

Y11 Mock Exam Preparation: *Statistics*

Mock Exam(s):

Exam 1: Calculator - 90 minutes

Exam 2: Calculator - 90 minutes

Revision Topic List	
Content	Skills
- Collection of data	- Know the stages of the statistical enquiry cycle - Know what charts/calculations to include in a statistical plan - Understand how to explain choices of techniques with reasons - Key features to be considered when planning data collection - Determine factors that may lead to bias - Sampling methods - Random response - Pilot study - Types of data - Importance of reliability and validity - Sources of data - Apply Petersen capture recapture formula to estimate the size of a population - Control groups - Matched pairs
- Processing and representing data	- Construct and interpret stem and leaf diagram - Construct and interpret frequency polygons - Determine and interpret skewness - Histograms (unequal class width): use frequency density to draw; interpret and compare data sets - Construct and interpret box plots - Construct and interpret a cumulative frequency step polygon / diagram / curve - Construct and interpret pie charts and comparative pie charts - Choropleth map - Population pyramid

- Summarising data	- Compare data sets using median, range, interquartile range (IQR), percentiles, interpercentile and interdeciles - Calculate/Identify and interpret outliers - Calculate and use mean and standard deviation to compare data - Calculate and interpret skew - Linear interpolation - Calculate and interpret standard deviation
- Scatter diagrams and correlation	- Calculate and interpret Spearman's Rank Correlation Coefficient(SRCC) - Interpret Pearson's Product Moment Correlation Coefficient (PMCC) - Use/Interpret upon the reliability of a Regression line
- Time series	- Seasonal trends - Moving averages - Plotting and interpreting a trend line - Seasonal and average seasonal effect
- Probability	- Comment on the differences between experimental and theoretical values in terms of possible bias - Calculate and interpret relative frequency - Construct and interpret tree diagrams - Formal notation for conditional probability - Construct and interpret a Venn diagram - Understand the terms independent, dependent, mutually exclusive and exhaustive
- Index numbers and rates of change	- Index numbers (inc chain-based) - Calculate and interpret Geometric mean
- Probability distributions	- Control charts (quality assurance) - Use action and warning lines in quality assurance sampling applications - Calculate and interpret standardised scores - Binomial distributions - Comparing normal distributions - Characteristics of a normal distribution - Know, for a normal distribution, the percentage of values that lie within one, two and three standard deviations of the mean - Draw normal distribution curves

Tips on different revision techniques, including subject specific activities can be found in the [Student Study Support Guide](#).