

FSMQ

Foundations of Advanced Mathematics (MEI)

Free Standing Mathematics Qualification 6989

Examiner's Report

June 2011

6989/R/11

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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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Foundations of Advanced Mathematics – 6989

Report, June, 2011

Student Bounty.com There were 2203 entries for this session, a significant increase from previous years. The mean mark was 23.3. The minimum mark scored by 1 candidate was 4 and 5 candidates scored the maximum mark of 40.

In all but 2 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 6 questions the wrong response was selected by more candidates than the right response, and in 6 others fewer than 50% chose the correct response.

Q4 (Data display) More candidates thought that a cumulative frequency graph was the most appropriate diagram to display the data rather than a vertical line graph for this set of discrete data.

Q9 (Measurements of central tendency and spread) Taking the midinterval of 5.5 etc gives a mean of 28.75 which is correct. It may be that candidates took a midinterval value of 5, etc in deciding that this response was the incorrect one. However, the median is not the midinterval of the middle group. More candidates chose responses A and D than the correct response of B.

Q15 (Probability) Surprisingly for this standard question more candidates chose responses A and D then the correct response.

Q18 (Solution of quadratic equations) Response B was thought to have no real solutions. It may be that candidates thought that a "real solution" excluded 0.

Q32 (Probability) This is the second probability question, this time with no replacements, and, as with Q15, candidates are not comfortable with the possibilities. The most popular response for the correct answer was by assuming replacement (so the denominator was 10 × 10 and not 10 × 9) and also taking no account of the order of selection (so the numerator was 6 × 4 and not 6 × 4 × 2).

Q37 (Vectors) Both A and D were more popular responses than B. In both A and D the vector representing the wind was not 50 units, and in A North-East was confused with North-West.

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

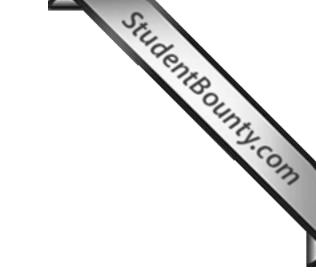
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Examiner's Report – June 2011 Question Topic 81 – 90% 1 Arithmetic 3 Arithmetic – fractions 5 Arithmetic – standard form 12 Arithmetic – percentage profit and loss 20 Algebra – substitution of values for letters 28 Algebra – expression a formula in words	
Question Topic	
81 – 90% 1 Arithmetic	12
3 Arithmetic – fractions	T.C.
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12 Arithmetic – percentage profit and loss	7
20 Algebra – substitution of values for letters 28 Algebra – expression a formula in words	
20 Algebia – expression a formula in words	
71 – 80% 2 Arithmetic – powers	
21 Algebra – exponential series	L L
36 Arithmetic – scale drawings	
38 Graphs – conversion graph	
61 – 70% 6 Arithmetic – percentages	
7 Arithmetic – approximations	
8 Arithmetic – estimations	
10 Trigonometry – cosine rule	
13 Vectors	
17 Arithmetic – ratios	
25 Algebra – quadratic factorisation	
26 Algebra – simultaneous equations	
27 Trigonometry – sine rule	
34 Statistics – cumulative frequency curve	
35 Trigonometry – triginometrical ratios 39 Statistics – frequency graphs	
, , , , ,	
51 – 60% 11 Arithmetic – ratios	
22 Algebra – rearrangement of formulae	
29 Algebra – solution of linear equations Coordinate Geometry - graphical solution of simultaneous	
31 Coordinate Geometry – graphical solution of simultaneous equations	
40 Arithmetic – scale drawing	
41 – 50% 14 Arithmetic – percentages	
19 Algebra – simplification of expressions and terms	
Algebra – solution of inequality	
24 Algebra – expressing formula in words in algebraic form	
31 – 40% 16 Coordinate geometry of the straight line	
30 Algebra – addition of algebraic fractions	
33 Graphs – speed-time graph	
21 – 30% 4 Statistics – data display	
21 – 30% 4 Statistics – data display 9 Statistics – measurements of central tendency and spread	
15 Probability	
18 Algebra – solution of quadratic equations	
32 Probability	
37 Vectors	

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Answers

D	21	C
Α	22	С
D	23	В
Α	24	В
В	25	Α
С	26	В
	27	С
В	28	C A C A
В	29	С
Α	30	Α
С	31	Α
Α	32	В
D	33	С
С	34	D
В	35	B C D C B
Α	36	С
С	37	В
D	38	D
D	39	D D
С	40	С
	DADABCABBACADCBACDDC	A 22 D 23 A 24 B 25 C 26 A 27 B 28 B 29 A 30 C 31 A 32 D 33 C 34



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law mark grade boundaries June 2011 series

evel 3 Certificate and FSMQ

evel 3 Certificate Mathematics for Engineering								
	Max Mark	a*	а	q	C	p	ө	n
860/01 Component 1 Raw	09	48	42	36	30	24	18	0
860/02 Component 2 Raw	40	32	28	24	20	16	12	0
860 Mathematics for Engineering Overall	100	80	20	09	20	40	30	0
evel 3 Certificate Mathematical Techniques and Applications for Engineers	for Engineers							
	Max Mark	a*	а	þ	c	þ	е	n
865/01 Component 1		Т	This specification has no entries in June 201	ation has no	entries in	June 2011		
Itermediate Free Standing Mathematics Qualification (FSMQ)								
	Max Mark	æ	q	ပ	ъ	Ф	_	
389/01 Foundations of Advanced Mathematics (MEI) Raw	40	31	27	23	19	16	0	
dvanced Free Standing Mathematics Qualification (FSMQ)								
	Max Mark	а	þ	c	þ	е	n	