Foundations of Advanced Mathematics (MEI)

Free Standing Mathematics Qualification **6989**

OCR Report to Centres

June 2012

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Foundations of Advanced Mathematics (MEI) FSMQ (6989)

OCR REPORT TO CENTRES

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Foundations of Advanced Mathematics – 6989

There were just fewer than 2000 entries for this series. The mean mark was 24.5. The minimum mark scored by 3 candidates was 7 and 3 candidates scored the maximum mark of 40.
In all but 3 questions at least one candidate offered no answer (including question 1) 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.

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

In only one question on this paper was the wrong response selected by more candidates than the right response, but in 12 others fewer than 50% chose the correct response. This is rather more than in previous series.

Q35(Probability) Response C was the incorrect probability, and therefore the correct answer, in that the product P(card from 1st deck is a picture card) × P(card from 2nd deck is not a picture card) has to be multiplied by 2 and the probability given was half the correct answer. Since the response D was chosen by more candidates than C, we presume that candidates either thought that all three responses A, B, C were correct and that left D, or that they were unable to calculate the probability of "at least".

As in previous sessions I offer a summary of questions and topics with the approximate percentage of candidates giving the correct responses. From this table can be seen the questions for which the correct response was selected by fewer than half the candidates.

	Question	Topic	
91 – 100%	3	Arithmetic	
	17	Arithmetic	Sensible units
81 – 90%	4	Arithmetic	Rounding
	5	Arithmetic	Fractions
	12	Algebra	Substitution of numbers into expressions
	14	Arithmetic	Standard form
	15	Arithmetic	Percentages
	16	Arithmetic	Ratios
	28	Algebra	Quadratic sequence
71 – 80%	2	Arithmetic	
	11	Statistics	Pie chart
	19	Arithmetic	Scales
	27	Graphs	Distance/time graph
61 – 70%	7	Probability	
	8	Algebra	Factorising and expansion of quadratic expressions
	10	Algebra	Simplification of terms
	18	Arithmetic	Error bounds
	20	Algebra	Expression in words
	22	Algebra	Solution of linear equations and inequalities
	33	Vectors	
51 – 60%	1	Arithmetic	
	21	Algebra	Simultaneous equations
	24	Algebra	Integer solution of linear inequality
	26	Trigonometry	Angles in right angled triangles

	30	Trigonometry	Cosine Rule
	31	Statistics	Cumulative frequency curve
	37	Algebra	Addition of algebraic fractions
41 – 50%	6	Arithmetic	Conversion of units
	9	Algebra	Solution of quadratic equation
	13	Algebra	Rearrangement of formulae
	38	Statistics	Vertical line graph
	40	Graph	Graphing of cubic function
31 – 40%	23	Algebra	Words into expression
	25	Trigonometry	Trigonometrical ratios for any angle
	29	Trigonometry	3D shape
	32	Arithmetic	Speed/time graph and acceleration
	34	Graphs	Linear graph
	35	Probability	
	36	Vectors	
	39	Statistics	Measures of central tendency, range and sampling

Answers

1	D		21	B
2	A		22	C
3	C		23	A
4	C		24	B
5	B		25	A
6	A		26	A
7	D		27	B
8	B		28	C
9	B		29	C
10	B		30	B
11	D		31	B
12	C		32	C
13	D		33	A
14	B		34	A
15	D		35	C
16	B		36	C
17	D		37	B
18	D		38	C
19	D		39	D
20	A		40	A

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