STATISTICAL TERMS

A census is a method which involves collecting data about every individual in a whole population.

A sample is a method which involves collecting data about a part of the population only.

A biased sample is one in which the data has been unfairly influenced by the collection process and is not truly representative of the whole population.

Outliers are data values that are either much larger or much smaller than the general body of the data

A **quantitative variable** is one which has a numerical value and is often called a **numerical variable**. The information collected is called **numerical data**.

Quantitative variables can be either discrete or continuous and they each have an appropriate way to organise and display the data collected for them.

A **quantitative discrete variable** takes exact number values and is often a result of **counting**.

Further examples are:

- *The number of pets in a household:* the variable could take the values of 0, 1, 2, 3, 4, ...
- *Shoe size:* the variable could take the values of $3, 3\frac{1}{2}, 4, 4\frac{1}{2}, 5, 5\frac{1}{2}$, ...

A **quantitative continuous variable** takes numerical values within a certain continuous range. It is usually a result of **measuring**.

Further examples are:

- *The weight of Year 10 students:* the variable can take any value from about 40 kg to 120 kg. Theoretically the variable could take any value on the number line but is very unlikely to take a value outside the range given.

STATISTICAL GRAPHS

Two variables under consideration are usually linked by the fact that one of them is *dependent* on the other.

For example, the *total cost of a dinner* depends on *the number of guests present.*

We say that *the total cost of a dinner* is the **dependent variable**, and *the number of guests present* is the **independent variable**.

Generally, when drawing **graphs** involving two variables, the *independent variable* is on the **horizontal axis** and the *dependent variable* is on the **vertical axis**. An exception to this is when we draw a horizontal bar chart.