



General Certificate of Secondary Education

Mathematics 4302

Specification B

Module 3 Tier F 43003F

Mark Scheme

2008 examination – March series

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available to download from the AQA Website: www.aqa.org.uk

Copyright © 2008 AQA and its licensors. All rights reserved.

COPYRIGHT

AQA retains the copyright on all its publications. However, registered centres for AQA are permitted to copy material from this booklet for their own internal use, with the following important exception: AQA cannot give permission to centres to photocopy any material that is acknowledged to a third party even for internal use within the centre.

Set and published by the Assessment and Qualifications Alliance.

The following abbreviations are used on the mark scheme:

M	Method marks awarded for a correct method.
A	Accuracy marks awarded when following on from a correct method. It is not necessary always to see the method. This can be implied.
B	Marks awarded independent of method.
M dep	A method mark which is dependent on a previous method mark being awarded.
ft	Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
SC	Special Case. Marks awarded for a common misinterpretation which has some mathematical worth.
oe	Or equivalent.
eeoo	Each error or omission.

MODULE 3 FOUNDATION TIER

43003F

1(a)(i)	21	B1	
1(a)(ii)	6 and 8	B2	B1 for each
1(a)(iii)	36	B1	
1(b)	48×36	B1	
	1728	B1 ft	ft on two numbers from the list multiplied correctly but numbers used must be seen

2(a)	81	B1	
2(b)	London	B1	
2(c)	$57 \times 5 \times 2$	M1	or $57 \times 5 (= 285)$ or $57 \times 2 (= 114)$ or $57 \times 2 \times 7 (= 798)$
	570	A1	Answer 285 or 114 is M1A0

3	$2 \times 12.5(0)$ or 2×8	M1	25 or 16
	$2 \times 12.5(0) + 2 \times 8$	M1	41 if correct
	their 41 – 35	M1 dep	Dependent on M2
	6	A1	

4(a)	1012	B1	
4(b)	512	B1	
4(c)(i)	15.2881	B1	
4(c)(ii)	15.29	B1 ft	ft any (i) > 2 dp Correct answer or ft

5(a)	26 (April) to 30 (April) and 1 (May) to 9 (May) or 5 and 9	M1	Allow M1 for 26 (April) to 31 (April) and 1 (May) to 9 (May) but will be A0 even if answer 14
	14	A1	14 with no working scores M1A1 SC1 Answer 13 or 15
5(b)	$(4).25$ or $(4)\frac{1}{4}$	M1	$\frac{1}{4} \times 36 (= 9)$
	36×4.25	M1 dep	$36 \times 4 + \text{their } 9 (= 144 + \text{their } 9)$
	153	A1	SC1 36×4.15 or 149.4

6	$35\,000 \times 0.3 (= 10\,500)$	M1	$6.5 \times 1600 (= 10\,400)$
	their $10\,500 \div 1600$	M1 dep	their $10\,400 \div 0.3$
	6.56(...)	A1	34 666(...) rounded or truncated to 3 sf or better Note: M1M1 for the two calculations in line 1 A1 10 500 and 10 400

Alt 6	$1600 \div 0.3 (= 5333.33\dots)$	M1	$0.3 \div 1600 (= 0.0001875)$
	$35\,000 \div (5333.33\dots)$ or $6.5 \times (5333.33\dots)$	M1 dep	$6.5 \div (0.0001875)$ or $35\,000 \times (0.0001875)$
	6.56(...) or 34 666(...) rounded or truncated to 3 sf or better	A1	34 666(...) rounded or truncated to 3 sf or better or 6.56(...)

7	$\frac{24}{40} \times 100 (= 60)$	M1	$\frac{65}{100} \times 40 (= 26)$
	Ben	A1	Only accept if 60 or 26 or $\frac{60}{100}$ or $\frac{26}{40}$ seen

8(a)	$1 - 0.032 (= 0.968)$ or $100 - 3.2 (= 96.8)$	M1	$68\,000 \times 0.032 (= 2176)$ oe
	their $0.968 \times 68\,000$ or $\frac{\text{their } 96.8}{100} \times 68\,000$	M1 dep	$68\,000 - \text{their } 2176$
	65 824 or 65 820 or 65 800	A1	
8(b)	9499	B1	

9(a)	2.5	B1	Condone unnecessary zeros
9(b)	0.9	B1	Condone unnecessary zeros
9(c)	0.001	B1	Condone unnecessary zeros
9(d)	6.2	B1	Condone unnecessary zeros

10(a)	3	B1	
10(b)	$75 \div 11$	M1	6 rem (9) Do not award M1 if just 6 seen with no indication that there is a remainder
	7	A1	

11(a)	2580	B1	
11(b)	295	B1	
11(c)	600	B1	
11(d)	-2	B1	
11(e)	-4	B1	
11(f)	3	B1	

12(a) (i)	$\frac{1}{5}$	B1	oe
12(a) (ii)	20	B1 ft	Allow rounded to nearest whole number or better on ft
12(b)	$\frac{15}{100} \times 8(00)$	M1	$\frac{10}{100} \times 8(00)$ (= 0.8 or 80) and adds half of their answer on
	1.20	A1	Answer 1.2 is M1A0 SC1 Answer 9.20 unless 1.20 seen in working

13(a)	143	B1	
13(b)	10 000	B1	
13(c)	$\frac{3}{5} \times \frac{1}{4}$	M1	0.6 ÷ 4
	$\frac{3}{20}$	A1	oe eg 0.15

14	$\frac{3}{4} \times 60 (= 45)$	B1	
	Valid subtraction method	M1	eg 4:25 – 25(min) = 4:00 4:00 – 20(min) Do not accept 4.25 – 0.45 (= 3.8) Note: 3.40 seen implies B1M1
	15:40	A1	Ignore pm, penalise am SC2 Answer 17:10 SC1 Answer 5:10

15(a)	14.25	B1	
15(b)	$142.5 + 3.75$	M1	$3.75 \times 40 - 3.75$
	146.25	A1	

16	$\frac{84}{4} (\times 5)$	M1	21 ($\times 5$) if correct
	105	A1	
	$\frac{150}{5} \times 3$	M1	30 \times 3 if correct
	90	A1	
	195	A1 ft	ft their 105 + their 90 if both M marks awarded SC2 144