Pearson Edexcel

Mark Scheme (Results)

Summer 2024

Pearson Edexcel GCSE (9 – 1)
In Statistics (1ST0) Foundation Tier
Paper 2F

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General marking guidance

These notes offer general guidance, but the specific notes for examiners appertaining to individual questions take precedence.

1 All candidates must receive the same treatment. Examiners must mark the last candidate in exactly the same way as they mark the first.

Where some judgement is required, mark schemes will provide the principles by which marks will be awarded; exemplification/indicative content will not be exhaustive. When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the response should be sent to review.

2 All the marks on the mark scheme are designed to be awarded; mark schemes should be applied positively. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme. If there is a wrong answer (or no answer) indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.

Questions where working is not required: In general, the correct answer should be given full marks.
Questions that specifically require working: In general, candidates who do not show working on this type of question will get no marks – full details will be given in the mark scheme for each individual question.

3 Crossed out work
This should be marked **unless** the candidate has replaced it with an alternative response.

4 Choice of method
If there is a choice of methods shown, mark the method that leads to the answer given on the answer line.

If no answer appears on the answer line then mark both methods **as far as they are identical** and award these marks.

5 Incorrect method

If it is clear from the working that the "correct" answer has been obtained from incorrect working, award 0 marks.

6 Follow through marks

Follow through marks which involve a single stage calculation can be awarded without working as you can check the answer, but if ambiguous do not award.

Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

7 Ignoring subsequent work

It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question or its context. (eg an incorrectly cancelled fraction when the unsimplified fraction would gain full marks).

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect (eg incorrect algebraic simplification).

8 Probability

Probability answers must be given as a fraction, percentage or decimal. If a candidate gives a decimal equivalent to a probability, this should be written to at least 2 decimal places (unless tenths).

Incorrect notation should lose the accuracy marks, but be awarded any implied method marks.

If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

9 Range of answers

Unless otherwise stated, when an answer is given as a range (eg 3.5 – 4.2) then this is inclusive of the end points (eg 3.5, 4.2) and all numbers within the range.

Guidance on the use of abbreviations within this mark scheme
M method mark awarded for a correct method or partial method **A** accuracy mark (awarded after a correct method; if no method is seen then full marks for the question are implied but see individual mark schemes for more details) **B** unconditional accuracy mark (no method needed) **oe** or equivalent **cao** correct answer only **ft** follow through (when appropriate as per mark scheme) **sc** special case **dep** dependent (on a previous mark) **indep** independent **awrt** answer which rounds to **isw** ignore subsequent working

Question number	Answer	Additional guidance	Mark
1(a)	B1 evens	B1 cao	(1)
(b)	B1 B and D	Accept in either order	(1)
(c)	B1 Cross marked at $\frac{1}{10}$	Allow other positive indicators e.g. 'C'	(1)
(d)	B1 Cross marked at $\frac{6}{10}$		(1)

Question number	Answer	Additional guidance	Mark
2(a)	B1 $\frac{7}{40}$ oe		(1)
(b)	B1 3		(1)
(c)	B1 e.g. • 30 people are exercising 2 or more days a week • 10 people is (only) 25% of her fitness group / 10 out of 40 is not a lot • This only shows exercise at the gym, they might exercise elsewhere • more than 10 people used the gym for 2 or more days • There are 40 people, only 10 do exercise on 0 or 1 day	A comparison of the those using the gym less than 2 days and those using 2 days or more is sufficient. 10 and 30 need not been seen. Allow 'the majority of people exercise more than two times a week' Condone sample of 40 is too small Do not allow • Gym use varies week by week • The question may have been misunderstood • 10 people is not a lot	(1)

<table>
<tr><th>Question number</th><th>Answer</th><th>Additional guidance</th><th>Mark</th></tr>
<tr><td>3(a)</td><td>B1B1
<table><tr><th>Number of Olympic medals</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>6</td></tr><tr><td>2</td><td>𝍸</td><td>5</td></tr><tr><td>3</td><td>𝍸 |</td><td>6</td></tr><tr><td>4</td><td>||</td><td>2</td></tr><tr><td>5</td><td>||</td><td>2</td></tr><tr><td>6</td><td>||</td><td>2</td></tr><tr><td>7</td><td>|</td><td>1</td></tr></table></td><td>1st B1 for any one row or one column correct
2nd B1 all correct

Condone frequencies to the right hand side of the tally column if frequency column blank and tallies are all correct

Fences of five only.</td><td>(2)</td></tr>
<tr><td>(b)</td><td>B1 e.g. bar chart, pie chart, pictogram, frequency polygon</td><td>B1 for any suitable diagram

Ignore any additional descriptors with bar chart
E.g. comparative bar chart

Condone ‘bar graph’

Do not allow: histogram, scatter diagram, stem and leaf, frequency graph</td><td>(1)</td></tr>
<tr><td>(c)</td><td>B1ft 1 and 3</td><td>Follow through their (a)</td><td>(1)</td></tr>
</table>

(d)	M1 $\frac{27+1}{2}$ or 14^{th} value or writing an ordered list with at least the first 14 pieces of data correctly ordered A1 2	M1 for a method to find the median, $\frac{n+1}{2}$ A1 cao	(2)
(e)	B2 ft for e.g. median as there is more than one mode (B1 for e.g. median with an attempt at a reason OR there is more than one mode)	B2 ft for identifying the appropriate average together with a reason (B1 for identifying median with an attempt at a reason OR for a reason without a decision) B0 for median with no attempt at reason	(2)

Question number	Answer	Additional guidance	Mark
4(a)	B1 $\frac{4}{7}$	B1 $\frac{4}{7}$ oe	(1)
(b)	M1 $\frac{136.4+101.1+104+62.6+138.8+65.5+93.5}{7}$ A1 100.2(7…) B1ft 107 or 50.1(3…) or 1.87… B1ft e.g. • yes as 107 and '100.2(7…)' are similar • no as 107 and '100.2(7..)' are not close enough in value • no as the mean for the Egyptian pyramids is '100.2(7…)' which is less than 107 • no as '100.27..' ÷ 53.5 = 1.87… < 2 therefore incorrect.	M1 for method to calculate the mean Condone 1 error in the numerator of the mean calculation A1 awrt 100.3 B1ft 107 or 50.1(3…) or 1.87… B1ft for evaluating the conclusion and a comparison made Follow through their 100.2(7…) provided this is from an attempt at calculating the mean.	(4)
(c)	B1 for 75	B1 for 75 cao	(1)

Question number	Answer	Additional guidance	Mark
5	B1 Comments on data collection: • Taking a random sample would mean each test centre in a region had an equal chance/unbiased chance of being selected • Visiting the test centres would take too long / cost too much / isn't practical • It would be quicker / easier / cheaper to collect data from the internet / secondary data • May not be able to get the information required by asking at the test centres • A good idea to ask for data for the same month for each test centre • Should collect data in more than one month • Should include information on sample size • Good to include all of the regions/representative of the regions B1ft dep for appropriate comment on appropriateness on method of data collection consistent with the observations made. B1 Comments on calculations: • Use of an average is a good way to represent the waiting time overall for each region. • Claire should specify which average she plans to use. • Calculating the mean/median of each region. • Mode would not be a suitable average to use. • The range would give an idea of the spread of waiting times within each region. B1ft dep for appropriate comment on appropriateness on calculations consistent with the observations made.	B1 for a correct comment relating to the methods of data collection B1ft for comment on appropriateness of data collection consistent with their observations Dependent on previous B mark being awarded for data collection B1 for a correct comment relating to the calculations B1ft for comment on appropriateness of calculations consistent with their observations Dependent on previous B mark being awarded for calculations	(6)

	B1 Comments on diagrams: • A bar chart would make it easier to <u>compare</u> the average waiting times for the different areas. • A bar chart is not suitable for time as it is continuous data. • A histogram or frequency polygon would be better to show continuous data. • A pie chart would not be a suitable way represent the type of data for the range of waiting times for the different areas. B1ft dep for appropriate comment on appropriateness on diagrams consistent with the observations made.	B1 for a correct comment relating to the diagrams B1ft for comment on appropriateness of diagrams consistent with their observations Dependent on previous B mark being awarded for diagrams	

Question number	Answer	Additional guidance	Mark
6(a)	B2 for a fully correct bar (B1 for correct heights with incorrect or no shading)	Diagonals must be in the correct direction and a clear attempt at shading the bottom bar.	(2)
(b)	B1 e.g. the overall/total points scored/points from wins and draws		(1)
(c)	B1 e.g. Queen of the South scored more points for winning than Dunfermline Athletic B1 e.g. Dunfermline Athletic scored more points for drawing than Queen of the South B1 e.g. Dunfermline Athletic scored more points overall than Queen of the South	B1 for a correct **comparison** of points for winning B1 for a correct **comparison** of points for drawing B1 for a correct **comparison** of total points scored Ignore any numbers in written response.	(3)

Question number	Answer	Additional guidance	Mark
7(a)	B1 for <u>all</u> the visitors (to the theme park)	Must include reference to all. B0 for 'all people buying food'	(1)
(b)	B1 e.g. • sampling the people who are available at the time • sampling only those who stop to answer your questions • sampling those only closest to you • sampling the first people you see • sampling people <u>easy to access</u>	B1 for a definition of opportunity sampling Allow a description of how a convenience sample could take place E.g. 'sampling people queuing up in a line'/sat down eating	(1)
(c)	B1 e.g. • Not representative • (May be) biased	B1 for a disadvantage of a convenience sample	(1)
(d)	B2 for two comments from • (a data collection sheet makes it) easy to analyse responses / put in graphs/ can identify the most liked product • There are too few options (e.g. no 'burgers') • Visitors may choose more than one option • Visitors may not buy/like food at the theme park • Chinese and curry are vague options • Other should be included (B1 for one comment from the list)	B2 for two comments on the appropriateness of using this data collection sheet. (B1 for one comment on the appropriateness of using this data collection sheet)	(2)

(e)	B2 for ‘not suitable’ as data is qualitative (not numerical / quantitative) (B1 for not suitable with an attempt at a reason OR for identifying that data is qualitative)	B2 for a complete answer assessing that a stem and leaf diagram is not suitable with a correct reason (B1 for not suitable with an attempt at a reason OR for identifying that data is qualitative)	(2)

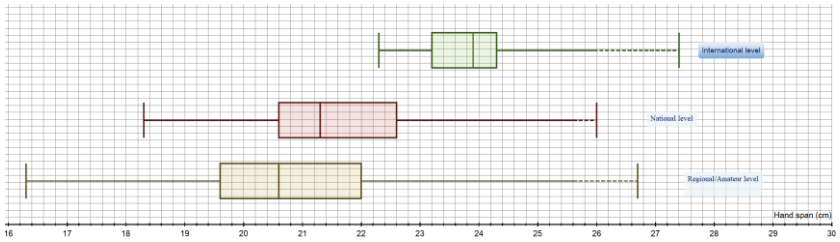
Question number	Answer	Additional guidance	Mark
8(a)	B1 for e.g. • Data is bivariate / paired /'because each person has 2 pieces of data recorded' • Allows Timur to see if there is a correlation / relationship / association	B1 for justifying the appropriateness of a scatter diagram. Underlined words are needed. Allow miss-spellings if underlined word is clearly attempted. Accept bivariable	(1)
(b)	B2 for all three points plotted correctly (B1 for one or two points plotted correctly)		(2)
(c)	B1 for positive correlation B1 for e.g. as the height increases the weight increases	B1 for identifying the type of correlation B1 for interpreting the correlation in context	(2)
(d)	B2 for an appropriate line of best fit through the point (184, 92) (B1 for plotting the double mean point OR for an appropriate line of best fit that does not pass through the double mean point)	Line must be ruled, extend long enough to include most of the data and approximately half the points (including those added) on either side.	(2)
(e)	B1 for e.g. there is no relationship between the heights and weights of the Forwards.	B1 for interpreting the correlation in context	(1)
(f)	B1 for e.g. the (positive spearman rank) correlation (between height and weight) is stronger for the Wales rugby squad backs than for the England rugby squad backs B1 for e.g. the heights and weights of the Wales rugby squad backs are more closely related	B1 for comparison of the strength of correlation B1 for interpreting the comparison in context	(2)

(g)	B2 for e.g. • Timur <u>is correct</u> as the gradient of the line of best fit of the England rugby squad backs is greater/steeper • Timur is <u>not correct</u> as the gradient of the lines of best fit is <u>similar</u> (B1 for e.g. • the gradient of the line of best fit of the England rugby squad backs is greater • the gradient of the lines of best fit is similar • for each extra centimetre of height the weight of the Wales rugby backs increases by 0.96kg and the weight of the England rugby backs increases by 1.02kg	B2 for assessment of the validity of the conclusion with supporting reason (B1 for comparison of the gradients of the lines of best fit OR contextual interpretation with no or incorrect assessment of validity)	(2)

Question number	Answer	Additional guidance	Mark
9(a)	B2 for two reasons from: • school is not recorded in a consistent way • (school) data missing • inconsistent units for time • values given in different formats • missing units on time	B2 for two reasons why the data needs to be cleaned (B1 for one reason why the data needs to be cleaned)	(2)
(b)	B1 e.g. in order to compare you would need to draw two separate box plots – one for Green Park school and one for Golden Plains school	B1 for identifying that more than one box plot would be required to allow for comparison	(1)

Question number	Answer	Additional guidance	Mark
10(a)	B1 for one of: • it would be faster **or** it would take too long to collect the data himself • data is easily accessible/easier to collect **or** too much data to collect/analyse / not practical to collect himself • it would be cheaper **or** it would be too expensive to collect the data himself	B1 for identifying why it is appropriate to use secondary data. Allow a disadvantage of primary data as long as it is clear that they are referring to primary data. e.g. people might not want to tell Matthew their average income – sensitive question B0 for more accurate or more data.	(1)
(b)	B1 for West Virginia, Arkansas, Mississippi	B1 for identifying the three states with the lowest mean household incomes in any order. If additional states are included B0.	(1)
(c)	B2 for e.g. • the darkest shading is shown on the West coast and East coast, so the conclusion is supported / Matthew is correct • the lowest mean incomes are found in the centre of the map so the conclusion is supported/Matthew is correct. • Colorado is also a high income state and that is in the centre of the country, so the conclusion is not supported / Matthew is incorrect • most of the coastal states have incomes of ≥ 100 (thousands), so the conclusion is supports/Matthew is correct.	B2 for identifying relevant features of the choropleth map with assessment of the appropriateness of the conclusion Allow reference to coasts if East and West are not written. For East coast allow reference to two or more named states on the coast.	(2)

	(B1 for e.g. • the darkest shading is shown on the West coast and East coast with no/incorrect conclusion • Colorado is also a high income state and that is in the centre of the country with no/incorrect conclusion) • most of the coastal states have incomes of ≥ 100 (thousands), with no/incorrect conclusion. SCB1 for comparing the East and West coast and concluding the East coast highest income states.	For West coast allow reference to California and Washington. (B1 for identifying relevant features of the choropleth map with no or incorrect assessment of the appropriateness of the conclusion or for only making reference to one coast with an assessment of the appropriateness of the conclusion.) B0 for repeating the statement in the question with no supporting reason.	

<table>
<tr><th>Question number</th><th>Answer</th><th>Additional guidance</th><th>Mark</th></tr>
<tr><td>11(a)</td><td>B1 continuous</td><td></td><td>(1)</td></tr>
<tr><td>(b)</td><td>M1A1A1
 
</td><td>M1 for box with two whiskers (at least one correct value from 23.2, 23.9 or 27.4)
A1 for correct upper quartile (24.3) or correct least value (22.3)
A1 Fully correct plot

(22.3, 23.2, 23.9, 24.3, 27.4)</td><td>(3)</td></tr>
<tr><td>(c)</td><td>B1ft B1ft B1ft B1ft B1ft

<table>
<tr><th>Comparison</th><th>Interpretation</th></tr>
<tr><td>International greatest <u>median</u>
or
International <u>median</u> > national <u>median</u> > amateur <u>median</u></td><td>e.g. International pianists have the largest/wider (hand spans).
As they increase in standard the hand spans increase.</td></tr>
<tr><td>Amateur has the greatest <u>IQR</u>
or
International <u>IQR</u> < national <u>IQR</u> < amateur <u>IQR</u>
or
Amateur has the greatest <u>range</u>
or</td><td>e.g. International pianists have are the most consistent</td></tr>
</table></td><td>B1ft Correct comparison of medians
B1ft Correct comparison of spread (IQR or range)
B1ft Correct comparison of skew
B1ft One correct interpretation
B1ft One further correct comparison of spread or interpretation
Allow equivalent/converse statements but underlined words must be seen.</td><td>(5)</td></tr>
</table>

	<table><tr><td>International <u>range</u> < national <u>range</u> < amateur <u>range</u></td><td></td></tr><tr><td>All three have <u>positive skew</u> **or** International <u>negative skew,</u> national and amateur <u>positive skew</u></td><td>e.g. All three have more varied (hand spans) above median</td></tr></table>	Allow for comparison of just two box plots e.g. national and amateur May be multiple comments in one statement. Follow through from their box plot. Note: in this question ignore any numerical values in comparisons.	
(d)	B1 for e.g. $\frac{24}{24+65+57+14} \times 20$ or $\frac{strata\ size}{total} \times 20, \frac{1}{8}$ of each strata B1 for one correct rounded value from 3,8,7 or 2 or indicating that they should round the sample size to the nearest whole number. B1 for indicating or describing taking a random sample within each strata e.g. number all of the pianists and use a random number generator to select the appropriate number within the strata.	B1 for description of how to calculate the number to be sampled from each stratum B1 for one correct integer value, ignore subsequent incorrect values. e.g. 3,8,7, 3 or indicating that they need to round the sample size to the nearest whole number. B1 for indicating random sampling within each stratum or for description of how to sample within each stratum	(3)

Question number	Answer	Additional guidance	Mark
12(a)	M1 $\frac{15}{50}$ or $\frac{32}{80}$ M1 $\frac{15}{50} \div \frac{32}{80}$ A1 0.75	M1 for $\frac{15}{50}$ oe or $\frac{32}{80}$ oe M1 for a complete attempt at relative risk A1 for 0.75 oe	(3)
(b)	B1ft e.g. • the risk of failing the skills test having taken course A is (25%) lower than the risk of failing the skills test having taken course B • people who take course B are (25%) more likely to fail than those who took course A.	B1ft for correct interpretation of their relative risk value Must have a relative risk given in part (a). Figures do not need to be seen but if they are they need to be correct for their relative risk given in (a). B0 if no relative risk found in part (a).	(1)

Question number	Answer	Additional guidance	Mark
13(a)	B1 for 51	B1 for answer in the range 50 to 51 inclusive. B0 for 50 obtained from incorrect guideline on cf graph If 50 written with no working, B1	(1)
(b)	M1 $'510'$ and $'210'$	M1 For their UB and their LB where $500 \leq \text{UB} \leq 520$ $200 \leq \text{LB} \leq 220$ Note: check graph for indicative guidelines drawn within these ranges for UB and LB.	(4)
	A1ft '300'	A1ft for their '300' (UB - LB) $280 \leq UB - LB \leq 320$	
	A1ft for '46.1538…%'	A1ft for '46.1538…%' awrt '46.2% Allow for a percentage which is correct to 1 decimal place.	
	B1ft for <u>percentage</u> of MPs (aged between 45 and 60) was greater in Germany	B1ft for comparing <u>percentages</u> Follow through their percentage for UK provided M1 scored.	

Modifications to the mark scheme for Modified Large Print (MLP) papers: 1ST0 2F

Only mark scheme amendments are shown where the enlargement or modification of the paper requires a change in the mark scheme.

The following tolerances should be accepted on marking MLP papers, unless otherwise stated below:
Angles: ±5º
Measurements of length: ±5 mm

PAPER: 1ST0_2F			
Question		**Modification**	**Mark scheme notes**
1		Frames removed from cards and cards stacked in two rows of 5.	As per standard mark scheme.
1	a	Wording ‘Underline’ removed and replaced with ‘Circle’. Options stacked vertically and left aligned.	As per standard mark scheme (any unambiguous indication allowed).
1	c	Wording added ‘Look at the diagram for Question 1(c) in the Data Booklet. It shows a probability scale.’ Wording ‘below’ removed. Wording ‘with a cross (x)’ removed. Scale enlarged.	As per standard mark scheme.
1	d	Wording added ‘Look at the diagram for Question 1(d) in the Data Booklet. It shows a probability scale.’ Wording ‘below’ removed. Wording ‘with a cross (x)’ removed. Scale enlarged.	As per standard mark scheme.
2		Wording added ‘Look at the diagram for Question 2 in the Data Booklet. It shows a bar chart.’ Wording ‘this’ removed and replaced with ‘the’. Wording added ‘shown in the Data Booklet’. Diagram enlarged. Shading changed. Axis labels moved to the top of the vertical axis and to the left of the horizontal axis. Open headed arrows. Right axis labelled.	As per standard mark scheme.
3		Wording ‘Here are his results’ removed and replaced with ‘His results are below’. Numbers arranged in three rows of seven and one row of 6.	As per standard mark scheme.
3	a	Wording added ‘Look at the table for Question 3(a) in the Data Booklet.’ Wording added ‘in the Data Booklet’. Table enlarged.	As per standard mark scheme.

PAPER: 1ST0_2F			
Question		**Modification**	**Mark scheme notes**
4		Wording ‘Here is her data’ removed and replaced with ‘Her data is shown below.’ Information repeated if question spans more than one page.	As per standard mark scheme.
5		Wording added ‘Look at the information for Question 5 in the Data Booklet.’ Wording ‘Here is’ removed and replaced with ‘The information in the Data Booklet shows’. Frame removed.	As per standard mark scheme.
6		Wording added ‘Look at the diagram for Question 6 in the Data Booklet. It shows an incomplete composite bar chart.’ Wording ‘nine’ removed and replaced with ‘six’. Diagram enlarged. Shading changed. Small grid lines removed. Axis labels moved to the top of the vertical axis and to the left of the horizontal axis. Horizontal axis labels removed and replaced with a key. Right axis labelled. Intermediates added on the vertical axis. Teams Hamilton Academical, Inverness CT and Partick Thistle removed from the bar chart. Vertical axis cropped at 70.	
6	a	Wording added ‘(RR)’. Value changed from 36 to 30 so the bar can be plotted on the modified diagram. Value changed from 14 to 15 so the bar can be plotted on the modified diagram. Leeway needed.	As per standard mark scheme. Note that the bar heights will be different to the unmodified papers.
6	c	Wording added ‘(DA)’. Wording added ‘(QS)’	As per standard mark scheme.

PAPER: 1ST0_2F			
Question		**Modification**	**Mark scheme notes**
7	d	Wording ‘Chris plans to use the data collection sheet below’ removed and replaced with ‘Look at the diagram for Question 7(d) in the Data Booklet. It shows the data collection sheet Chris plans to use’. Table enlarged. Wording ‘this’ removed and replaced with ‘the’.	As per standard mark scheme.
8		Wording added ‘Look at the diagram for Question Q8(a), 8(b), 8(c) and 8(d) in the Data Booklet. It shows an incomplete scatter diagram.’ Diagram enlarged. Small squares removed. Axis labels moved to the top of the vertical axis and to the left of the horizontal axis. Open headed arrows. Crosses changed to dots. Right axis labelled. Point at (188, 100) removed – this is so in part (b) they can plot this point instead. Point (183, 87) added. Horizontal axis labelled in units of 2 from 170 to 200.	
8	b	Table enlarged and left aligned. Values changed so points can be plotted on the modified diagram. Player A (182, 95) Player B (188, 100) Player C (173, 80) Leeway needed.	As per standard mark scheme. Note: points to be plotted have been amended.
8	d	Leeway needed.	As per standard mark scheme. Mark intention.

PAPER: 1ST0_2F			
Question		**Modification**	**Mark scheme notes**
8	f, g	Wording added ‘Look at the table for Question 8(f) and 8(g) in the Data Booklet.’ Wording ‘following’ removed. Wording added ‘shown in the table’. Table enlarged. SRCC for Wales rugby squad backs changed to 0.75	As per standard mark scheme.

10	b, c	Wording added ‘Look at the diagram for Question 10(b) and 10(c) in the Data Booklet.’ Wording ‘a’ removed and replaced with ‘the’. Wording added ‘in the Data Booklet’. Diagram enlarged. Shading changed. Outside border made thicker. Some states added to the key. Keys moved to above and left of the diagram.	b) As per standard mark scheme. c) B2 for e.g. • the white shading / no shading is shown on the West coast and East coast, so the conclusion is supported / Matthew is correct • the lowest mean incomes are found in the centre of the map so the conclusion is supported/Matthew is correct. • Colorado is also a high income state and that is in the centre of the country, so the conclusion is not supported / Matthew is incorrect • most of the coastal states have incomes of ≥ 100 (thousands), so the conclusion is supports/Matthew is correct. (B1 for e.g.

PAPER: 1ST0_2F			
Question		**Modification**	**Mark scheme notes**
			• the white shading / no shading is shown on the West coast and East coast with no/incorrect conclusion • Colorado is also a high income state and that is in the centre of the country with no/incorrect conclusion) • most of the coastal states have incomes of ≥ 100 (thousands), with no/incorrect conclusion. SCB1 for comparing the East and West coast and concluding the East coast highest income states.
11		Wording added 'Look at the diagram for Question Q11(a), 11(b) and 11(c) in the Data Booklet. It shows an incomplete box plot diagram.' Wording 'below' removed and replaced with 'in the Data Booklet'. Diagram enlarged. Small squares removed. Axis label moved to the left. Top axis labelled. Lower value for Amateur level changed to 17.1. This is so the modified diagram fits.	

PAPER: 1ST0_2F			
Question		**Modification**	**Mark scheme notes**
11	a	Options stacked vertically and left aligned.	As per standard mark scheme.
11	b	Wording added 'below'. Table enlarged. Wording 'above' removed and replaced with 'in the Data Booklet'. Values changed so the box plot can be plotted on the modified diagram. Greatest hand span 27.5 cm Median hand span 24.0 cm Lower quartile 23.0 cm Range 5.5 cm Interquartile range 1.5 cm	M1 for box with two whiskers (at least one correct value from 23.0, 24.0 or 27.5) A1 for correct upper quartile (24.5) or correct least value (22.0) A1 Fully correct plot (22.0, 23.0, 24.0, 24.5, 27.5)
11	d	Wording added 'Look at the table for Question 11(d) in the Data Booklet.' Table turned vertically and enlarged.	As per standard mark scheme.
12		Wording added 'Look at the table for Question 12 in the Data Booklet.' Table enlarged.	As per standard mark scheme.
13		Wording added 'Look at the diagram for Question 13 in the Data Booklet. It is a cumulative frequency graph giving'. Wording removed 'The cumulative frequency graph gives'. Value 650 changed to 600. Diagram enlarged. Axis labels moved to the top of the vertical axis and to the left of the horizontal axis. Vertical axis cut at 650. Horizontal axis cut at 85. Open headed arrow. Right axis labelled. Intermediates added on the horizontal axis. Line changed to go through the points (45, 200), (50, 300), (60, 500) and (80, 600).	

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