GCSE
STATISTICS
8382/2F

Foundation Tier Paper 2

Mark scheme

June 2023

Version: 1.0 Final

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' 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.

Further copies of this mark scheme are available from aqa.org.uk

Glossary for Mark Schemes

GCSE examinations are marked in such a way as to award positive achievement wherever possible. Thus, for GCSE Statistics papers, marks are awarded under various categories.

If a student uses a method which is not explicitly covered by the mark scheme the same principles of marking should be applied. Credit should be given to any valid methods. Examiners should seek advice from their senior examiner if in any doubt.

M	Method marks are awarded for a correct method which could lead to a correct answer.
A	Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied.
B	Marks awarded independent of method.
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.
M dep	A method mark dependent on a previous method mark being awarded.
B dep	A mark that can only be awarded if a previous independent mark has been awarded.
oe	Or equivalent. Accept answers that are equivalent. eg accept 0.5 as well as $\frac{1}{2}$
[a, b]	Accept values between a and b inclusive.
[a, b)	Accept values $a \leq$ value $< b$
3.14 …	Accept answers which begin 3.14 eg 3.14, 3.142, 3.1416
Use of brackets	It is not necessary to see the bracketed work to award the marks.

Examiners should consistently apply the following principles.

Diagrams

Diagrams that have working on them should be treated like normal responses. If a diagram has been written on but the correct response is within the answer space, the work within the answer space should be marked. Working on diagrams that contradicts work within the answer space is not to be considered as choice but as working, and is not, therefore, penalised.

Responses which appear to come from incorrect methods

Whenever there is doubt as to whether a student has used an incorrect method to obtain an answer, as a general principle, the benefit of doubt must be given to the student. In cases where there is no doubt that the answer has come from incorrect working then the student should be penalised.

Questions which ask students to show working

Instructions on marking will be given but usually marks are not awarded to students who show no working.

Questions which do not ask students to show working

As a general principle, a correct response is awarded full marks.

Misread or miscopy

Students often copy values from a question incorrectly. If the examiner thinks that the student has made a genuine misread, then only the accuracy marks (A or B marks), up to a maximum of 2 marks are penalised. The method marks can still be awarded.

Further work

Once the correct answer has been seen, further working may be ignored unless it goes on to contradict the correct answer.

Choice

When a choice of answers and/or methods is given, mark each attempt. If both methods are valid then M marks can be awarded but any incorrect answer or method would result in marks being lost.

Work not replaced

Erased or crossed out work that is still legible should be marked.

Work replaced

Erased or crossed out work that has been replaced is not awarded marks.

Premature approximation

Rounding off too early can lead to inaccuracy in the final answer. This should be penalised by 1 mark unless instructed otherwise.

Continental notation

Accept a comma used instead of a decimal point (for example, in measurements or currency), provided that it is clear to the examiner that the student intended it to be a decimal point.

Q	Answer	Mark	Comments
1	$\frac{4}{10}$	B1	

Q	Answer	Mark	Comments
2	D	B1	

Q	Answer	Mark	Comments
3(a)	11	B1	

Q	Answer	Mark	Comments
3(b)	4	B1	SC1 both a and b are blank but 4 and 11 are indicated on original list

Q	Answer	Mark	Comments
4(a)	Data that have not been sorted/processed/ordered/cleaned	B1	oe
	Additional Guidance		
	Data not in a graph/chart/table/calculation (yet)		B1
	Only been/just collected		B0

<table>
<tr><th>Q</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="3">4(b)</td><td>Tallying method with 5 bar gates used and all correct</td><td>B2</td><td>B1
tallying method without 5 bar gates used but otherwise correct
or
tallying method with 5 bar gates used, allowing one error</td></tr>
<tr><td>Correct frequencies for their tallying</td><td>B1ft</td><td>correct or ft as long as not all zero</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="3"><table>
<tr><th>Number of films watched</th><th>Tally</th><th>Frequency</th></tr>
<tr><td>0</td><td>|||</td><td>3</td></tr>
<tr><td>1</td><td>𝍸 |||</td><td>8</td></tr>
<tr><td>2</td><td>𝍸 |</td><td>6</td></tr>
<tr><td>3</td><td>||||</td><td>4</td></tr>
<tr><td>4</td><td>|</td><td>1</td></tr>
<tr><td>5</td><td>||</td><td>2</td></tr>
</table></td></tr>
</table>

Q	Answer	Mark	Comments
4(c)	Mode	B1ft	ft their tally chart eg allow median if correct

Q	Answer	Mark	Comments
4(d)	$\frac{1}{4} \times 24$ or 6 or $\frac{6}{24}$ or their 3 or $\frac{\text{their 3}}{24}$ or 24 ÷ their 3 or 8	M1	ft their tallies or frequencies or start again with original data oe
	$\frac{6}{24}$ and $\frac{3}{24}$ and No or $\frac{1}{8}$ and No or 32 and No or 6 and 3 and No	A1ft	ft their tallies or frequencies or start again with original data
	Additional Guidance		
	24 must not be replaced by an incorrect total		
	For A1ft, fractions must be in directly comparable form, allow equivalent decimals (or percentages) with enough dp to compare difference eg $\frac{3}{12}$ and $\frac{3}{24}$ and No		
	No and would need 3 more		M1A1

Q	Answer	Mark	Comments
5(a)	655	B2	B1 420 and 235 indicated or 1064 or 477 or 257 or 140 or 103 or 2720
	Additional Guidance		
	Condone any B2 or B1 answer given in thousands		

Q	Answer	Mark	Comments
5(b)	Decreasing	B1	oe eg going down or getting less
	Additional Guidance		
	Negative trend (or correlation)		B1

Q	Answer	Mark	Comments
5(c)	2017 and 2018 with no incorrect working seen	B2	B1 attempt to evaluate the difference between two consecutive years on supermarket B 79 or 67 or 95 or 29 or 16 or 4
	Additional Guidance		
	Check table for working, may see the extra “thousands”		

Q	Answer	Mark	Comments
5(d)	**Alternative method 1**		
	309 – 184 or 125	M1	may be in thousands
	their 125 ÷ 309 or 0.4(…) or 125 × 3 or 375	M1dep	oe percentage must see ÷, not a fraction
	Yes and 0.4(…) and 0.3(3…) or Yes and 375	A1	oe percentages SC2 56 and 95 and Yes or 95 and 56.5% and Yes
	Alternative method 2		
	$\frac{184}{309}$ or 0.595… or 59.5(…)%	M1	oe may be in thousands
	1 – their 0.595… or 0.4… or 40(…)% or $1-\frac{1}{3}$ or $\frac{2}{3}$ or 0.6(6…)	M1dep	oe
	Yes and 0.4(…) and 0.3(3…) or Yes and 0.6(6…) and 0.595	A1	oe percentages SC2 56 and 95 and Yes or 95 and 56.5% and Yes
	Alternative method 3		
	309 × $\frac{1}{3}$ or 103	M1	oe may be in thousands
	309 – their 103 or 206 or 309 – 184 or 125	M1dep	oe 309 × $\frac{2}{3}$ implies M2
	Yes and 206 or Yes and 103 and 125	A1	SC2 56 and 95 and Yes or 95 and 56.5% and Yes
	Additional Guidance		
	Fractions must be in directly comparable form, allow equivalent decimals (or percentages) with enough dp to compare		
	Mark using the alt that give the best mark for the candidate		

Q	Answer	Mark	Comments
5(e)	Valid reason for no data	B1	eg not recorded/published/counted data not yet available stopped collecting data
	Additional Guidance		
	Plastic bags were banned or they no longer sold plastic bags or no plastic bags were issued		B1
	The shop closed		B1
	Due to the pandemic AND data collection was affected or they couldn't keep track of the data or decided it wasn't reliable		B1
	No-one uses plastic bags any more		B0
	There was a pandemic		B0
	Didn't reach 1000 bags sold		B0

Q	Answer	Mark	Comments
6(a)	Two suitable distinct advantages of a sample, for example • Quicker / less data (or people) to deal with / efficient • cheaper • easier • she may not know how to contact all her past customers	B2	B1 one advantage
	Additional Guidance		
	Do not award for contradictory responses but ignore irrelevant statements. Do not award B2 for an answer containing incorrect statements		
	Both marks can be implied by a single answer eg it would be cheaper and quicker		B2
	The sample may contain just those who bought headphones (the census would include everyone else)		B1
	(More) convenient		B0

Q	Answer	Mark	Comments
6(b)	Two suitable distinct reasons, for example • not all people on list will be customers/have bought headphones • the people on her phone list will all be of a similar age / not random / not representative of all her customers • sample size too small/large • contacts list will contain friends who may not want to upset her	B2	B1 one reason
	Additional Guidance		
	May not get in touch / complete the survey		B0

Q	Answer	Mark	Comments
7(a)	$5 + 12 + 8 + 6 = 31$	B1	oe

Q	Answer	Mark	Comments
7(b)	The maximum height **could** be less than 175 cm	B1	

Q	Answer	Mark	Comments
7(c)	Fully correct frequency polygon Points plotted at (25, 2) (75, 3) (125, 9) (175, 13) (225, 4) and joined by straight lines	B3	B2 4 points correctly plotted and joined by straight lines or all points correct but not joined by straight lines or all heights correctly plotted at a consistent but incorrect boundary and joined by straight lines B1 4 points correctly plotted but not joined by straight lines or all heights correctly plotted at a consistent but incorrect boundary but not joined by straight lines ±½ small square on plots
	Additional Guidance		
	Ignore anything before first plot and after last plot and ignore first and last plots joined. Ignore histogram drawn with frequency polygon.		
	Mark intention of straight lines		

Q	Answer	Mark	Comments
7(d)	Two correct comparisons eg The modal class interval for packet A was smaller than packet B or On average the sunflowers from packet B were taller or Packet A had higher frequencies for the smallest two class intervals	B2	B1 one correct comparison eg Packet A had more sunflowers in the 50 – 100 group or Range of heights from B were greater or Packet B produced sunflowers larger than 200 cm whereas no sunflowers from packet A were this tall
	Additional Guidance		
	Do not accept contradictory responses		
	Do not award both marks for the same statement written twice, even if one is the “inverse” of the other		

<table>
<tr><th>Q</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="4">8(a)</td><td colspan="2">Fully complete sample space diagram</td><td>B1 at least 16 additional cells completed correctly</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="2">Dice
<table>
<tr><th></th><th></th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th></tr>
<tr><td rowspan="4">Spinner</td><td>Red (R)</td><td>R1</td><td>R2</td><td>R3</td><td>R4</td><td>R5</td><td>R6</td></tr>
<tr><td>Blue (B)</td><td>B1</td><td>B2</td><td>B3</td><td>B4</td><td>B5</td><td>B6</td></tr>
<tr><td>Yellow (Y)</td><td>Y1</td><td>Y2</td><td>Y3</td><td>Y4</td><td>Y5</td><td>Y6</td></tr>
<tr><td>Green (G)</td><td>G1</td><td>G2</td><td>G3</td><td>G4</td><td>G5</td><td>G6</td></tr>
</table></td><td>B2</td></tr>
<tr><td colspan="2">Ignore order eg 2G for G2</td><td></td></tr>
</table>

<table>
<tr><th>Q</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="3">8(b)(i)</td><td>$\frac{1}{24}$</td><td>B1ft</td><td>oe fraction, decimal or percentage
ft their number of Y5</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="2">Denominator is not ft, it must start as 24</td><td></td></tr>
</table>

<table>
<tr><th>Q</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="4">8(b)(ii)</td><td>Identifies the correct outcomes for their sample space
or $\frac{1}{24}+\frac{1}{24}$ or $\frac{1}{4}\times\frac{2}{6}$
or 2 out of 24</td><td>M1</td><td>oe fraction, decimal or percentage</td></tr>
<tr><td>$\frac{2}{24}$ or $\frac{1}{12}$</td><td>A1ft</td><td>oe fraction, decimal or percentage
ft their number of Blue 1 and Blue 2
SC1 $\frac{3}{24}$ oe</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="2">Check diagram for working but IFW after correct answer seen</td><td></td></tr>
<tr><td colspan="2">Denominator is not ft, it must start as 24</td><td></td></tr>
</table>

Q	Answer	Mark	Comments
8(c)	**Alternative method 1**		
	$\frac{6}{24}+\frac{4}{24}-\frac{1}{24}$ or $\frac{6}{24}+\frac{3}{24}$ or $\frac{5}{24}+\frac{4}{24}$ or $\frac{9}{24}$	M1	oe
	their $\frac{9}{24}\times 60$	M1dep	oe
	22.5 or 22 or 23	A1	
	Alternative method 2		
	$\frac{4}{24}\times 60$ or 10 or $\frac{6}{24}\times 60$ or 15 or $\frac{1}{24}\times 60$ or 2.5 or $\frac{5}{24}\times 60$ or 12.5 or $\frac{3}{24}\times 60$ or 7.5 or $9\div 2$ or 9×5	M1	oe
	their 10 + their 15 – their 2.5 or their 2.5×9 or $9\div 2\times 5$	M1dep	oe
	22.5 or 22 or 23	A1	
	Alternative method 3		
	$\frac{6}{24}+\frac{4}{24}-\frac{1}{24}$ or $\frac{9}{24}$ or $\frac{25}{60}$	M1	oe
	Correct method to get both fractions to comparable form	M1dep	oe
	Comparable form of both fractions	A1	oe fractions, decimals or percentages eg 0.375 and [0.41, 0.42]
	Additional Guidance		
	Must see workings to award marks		

Q	Answer	Mark	Comments
9(a)(i)	Secondary data and did not collect the data yourself	B1	oe eg data was collected by an organisation / elsewhere / other people

Q	Answer	Mark	Comments
9(a)(ii)	**Alternative method 1 – Secondary data chosen in (a)(i)**		
	valid advantage of using secondary data	B1	eg saves time/money more convenient / easier (than primary) start point for further investigation easily accessible already processed
	valid disadvantage of using secondary data	B1	eg may not be reliable / contain mistakes no access to original question asked might be older data / outdated not all original details eg partly processed no idea how it was collected not specific to your needs may have copyright
	Alternative method 2 - Primary data chosen in (a)(i)		
	valid advantage of using primary data	B1	eg (more) reliable / accurate know the question being asked might be more up to date data have the original data know how it's collected know who it was collected from
	valid disadvantage of using primary data	B1	eg takes more time /money less convenient less accessible unprocessed data
	Additional Guidance		
	Secondary data, advantage = easy		B0

Q	Answer	Mark	Comments
9(b)	262 + 228 + 219 or 709	M1	
	$\frac{\text{their } 709}{3511}$ (× 100) or 0.2(019…)	M1dep	oe
	20(.1…) or 20.2	A1	SC2 [16.2, 16.3] (Centre A) or [17.7, 18] (Total) or [12.7, 13] (Older than 23)

Q	Answer	Mark	Comments
9(c)(i)	More at Centre A	B1	oe
	Additional Guidance		
	607 more at A (do not accept an incorrect figure here)		B1
	A has more than twice as many as B (accept almost/nearly)		B1
	A has twice as many as B		B0
	Difference of 607		B0
	More passes at A (should reference tests taken, not passes)		B0

Q	Answer	Mark	Comments
9(c)(ii)	Valid reason Centre A may be implied from their (c)(i)	B1ft	ft their comment in (c)(i) eg centre A is in a more populated area pass rate is lower at A so more people have to retake tests centre A is located in a more accessible position centre A has a greater capacity centre A has more 18yo living nearby centre A has better reputation / more popular / better facilities centre A has easier test route
	Additional Guidance		
	Centre A is cheaper / better advertising		B0

Q	Answer	Mark	Comments
9(d)	(At both centres) number of tests (generally) decreases (as age increases)	B1	oe comments may include exceptions, but must note the trend is downwards.
	Additional Guidance		
	Older ages tend to take fewer tests than younger ages / less popular as you get older	B1	
	Downward/negative trend/correlation	B1	
	Comment about just one test centre or number of passes	B0	

Q	Answer	Mark	Comments
9(e)	0.33 × 506 or 0.469 × 326	M1	oe or equivalent method to find a number of failed tests
	[166, 167] or [152, 153]	A1	
	[166, 167] and [152, 153]	A1	must not say statement is false
	Suitable comment about decision to book at Centre A	B1	eg she should be considering the pass rate not the number of passes she should have booked at Centre B as it has a higher pass rate there is no evidence to suggest it is easier to pass at Centre A the number of 20-year-olds passing the test is not relevant to her chance of passing
	Additional Guidance		
	…is the wrong decision	B1	

Q	Answer	Mark	Comments
10(a)(i)	(Hen) food	B1	oe allow descriptors along with “food”
	Additional Guidance		
	Allow cost		

Q	Answer	Mark	Comments
10(a)(ii)	Number of eggs	B1	oe
	Additional Guidance		
	Increase in number of eggs		B1
	Eggs		B0

Q	Answer	Mark	Comments
10(b)	All (240) hens (on Lydia's farm)	B1	oe
	Additional Guidance		
	(Her) hens		B0
	The number of hens		B0
	240		B0

Q	Answer	Mark	Comments
10(c)(i)	Age can affect number of eggs laid or To ensure there is a balance of hens of different ages or There are a lot more younger hens	B1	oe
	Additional Guidance		
	older hens = fewer eggs		B1

Q	Answer	Mark	Comments
10(c)(ii)	Correct working leading to 15, eg $\frac{72}{240} \times 50 = 15$ or $\frac{72}{240} = \frac{3}{10} = \frac{15}{50}$ or 240 ÷ 50 or 4.8 and 72 ÷ 4.8 = 15 or 240 ÷ 72 or 3.3…. and 50 ÷ 3.3…. = 15	B2	oe B1 for $\frac{72}{104+72+45+19}$ or $\frac{72}{240}$ or 0.3 or $\frac{104+72+45+19}{72}$ or $\frac{240}{72}$ or $\frac{10}{3}$ or $\frac{50}{104+72+45+19}$ or $\frac{50}{240}$ or $\frac{5}{24}$ or $\frac{104+72+45+19}{50}$ or $\frac{240}{50}$ or $\frac{24}{5}$ oe

Q	Answer	Mark	Comments
11(a)	moving averages correct and in correct position 52 55 59 64	B3	B2 all 4 correct values out of order or 2 or 3 correct values in correct position B1 method for one four-point moving average seen (46 + 50 + 48 + 64) ÷ 4 or 208 ÷ 4 or 52 or (50 + 48 + 64 + 58) ÷ 4 or 220 ÷ 4 or 55 or (48 + 64 + 58 + 66) ÷ 4 or 236 ÷ 4 or 59 or (64 + 58 + 66 + 68) ÷ 4 or 256 ÷ 4 or 64
	Additional Guidance		
	Answers do not need to be in table, but must be in correct order for B3		

Q	Answer	Mark	Comments
11(b)	their moving averages plotted correctly (halfway Feb to Mar, 52) (halfway Mar to Apr, 55) (halfway Apr to May, 59) (halfway May to Jun, 64)	B2ft	B1ft 2 or 3 points plotted correctly or vertical plots of all points correct at consistently the wrong place in the interval ±½ small square on plots
	Additional Guidance		
	Ignore any lines joining points and ignore extra points plotted before Feb and after Jun		
	First plot must lie within Jan-Apr to be considered “in the interval” for the B1		

Q	Answer	Mark	Comments
12(a)	$\frac{807\ 300}{62\ 260\ 000} \times 1000$	M1	
	[12.9, 13]	A1	SC1 digits 129
	Additional Guidance		
	Do not penalise further work seen after a correct answer		

Q	Answer	Mark	Comments
12(b)	Jack's conclusion may be wrong and valid reason	B1	eg we would need to know the population (to find the number of births)
	Additional Guidance		
	Accept the UK has a higher population than Iceland		
	Accept "it" to refer to Iceland		
	Accept "Jack is correct if Iceland has a larger population."		B1
	"Jack is correct" with no valid justification		B0

Q	Answer	Mark	Comments
13(a)	Student ability / previous results / target grades	B1	oe
	Additional Guidance		
	Whether students have a suitable device for the app		B1

Q	Answer	Mark	Comments
13(b)(i)	68	B1	

Q	Answer	Mark	Comments
13(b)(ii)	(LQ =) 57(%) or (UQ =) 77(%)	M1	
	77(%) – 57(%) = 20(%)	A1	
	Additional Guidance		
	Check diagram for working		

<table>
<tr><th>Q</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="4">13(c)</td><td>3 added to stem
and
label ‘Book group’</td><td>B1</td><td>oe
allow unambiguous labelling for ‘Book group’</td></tr>
<tr><td>Key correct</td><td>B1</td><td>percent signs must be there but allow abbreviations for naming groups</td></tr>
<tr><td>Left-hand side correct and ordered</td><td>B2</td><td>B1
left-hand side correct but unordered
or
left-hand side ordered with up to two errors</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="3">
<table>
<tr><th colspan="6">Book group</th><th></th><th colspan="4">App group</th></tr>
<tr><td></td><td></td><td></td><td></td><td>9</td><td>7</td><td>3</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>6</td><td>4</td><td>2</td><td>0</td><td>4</td><td>5</td><td></td><td></td><td></td></tr>
<tr><td></td><td>8</td><td>7</td><td>6</td><td>5</td><td>0</td><td>5</td><td>2</td><td>3</td><td>7</td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>9</td><td>6</td><td>4</td><td>5</td><td>6</td><td>8</td></tr>
<tr><td></td><td></td><td></td><td></td><td>9</td><td>1</td><td>7</td><td>0</td><td>3</td><td>5</td><td>7</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>3</td><td>8</td><td>1</td><td>9</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>9</td><td>2</td><td></td><td></td><td></td></tr>
</table>
Key 0 | 4 | 5 represents 40% for the Book group and 45% for the App group
</td></tr>
</table>

Q	Answer	Mark	Comments
13(d)	Median for book = 55 or Mean for book = [55, 56] or Mean for app = [68, 69]	B1ft	correct or ft their ordered stem-and-leaf
	(LQ for book =) 42 or (UQ for book =) 69	M1	correct or ft their ordered stem-and-leaf
	(IQR for book =) 27	A1ft	correct or ft their ordered stem-and-leaf SC1 46 (book) or 47(app) (ranges)
	The book group did worse on average or The book group did worse as the median/mean is smaller	B1ft	oe ft their medians or means
	The book group had more varied / less consistent scores (as the IQR is larger)	B1ft	oe ft their book IQR or their ranges
	Additional Guidance		
	Their comparisons must be based on figures seen and should be given in context		
	Comparison of average must mention average or mean/median and must match their figures		
	Check the full script for workings		

Q	Answer	Mark	Comments
13(e)	Small sample	B1	oe
	Additional Guidance		
	Only tested on one class / in a single test		B1
	Specific reference to unequal revision conditions outside the classroom		B1
	Reference to extraneous variables with specific, valid example eg app not working		B1
	Reference to extraneous variables with no valid example eg people in book group use the internet or the app as well		B0
	Reference to future experiments / ways to improve		B0