AQA

ASSESSMENT and
QUALIFICATIONS
ALLIANCE

General Certificate of Secondary Education

Mathematics 3302
Specification B

Module 1 Foundation Tier

Mark Scheme

2006 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 awarded.	A method mark which is dependent on a previous method mark being
ft an	Follow through marks. Marks awarded for correct working following a mistake in 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

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

Q	Answers	Mark	Comments
1(a)	Both frequencies correct 14 and 7	B1	
	Correct tallies for 9	B1	Accept 5 bar gate or bunch of 5
1(b)	Linear scale on vertical axis starting from zero at origin	B1	Condone 0 missing at origin
	3 bars of correct heights consistent to their linear scale or no scale $\pm\frac{1}{2}$ square Bars of reasonably equal width with or without gaps of any size	B1	Condone linear scale not starting from zero Ignore labels at this stage
	Correct labels	B1	
1(c)	Sunny	B1	
1(d)	Sunny was the most common type of weather in Sept and April	B1	eg, there are more sunny days each month

Q	Answers	Mark	Comments
2(a)	31	B1	
2(b)	Evidence of addition	M1	Total of 236 − 304 if no method shown
	Dividing by 10	M1dep	
	27	A1	
2(c)	Numerator = 4 of probability fraction	M1	
	$\frac{4}{10}$ or 0.4	A1	oe

Q	Answers	Mark	Comments
3(a)	83	B1	
3(b)	$\frac{20+1}{2}$ = 10.5th value	M1	or locating 65 **and** 67 or 5 **and** 7 or 5/7 on diagram
	66	A1	

Q	Answers	Mark	Comments
4(a)	0.25 + 0.15	M1	
	0.4	A1	
4(b)	1 – (0.5 + 0.25 + 0.15)	M1	or – (0.5 + "(a)")
	0.1	A1 ft	ft probability in (a); answer must be a probability Mark (b) as seen If (b) blank can mark 0.10 in table

Q	Answers	Mark	Comments
5	EVENS IMPOSSIBLE UNLIKELY CERTAIN	B4	B1 for each

Q	Answers	Mark	Comments
6(a)	5	B1	
6(b)	11	B1	
6(c)	14 – 6	M1	6 – 14 alone M0
	8	A1	4 SC1

Q	Answers	Mark	Comments
7(a)	90º ± 2º	B1	
7(b)	$\dfrac{their\ (a)}{360}$	B1ft	oe
7(c)	$\dfrac{320}{720} \times 360$	M1	Any correct method can be implied from pie chart
	160º or 125º or 75º	A1	Any correct angle can be implied from pie chart
	All 3 sectors correct	A1	±2º
	Labels	B1	T, R, C in correct sectors according to size
7(d)	You cannot answer negatively	B1	Too restrictive, suggestive Leading, biased Not enough categories Overlapping

Q	Answers	Mark	Comments
8(a)	8 points correct $\pm\dfrac{1}{2}$ square	B2	6 or 7 points correct B1
8(b)	Sensible "straight" line	B1	Below (40, 2.5) and on or between (50, 3.7) and (52, 3.5) and also on or between (56, 4.5) and (57, 4.2) 40−58 length
8(c)	The weight of the babies increase as their lengths increase	B1	oe or positive correlation no individuals at all
8(d)	Approximately 4.2 (decimals)	B1ft	Must follow their "straight" line (with positive gradient) 48−55 area (wherever it is)