FSMQ

Foundations of Advanced Mathematics (MEI)

Unit **6989:** Multiple Choice

Free Standing Mathematics Qualification

OCR Report to Centres June 2016

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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.

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The mean mark, at 29 was slightly up on previous years. One candidate scored 4 marks and two candidates obtained full marks. At least one candidate did not offer an answer in 12 questions, scattered throughout the paper.
In all questions each of the distracting responses was selected by at least one candidate

In two questions the correct response was given by fewer than 50% of candidates and in one case the majority of candidates chose an incorrect option.

Q18 Algebra – rearrangement of formulae
This was a typical question where candidates have to decide on two rearrangements. In this case the rearrangement of Lidka was correct but that of Jason was incorrect (option C). Only 38 % chose this option. Nearly equal proportions chose B and D, the two options in which Lidka was stated to be incorrect.

Q35 Probability.
Option B was the incorrect probability but only 38% of candidates chose this response. Candidates probably thought that the correct probability for exactly one 4 was**Error! Objects cannot be created from editing field codes.**, forgetting that the 4 could be in any of the 3 positions meaning that the correct probability is actually **Error! Objects cannot be created from editing field codes.**. Option D, however, was chosen by 45% of candidates and this was actually correct. P(at least one 2) = 1 – P(no 2s) = **Error! Objects cannot be created from editing field codes.**.

As in previous sessions I offer a summary of questions with the approximate percentage of candidates giving the correct responses.

Percentage obtaining the correct response	**Question**	**Topic**
91 – 100	2	Arithmetic – powers
	6	Arithmetic – standard form
	7	Arithmetic – units
	10	Arithmetic – significant figures and decimal places
	12	Arithmetic – approximate calculations
	24	Arithmetic – cumulative errors
81 – 90	3	Arithmetic – fractions
	20	Algebra – powers
	25	Graphs – coordinate geometry of straight lines
	26	Graphs – graphical interpretation of simultaneous equations
	33	Statistics – sampling
	34	Algebra – factorisation
	37	Statistics – pie chart
71 – 80	1	Arithmetic – basic operations
	4	Arithmetic – ratios
	11	Arithmetic – error bounds
	13	Algebra – substitution
	15	Algebra – solution of quadratic equations

Percentage obtaining the correct response	**Question**	**Topic**
	19	Algebra – sequences
	23	Algebra – factorisation of quadratic expressions
	28	Vectors
	36	Algebra – formula in words
61 – 70	5	Arithmetic – percentage change
	8	Arithmetic – conversion of units
	9	Arithmetic – mensuration
	14	Algebra – solution of equations and inequations
	16	Simultaneous equations
	21	Algebra – algebraic fractions
	29	Trigonometry – trigonometrical graphs
	31	Probability
	32	Statistics – cumulative frequency
	40	Trigonometry – 3D drawing
51 – 60	17	Algebra – formula from words
	22	Algebra – expansion of brackets
	27	Graphs – speed-time graph
	30	Vectors
	38	Graphs – cubic graph
	39	Trigonometry – sine and cosine rules
41 – 50		
31 – 40	18	Algebra – rearrangement of formulae
	35	Probability

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