ASSESSMENT and
QUALIFICATIONS
ALLIANCE

General Certificate of Secondary Education

Mathematics 3302
Specification B

Module 1 Tier F 33001F   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.

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)	1 bird picture = 2 birds	M1	Understanding key eg $10\frac{1}{2} \Rightarrow$ M1A0, $48 \Rightarrow$ M1A0
	11	A1	
1(b)	Exactly 2 whole birds	B1	
	$\frac{1}{2}$ bird	B1	
1(c)	Starling	B1	
1(d)	13 – 8	M1	or $2\frac{1}{2} \times 2$
	5	A1	

2(a)	16	B1	
2(b)	Adding the numbers (= "354")	M1	270 – 430 $\Rightarrow$ M1
	Dividing by 10	M1 dep	
	35.4	A1	316.2 SC2 35 no working $\Rightarrow$ 0
2(c)	60	B1	

3(a)								
		1	**2**	**3**	**4**	**5**	**6**	
	2	3	4	5	6	7	8	B2
	4	5	6	7	8	9	10	B1 one row correct
	6	7	8	9	10	11	12	

3(b)(i)	0	B1	Accept zero, no chance, impossible $\frac{0}{18}$. No ft
3(b)(ii)	$\frac{2}{18}$	B1 ft	oe 0.11 or better ft on complete table

4(a)					B3	B2 fully correct ordered leaves attached to 'correct' stem
	10	5	9			
	11	1	8	9		B1 for correct stem
	12	1	2	5 6		B1 any two correct ordered leaves, attached to stem, or if fully correct but unordered leaves
	13	3	4			
4(b)	121				B1	

5(a)	20, 22, 13, 5	B1	
5(b)	Vertical linear scale from 0	B1	
	Heights of bars, from linear scale at 5 or lower or no scale written	B1 ft	ft their frequencies or correct $\pm \frac{1}{2}$ square
	Labels	B1	Words or letters
5(c)	60	B1	

6(a)(i)	True	B1	
6(a)(ii)	True	B1	
6(a)(iii)	Cannot say	B1	
6(b)	$\left(\frac{1}{3}\times30\right)$ or $\left(\frac{1}{2}\times30\right)$ or 10 or 15	M1	oe
	$30 - \left(\frac{1}{3}\times30\right) - \left(\frac{1}{2}\times30\right)$	M1	oe
	5	A1	Accept 4 eels and 1 pike Note: $\frac{5}{30} \Rightarrow$ M2A0

7(a)	6 as numerator of a fraction <1	M1	
	$\frac{6}{15}$	A1	oe
7(b)	11 as numerator of a fraction <1	M1	
	$\frac{11}{15}$	A1	

8(a)	All seven points plotted $\pm \frac{1}{2}$ square	B2	5 or 6 points correct B1
8(b)	Straight line passing on or between (1000, 100 - 200) and (5500, 500 - 600) From 1000 to 5500 on *x*-axis	B1	
8(c)	As the distance increases the cost increases	B1	Positive correlation not describing the (900, 140) point
8(d)	$480 \pm \frac{1}{2}$ square	B1 ft	ft their increasing line (strict)