







Assess your learning - Statistics 1 & 2

| Where is your learning at? Be Honest! |  red |  orange |  green | Revised for 10 Week Exam | Revised for Summer | | | | | | | | | | |
|--|--|---|--|--------------------------------|--------------------------|---|---|---|----|---|--|--|--|--|--|
| Can you answer the following questions? | | | | | | | | | | | | | | | |
| I can define all the key words in this chapter and give examples where possible. E.g. Categorical Data | | | | | | | | | | | | | | | |
| I can describe different ways of collecting data. | | | | | | | | | | | | | | | |
| I can identify the different types of data. | | | | | | | | | | | | | | | |
| I can list the advantages and disadvantages of each method of collecting data. | | | | | | | | | | | | | | | |
| I can draw line plots, bar charts and stem and leaf diagrams, pie charts and histograms. | | | | | | | | | | | | | | | |
| I can describe the shape of distributions using the terms positively skewed, negatively skewed and normal. | | | | | | | | | | | | | | | |
| I can compare two data sets using a scatter plot. | | | | | | | | | | | | | | | |
| I can describe the correlation of a scatter plot. | | | | | | | | | | | | | | | |
| I can estimate the correlation coefficient of a scatter plot from looking at the graph. | | | | | | | | | | | | | | | |
| I can calculate the correlation coefficient of a scatter plot using a calculator. | | | | | | | | | | | | | | | |
| I can draw a line of best fit on a scatter plot and find its equation | | | | | | | | | | | | | | | |
| I can find the mean, mode and median of a list of data. E.g. 4, 6, 7, 2, 3, 4, 5, 6, 1, 2 | | | | | | | | | | | | | | | |
| I can calculate the mode, median, mean and standard deviation of a frequency distribution. E.g. <table border="1" data-bbox="210 1751 580 1870"> <tr> <td>x</td> <td>3</td> <td>5</td> <td>7</td> <td>9</td> </tr> <tr> <td>f</td> <td>2</td> <td>6</td> <td>11</td> <td>3</td> </tr> </table> | x | 3 | 5 | 7 | 9 | f | 2 | 6 | 11 | 3 | | | | | |
| x | 3 | 5 | 7 | 9 | | | | | | | | | | | |
| f | 2 | 6 | 11 | 3 | | | | | | | | | | | |
| I can calculate the mode, median and mean of a grouped frequency distribution. E.g. <table border="1" data-bbox="210 1975 695 2094"> <tr> <td>x</td> <td>3 - 5</td> <td>6 - 8</td> <td>9 - 11</td> <td>12 - 14</td> </tr> <tr> <td>f</td> <td>7</td> <td>3</td> <td>10</td> <td>5</td> </tr> </table> | x | 3 - 5 | 6 - 8 | 9 - 11 | 12 - 14 | f | 7 | 3 | 10 | 5 | | | | | |
| x | 3 - 5 | 6 - 8 | 9 - 11 | 12 - 14 | | | | | | | | | | | |
| f | 7 | 3 | 10 | 5 | | | | | | | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| I understand when to use each type of average. | | | | | |
| I can calculate the range of a dataset. | | | | | |
| I can calculate the interquartile range of a dataset. | | | | | |
| I can calculate the standard deviation of a list of data. E.g. 3, 6, 7, 1, 2, 5, 6, 1, 2, 4 | | | | | |
| I can find the k^{th} percentile of a data set. | | | | | |
| I can calculate the z-score of a particular value in a data set. | | | | | |
| I can use the value of the z-score of a data value to state whether a value is unusual or not. | | | | | |
| I can write down the percentage of a normally distributed population that is 1, 2 and 3 standard deviations away from the mean. (Empirical Rule) | | | | | |

Assess your learning - **Statistics 3**

| Where is your learning at? Be Honest! |  red |  orange |  green | Revised for 10 Week | Revised for Summer |
|---|--|---|--|---------------------------|--------------------------|
| Can you answer the following questions? | | | | | |
| I can state the Central Limit Theorem. | | | | | |
| I know which z score formula to use, depending on if it's a sample or the population. E.g. Bags of flour are known to have a mean weight of 2 kg and a std dev of 50g. (i) If a random bag is selected, what is the probability that its mean weight is < 1.99 kg? (ii) If a sample of 100 of these bags are chosen at random, what is the probability that their mean weight is < 1.99 kg? | | | | | |
| I can form a 95% confidence interval for the mean of a population from a sample. E.g. The pulse rates of a sample of 36 people was measured. Mean of sample was 68.8 and std dev was 4.75. Form a 95% confidence interval for the mean of the population. | | | | | |
| I can form a 95% confidence interval for population proportion. E.g. A company wants to estimate the proportion of employees on sick leave. In a sample of 20, 9 reported that they had taken sick leave. Construct a 95% confidence interval for p. | | | | | |
| I can calculate the sample size required to give a particular margin of error. E.g. What sample size would be needed to ensure a margin of error that is less than 1%? | | | | | |
| I can calculate the p value for a test statistic. E.g. A food company claims the mean weight of the packets of museli it produces is 500g, with a std dev of 15g. A random sample of 64 of these shows a mean of 496g. Calculate the p value for the test statistic. | | | | | |
| I can carry out a hypothesis test on a claim made about the mean of a population. E.g. A vegetable grower claims that the mean weight of all bags packed is 5 kg. A random sample of 64 was selected that had a mean of 4.9 kg and a std dev of 0.25 kg. Does this provide evidence at the 5% level of significance that the mean weight is 5 kg? | | | | | |
| I can carry out a hypothesis test on a claim made about the population proportion. E.g. Last year 24% of Irish consumers bought organic foods. In a sample of 900 consumers this year, 120 said they bought organic foods. Does this provide evidence at the 5% level of significance that the proportion is still 24%? | | | | | |

