



Pearson
Edexcel

Mark Scheme (Results)

Summer 2019

Pearson Edexcel GCSE
In Statistics (1ST0)
Paper 1H

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Summer 2019

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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.

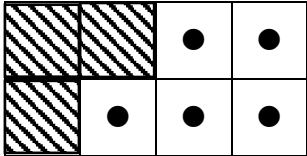
If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

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 or process 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)	B2 	B2 for all 8 correct. (B1 for 6 or 7 correct)	(2)
(b)	B1 Grace's comment is valid because the darker areas/more children are in the top left (and children tend to congregate around play equipment). Or Grace's comment may not be valid because we only know that there are more children in that region (and not where the play equipment is).	B1 for correct assessment of the validity of the conclusion and a correct supporting reason We must see <ul style="list-style-type: none"> • a decision given – e.g. valid or invalid, correct or incorrect • reference to more children/higher concentration of children in the top left hand corner/that region (of the map) 	(1)

Question number	Answer	Additional guidance	Mark
2 (a)	B2 Accept answers in the range $6.0 \leq Q_1 \leq 6.5$, $Q_2 = 10$, $15.0 \leq Q_3 \leq 15.5$	B2 for all three values correct (quartiles in ranges) OR B1 for one value correct	(2)
(b)	M1 for a box with two whiskers AND at least two values plotted correctly from any of 2.0, 22.3, Q_1 , Q_2 , Q_3 (correct or follow through) A1ft for all correct with 2.0, 22.3 and median and quartiles (median and quartiles correct or follow through from (a))	For M1 and A1 Allow 22.3 plotted at between 22.0 and 22.5 Allow $\pm \frac{1}{2}$ small square accuracy on Q_1 , Q_2 , Q_3 .	(2)
(c)	B1ft e.g. median height for Oak trees greater or median height for maple trees smaller. B1ft e.g. IQR/range smaller for Maple trees or IQR/range greater for Oak trees. B1ft e.g. Maple symmetrical and Oak positively skewed depB1ft for any of the above interpreted in context e.g. <ul style="list-style-type: none"> • Oak <u>trees are taller</u> (on average) or Maple <u>trees are shorter</u> on (on average) • The <u>heights</u> of Oak trees are more widely dispersed, or the <u>heights</u> of Maple trees are more consistent. • The spread of <u>heights</u> above the average (median) for the Oak trees is greater than the spread of <u>heights</u> below the average, whereas the spread of heights above and below the average for the Maple trees is broadly the same. 	B1ft for a correct statistical statement comparing the medians (ft (a) or (b)) Condone taller for comparison of medians. Condone misspellings but medium is B0. B1 for a correct comparison of the IQRs or ranges (ft (a) or (b)) Condone wider for comparison of IQR/range. B1 for a correct comparison of the skews (ft (b)) Condone both positively skewed. For symmetrical accept no skew but not neutral skew, normal skew or symmetrical skew. depB1ft for a correct contextual interpretation comparing medians or IQR/ranges or skew Dependent on correct statistical comparison having been made to support the interpretation given. Note: in this question ignore any numerical values in comparisons.	(4)

Question number	Answer	Additional guidance	Mark
3 (a)	M1 $\frac{4479 \times 200}{9963}$ (=89.9126...) or 0.45×200 or $45\% \times 200$ oe A1 90	Accept a correct equivalent calculation. M1 implied by 89.9 Do not award M1 for e.g. 45% of 200 alone. A1 accept either 89 or 90	(2)
(b)	B1 e.g. <ul style="list-style-type: none"> When the investigation only relates to one gender e.g. pregnancy, all boys schools When a comparison is being made between genders e.g. male heights compared to female heights If gender is not recorded in the data 	B1 for a correct explanation of a statistical situation when it would not be appropriate to take a sample stratified by gender. Accept responses that refer to only one gender being present in the sample. Do not accept when gender is not relevant to the investigation / when gender is relevant to the investigation unless accompanied by an example of a situation.	(1)
(c)	B1 Stratify by type of school/college. (Allow stratify by gender and by type of school/college).	Accept maintained/independent/other and overseas only if all three listed.	(1)
(d)	B1 The events can both happen at the same time (1268 are female and from an independent school).		(1)
(e)	M1 $\frac{2778+6573}{9963}$ A1 $\frac{9351}{9963}$ or $\frac{1039}{1107}$ or awrt 0.94 or awrt 94%	M1 for fully correct method	(2)

Question number	Answer	Additional guidance	Mark
4 (a)	B1 IQR would not be affected by outliers/anomalies/extreme house prices/extreme values OR IQR would allow comparison/measure of the spread/variability of the middle 50% of house prices/data	B1 for appropriate reason why the IQR would be appropriate Condone IQR would allow comparison/measure of the spread/variability (of the middle 50%) of house prices/data (in 1996 and 2016)	(1)
(b)	B1 e.g. the target audience might not understand IQR	B1 for appropriate reason why the IQR would not be appropriate Allow IQR only covers 50% of the data / does not include all of the data.	(1)

Question number	Answer	Additional guidance	Mark																				
5 (a)	B2 for 4 correct rows <table border="1" data-bbox="324 300 1088 651"> <thead> <tr> <th>Variable</th> <th>Explanatory</th> <th>Response</th> <th>Extraneous</th> </tr> </thead> <tbody> <tr> <td>Age of person</td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>Left/Right handedness</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Gender of person</td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>Number of objects memorised</td> <td></td> <td>✓</td> <td></td> </tr> </tbody> </table>	Variable	Explanatory	Response	Extraneous	Age of person			✓	Left/Right handedness	✓			Gender of person			✓	Number of objects memorised		✓		B1 for 3 correct rows	(2)
Variable	Explanatory	Response	Extraneous																				
Age of person			✓																				
Left/Right handedness	✓																						
Gender of person			✓																				
Number of objects memorised		✓																					
(b)	B1 [The median is more appropriate] if data is skewed/there are extreme values/anomalies/outliers.	B1 for a correct explanation as to when working out the median is more appropriate.	(1)																				
(c)	M1 $8 + 1.5 \times (8 - 5)$ A1 12.5 and $(14 > 12.5)$ so it is an outlier ALT $14 - 8 = 6$, $1.5 \times 3 = 4.5$ $6 > 4.5$ so yes	M1 for correct calculation which could be implied by 12.5 Minimal working - value of 12.5 seen for M1 A1 for correct value of 12.5 with the correct conclusion. Accept as a minimally acceptable answer; 12.5, Yes	(2)																				

Question number	Answer	Additional guidance	Mark
6 (a)	B1 There are more births than deaths per 1000 people or the birth rate is higher than the death rate . OR Accept calculations such as; $12.239 - 7.472 = 4.867 - \text{positive}$ or $4.867 > 0$	B1 for a correct interpretation of crude birth rate and crude death rate in this context. B1 Accept a correct calculation only with an explanation. Eg., Accept $12.239 > 7.472$ accept $12.239 - 7.472 = \text{positive}$.	(1)
(b)	B1 e.g. More people may have moved away from the island than the extra ones born.	Do not accept that some people may have moved away from the island. There must be a reference that numbers emigrated > extra births Any response stating that the data is inaccurate/incorrect is B0	(1)
(c)	M1 for $\frac{11.995 \times 284217}{1000} = (3409.18)$ A1 for 3409	M1 accept $11.995 = \frac{n \times 1000}{284217} \Rightarrow n = \dots$ [must reach $n = \dots$] A1 Integer value only.	(2)
(d)	B1 64 out of every 1000 people in Saint Lucia are in the age group 60 to 69	Accept for B1, 6.4% of the population of St Lucia are in the age bracket 60 – 69.	(1)
(e)	B2 The crude death rate is higher in Barbados than it is in Saint Lucia, AND this is likely to be the case because there are more people over the age of 60 (accept older people) per thousand (accept proportion and percentage) in Barbados than in Saint Lucia For B1 only; The crude death rate is higher in Barbados than it is in Saint Lucia, with some attempt at a correct contextual explanation. E.g greater number of people 70 or 80 and over.	B2 for a complete comparison of crude death rates with reference to interpreting standard population. This statement must be evidenced by reference to the Standard population table and to the crude death rates. Do not accept over 70 or over 80 as this implies not referring to the whole table. Note; Responses such as; The crude death rate is higher in Barbados than it is in Saint Lucia because the standard population is higher (in Barbados) is B0B0 because there is no attempt to explain the standard population in context.	(2)

Question number	Answer	Additional guidance	Mark
7 (a)	B1 the pie charts do not show the number of travellers (they only show the proportion/percentage was greater for Business in January)	Allow an implication that the totals are different.	(1)
(b)	M1 $\frac{1080733}{37} \times 32$ A1 934 688	M1 for any full correct equivalent complete method e.g. $\frac{1080733}{37} = 29209$, $29209 \times 32 = \dots$	(2)
(c)	How B1 use of comparative pie charts. B2 The two pie charts have different radii, the radii of the pie charts will be in proportion to the square root of the ratio of the totals. This can be implied for the correct calculations to find the Jan and July radii. In order for the award of both marks, the correct calculations must be seen. OR B1 The two pie charts will have different radii.	B1 - Identifies method – allow this mark if the method is described but they do not explicitly state ‘Comparative Pie Chart’ Allow for e.g. both pie charts will be of a different size. B2 for a complete description that could be used to draw a new diagram or any relevant calculations For example; Any of the following calculations; <ul style="list-style-type: none"> the radius of the July pie chart will be $\sqrt{\frac{4020}{2931}} (1.17) \times \text{radius of January pie chart}$ OR <ul style="list-style-type: none"> The radius of the January pie chart will be; $\sqrt{\frac{2931}{4020}} (0.85) \times \text{radius of July pie chart}$ OR <ul style="list-style-type: none"> the two radii are in proportion such that $R^2 : r^2 = 4020 : 2931 \text{ or } r^2 : R^2 = 2931 : 4020$ 	(5)

Question number	Answer	Additional guidance	Mark
7 (c) cont.	<p>Reasons</p> <p>B1 because areas/sizes in comparative pie charts are better to compare total frequencies/numbers when totals are different.</p> <p>B1 The proportions (percentages) will be the same</p>	<p>OR</p> <ul style="list-style-type: none"> If the radius of the January pie chart is (eg) 10 cm, the radius of the July pie chart will be $1.17 \times 10 \text{ cm} = 11.7 \text{ cm}$. <p>OR</p> <ul style="list-style-type: none"> If the radius of the July pie chart is (eg) 10 cm, the radius of the January pie chart will be $0.85 \times 10 \text{ cm} = 8.5 \text{ cm}$. <p>or B1 for stating the radii will be different lengths.</p> <p>B1 for correct explanation as to how the method is appropriate. [Area is proportional to frequency – on two Pie Charts]</p> <p>B1 for understanding the proportions of all the sectors will not change when converting to comparative pie charts from pie charts.</p>	(5)

Question number	Answer	Additional guidance	Mark
8 (a)	B1 e.g. (It is a poor estimate) as it is lower than the 25th percentile (or 5.9)	B1 for a correct interpretation of the validity of the 30th percentile	(1)
(b)	<p>M1 for 8.25 - 5.9 (or sight of 2.35) Girls M1 for 8.7 - 6.5 (or sight of 2.2) Boys</p> <p>A1 ft boys IPR is lower than girls IPR . For the award of this mark the Boys IPR and Girls IPR must be clearly identified. Follow through their values to award A1</p> <p>ALT M1 9th percentile B – G $6.5 - 5.9 = 0.6$ M1 91st percentile B – G $8.7 - 8.25 = 0.45$</p> <p>A1 ft Hence Boys IPR > Girls IPR Follow through their values to award A1</p>	<p>Only award the A mark if at least one M mark has been awarded.</p> <p>Only award the A mark if at least one M mark has been awarded.</p>	(3)
(c)	<p>B1ft the weights of (5 month old) boys are more consistent [than the weights of (5 month old) girls.] Or, (5 month old) girls weights are less consistent [than (5 month old) boys weights].</p>	<p>B1 ft for correct interpretation of their interpercentile ranges in part (b) There must be a reference to the <u>spread</u> of weights.</p>	(1)

Question number	Answer	Additional guidance	Mark
9	<p>M1</p> <ul style="list-style-type: none"> Using Percentages for $\frac{5}{98} \times 100$ (= 5.1%) of sample are tagged AND Giovanni's estimate is $\left(\frac{250}{5000} \times 100 = \right) 5\%$ Finding the numerical estimate For $N = \frac{250 \times 98}{5}$ (= 4900) or $\frac{98}{5} = \frac{N}{250} \Rightarrow N \dots$ <p>A1 for finding 5.1% are tagged (and Giovanni's estimate is 5%) or finds the value 4900</p> <p>depB1ft Provided M1 is scored. Giovani's conclusion is likely to be reliable because 4900 is close to 5000 OR 5.1% is close to 5%</p> <p>The method is good or appropriate because..... B2 for any two correct points from</p> <ul style="list-style-type: none"> Tags unlikely to come off [in 3 days] Population unlikely to change [in 3 days] /no new reindeer are likely to have entered or left the herd in [3 days]. Sample likely to be random/should have had a chance to mix between samples. The sample size is large enough to be representative <p>Special Case They give NO judgement and give any two of the above assumptions (but not the converse of the assumptions), award B1</p>	<p>M1</p> <ul style="list-style-type: none"> Using percentages Attempts to find that 5.1% of the sample are tagged and finds that Giovanni's estimate is 5% Using Numerical estimate Attempts to find an estimate for the population $N = \frac{250 \times 98}{5}$ (= 4900) oe calc <p>A1 – Finds 5.1% OR finds 4900</p> <p>dep B1ft for a correct comment assessing the appropriateness of Giovanni's conclusion. There must be a comparison of the two values. Their '4900' and 5000 only. Allow ft on their 4900 or 5.1% [but not 5% - that must be correct] for this mark, provided M1 has been scored. Use the guide, $4750 \leq N \leq 5250$ as a good estimate.</p> <p>Must state the method is good or appropriate and B1 for each of the correct comments from the list assessing the appropriateness of Giovanni's method to a maximum of 2 marks.</p> <p>B1 for only one reason.</p> <p>Any statement suggesting the method is inappropriate is BOB0</p> <p>Converse of the assumption means for example, the population is likely to change or tags are likely to come off. These are B0</p>	(5)

Question number	Answer	Additional guidance	Mark
10 (a)(i)	<p>M1 for $150 + \dots$</p> <p>M1 for $\dots + \frac{(23-13)}{17} \times 50$</p> <p>A1 = 179 awrt</p>	<p>M1 for identifying 4th class and attempting to find median value within the class. Do not award for just writing 150. There must be some attempt to find the median within the class however erroneous. Don't be too concerned with the mechanics of their attempt.</p> <p>M1 for use of correct fraction and class width (condone use of 23.5 for 23)</p> <p>A1 for value rounding to 179 (or 181 if 23.5 used)</p> <p>NB The estimated mean is 180.43.... We MUST see a correct method here, or else sight of awrt 179.4 as evidence of the correct method.</p> <p>Note 180.43.. scores M0M0A0</p>	(3)
(a)(ii)	B1ft (46) teenagers spend more time (on average) than the average person on social media	<p>B1ft for correct comparison using their estimated median</p> <p>Comparison with the mean is B0.</p> <p>The comparison must be with values not the median class.</p>	(1)
(b)	<p>M1 for $\frac{3(125-130)}{25}$</p> <p>A1 - 0.6</p>	<p>M1 for correct use of ;</p> $\frac{3(\text{mean} - \text{median})}{\text{sd}}$ <p>cao</p>	(2)
(c)	<p>B1ft Skew is negative</p> <p>B1 e.g. More than half of 60 year olds spend longer than the <u>mean</u> time on social media</p> <p>Or</p> <p>B1 Values below the <u>median</u> have a greater spread than values above the <u>median</u></p>	<p>B1ft for correct conclusion about skewness for their value in (c) even if it came from an incorrect formula.</p> <p>B1 for correct interpretation of the skewness</p> <p>Any reference to the spread of values below/above the mean is B0.</p>	(2)

Question number	Answer	Additional guidance	Mark
11 (a)	<p>M1 for standardising $\frac{37-25}{6} (= 2)$ oe</p> <p>OR by inspection stating 37 minutes is 2 sd's above 25 minutes. [May be seen on a diagram]</p> <p>M1 for standardising $\frac{19-25}{6} (= -1)$ oe</p> <p>OR by inspection stating 19 minutes is 1 sd below 25 minutes. [May be seen on a diagram]</p> <p>M1 for either $0.95 \div 2 (=0.475)$ or $0.68 \div 2 (= 0.34)$</p> <p>A1 0.815 or 81.5%</p> <p>depB1ft 0.815 > 0.8 so Shanaya is correct</p>	<p>M1 for working out 37 is 2 s.d. above the mean. Allow M1 for $25 + 2 \times 6 = 37$</p> <p>M1 for working out 19 is 1 s.d. below the mean. A Allow M1 for $25 - (1) \times 6 = 19$</p> <p>M1 for correct use of either awrt 0.67 or 0.68 or awrt 67% or 68% OR for the correct use of either 0.95 or 95% i.e. $95\% \div 2$ OR $67/8\% \div 2$</p> <p>A1 – for use of both 47.5% or 0.475 AND 34% or 0.34 AND adding them to achieve 81.5% or 0.815 Allow answers greater than 81% or less than and equal to 82%. Note: Value from calculator is 81.8%</p> <p>Sight of 0.815 or 81.5% with no working is M1M1M1A1</p> <p>Dependant on getting any one of the M marks. depB1ft for correct conclusion based on their evaluated probability between 0 and 100%. Follow through their value. Conclusion required for this mark.</p>	(5)
(b)	<p>B1 Data [positively] skewed/not symmetrical Accept graph not symmetrical</p>	<p>B1 for a correct comment explaining why a normal distribution is not an appropriate model in a skewed distribution. Do not accept Negative Skew.</p>	(1)
(c)	<p>M1 bell shaped curve centred on 25 within half of a square A1 Tails ending at 7 and 43 within half of a square</p>	<p>There must be an attempt at a symmetrical bell-shaped curve centred around 25.</p>	(2)
(d)	<p>M1 $0.6 + 0.3 - 0.15$ A1 0.75</p>	<p>M1 for correct use of $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$</p>	(2)

Question number	Answer	Additional guidance	Mark												
12 (a)	B1 for Method 1 is not appropriate as it does not take the different number of students into account. B1 for Method 2 is appropriate as there are different numbers of students in each class	B1 for a complete assessment of the inappropriateness of finding the mean of the three means. Condone; No with a correct explanation B1 for a complete assessment of the appropriateness of finding the weighted mean. Condone; Yes, with a correct explanation.	(2)												
(b)	M1 for $\frac{28 \times 63 + 32 \times 72 + 55n}{28 + 32 + n} = 64.1 (\Rightarrow n = 24.395\dots)$ A1 24 cao	Make sure you mark part b as part a is also seen. The method must be correct. [$28 \times 63 + 32 \times 72 = 1764 + 2304 = 4068$] T&I methods; award M1A1 for an answer of 24 only.	(2)												
(c)	B2 Class C is likely to be incorrect because (a) it shows negative correlation (and A and B are positive correlation) AND (b) An explanation in context For example, unlikely to have science marks go up and maths marks go down at the same time OR B1 identifying C and identifies that it has a negative gradient.	B2 for a complete comparison and conclusion Accept gradient in place of correlation. Do not award B1 for just writing class C	(2)												
(d)	B1 for intercept = 4 M1 for an attempt to find the gradient using $\frac{\text{change in } y}{\text{change in } x}$ for suitable values from the graph A1 for $y = 4 + 0.8x$ oe ALT <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Science</td> <td>0</td> <td>10</td> <td>20</td> <td>30</td> <td>40</td> </tr> <tr> <td>History</td> <td>4</td> <td>12</td> <td>20</td> <td>28</td> <td>36</td> </tr> </table> B1 for intercept = 4 M1 $m = \frac{8}{10}$ A1 $y = 4 + \frac{8}{10}x$	Science	0	10	20	30	40	History	4	12	20	28	36	M1 implied by gradient in the range 0.8 to 0.833... A1 Allow $y = 0.8x + 4$ oe Allow gradient in the range 0.8 to 0.833... $\left(\frac{50}{60} = \frac{5}{6} = 0.8\dot{3} \right)$	(3)
Science	0	10	20	30	40										
History	4	12	20	28	36										

Question number	Answer	Additional guidance	Mark
13 (a)	<p>B2 The method is appropriate as this is</p> <ul style="list-style-type: none"> • a sensitive question, • people may not answer it honestly otherwise • people may not want to answer it otherwise • maintains confidentiality <p>Award maximum 2 marks from any 2 of the above.</p> <p>OR</p> <p>B1 The method is appropriate as this is</p> <ul style="list-style-type: none"> • only one of the above reasons 	<p>B2 for a completely correct assessment of the appropriateness of using the random response technique</p> <p>They must state that it is appropriate for at least B1 plus one reason.</p> <p>OR</p> <p>B1 for appropriate with attempt at reason</p> <p>If they state inappropriate B0B0</p>	(2)
(b)	<p>B1 $615 - \frac{4}{6}(615 + 102)$ *</p> <p>OR</p> <p>B1 $\frac{2}{6}(615 + 102) - 102$ *</p>	<p>NB</p> <p>This is a show question, the full method must be seen for the award of this mark.</p>	(1)

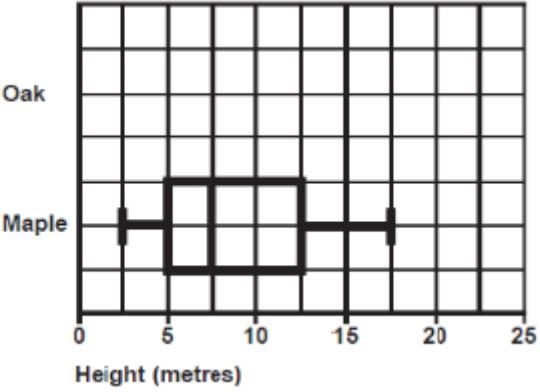
Modifications to the mark scheme for Modified Large Print (MLP) papers: 1ST0 1H

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: $\pm 5^\circ$

Measurements of length: ± 5 mm

Question number	Modification	Mark scheme notes
1	Diagrams enlarged. Shading changed. Wording added 'There are eight spaces to fill.'	
2*	Diagram enlarged. Graph line moved to go through (5, 25), (10, 50) and (15, 75).	
2*	(b) Box plot moved as shown below. Values for least and greatest height changed to 2.5 and 22.5. 	

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Question		Modification	Mark scheme notes
6		Tables labelled 'Table 1' and 'Table 2'.	
6	(a)	Wording changed to 'Explain how the data in table 1 can be used to support Jamil's conclusion.'	
6	(d)	Wording changed to 'shown in table 2.'	
7		Diagram enlarged.	
8		Rows for 1 and 2 months removed. 75th column removed.	
11*		Standard deviation changed to 5 minutes. Values 19 and 37 changed to 20 and 35.	
12	(d)	Points removed to make line clearer.	

