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ASSESSMENT and QUALIFICATIONS ALLIANCE

General Certificate of Secondary Education

Mathematics 3302
Specification B

Module 5 Paper 1 Tier F 33005F1

Mark Scheme

2006 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 Paper 1 FOUNDATION TIER 33005/F1

1(a)	99	B1	
1(b)	Dover and St Helier	B1	In any order
1(c)	182 + 27	M1	
	209	A1	

2(a)(i)	Points plotted correctly	B2	B1 for three points correct Condone missing or incorrect labels Points reversed scores B0 –1 for each extra point plotted
2(a)(ii)	Points joined up to form a quadrilateral	B1 ft	ft from their 4 points
2(a)(iii)	Trapezium	B1 ft	ft on reversed points
2(b)(i)	*H* plotted at (–4, –2)	B1	Condone missing label Implied by correct rectangle
2(b)(ii)	(–4, –2)	B1	

3(a)(i)	3 (cm)	B1	Allow 2.9 - 3.1 inclusive
3(a)(ii)	30 (mm)	B1 ft	Allow 29 - 31 inclusive Follow through for (i) × 10
3(b)(i)	Circle drawn	B1	Note: compasses must be used Allow 1 mm tolerance
3(b)(ii)	Point marked on circumference	B1 ft	Condone no label
3(b)(iii)	Tangent drawn to circle	B1 ft	

4(a)	19	B1	
	23	B1	
4(b)	25	B1	
4(c)	× 2	B1	Accept: double twice two times (add) double the difference

5(a)	£1	B1	
5(b)	£2	B1	
5(c)	£1 and 50p	B2	In any order B1 for correct time periods ie 0-1 and 1-2 or for 2 consecutive prices (50p, £1, £1.50, £2) or for 2 times with a 10 minute difference in different intervals eg 1h 55 and 2h 05 (1 hour/2 hours/2$\frac{1}{2}$ hours) Allow 50 minutes and 1 hour Do not allow eg 40 minutes and 50 minutes

6(a)	50	B1	
6(b)	4 or $\frac{1}{4}$	B1	

7(a)	Any square number greater than 1	B1	eg 4, 9, 16, 25, ... Can be awarded in (b) if (a) is blank
7(b)	4 and 96 9 and 91 16 and 84 25 and 75 36 and 64 49 and 51 64 and 36 81 and 19 100 and 0	B3	B2 for first pair B1 for second pair If neither pair contains a square number but both pairs have a total of 100 then award B1 If neither total is equal to 100 then award B1 for use of a different square number to that given in (a)

8(a)(i)	60	B1	
8(a)(ii)	Identifies "acute"	B1	
8(b)	180 – 80 – 80	M1	oe
	20	A1	
8(c)	180 – 102 – 23	M1	oe
	55	A1	

9(a)	$20 \times 2 + 30$	M1	
	70	A1	
9(b)	20×1.8 or 36	M1	
	68	A1	
9(c)	2	B1 ft	Accept –2

10(a)	$5p$	B1	
10(b)	$(1)a + 9b$	B2	B1 for $(1)a$ or $9b$
10(c)	$4x + 20$	B1	

11(a)	250 000	B1	
11(b)	80	B1	

12	$54 \div 6$ or 9	M1	
	$\times 3$	M1 dep	$54 \div 2$ scores M2
	27	A1	Note: if measurement and scale drawing is used then answer must be correct for final mark. Method marks could still be implied.

13	Recognition that length = 6 m, width = 5 m and height = 3 m	M1	Any order
	$6 \times 5 \times 3$	M1	Note: $6 \times 5 \times 3$ implies M2
	90	A1	

14	A valid attempt to compare two fractions	M1	eg common denominator eg $\frac{17 \times 5}{20 \times 5}$
	A correct conversion, eg $\frac{36}{100}$	A1	This would imply M1A1
	$\frac{17}{20}$ and $\frac{85}{100}$	A1	

15(a)	$\frac{1}{2} \times 4 \times 3$	M1	oe
	6	A1	
	cm^2	B1	Units mark
15(b)	Statement 4	B1	
	Valid reason	B1 dep	Accept: eg same base, same height base = 4 and height = 3 All areas 6 Do not accept: 3 and 4 are in both All 3 cm by 4 cm 3 cm side, 4 cm bottom All same measurements Mathematically incorrect