

Exemplar Question Paper for Advanced Higher Mathematics

The Exemplar Question Paper and Marking Instructions have been developed to be used by centres and learners to prepare for question papers (exams) as part of Advanced Higher Course assessment. They show how questions from past papers can be used or amended to support learners in their exam preparation.

The structure of the Exemplar Question Paper is aligned with the guidance in the Course Assessment Specification, which is available on the subject page (www.sqa.org.uk/browsecfesubjects).

The questions in the Exemplar Question Paper follow the style and structure of similar questions in the Specimen Question Paper (also available on the subject page). The paper overall is designed to provide the same level of demand as the Specimen Question Paper; and the Detailed Marking Instructions reflect the approach of those in the Specimen Question Paper.

The questions included in the Advanced Higher Exemplar Question Paper were, as far as possible, selected or amended from those used in past papers, in accordance with the Guidance on the use of past paper questions document. Care has been taken to align the information in the table below with the questions identified in the guidance document and used in the Exemplar Question Paper.

If no suitable questions were available in recent past papers for reasons of sampling or because there is now new content, new questions were developed or appropriate questions were selected/adapted from other years. Details of how questions have been amended for this Exemplar Question Paper are given in the table below.

When using any past paper questions, it is important to remember that centres and learners must take into account the generic guidance on selection and/or amendments to questions below.

- ◆ 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 is necessary, you must ensure that:

- ◆ The style and structure matches the Advanced Higher Specimen Question Paper.
- ◆ 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.

Additional Subject Specific Information for Advanced Higher Mathematics

The table below shows which questions in the Exemplar Question Paper were selected/amended from past papers (and in what way they were amended) — in accordance with the Guidance on the use of past paper questions for Advanced Higher document — and also lists any new questions.

The Advanced Higher Exemplar Question Paper can be found on the [subject page](#).

Question papers in Advanced Higher will have the following mark allocations:

The question paper will have 100 marks. It will consist of a series of short response questions, extended response questions (some of which may be set in contexts) that require the application of skills developed in the Course.

Glossary of terms

Term	Explanatory comment
Question used as published in past paper	Past paper question has been used as previously published.
Past paper question with context amended	Past paper question has been used, but the basis of the information has altered, eg in Geography, this may mean a change in context from glaciation to coasts.
Past paper question with source amended	Past paper question has been used, but the source of information is different, eg in English this may mean a different text has been used.
Past paper question with style amended	Past paper question has been used, but the style of questioning has changed, eg in Mathematics, multiple-choice questions may have been changed to a short response question.
Past paper question with structure amended	Past paper question has been used but the structure of the question has changed, eg in Physics it may mean only part of a question was used with amendments to Marking Instructions to take account of no half marks.
New question written	This is a new area of Course content.

Exemplar question number	Question used as published in past paper, with/without amendment to Marking Instructions	Past paper question with context amended	Past paper question with source amended	Past paper question with style amended	Past paper question with structure amended	New question written
Q1 2015, Q1	Q1 used as published. Marking Instructions unchanged.					
Q2 (a) 2013, Q2	Q2 used as published. Marking Instructions unchanged.			Command word changed to 'find'.		
Q2 (b) 2014, Q1 (a)	Q1 (a) used as published					
Q3 2014, Q3					Q3 used as published except for final line which was deleted (not essential for topic content coverage). Wording changed to align with use of command word 'determine'.	
Q4 2013, Q4	Q4 used as published. Marking Instructions amended in (b): 3 marks reduced to 2 marks because the integral of composite					

	exponential function is now given on the formula list.					
Q5 2013, Q7					Q7 used with the addition of 'the conjugate' to improve accessibility for candidates. Marking Instructions unchanged.	
Q6 2015, Q4	Q4 used as published. Marking Instructions unchanged.			Command word changed from 'obtain' to 'find'.		
Q7 2013, Q3	Q3 used as published. Marking instructions unchanged.					
Q8 2014, Q9	Q9 used as published. Marking Instructions amended.					
Q9						This question could easily be amended to cover new content, ie proof by contrapositive, with minor changes to the Marking Instructions.

						Given that the Specimen Question Paper also has a question (Q12) using the contrapositive, this question was structured to avoid giving undue prominence to the contrapositive method in the support materials.
Q10						To cover new content, ie non-stationary points of inflexion.
Q11 2015, Q11					Q11 used with command word 'state' replacing 'what'. Although the anti-clockwise rotation matrix is now given on the formula list the original mark is still valid for interpretation and substitution. Marking Instructions unchanged.	
Q12 2009, Q4	Q4 used as published. Marking Instructions amended to include expected responses and clearer requirement in inductive statement.					

<p>Q13 2014, Q10</p>	<p>Q10 used as published. Marking Instructions amended</p>					
<p>Q14 2013, Q13</p>	<p>Q13 used as published. Marking Instructions unchanged.</p>			<p>Command word 'State' retained in (b) since no working is required.</p>		
<p>Q15 2014, Q12</p>	<p>Q12 used as published. Marking Instructions amended: 6 marks reduced to 5 marks because the derivative of the tangent function is now given on the formula list.</p>					
<p>Q16 2015, Q15</p>	<p>Q15 used as published. Marking Instructions amended: in (a) to reflect the form of vector equation for a line as given in Course/Unit Support Notes; and in (c) 4 marks has been</p>			<p>Command word in (a) changed to 'determine' for consistency with (c).</p>		

	reduced to 3 marks to reflect the mark allocation for a similar question (Q14b) in the Specimen Question Paper.					
Q17 2011, Q14	Q14 used as published. Marking Instructions amended to include expected responses.					
Q18 2015, Q18		The context in part (c) was reworded. Marking Instructions unchanged.				