OCR
Oxford Cambridge and RSA

FSMQ

Foundations of Advanced Mathematics (MEI)

Unit **6989:** Multiple Choice

Free Standing Mathematics Qualification

OCR Report to Centres June 2015

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This report on the examination provides information on the performance of candidates which it is hoped will be useful to teachers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding of the specification content, of the operation of the scheme of assessment and of the application of assessment criteria.

Reports should be read in conjunction with the published question papers and mark schemes for the examination.

OCR will not enter into any discussion or correspondence in connection with this report.

CONTENTS

Foundations of Advanced Mathematics (MEI) FSMQ (6989)

OCR REPORT TO CENTRES

6989 Foundations of Advanced Mathematics

There were just fewer than 800 entries for this series. The mean mark was 26. The minimum mark scored by one candidate was 6 and 10 candidates scored the maximum mark of 40.

In most questions at least one candidate offered no answer and in some cases there were quite a number of such omissions. These were scattered throughout the paper so this did not provide any evidence that candidates found the paper too long. It may be that candidates are not aware that to choose an incorrect response carries no penalty.

In all questions each of the distracting responses was selected by at least one candidate.

In 4 questions the correct response was answered by fewer than 50% of candidates.

Q12 Algebra - sum of algebraic fractions

This is a standard question that is asked most years and the response has often been rather better than this year. The correct response (C) was chosen by only 45% with the other three responses receiving very similar numbers.

Q15 Arithmetic – conversion of units

The correct response (C), chosen by 44%, where 10 times the conversion of 1 inch to centimetres was offered as the conversion of a foot. The other responses received similar numbers.

Q35 Vectors – motion in a straight line

The correct response (C) was chosen by 46% of candidates who thought that it took twice as long to cover a distance upstream as downstream. The remaining candidates chose the other responses in approximately equal numbers.

Q36 Graphs – properties of a cubic curve

Once again, it was response C that was the correct response and approximately equal numbers chose one of the other responses. 46% of candidates said that at $x = -3$ the gradient was not negative.

In one question a minority of candidates chose the wrong response.

Q27 Algebra– rearrangement of formulae.

Both Sam and Rosie were correct in their rearrangements (A) but only 19% chose this response, one of the lowest in recent years. The second rearrangement was hard, but 40% chose the responses, which said that Sam was correct.

As in previous sessions a summary of questions and topics is provided, with the approximate percentage of candidates giving the correct responses.

Percentage obtaining the correct response	Question	Topic
91 – 100	1	Arithmetic - operations
	2	Arithmetic - definitions
	18	Arithmetic - ratio
81 – 90	7	Algebra – simultaneous equations
	10	Arithmetic – fractions
	23	Arithmetic – rounding of numbers
	32	Arithmetic – percentage profit and loss
71 – 80	3	Algebra – solution of linear inequalities
	4	Arithmetic – standard form
	5	Arithmetic – compound units
	6	Arithmetic – mensuration
	13	Arithmetic and trigonometry – mensuration, pythagoras and trigonometrical ratios
	14	Arithmetic – value of expressions
	16	Algebra – formulating an expression
	17	Algebra – solution of equations
	26	Algebra –substitution
	39	Statistics – displays
61 – 70	11	Statistics – displays and probability
	19	Vectors
	20	Trigonometry – Pythagoras, trigonometrical ratios and area
	24	Arithmetic – cumulative errors
	30	Algebra – formulation of formula in words
	31	Statistics – sampling
	37	Probability – probability tree
	38	graphs – distance/time graph
51 – 60	8	Algebra – expansion of brackets
	9	Algebra – roots of quadratic equations
	21	Algebra – factorisation of quadratic expressions
	22	Trigonometry – cosine rule
	25	Algebra – interpretation of formula
	28	Algebra – factorisation of expressions
	29	Coordinate geometry – equations of straight lines
	34	Trigonometry – 3D diagram
	40	Statistics – cumulative frequency graph
41 – 50	12	Algebra – sum of algebraic fractions
	15	Arithmetic – conversion of units
	33	Trigonometry – definitions and graphs
	35	Vectors – motion in a straight line
	36	Coordinate geometry – properties of a cubic curve
31 – 40		
21 – 30		
11 – 20	27	Algebra – rearrangement of formulae

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

Education and Learning
Telephone: 01223 553998
Facsimile: 01223 552627
Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations
is a Company Limited by Guarantee
Registered in England
Registered Office; 1 Hills Road, Cambridge, CB1 2EU
Registered Company Number: 3484466
OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations)
Head office
Telephone: 01223 552552
Facsimile: 01223 552553