

## Guidance on the use of past paper questions for Advanced Higher Statistics

The Curriculum for Excellence Advanced Higher Courses draw on the strengths of popular areas of study from existing Advanced Higher with the introduction of some new content. The purpose of this support document is to help centres and departments to identify suitable past paper questions/items that could be used, or possibly amended, to support learners in their preparation for sitting question papers (exams) as part of the Advanced Higher Course assessment. The advice in this document reflects questions selected from 2010 to 2014 [past papers](#).

When utilising any past paper questions, you need to take into account the following:

- ◆ You must select questions that provide the learners with the same level of challenge as those in the Advanced Higher Specimen Question Paper.
- ◆ You may be able to use questions as published or with amendments as suggested in the columns below.
- ◆ You must use questions that adhere to the Advanced Higher General Marking Principles and reflect the form of Detailed Marking Instructions as published in the Advanced Higher Specimen Question Paper.

If any change to a question/items is necessary, you must ensure that:

- ◆ The style and structure matches the Specimen Question Paper for Advanced Higher.
- ◆ Marking of the learner's response to the question adheres to the General Marking Principles in the Advanced Higher Specimen Question Paper.
- ◆ Marking Instructions are amended to reflect the style of the Advanced Higher Detailed Marking Instructions.

The details below should be read in conjunction with the relevant:

Mandatory documentation:

- ◆ Course Specification
- ◆ Unit Specifications
- ◆ Course Assessment Specification

Advice and guidance:

- ◆ Course and Unit Support Notes

Assessment:

- ◆ Question Paper Component:
  - general assessment information
  - general marking principles and detailed marking instructions

Related Information as provided in the relevant N5-Advanced Higher Course Comparison Document.

**Key for the section below:**

C — amend context as required

S — amend source as required

St — amend question style

Str — amend structure of the question

QSk — indicates that the question appears against more than one skill

Not all topic/areas of study will appear every year due to the sampling techniques used in producing question papers.

<p style="text-align: center;"><b>Information from the Course Assessment Specification</b></p> <p>The Course assessment will consist of a question paper. The purpose of the question paper is to assess statistical skills. A calculator may be used. The question paper will sample the skills, knowledge and understanding that are contained within the ‘Further mandatory information on Course coverage’ section at the end of the Course Assessment Specification.</p> <p>The question paper will consist of a series of short-response questions and extended-response questions set in contexts that require the application of skills developed in the Course. Learners will be expected to communicate responses clearly and to justify solutions. The paper will have 100 marks.</p>	<p style="text-align: center;"><b>The columns below identify additional support questions from Advanced Higher Past Papers 2010 to 2014</b></p> <p style="text-align: center;"><b>Advanced Higher</b></p> <p style="text-align: center;">Use question as published unless indicated otherwise</p>
<b>Data Analysis and Modelling</b>	
<b>1.1 Applying skills to data presentation and interpretation</b>	
Undertaking the Exploratory Data Analysis (EDA) of univariate data	QSk <a href="#">2010 A8 (a)</a> QSk <a href="#">2011 A7 (a)</a> QSk <a href="#">2013 A9 (a)</a>
<b>1.2 Applying skills to probability theory</b>	
Working with theoretical and experimental probabilities	These topics have not appeared in recent past papers due to sampling requirements.
Calculating conditional probabilities	<a href="#">2010 A2</a> <a href="#">2011 A1</a> <a href="#">2012 A1</a> <a href="#">2014 A1</a> QSk <a href="#">2013 A7 (b)</a>
<b>1.3 Applying skills to discrete random variables</b>	
Modelling a discrete random variable	These topics have not appeared in recent past papers due to sampling requirements.
Using the laws of expectation and variance	QSk <a href="#">2010 A1 (b)</a> QSk <a href="#">2011 A4 (a)</a> QSk <a href="#">2013 A3 (a)</a> QSk <a href="#">2013 A8 (a)</a> QSk <a href="#">2014 A7 (a), (c)</a>
<b>1.4 Applying skills to particular probability distributions</b>	
Using discrete probability distributions	QSk <a href="#">2010 A9 (a), (d)</a> QSk <a href="#">2011 A9 (a)</a>

	<a href="#">QSk 2012 A8 (b), (c)</a> <a href="#">QSk 2013 A2 (a)</a> <a href="#">QSk 2013 A7 (a)</a>
Using continuous probability distributions	<a href="#">2010 A5</a> <a href="#">2012 A3</a> <a href="#">QSk 2010 A1 (a)</a> <a href="#">QSk 2011 A2 (b)</a> <a href="#">QSk 2011 A4 (b)</a> <a href="#">QSk 2013 A3 (b)</a> <a href="#">QSk 2014 A7 (b)</a>
Using the normal approximation to discrete probability distributions	<a href="#">2014 A8</a> <a href="#">QSk 2011 A9 (c)</a> <a href="#">QSk 2013 A2 (b)</a>
<b>Statistical Inference</b>	
<b>1.1 Applying skills to sampling and the central limit theorem</b>	
Identifying and using appropriate random sampling methods	<a href="#">2013 A1</a> <a href="#">2014 A2</a> <a href="#">QSk 2010 A3 (a)</a> <a href="#">QSk 2011 A6 (a)</a> <a href="#">QSk 2012 A2 (a)</a>
Working with the distribution of sample means	These topics have not appeared in recent past papers due to sampling requirements.
<b>1.2 Applying skills to intervals and estimation</b>	
Obtaining confidence intervals	<a href="#">2011 A3</a> <a href="#">QSk 2012 A2 (b)</a> <a href="#">QSk 2013 A4 (b)</a> <a href="#">QSk 2014 A5 (a)</a> <a href="#">QSk 2014 A6 (b)</a> <a href="#">St/Str 2010 A3(b)</a> <a href="#">St/Str 2014 A5 (b), (c)</a>
Using control charts	<a href="#">QSk 2010 A7 (b), (c)</a> <a href="#">QSk 2012 A8 (a)</a> <a href="#">QSk 2013 A8 (b), (c), (d)</a>
<b>1.3 Applying skills to bivariate analysis</b>	
Fitting a linear model to bivariate data	<a href="#">QSk 2011 A8 (a)</a> , first part <a href="#">QSk 2012 A7 (c)</a>

	QSk <a href="#">2014 A9 (a), (b)</a>
Measuring the strength of the linear association between two variables	<a href="#">2013 A6</a>
Estimating with bivariate data	<a href="#">2010 A6</a> QSk <a href="#">2011 A8 (b)</a> QSk <a href="#">2012 A7 (b)</a> QSk <a href="#">2014 A9 (c)</a>
<b>Hypothesis Testing</b>	
<b>1.1 Applying skills to parametric tests</b>	
Identifying and performing an appropriate one sample test for the population mean and proportion	<a href="#">2012 A4</a> <a href="#">2010 A7 (a)</a> <a href="#">2011 A2 (a)</a> <a href="#">2013 A4 (a)</a> <a href="#">2014 A6 (a)</a>
Identifying and performing an appropriate two sample test (independent or paired data) for comparing population means and proportions	This is a new topic
<b>1.2 Applying skills to non-parametric tests</b>	
Identifying and performing an appropriate test for population median/s	<a href="#">2012 A9</a> <a href="#">2014 A4</a> QSk <a href="#">2010 A8 (b)</a> St/Str <a href="#">2011 A5</a> (change to signed rank test) QSk <a href="#">2011 A7 (b)</a> QSk <a href="#">2013 A9 (b), (c)</a>
Identifying and performing an appropriate chi-squared test	<a href="#">2010 A4</a> <a href="#">2011 A9</a> <a href="#">2012 A6</a> <a href="#">2013 A5</a> <a href="#">2014 A3</a> QSk <a href="#">2011 A6 (b)</a>
<b>1.3 Applying skills to bivariate tests</b>	
Identifying and performing an appropriate hypothesis test on bivariate data	<a href="#">2011 A8 (a), second part</a> <a href="#">2012 A7 (a)</a> <a href="#">2013 A9 (d)</a> <a href="#">2014 A9 (d)</a>

<b>Resources</b>	
SQA past papers <a href="http://www.sqa.org.uk/pastpapers/findpastpaper.htm">www.sqa.org.uk/pastpapers/findpastpaper.htm</a>	Additional assessment support material is available here:  Education Scotland <a href="http://www.educationscotland.gov.uk/">www.educationscotland.gov.uk/</a>  Glow <a href="http://www.educationscotland.gov.uk/usingglowandict/">www.educationscotland.gov.uk/usingglowandict/</a>  Glow Log-in <a href="https://secure.glowscotland.org.uk/login/login.htm">https://secure.glowscotland.org.uk/login/login.htm</a>