AQA

ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Free-Standing Mathematics Qualification

Making Sense of Data 6983/2
Foundation Level

Mark Scheme

2008 examination - January 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.

Key to mark scheme and abbreviations used in marking

M	mark is for method		
m or dM	mark is dependent on one or more M marks and is for method		
A	mark is dependent on M or m marks and is for accuracy		
B	mark is independent of M or m marks and is for method and accuracy		
E	mark is for explanation		
√or ft or F	follow through from previous incorrect result	MC	mis-copy
CAO	correct answer only	MR	mis-read
CSO	correct solution only	RA	required accuracy
AWFW	anything which falls within	FW	further work
AWRT	anything which rounds to	ISW	ignore subsequent work
ACF	any correct form	FIW	from incorrect work
AG	answer given	BOD	given benefit of doubt
SC	special case	WR	work replaced by candidate
OE	OE	FB	formulae book
A2,1	2 or 1 (or 0) accuracy marks	NOS	not on scheme
$-x$ EE	deduct x marks for each error	G	graph
NMS	no method shown	c	candidate
PI	possibly implied	sf	significant figure(s)
SCA	substantially correct approach	dp	decimal place(s)

Application of Mark Scheme

No method shown:

Correct answer without working	mark as in scheme
Incorrect answer without working	zero marks unless specified otherwise

More than one method / choice of solution:

2 or more complete attempts, neither/none crossed out	mark both/all fully and award the mean mark rounded down
1 complete and 1 partial attempt, neither crossed out	award credit for the complete solution only

Crossed out work	do not mark unless it has not been replaced

Alternative solution using a correct or partially correct method	award method and accuracy marks as appropriate

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Foundation Level – Making Sense of Data 6983

Answers and Marking Scheme - January 2008

Question 1

(a)	10	**B1**	
(b)	−12	**B1**	
(c)	Range is 10 – (−12) = 22	**M1** **A1**	**SC1** – 22 ft (a) and (b) if 1 correct
(d)	10, 7, 6, 6, 4, 1, 0, 0, −1, −2, −4, −10, −11, −12 Median is 0	**M1** **A1**	
(e)	Mean is $\frac{(10+7+6+6+4+1+0+0-1-2-4-10-11-12)}{14}$ $= -\frac{6}{14}$ $= -0.429$	**M1** **B1** **A1**	 For − 6 Accept −0.43, − 0.4, −.4; $-\frac{3}{7}$ **SC2** − 0.428 **SC2** any correct answer without − sign
	TOTAL	**9**	

Question 2

(a)	Plot points Suitable vertical scale and use of correct 'tennis' values	**B2** **B1**	B1 for 3 points correct Must start at 0
(b)	Points lie on a straight line Through the origin	**B1** **B1**	
	TOTAL	**5**	

Question 3

(a)	Depreciation £38.20 $= \frac{38.20}{96} \times 360$	M1	
	$= 143°$	A1	Any correct
	Other angles 83°, 68°, 65°	A1	(Angles add up to 360°, allow 1° on any compensation
	Accuracy	A1	Dep on M1
	Labelling	B1	Dep on M1 (eg Fuel written in full)
(b)(i)	Annual cost is 52 × £7.50	M1	
	= £390	A1	**SC2** $\frac{365}{7}$ weeks in a year $\Rightarrow$ £91.07 to £391
(b)(ii)	Reduction was £15	B1 ft	Dep on M1 in (b)(i) OR use of 48 weeks
	Percentage is $\frac{15}{405} \times 100$	M1	
	= 3.70%	A1ft	3.46% from £391 3.44% from £391.07 11.1% for 48 weeks
	TOTAL	**10**	

Question 4

	Label axes (vertical)	**B1**	
	Accurate height	**B2**	Must start from 0 otherwise B1
			B1 for 3 correct heights
			(Accuracy) Accept 1.5 squares out if used 1 large square for 5
	Suitable scale	**B1**	1 or 2 large squares for 10
	TOTAL	**4**	

Question 5

	Total number of parts is 5	**B1**	
	Number of male is $\frac{2}{5} \times 60$	**M1**	
	= 24	**A1**	**SC2** 36 or 24 and 36
	TOTAL	**3**	

Question 6

(a)	Fraction is $\frac{3}{10}$	**B1**	
(b)	Decimal is 0.3	**B1**	Accept 0.30
	TOTAL	**2**	

Question 7

		A	B	C	D
	Borough	**Appeals allowed**	**Appeals**	**Percentage of appeals allowed**
1	Barnet	1503	2700	56
2	Islington	1310	2080	63
3	Kensington and Chelsea	1886	2898	65
4	Lambeth	2657	3638	73
5	Westminster	5254	8936	59

(a)	Barnet is $\frac{1503}{2700} \times 100$	**M1**	**SC2** 44, 37, 35, 27, 41
			SC1 for the above not rounded correctly
	= 56%	**A1**	Any correct
	Other percentages	**A1**	
	Nearest integer	**B1**	ft if M1 gained
(b)	D4 = $\frac{B4}{C4} \times 100$	**B1**	
(c)	$\frac{76}{100} \times 24\ 739$	**M1**	
	= 18 802	**A1**	Accept 18 801
			18 801.6 → M1 Condone 18 800 or 19 00 after seeing 18 801.6…
			M1 for 18 800 no working
			M0 for 19 000 no working
	TOTAL	**7**	
	TOTAL MARK FOR PAPER	**40**	