

# Personalised Learning Checklist

MEI A Level Maths/Further Maths

Module S2

## 1. Bivariate Data

Know how to draw a scatter diagram.

Know the difference between dependent and independent variables.

Know how to calculate the pmcc from raw data or summary statistics.

Know how to carry out hypothesis tests using the pmcc and tables of critical values.

Know how to calculate Spearman's rank correlation coefficient from raw data or summary statistics.

Know how to carry out hypothesis tests using Spearman's rank correlation coefficient and tables of critical values.

Know how to calculate the equation of the least squares regression line using raw data or summary statistics.

Know the meaning of the term residual and be able to calculate and interpret residuals.

## 2. Poisson Distribution

Know the situations under which the Poisson distribution is likely to be an appropriate model.

Be able to calculate the probabilities within a Poisson distribution.

Be able to use the Poisson distribution as an approximation to the binomial distribution, and know when to do so.

Know the mean and variance of a Poisson distribution.

Know that the sum of two or more independent Poisson distributions is also a Poisson distribution.

## 3. Contingency Tables

Be able to apply the  $\chi^2$  test to a contingency table.

Be able to interpret the results of a  $\chi^2$  test

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4. Normal Distribution			
Be able to use the Normal distribution as a model.			
Be able to standardise a Normal variable and use the Normal distribution tables.			
Be able to use the Normal distribution as an approximation to the binomial distribution and know when it is appropriate.			
Be able to use the Normal distribution as an approximation to the Poisson distribution and know when it is appropriate.			
Know when to use a continuity correction and be able to do so.			
Be able to carry out a hypothesis test for the mean using the Normal distribution, knowing when it is appropriate.			