



Free-Standing Mathematics Qualification

Making Sense of Data 6983/2

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.

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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	or equivalent	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)

No Method Shown

Where the question specifically requires a particular method to be used, we must usually see evidence of use of this method for any marks to be awarded. However, there are situations in some units where part marks would be appropriate, particularly when similar techniques are involved. Your Principal Examiner will alert you to these and details will be provided on the mark scheme.

Where the answer can be reasonably obtained without showing working and it is very unlikely that the correct answer can be obtained by using an incorrect method, we must award **full marks**. However, the obvious penalty to candidates showing no working is that incorrect answers, however close, earn **no marks**.

Where a question asks the candidate to state or write down a result, no method need be shown for full marks.

Where the permitted calculator has functions which reasonably allow the solution of the question directly, the correct answer without working earns **full marks**, unless it is given to less than the degree of accuracy accepted in the mark scheme, when it gains **no marks**.

Otherwise we require evidence of a correct method for any marks to be awarded.

Free-Standing Mathematics Qualification
Foundation Level – Making Sense of Data (6983/2)
Answers and Marking Scheme

Question 1

(a)	96p	B1	Condone no 'p'
(b)	60p	B1	If include USA 38p B0
(c)	96 – 60 = 36p	B1	58p B1
(d)	60, 60, 72, 74, 80, 85, 86, 87, 90, 92, 96 Median is 85p	M1 A1	Allow 2 omitted 82.5p M1A1
(e)	Mean is $(92 + 60 + 85 + 90 + 74 + 87 + 60 + 80 + 86 + 72 + 96) \div 11$ $= \frac{882}{11}$ = 80.2	M1 B1 A1	Allow 2 omitted M1 For 882 920 B1 Accept 80p, 80.18 76.7, 76.6, 77 A1
(f)	60p	B1	
(g)	The mode is the lowest price, so the mean is biased towards lower values Data below the median are more biased towards the lower values There are two very low values Differential taxing systems	Max B1	Any sensible answer
	TOTAL	10	

Question 2

	Label axes	B1	Vertical Annual Spend (£) or amount (£) and label bars
	Accurate heights	B1	Ignore incorrect zero
	Suitable scale	B1	Start at 0; 1 or 2 cm ~ 1000
	TOTAL	3	

Question 3

	No of parts = 4	B1	
	Number is: $\frac{3}{4} \times 60$	M1	
	= 45	A1	SC2 15; SC2 15 and 45
	TOTAL	3	

Question 4

(a)	Angle for mobile phone is $\frac{100}{450} \times 360$	M1	Any angle correct
	= 80°	A1	
	Other angles are 120°, 80°, 40°, 40°	A1	
	Labelling	B1	
	Accuracy	B1	Dependent on M1 (Allow 2°)
(b)	$\frac{100}{450}$	B1	OE
	= $\frac{2}{9}$	B1	
(c)	$\frac{11}{100} \times 200$	M1	
	= 22	A1	
	TOTAL	9	

Question 5

(a)	Suitable scales, must start at zero	B1	Must go up to 800 on vertical
	Plotting points	B2	B1 for 2 correct within 1 square
(b)	The points lie on a straight line	B1	The points are near a straight line
	Through the origin	B1	
(c)	Measures are only approximate	B1	The points are slightly off the line 800 and 26 appear incorrect
	TOTAL	6	

Question 6

(a)	Percentage is $\frac{12}{30} \times 100$	M1	
	= 40 %	A1	
(b)	Completion of tally	B2	B1 for 2 correct
(c)	Total frequency is 35	B1	Add up the frequencies
(d)	No; students are not typical of the population of the country	B1	No, not in BBC order
(e)	Use of symbols	B1	Must be same symbols
	Correct number of symbols	B1	
	Key	B1	Not 1 symbol for 1 person
	TOTAL	9	
	TOTAL MARK FOR PAPER	40	