



General Certificate of Secondary Education

Mathematics 3302

Specification B

Module 1 Tier F 33001F

Mark Scheme

2005 examination – November 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.

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 1 FOUNDATION TIER

33001F

Note: Probability - Accept fraction, decimal or percentage. Do not accept ratio.
 1 out of 3 or 1 in 3 penalise once on whole paper.

1(a)	2 completed in the key	B1	
1(b)	$8 + 7 + 4 + 2$	M1	or $10 \times 2 + 1$ or 10.5×2 or $10.5 \times$ their key
	21	A1 ft	Do not fit if their answer to a) is 1 or non-integer SC1 If added 2 more circles to Y9 then $8 + 7 + 8 + 2 = 25$
1(c)	1, 3, 3, 4, 7, 8, 8, 8, 9	M1	Ordering and indicating middle. 8 numbers in order and middle indicated M1A0
	7	A1	

2	Six → one	B1	Lines connecting boxes
	Two or three → four or five	B1	
	Odd → even	B1	

3(a)	Any one correct method seen eg $\frac{82}{180} \times 360$ or 82×2	M1	Any one correct angle seen can imply this method mark (164° , 110° , 62° or 24°) If more than 4 sectors must see values
	All 4 correct angles seen	A1	All 4 correct angles
	All 4 sectors clearly drawn	A1	$\pm 2^\circ$ Only 4 sectors
	All 4 sectors labelled in correct order of size	B1	Only 4 sectors
3(b)	$\frac{55}{180}$	B1	Decimal answer accept 0.31 or 0.306 or 0.305...
3(c)	$180 - 50 = 130$ or $360 - (50 + 150 + 30) = 130$ or angle measured ($\pm 2^\circ$)	M1	Getting to angle of 130° $30 \div 2$ or 15 or $150 \div 2$ or 75 or $50 \div 2$ or 25
	their $\frac{130}{360} \times 180$	M1	or 2° per pupil so $130 \div 2$ $180 - (15+75+25)$
	= 65	A1	

4(a)	Leading question/Trying to make them agree	B1	
4(b)	No time-frame per visit, week etc/too personal Boxes overlap/No box for over £100	B1	A valid comment about the question
		B1	A valid comment about the response
4(c)	Only asking on evening/Friday	B1	or other comment relating to only asking certain people/types

5(a)	Friday	B1	
5(b)	12 – 7	M1	
	= 5	A1	
5(c)	11	B1	
5(d)	Scale appropriate and starts from zero	B1	Condone no labelling of words ‘no of customers’ on vertical scale
	Heights correct	B2	–1 each error
5(e)	Wednesday and Saturday	B2	B1 for each SC1 7 and 15

6	B A C	B3	1 mark for each correctly marked arrow
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7(a)	8	B1	
7(b)	19	B1	
7(c)	i) ‘Increases’ box ticked or indicated	B1	
7(c)	ii) ‘Stays the same’ box ticked or indicated	B1	

8(a)	Points plotted correctly	B2	–1 eeoo
8(b)	Suitable line of best fit drawn	B1 ft	Horizontally from 2 to 10 $\pm \frac{1}{2}$ sq Vertically between (2, 30) and (3, 26) <u>and</u> (8, 45) and (7, 38)
8(c)	‘30’	B1 ft	Strict follow through from line