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ASSESSMENT and QUALIFICATIONS ALLIANCE

General Certificate of Secondary Education

Mathematics 3302

Specification B

Module 5 Paper 2 Tier F 33005/F2

THREE TIER

Mark Scheme

2007 examination - June 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.

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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 5 FOUNDATION TIER 33005/F2

1(a)(i)	97	B1	
1(a)(ii)	23	B1	
1(b)	Arrow in correct place	B1	Tip must be within 1 mm of 560

2(a)	Metres	B1	or just m	Ignore integers in front of units
2(b)	mm	B1	or cm	
2(c)	Litres or L or ml	B1	or cl also cc or cm^3	

3(a)	1, 3, 7, 21	B2	B1 if one of these missing B1: 3 or 4 correct + 1 extra B1: 3 and 7 only
3(b)	1	B1	
	7	B1	
3(c)	$\frac{3}{7}$	B1	

4(a)	$155 + 8 \times 35$	M1	
	435	A1	
4(b)	$(330 - 155) \div 35$	M1	
	5	A1	

5(a)	Diameter	B1	Allow chord here
5(b)	Radius	B1	
5(c)	Chord	B1	

6(a)	E	B1	
6(b)	F and H	B1	

7(a)	(2, 5)	B1	
7(b)	Mark at (7, 1)	B1	± 2 mm Letter C not required
7(c)	Completed parallelogram	B1 ft	ft from their (7, 1)
7(d)	(2, 0)	B1 ft	Must be from an attempted parallelogram

8(a)	5 squares shaded	B1	oe
8(b)	10	B1	
8(c)	$\frac{7}{10}$ or 0.7 or $\frac{70}{100}$	B1	
8(d)	0.3 means $\frac{3}{10}$	B1	oe or 1 – 0.7

9(a)	F or N	B1	
9(b)	A or E or M	B1	
9(c)	H	B1	
9(d)	N or H	B1	

10(a)	11.56	B1	Must see all 4 digits
10(b)	3570 × $\frac{12}{100}$	M1	oe
	428.40	A1	Do not accept 428.4

11(a)	360 – (90 + 77 + 62)	M1	oe Must be complete method
	131	A1	
11(b)	180 – 116 (= 64)	M1	May be seen on diagram or 116 ÷ 2 for M2
	[180 – their 64] ÷ 2	M1	
	58	A1	64 on answer line gets M1

12(a)	$\frac{5\times6}{2}$	B1	SC1 if "over 2" the only error in both parts Mark as B0, SC1
12(b)	1 + 2 + 3 + 4 + 5 + 6 = $\frac{6\times7}{2}$	B1	
12(c)	$\frac{24\times25}{2}$ (allow 24 × 25)	M1	No marks given for adding up 1 + 2 + … etc
	300	A1	

13	16 × 28.33	M1	or 16 × 30
	$\frac{1}{2}$ kg = 500 g or 1 kg = 1000 g	M1	or 453.28 ÷ 1000 (= 0.453…)
	453 (.28) and yes	A1	or 480 and yes
	Alternative method		Alternative method
	1 kg = 2.2 1b oe	M1	500… M1
	16 oz = 1 lb	M1	500 ÷ 28.33 M1
	1 lb < 1.1 lb and yes	A1	17.6 and yes A1

14(a)	$y + 5$	B1	oe $y + 5 = 5y$ B0	Penalise once only for a consistent change of letter
14(b)	$2y$ or $y + y$	B1	Allow $2 \times y$ or $y \times 2$ but not $y2$	
14(c)	y + their $(y + 5)$ + their $(2y)$	B1	Must be using one letter only	
14(d)	their (c) = 77	M1	Provided B1 earned in (c)	
	$4y = 77 - 5$ (or 72)	M1		
	18	A1	SC1: $y + 5 + 2y = 77 \Rightarrow 24$	

15	Fully correct enlargement in correct orientation	B2	B1 for 3 sides correct size ± 2 mm
	From P as centre	B1	
			SC1: Correct enlargement with different orientation

16	$\pi \times 58$	M1	Allow $\frac{1}{2}\pi \times 58$ oe here
	182.2…	A1	[182, 182.22]
	105×2 + their 182	M1	dep on their 182 coming from a calculation involving π
	392.2…	A1	[392, 392.22]