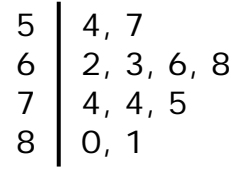


<p><b>Mean</b></p>	$\frac{\text{Values added together}}{\text{Number of values}}$ <p><i>A measure of the typical value</i></p>
<p><b>Median</b></p>	<p>8, 8, 9, 9, 10, 10, 11, 11, 12, 13, 13, 14</p> <p style="text-align: center;">↑</p> <p>The middle value when sorted in order (or halfway between the middle two if there are an even number of values)</p> <p><i>A measure of the typical value</i></p>
<p><b>Lower Quartile</b></p>	<p style="text-align: center;">↓</p> <p>8, 8, 9, 9, 10, 10, 11, 11, 12, 13, 13, 14</p> <p>The middle value of the lower half (half not including the median)</p>
<p><b>Upper Quartile</b></p>	<p style="text-align: center;">↓</p> <p>8, 8, 9, 9, 10, 10, 11, 11, 12, 13, 13, 14</p> <p>The middle value of the upper half (half not including the median)</p>
<p><b>Range</b></p>	<p>8, 8, 9, 9, 10, 10, 11, 11, 12, 13, 13, 14</p> <p>The largest value – smallest value</p> <p><i>A measure of the spread of data</i></p>
<p><b>Inter-Quartile Range (IQR)</b></p>	<p style="text-align: center;">←—————→</p> <p>8, 8, 9, 9, 10, 10, 11, 11, 12, 13, 13, 14,</p> <p>Upper quartile – Lower quartile</p> <p><i>A measure of the spread of typical data</i></p>
<p><b>Mode</b></p>	<p>The most common value (or values)</p>

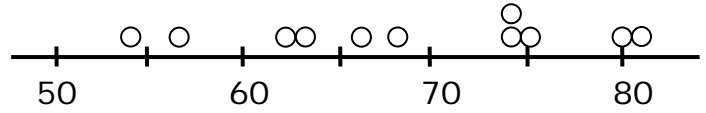
54, 74, 80, 63, 57, 66, 74, 62, 81, 75, 68

**Stem and Leaf Plot**



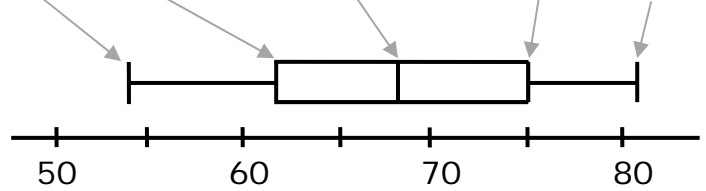
**Dot Plot**

54, 57, 62, 63, 66, 68, 74, 74, 75, 80, 81

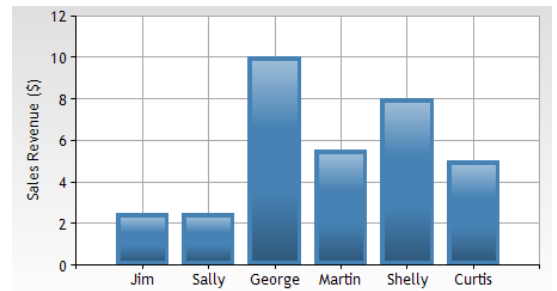


**Box and Whisker Plot**

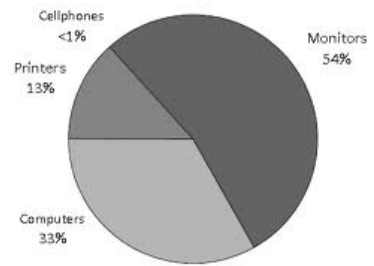
54, 57, 62, 63, 66, 68, 74, 74, 75, 80, 81



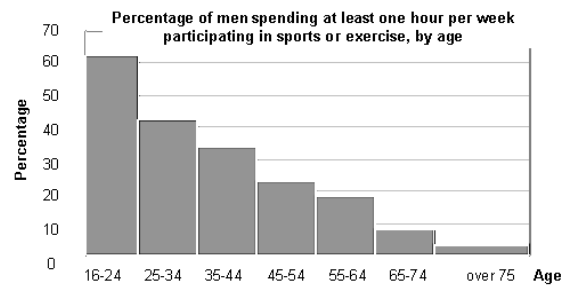
**Bar Graph**



**Pie Chart**

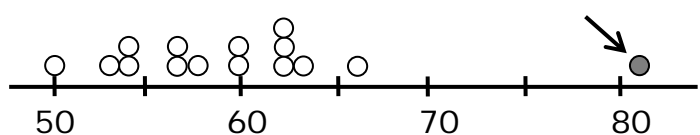
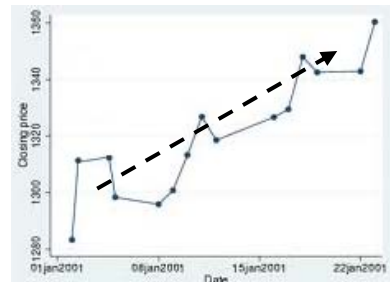


**Histogram**



**Line Graph**



<p><b>Outlier</b></p>	<p>A value that lies well away from most of the data</p> 
<p><b>Trend</b></p>	 <p>The general direction of the results, ignoring small wobbles</p>
<p><b>Data</b></p>	<p>A collection of facts, numbers, or information</p>
<p><b>Sample</b></p>	<p>A group of objects, individuals, or values selected from a population</p> <p>It should be randomly selected and representative</p>
<p><b>Census</b></p>	<p>A survey of the entire population</p>
<p><b>Population</b></p>	<p><b>All</b> objects or individuals of interest</p>
<p><b>Survey</b></p>	<p>The process of collecting data from a sample</p> <p>It should try to avoid bias</p>

**Discrete**

Data having exact values,  
often whole numbers

**Continuous**

Data having any value on a scale,  
including fractions of any units.

**Maximum and Minimum**

Largest and Smallest

**Frequency Table**

Value	Frequency
4	2
5	4
6	2
7	1

= 4 ,4, 5, 5, 5, 5, 6, 6, 7

**Tally Chart**

Gender	Tally
Male	I
Female	

= M,M,F,M,M,F,F,F,M,M,M,F,F,M,F,M,M,M,F

**Bias**

An influence that leads to results  
that do not correctly give the  
true value

e.g. selecting a sample non-randomly, poor measuring,  
asking questions that expect a certain answer

**Conclusion**

The answer, with reasons given.

There may be more than one  
possible conclusion from data.

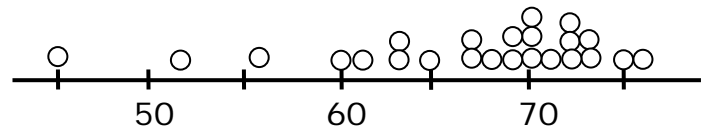
## Correlation

The strength and direction of the relationship between **two** numerical variables

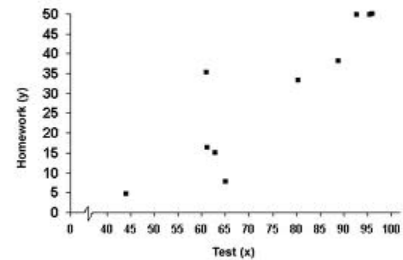
Usually found via a scatter plot

## Skew

Data not spread symmetrically



## Scatter Plot



## Bivariate Data

Data where each item has **two** numerical variables measured.

Usually graphed on a scatter plot

## Quantitative Data

Data that can be measured with a number value

Opposite of categorical data

## Time Series Data

Data with a numerical value given for different times.

Usually graphed on a line graph with time along the x-axis.

## Representative

Samples that contain the groupings of the population in approximately the correct proportions

e.g. the correct male/female ratio, the right number of workers to unemployed