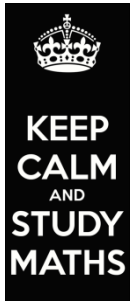

Mathematical **R**equirements (For Component **01 H167** *Or* **H567**)

NOTE: The following information applies to equally to **BOTH H167** (AS) **and H567** (A level)

From OCR: Within AS Level in Psychology, 10% of the marks available within written examinations will be for assessment of mathematics (***in the context of Psychology***) at a Level 2 standard, or higher. Lower level mathematical skills may still be assessed within examination papers but will not count within the 10% weighting for psychology.

The following will be counted as Level 2 (or higher) Mathematics:
- **Application** & **understanding** requiring **choice of data** or **equation** to be used
- **Problem solving** involving use of mathematics from different areas of maths and **decisions** about **direction** to proceed
- Questions involving use of **A Level mathematical content** (as of 2012), e.g. use of **logarithmic equations**.

The following will ***not*** be counted as Level 2 mathematics**:**
- Simple substitution with little choice of equation or data
- Structured question formats using GCSE mathematics (based on 2012 GCSE mathematics content).

Learning ***R***eview*:* For each point on the list please rate your levels of confidence at these checkpoints: **1**=First review; **2**=AS revision; **3**=A-Level Revision

Confidence ratings: In boxes 1-2 & box 3 (A-Level), please use the following codes to indicate your levels of confidence

1: Problem area – needs attention (Specify in comments) **2**: OK – but needs a *little* more work (Specify in comments) **3**: Confident – area covered!

The table below provides some examples of the mathematical requirements which will be assessed in ***Component 01.***

Item	Mathematical Skills	**Exemplification of mathematical skill in the context of AS psychology** *(assessment is not limited to examples given)*	Review **1**	AS Revision **2**	A-Level Revision **3**	Comment
D.0 - Arithmetic & Numerical Computation						
D.0.1	Recognise and use expressions in decimal and standard form	E.g: 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	E.g: Calculating the percentages of cases that fall into different categories in an observation study.				
D.0.3	Estimate results	E.g: 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	E.g: Expressing a correlation coefficient to two or three significant figures.				
D.1.2	Find arithmetic means	E.g: 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	E.g: selecting and sketching an appropriate form of data display for a given set of data.				

			1	2	3	Comments
D.1.4	Understand simple probability	E.g: 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	E.g: explaining how a random or stratified sample could be obtained from a target population.				
D.1.6	Understand the terms mean, median and mode	E.g, explaining differences between mean, median & mode & selecting measure of central tendency 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	E.g: plotting 2 variables from investigation on scatter diagram & identifying pattern as positive correlation, negative correlation or no correlation.				
D.1.8	Use a statistical test	E.g: calculating a non-parametric test of differences using data from a given experiment.				
D.1.9	Make order of magnitude calculations	E.g: 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	E.g: 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	E.g: being presented with a set of scores from an experiment & being asked to indicate position of mean (or median, or mode).				
D.1.12	Select an appropriate statistical test	E.g: 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	E.g: using extract from stat. tables to say whether or not given observed value is sig. at the 0.05 level of sig. for 1-tailed test.				
D.1.14	Understand measures of dispersion, including standard deviation and range	E.g: explaining why standard deviation might be more useful measure of dispersion for given set of scores e.g. where there is an outlying score.				
D.1.15	Understand the differences between qualitative and quantitative data	E.g: 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	E.g: 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: $=, <, <<, >>, >, \propto, \sim$	E.g: expressing outcome of inferential test in conventional form by stating level of sig. at 0.05 or 0.01 level or by using symbols appropriately.				
D.2.2	Substitute numerical values into algebraic equations using appropriate units for physical quantities	E.g: inserting appropriate values from 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	E.g: calculating the degrees of freedom for a Chi Square test.				
D.3 – Graphs						
D.3.1	Translate information between graphical, numerical and algebraic forms	E.g: 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	E.g: sketching a scatter diagram using two sets of data from a correlational investigation.				