6d - psychology

	Mathematical skills	Exemplification of mathematical skill in the context of A level psychology (assessment is not limited to the examples given below)
D.0 - arithmetic and numerical computation		
D.0.1	Recognise and use expressions in decimal and standard form	For example, converting data in standard form from a results table into decimal form in order to construct a pie chart.
D.0.2	Use ratios, fractions and percentages	For example, calculating the percentages of cases that fall into different categories in an observation study.
D.0.3	Estimate results	For example, commenting on the spread of scores for a set of data, which would require estimating the range.
D.1 - handling data		
D.1.1	Use an appropriate number of significant figures	For example, expressing a correlation coefficient to two or three significant figures.
D.1.2	Find arithmetic means	For example, calculating the means for two conditions using raw data from a class experiment.
D.1.3	Construct and interpret frequency tables and diagrams, bar charts and histograms	For example, selecting and sketching an appropriate form of data display for a given set of data.
D.1.4	Understand simple probability	For example, explaining the difference between the 0.05 and 0.01 levels of significance.
D.1.5	Understand the principles of sampling as applied to scientific data	For example, explaining how a random or stratified sample could be obtained from a target population.
D.1.6	Understand the terms mean, median and mode	For example, explaining the differences between the mean, median and mode and selecting which measure of central tendency is most appropriate for a given set of data. Calculate standard deviation
D.1.7	Use a scatter diagram to identify a correlation between two variables	For example, plotting two variables from an investigation on a scatter diagram and identifying the pattern as a positive correlation, a negative correlation or no correlation.

D.1.8	Use a statistical test	For example, calculating a non-parametric test of differences using data from a given experiment.
D.1.9	Make order of magnitude calculations	For example, estimating the mean test score for a large number of participants on the basis of the total overall score.
D.1.10	**Distinguish between levels of measurement**	**For example, stating the level of measurement (nominal, ordinal or interval) that has been used in a study.**
D.1.11	Know the characteristics of normal and skewed distributions	For example, being presented with a set of scores from an experiment and being asked to indicate the position of the mean (or median, or mode).
D.1.12	**Select an appropriate statistical test**	**For example, selecting a suitable inferential test for a given practical investigation and explaining why the chosen test is appropriate.**
D.1.13	**Use statistical tables to determine significance**	**For example, using an extract from statistical tables to say whether or not a given observed value is significant at the 0.05 level of significance for a one-tailed test.**
D.1.14	Understand measures of dispersion, including standard deviation and range	For example, explaining why the standard deviation might be a more useful measure of dispersion for a given set of scores e.g. where there is an outlying score.
D.1.15	Understand the differences between qualitative and quantitative data	For example, explaining how a given qualitative measure (for example, an interview transcript) might be converted into quantitative data.
D.1.16	Understand the difference between primary and secondary data	For example, stating whether data collected by a researcher dealing directly with participants is primary or secondary data.
D.2 - algebra		
D.2.1	Understand and use the symbols: $=$, $<$, $<<$, $>>$, $>$, $\propto$ $\sim$.	For example, expressing the outcome of an inferential test in the conventional form by stating the level of significance at the 0.05 level or 0.01 level by using symbols appropriately.

D.2.2	Substitute numerical values into algebraic equations using appropriate units for physical quantities	For example, inserting the appropriate values from a given set of data into the formula for a statistical test e.g. inserting the N value (for the number of scores) into the Chi Square formula.
D.2.3	Solve simple algebraic equations	For example, calculating the degrees of freedom for a Chi Square test.

D.3 - graphs

D.3.1	Translate information between graphical, numerical and algebraic forms	For example, using a set of numerical data (a set of scores) from a record sheet to construct a bar graph.
D.3.2	Plot two variables from experimental or other data	For example, sketching a scatter diagram using two sets of data from a correlational investigation.