20, 20, 20

The lowest temperature for Cardiff was 18°C, the highest was 20°C.

The difference between the highest and lowest is:

$$20 - 18 = 2$$

**So the range of temperature for Cardiff is 2°C.**

Now look at London. First put the data into order.

London: 19, 20, 20, 21, 21, 22, 22

The range is the difference between the highest and the lowest. That is:

$$22 - 19 = 3$$

**So the range for the temperatures in London is 3°C.**

We can compare the temperature ranges for London and Cardiff. London has a slightly larger range of 3, compared to a range of 2 in Cardiff. This means that during this week the temperature in London was more variable than in Cardiff.