



GCSE STATISTICS 8382/2F

Foundation Tier Paper 2

Mark scheme

June 2025

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.

No student should be disadvantaged on the basis of their gender identity and/or how they refer to the gender identity of others in their exam responses.

A consistent use of 'they/them' as a singular and pronouns beyond 'she/her' or 'he/him' will be credited in exam responses in line with existing mark scheme criteria.

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

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Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the Indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

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 $a \leq \text{value} < b$
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	Marks	Comments
1(a)	Rugby	B1	

Q	Answer	Marks	Comments
1(b)	It is qualitative data	B1	
	Additional Guidance		
	Reference to mean and median must be an explanation about why neither can be used, eg You can't order words (so can't use the median) and you can't calculate with words (so you can't use the mean)		B1
	Reference to mean or median only cannot score You can't order the data (so can't use the median)		B0
	They are not numbers / Data are non-numerical		B1
	They are words / It's not quantitative data		B1
	It's the only one that works / the others won't work		B0
	They/words cannot be used in calculations		B0
	It's more accurate for word data		B0
	There is more of one sport than the others		B0
	You can't subtract to find the range (range is not an average)		B0

Q	Answer	Marks	Comments
1(c)	Bar chart/graph or pie chart or line chart/graph or tally chart or frequency table or pictogram	B1	
	Additional Guidance		
	Stick graph or histogram or 3D chart		B0

Q	Answer	Marks	Comments
2(a)	(Scotland) has the tallest holiday/white (percentage) bar	B1	oe answer must reference holiday, white or 58% and most/highest
	Additional Guidance		
	Do not accept reference to number of people instead of percentage/proportion		
	Accept numerical readings to within half a square eg S = 58, E = 23, W = 33, L = 50 (so Scotland has the most)		B1
	Graph shows Scotland had the most with 58% of holiday stays		B1
	Graph shows Scotland had 58% of holiday stays		B0

Q	Answer	Marks	Comments
2(b)	One valid statement	B1	comparing different parts of the UK must be done using percentage or proportion eg (Scotland) had the smallest percentage/proportion of business visits or (Scotland) had the third largest (or second smallest) proportion of friend or relative visits
	Additional Guidance		
	Do not accept a statement referencing number/people rather than proportion unless the statement refers to just the bars for Scotland Quoted percentages must be correct to within half a square Their statement must mention Scotland (accept It/They to mean Scotland)		
	Scotland had 10% of overnight stays for business	B1	
	Scotland had more holiday stays than business added to friends/relatives	B1	
	Scotland had a smaller proportion of business stays compared to Wales	B1	
	Scotland had approximately the same proportion of visiting friends and family as London	B1	
	For Scotland, holiday was the biggest proportion / most stays	B1	
	Scotland had a smaller proportion of friends and family visits than everywhere except London	B1	
	Scotland had the least amount of business stays	B1	
	Scotland had the least amount of business stays in the UK	B0	
	It had highest proportion of holiday stays (compared to the rest of the UK) (given in (a))	B0	
	England had the most friends/family visits	B0	

Q	Answer	Marks	Comments
3(a)	7	B1	
	Additional Guidance		
	Mark the table but if it is empty, check the spinner		

Q	Answer	Marks	Comments
3(b)	12	B1	

Q	Answer	Marks	Comments
3(c)	8	B1	

Q	Answer	Marks	Comments
4(a)(i)	Alternative method 1		
	$\frac{19 + 15 + 23 + 20 + 15 + 26 + 18}{7}$ or $\frac{136}{7}$ or 19.4... or 19	M1	oe allow one error or omission 19 must not be from working out the median
	19.4... or 19 and Gina	A1	oe may be seen in (a)(ii)
	Alternative method 2		
	19 + 15 + 23 + 20 + 15 + 26 + 18 or 136 and 21 × 7 or 147	M1	oe allow one error or omission
	136 and 147 and Gina	A1	may be seen in (a)(ii)
	Additional Guidance		
	Ignore mention of range or 11		
	Condone poor notation for mean if recovered eg $19 + 15 + 23 + 20 + 15 + 26 + 18 \div 7 = 19...$ and Gina eg $19 + 15 + 23 + 20 + 15 + 26 + 18 \div 7 = 120...$ or 121		M1A1 M0A0

Q	Answer	Marks	Comments
4(a)(ii)	Gina was slower	B1ft	oe eg Evie was faster strictly ft their (a)(i)
	Additional Guidance		
	Quoted figures must be correct or ft Comment must be contextualised		
	Gina finished after Evie / Gina took longer / Evie had shorter mean time		B1
	Evie finished first/won / Gina had the slower mean		B1
	Took more minutes / It was a longer time / Gina had a bigger time		B0
	Gina's race was longer / Evie had better mean time		B0

Q	Answer	Marks	Comments
4(b)(i)	11 and Evie	B1	may be seen in (b)(ii)

Q	Answer	Marks	Comments
4(b)(ii)	Evie's race times were less consistent	B1ft	oe eg Gina's race times were more consistent strictly ft their (b)(i)
	Additional Guidance		
	Must reference times in context		
	Gina's times were less varied/spread / Gina's times were more similar/stable		B1
	There isn't as much difference in Gina's times		B1
	Evie's times are further apart		B1
	Any reference to the time taken eg Gina took longer		B0

Q	Answer	Marks	Comments
5(a)	Linear scale to at least 50 on the y -axis with correct labelling	B1	
	All points plotted correctly	B2	B1 3 or 4 points plotted correctly or all heights correct and at a consistent point in the interval or for consistent width bars at a consistent point in the interval
	All points joined with dotted straight lines	B1	condone solid lines
	Additional Guidance		
	Tolerance half a square		
	Condone bars and then centres joined		
	Ignore lines before Monday and after Friday plots		
	A vertical line graph can score up to 3 marks for having all heights correct and drawn directly above each day, and for labelling and correctly using a linear scale on the y -axis		B1B1B1B0
	A bar chart can score up to 2 marks for having all heights of the same-width bars correct, and for labelling and correctly using a linear scale on the y -axis		B1B1B0B0
	Labelling on the y -axis: Frequency or Number of sit-ups or Amount of sit-ups or Sit-ups Total or Number or Amount		B1 B0
	If a non-linear scale is used, mark the plots according to their scale		
	If no scale is labelled use the scale of 1 small square represents 1 sit up		

Q	Answer	Marks	Comments
5(b)	No and indicates Wednesday	B1	oe
	Additional Guidance		
	Quoted figures must be correct		
	Box not ticked and No because Wednesday is less than Tuesday		B1
	No and one day wasn't / graph has a dip		B1
	No and (Tuesday =) 35 and (Wednesday =) 30		B1
	No and $35 > 30$		B1
	No and Tuesday was more than Wednesday		B1
	No and Wednesday is 5 fewer (than Tuesday)		B1
	No and it's 5 fewer		B0
	Box not ticked and Wednesday		B0
	No and all except Wednesday to Thursday		B0

Q	Answer	Marks	Comments
5(c)(i)	That he will do the same amount of sit-ups each week	B1	oe
	Additional Guidance		
	Ignore any reason given eg he has assumed he will do them every week even if he's ill/on holiday		B1
	He won't miss a week		B1
	Every week is the same		B1
	Mention of day/month instead of week		B0
	He will do the same number next year		B0
	There are 48 weeks in a year		B0
	He hasn't taken account of when he's on holiday		B0

Q	Answer	Marks	Comments
5(c)(ii)	He will do more or fewer (than 9880)	B1ft	oe strictly ft (c)(i)
	Additional Guidance		
	His/the calculation will be wrong / Could be the wrong answer		B1
	He won't do 9880 sit-ups		B1
	He could do more/fewer / The amount will be different		B1
	He will do fewer / He will do more		B0
	Part (c)(i) Assumed 52 weeks in a year but actually there's only 48 Part (c)(ii) He will do fewer		B0 B1ft
	Part (c)(i) He might not do the same amount as he might be unwell for a week Part (c)(ii) He will do fewer		B0 B1ft

Q	Answer	Marks	Comments
6(a)	135	B1	

Q	Answer	Marks	Comments
6(b)	2016	B1	

Q	Answer	Marks	Comments
6(c)	190 and 349 selected or 159	B1	could be seen in a calculation or circled in the table implied by correct answer
	$\frac{\text{their 349} - \text{their 190}}{\text{their 190}} (\times 100)$ or $\left(\frac{\text{their 349}}{\text{their 190}} - 1\right) (\times 100)$ or 0.83... or 0.84 or 1.83... or 1.84	M1	oe eg $\left(\frac{\text{their 349}}{\text{their 190}}\right) \times 100 (- 100)$ their 349 and their 190 must be values from the table 1.83... or 1.84 or 0.83... or 0.84 or 183(. ...)% or 184% implies B1
	83... or 84	A1ft	ft their 190 and their 349 SC2 120 or 76.9 or 77

Q	Answer	Marks	Comments
6(d)	One valid reason	B1ft	ft their answer to (c) eg it is the larger (percentage) increase or it is a more dramatic headline
	Additional Guidance		
	Ignore irrelevant statements alongside a correct reason		
	It will get a bigger reaction from fans		B1
	It was more		B1
	It doesn't look so bad because it's smaller, with (c) > 238(%)		B1ft

Q	Answer	Marks	Comments
7	Every number won't have an equal chance of being rolled	B1	oe
	Additional Guidance		
	There should/could/may be more of one number than another		B1
	It isn't fair / favours one (or more) number/thing		B1
	One (or more) side/face/number(s)/outcome(s) will be more/less likely		B1
	You could have more of a number than should happen		B1
	It's weighted/rigged		B1
	It's not a normal dice / It's not random / it's one sided		B0
	A number will definitely come up more than another		B0

Q	Answer	Marks	Comments
8	Inconsistent units or Different formats/forms	B1	oe eg should all be in the same units
	Additional Guidance		
	Some decimal and some as months		B1
	One as days and the rest not / Not all in years		B1
	One has no units / Not comparable		B1
	They are different time measurements		B1
	They are different measurements		B0
	5000 days is the odd one out, change it to years		B0
	Not the same / They are different (if seen with a B1 answer, do not withhold the mark)		B0
	Hard to process/compare / Difficult to understand (if seen with a B1 answer, do not withhold the mark)		B0

Q	Answer	Marks	Comments
9	C	B1	

Q	Answer	Marks	Comments
10(a)	Stem from 2 to 6	B1	condone stem from 6 to 2
	Leaves fully correct and ordered	B2	B1 3 or 4 correct, ordered rows or all numbers correctly placed in rows but not ordered
	Leaves aligned and key completed	B1	
	Additional Guidance		
	Allow misalignment due to crossed out number(s)		
	Marks can be scored for work in white space below question if grid is blank or crossed out		
	A stem from 6 to 2 must have leaves in descending order		

Q	Answer	Marks	Comments
10(b)	37	B1ft	ft their (a), either 8 th value or the median for their ordered diagram

Q	Answer	Marks	Comments
10(c)	Yes and correct reason	B1ft	strictly ft their median from (b)
	Additional Guidance		
	Yes and it would be after 37		B1
	Yes and 43 is more than the next number (that is 41)		B1
	Yes and 43 is more than the median/37		B1
	Yes and it will be more than 37 and less than 41		B1
	Yes and it will be 39		B1
	No and median of 47 in (b) and 43 is less than 47		B1
	Yes there are more weeks/people now		B0
	Yes and a higher number has been added		B0
	Yes and it would be more (restating the question)		B0

Q	Answer	Marks	Comments
11(a)	Red campions Cowslips and primroses (either order) 4	B3	in that order B2 two lines correct B1 one line correct

Q	Answer	Mark	Comments
11(b)	At least one correct calculation or value for an angle	M1	eg $\frac{18}{72} \times 360$ or 90 other values are 160, 60, 15, 35 ignore units implied by a correct angle drawn
	All five correct angles	A1	implied by a correct pie chart
	Correct pie chart for their five angles	A1ft	angles must sum to 360° tolerance 2°
	Correct labels for their five angles	A1ft	
	Additional Guidance		
	Labels must be in context (not just angles)		

Q	Answer	Marks	Comments
11(c)	Cannot tell and a valid reason	B1	eg you don't know the (total) number of flowers seen
	Additional Guidance		
	Valid reasons listed below need to come with an indication of Cannot tell		
	Only know the proportions of flowers / proportion of bluebells		B1
	We don't know how many bluebells she saw		B1
	Same angle doesn't mean same number		B1
	Could be more/less than 72 flowers in total		B1
	If any of these responses are seen with a B1 answer, do not withhold the mark		
	Cannot tell because there's not enough data (not specific enough)		B0
	Bluebells have the larger sector		B0
	They are both the biggest parts of their pie charts		B0
	No numbers to compare with		B0
	Pine trees take up less of the pie chart		B0

Q	Answer	Marks	Comments
11(d)	A valid reason	B1	eg flowers/trees could have died
	Additional Guidance		
	Condone use of 'wildlife' to mean flowers, trees or animals		
	Reference to the lifecycle of a flower/tree / more/fewer flowers/trees		B1
	Flowers/trees could have grown / been picked / been eaten by animals		B1
	Deforestation (may mean trees have been chopped down)		B1
	(Trees could be the same but) flowers will/could change		B1
	The season/weather will affect which flowers are out		B1
	Because it will be different weather/season (if seen with a B1 answer, do not withhold the mark)		B0
	If the flowers/trees have lost their foliage you might not be able to tell the type		B0
	She might see more/less of the woodland / goes to a different area		B0

Q	Answer	Mark	Comments
12(a)	To ensure a proportional split of subjects or There are a lot more students who studied Other subjects	B1	oe eg for fair representation
	Additional Guidance		
	For proportional representation / a representative sample (of each subject)	B1	
	Medicine has more than twice the number of English students	B1	
	So all subjects are represented	B1	
	To make sure small ones like English are represented	B1	
	Because there is a large difference in the number of students per subject	B1	
	Because there's a different amount in each subject	B0	
	Everyone has an equal/even chance of being selected	B0	
	To get equal number of students from each subject	B0	
	For more reliable/accurate results	B0	
	There will be more Other students	B0	
	So the sample is evenly split/fair	B0	

Q	Answer	Marks	Comments
12(b)	$\frac{7500}{250}$ or 30 or $\frac{1410}{7500}$ or 0.188 or $\frac{250}{7500}$ or 0.033... or $\frac{7500}{1410}$ or 5.3... or 250×1410 or 352 500 or $\frac{250}{7500} \times 1410$ or $1410 \div \frac{7500}{250}$	M1	oe
	47	A1	
	Additional Guidance		
	Do not ignore further work after 47 seen, eg $\frac{47}{250}$		M1A0

Q	Answer	Marks	Comments
13(a)	References adding any timeframe	B1	eg each night or per week
	Additional Guidance		
	Add response boxes with eggs, including hours per night/week		B1
	On average per day/night		B1
	On average		B0
	Add response boxes (no timeframe)		B0

Q	Answer	Marks	Comments
13(b)	Easier (to analyse)	B1	accept easy
	Additional Guidance		
	Ignore any suggested responses eg time intervals		
	Can make conclusions more obvious		B1
	(Makes the data) more accessible		B1
	It makes it better to see patterns/differences		B1
	Could be compared to data grouped the same way		B1
	Reduces the time it takes to process the data / easier to understand/read		B1
	Saves time / it's quicker		B0
	More reliable/accurate		B0

Q	Answer	Marks	Comments
13(c)(i)	$\frac{16}{55}$	B2	B1 $\frac{64}{220}$ oe correct fraction not fully simplified or 0.29(09...) or 0.291 or 29(.09...) % or 29.1% or proper fraction with numerator 64 or their proper fraction fully simplified, if it can be simplified or $\frac{39}{55}$
	Additional Guidance		
	Do not ignore attempts to simplify after $\frac{16}{55}$ seen, eg $\frac{16}{55} = \frac{3}{11}$		B1

Q	Answer	Marks	Comments
13(c)(ii)	$\frac{96}{133}$ or 0.72...	B2	oe fraction or percentage B1 proper fraction with numerator 96 or proper fraction with denominator 133
	Additional Guidance		
	Ignore further work once correct answer seen		

Q	Answer	Marks	Comments
13(d)(i)	A correct comparison	B1	comparing numbers/proportions for right amount of sleep or comparing numbers/proportions for not enough sleep or comparing numbers/proportions for right amount + more than vs not enough
	Additional Guidance		
	A correct comparison must have comparable figures		
	Comparing numbers/proportions for right amount of sleep, eg 96 is more than 19 or $\frac{96}{115} > \frac{19}{115}$ 0.72... > 0.21... or 0.22 96 play sport, only 19 don't play sport 96 and 19		B1 B1 B1 B0
	Comparing numbers/proportions for not enough sleep, eg 17 is less than 47 or $\frac{47}{64} > \frac{17}{64}$ 0.54... > 0.12... or 0.13		B1 B1
	Comparing numbers/proportions for right amount + more than vs not enough, eg 116 is more than 40 0.87... > 0.45... or 0.46 $\frac{116}{133} > \frac{40}{87}$ (not comparable form)		B1 B1 B0

Q	Answer	Marks	Comments
13(d)(ii)	A correct comparison	B1	eg 21 is more than 20
	Additional Guidance		
	A correct comparison must have comparable figures		
	$\frac{20}{41} < \frac{21}{41}$		B1
	There was one more person who slept more than enough who didn't play sport, when compared to the 20 who did play sport		B1
	$0.15... < 0.24...$		B1
	$\frac{20}{133} < \frac{21}{87}$		B0

Q	Answer	Marks	Comments
14(a)	$\frac{4}{5}$	B1	oe in correct position
	$\frac{2}{3}$ and $\frac{1}{3}$	B1	oe in correct position
	$\frac{30}{100}$ and $\frac{70}{100}$	B1	oe in correct position
	Additional Guidance		
	Allow answers in fractions, decimals, percentage and a mixture of these Decimals must be correct to at least 2dp		

Q	Answer	Marks	Comments
14(b)(i)	their $\frac{4}{5} \times$ their $\frac{2}{3}$	M1	oe ft their $\frac{4}{5}$ from (a)
	$\frac{8}{15}$ or [0.52, 0.536]	A1ft	oe fraction or percentage ft their $\frac{4}{5}$ from (a) $0 < \text{their } \frac{4}{5} < 1$ and $0 < \text{their } \frac{8}{15} < 1$
	Additional Guidance		
	Decimals must be correct to at least 2dp		

Q	Answer	Marks	Comments
14(b)(ii)	Any correct pair of branches multiplied together	M1	oe ft their tree diagram in (a)
	their $\frac{4}{5} \times$ their $\frac{1}{3}$ and $\frac{1}{5} \times$ their $\frac{70}{100}$ or their $\frac{4}{5} \times$ their $\frac{2}{3}$ and $\frac{1}{5} \times$ their $\frac{30}{100}$	M1dep	oe ft their tree diagram in (a)
	$\frac{61}{150}$ or [0.404, 0.41]	A1ft	oe accept 0.4 with M2 scored ft their tree diagram in (a) $0 < \text{their } \frac{61}{150} < 1$
	Additional Guidance		
	Working may be in fractions, decimals, percentages or a mixture		

Q	Answer	Marks	Comments
15(a)	(All) the people (of working age) who live on St Mary's	B1	oe must reference living on the island
	Additional Guidance		
	Every person living there / People of the island		B1
	The whole of the island 1700 people		B1
	Everyone who works/has a job on St Mary's / The people on/in St Mary's		B0
	Population of St Mary's		B0
	Every person in the Isles of Scilly		B0
	(All) 1700		B0

Q	Answer	Marks	Comments
15(b)(i)	Embarrassment or Not wanting to say how old they are or Personal question	B1	oe
	Additional Guidance		
	(Age is) sensitive information / private / it's invasive		B1
	It's rude/inappropriate/offensive to ask age		B1
	It's rude/inappropriate/offensive		B0
	Too specific because it should have options		B0
	They can't answer the question		B0
	They don't wish to answer / don't like the question (if seen with a B1 answer, do not withhold the mark)		B0

Q	Answer	Marks	Comments
15(b)(ii)	Have grouped ages as options	B1	oe
	Additional Guidance		
	If answer mentions grouping ages, any suggested options need to be exclusive		
	If answer does not mention grouping ages, any suggested options need to be exclusive and exhaustive (or implied by etc)		
	Anonymous collection		B1
	Accept “use random response technique” to imply anonymous collection		B1
	Have tick boxes for different age groups		B1
	Have tick boxes		B0
	State responses are confidential / explain why she needs their age		B0
	Reference to whole questionnaire		B0
	Hand out more questionnaires to start with (could give more respondents but won't reduce non-responses)		B0
	Offer an incentive for completing the questionnaire		B0

Q	Answer	Marks	Comments									
15(c)	Method A named as convenience/opportunity (sampling) and any disadvantage given about convenience sampling	B2	B1 Method A named as convenience/opportunity (sampling) or any disadvantage given about the described Method A									
	Method B named as random (sampling) and any disadvantage given about random sampling	B2	B1 Method B named as random (sampling) or any disadvantage given about the described Method B									
	Method A chosen with advantage given for convenience sampling or Method B chosen with advantage given for random sampling	B1										
	Additional Guidance											
	<table><tr><td></td><td>Disadvantage</td><td>Advantage</td></tr><tr><td>A</td><td>Unrepresentative, only one time, only in one place, most people at work, probably/likely biased, may not live there</td><td>Quick, easy, cheap, efficient</td></tr><tr><td>B</td><td>Takes a long time/more work, more expensive, some people may not be accessible, needs a sampling frame</td><td>Probably not/unlikely biased, reduces bias, everyone has equal chance of being chosen, more representative</td></tr></table>				Disadvantage	Advantage	A	Unrepresentative, only one time, only in one place, most people at work, probably/likely biased, may not live there	Quick, easy, cheap, efficient	B	Takes a long time/more work, more expensive, some people may not be accessible, needs a sampling frame	Probably not/unlikely biased, reduces bias, everyone has equal chance of being chosen, more representative
		Disadvantage	Advantage									
	A	Unrepresentative, only one time, only in one place, most people at work, probably/likely biased, may not live there	Quick, easy, cheap, efficient									
	B	Takes a long time/more work, more expensive, some people may not be accessible, needs a sampling frame	Probably not/unlikely biased, reduces bias, everyone has equal chance of being chosen, more representative									
	Do not award the final B1 with a contradiction seen											
	'At random' does not imply the name of Method B											
May be biased / could be biased (if seen with a B1 answer, do not withhold the mark)												
Biased / very biased / non-biased / unbiased												
Mention of people not wanting to answer												
Accurate or inaccurate												

Q	Answer	Marks	Comments
15(d)	$(5 \times 0) + 15 \times 2 + 25 \times 3 + 35 \times 14 + 45 \times 6$ or 865	M1	oe condone 1 missing or incorrect product allow all working to be in thousands
	34 600 or 34.6 thousand or 35 000 or 35 thousand with M1 seen	A2	A1 35 with 865 seen or 34.6 A1ft ft their 34.6 into thousands

Q	Answer	Marks	Comments
15(e)	Points plotted at (5, 3), (15, 12), (25, 9), (35, 1) and joined by straight lines	B3	tolerance half a square B2 3 correct points plotted and joined with straight lines or all points correct but not joined with straight lines or all heights correctly plotted at a consistent but incorrect boundary and joined with straight lines B1 3 correct points plotted but not joined by straight lines or all heights correctly plotted at a consistent but incorrect boundary but not joined with straight lines
			Additional Guidance
			Accept the coordinate (45, 0) plotted
			Ignore anything before first plot and after last plot and ignore first and last plots joined to each other or the axes. Ignore histogram with frequency polygon
			Mark intention of straight lines and condone dotted lines
			Histogram drawn with no sign of joining the middles
			Max B1

Q	Answer	Marks	Comments
15(f)	Two correct comparisons	B2ft	ft their frequency polygon in (e) B1ft one correct comparison eg modal class in Hugh Town is greater than in Old Town or on average/generally salaries in Hugh Town are greater (than in Old Town) or Old Town has higher frequencies for the smallest two class intervals or the highest salary is in Hugh Town or most people in Hugh Town earn more than £30 000 compared to most people in Old Town earn less than £30 000 or the range of the salaries could be the same (cannot tell)
	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		
	Skew for Hugh Town is negative but skew for Old Town is positive		B1
	Old Town has people earning less than £10 000 and Hugh Town doesn't		B1
	The estimated mean for OT is £18 200 which is less than the mean for HT		B1
	Old Town has 10 more people earning between £10 000 and £20 000		B1
	There are more in Old Town earning £10 000 to £20 000 than in Hugh Town		B1
	There are more in Old Town earning £10 000 to £20 000 (not necessarily comparing to Hugh Town)		B0
	People in Old Town earn less than people in Hugh Town		B0
	Most people in Old Town earn less than £20 000 (not a comparison)		B0
	Mode in Old Town £10-20 thousand, mode in Hugh Town £30-40 thousand		B0

Q	Answer	Marks	Comments
15(g)	Alternative method 1		
	Thea's data and a valid reason	B1	eg it's more up to date
	Alternative method 2		
	Council's data and a valid reason	B1	eg (more likely to) come from a larger/wider sample
	Additional Guidance		
	Any mention of honesty or lying		B0
	Reasons for Alt 1		
	More recent / more specific / more relevant		B1
	Because it's primary data (so likely to be more accurate)		B1
	Reasons for Alt 2		
	Council is a reliable source		B0
	May require payment		B0
	Council has more money/resources/data		B0