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| **H Unit 7: Collecting data, cumulative frequency, box plots and histograms** | | **Year 10 Road Map** | | | | |
| In this unit you will learn about statistics. The aims are as follows:  **LG1**: Knowledge **LG2**: Application **LG3**: Skills  Assessment Grades | | | | | | |
|  | **Learning Goals/Outcomes/Content** | | Video clips | R A G |  |  |
| **7a Collecting data** | | | | | | |
| 1 | Specify the problem and plan: | | 152 |  |  |  |
| 2 | Decide what data to collect and what analysis is needed; | | 152 |  |  |  |
| 3 | Understand primary and secondary data sources; | | 63 |  |  |  |
| 4 | Consider fairness; | | 152 |  |  |  |
| 5 | Understand what is meant by a sample and a population; | | 152 |  |  |  |
| 6 | Understand how different sample sizes may affect the reliability of conclusions drawn; | | 152 |  |  |  |
| 7 | Identify possible sources of bias and plan to minimise it; | | 152 |  |  |  |
| 8 | Write questions to eliminate bias, and understand how the timing and location of a survey can ensure a sample is representative (see note); | | 152 |  |  |  |
| 7b Cumulative frequency, box plots and histograms | | | | | | |
| 9 | Use statistics found in all graphs/charts in this unit to describe a population; | |  |  |  |  |
| 10 | Know the appropriate uses of cumulative frequency diagrams; | | 186 |  |  |  |
| 11 | Construct and interpret cumulative frequency tables; | | 186 |  |  |  |
| 12 | Construct and interpret cumulative frequency graphs/diagrams and from the graph: | | 186 |  |  |  |
| 13 | estimate frequency greater/less than a given value; | | 186 |  |  |  |
| 14 | find the median and quartile values and interquartile range; | | 186 |  |  |  |
| 15 | Compare the mean and range of two distributions, or median and interquartile range, as appropriate; | | 187 |  |  |  |
| 16 | Interpret box plots to find median, quartiles, range and interquartile range and draw conclusions; | | 187 |  |  |  |
| 17 | Produce box plots from raw data and when given quartiles, median and identify any outliers; | | 187 |  |  |  |
| 18 | Know the appropriate uses of histograms; | | 205 |  |  |  |
| 19 | Construct and interpret histograms from class intervals with unequal width; | | 205 |  |  |  |
| 20 | Use and understand frequency density; from Histogram | | 205 |  |  |  |
| 21 | complete a grouped frequency table; | | 65a |  |  |  |
| 22 | understand and define frequency density; | | 205 |  |  |  |
| 23 | Estimate the mean from a histogram; | | 130b |  |  |  |
| 24 | Estimate the median from a histogram with unequal class widths or any other information from a histogram, such as the number of people in a given interval. | | 205 |  |  |  |
| 25 | Use statistics found in all graphs/charts in this unit to describe a population; | |  |  |  |  |

Student’s comments or questions