

Commentary on candidate evidence

The evidence for the following candidate responses achieved the marks given below.

Question paper 1

Question 1(a)

Candidate 1 evidence

The candidate was awarded **1/2 marks**.

- ¹ No comment regarding the location. **(0 marks)**
- ² Two sentences were written regarding the spread of data. The first sentence is more detailed and accurate by its mention of quartiles. The second sentence does not undermine or contradict the first sentence, so does not detract from the response. **(1 mark)**

Candidate 2 evidence

The candidate was awarded **0/2 marks**.

- ¹ Insufficient response. See Note 2. **(0 marks)**
- ² Insufficient response. See Note 4. **(0 marks)**

Question 1(b)

Candidate 3 evidence

The candidate was awarded **0/1 marks**.

- ³ Incorrect response. The candidate states that an outlier is when a max/min value is greater than upper and lower fences. **(0 marks)**

Question 1(c)

Candidate 4 evidence

The candidate was awarded **2/2 marks**.

- ⁴ Acceptable response for the lower fence, even though the candidate also calculates the upper fence value. **(1 mark)**
- ⁵ Acceptable response, even though the phrase order is the reverse of what might be typically expected. **(1 mark)**

Candidate 5 evidence

The candidate was awarded **1/2 marks**.

- ⁴ Correct response. **(1 mark)**
- ⁵ Insufficient response. The candidate only refers to the minimum and not both points being below the lower fence. **(0 marks)**

Question 1(d)

Candidate 6 evidence

The candidate was awarded **1/1 marks**.

- ⁶ Acceptable response. The first sentence did not gain the mark. The second sentence was accepted – see Note 1. **(1 mark)**

Candidate 7 evidence

The candidate was awarded **0/1 marks**.

- ⁶ Insufficient response. The candidate did not provide sufficient detail of what type of mistake might have occurred. **(0 marks)**

Question 1(e)

Candidate 8 evidence

The candidate was awarded **1/1 marks**.

- ⁷ Accepted response. A ‘sample standard error’ is derived from a sample standard deviation. **(1 mark)**

Candidate 9 evidence

The candidate was awarded **0/1 marks**.

- ⁷ Unacceptable response. The candidate included sigma – see Note 2. **(0 marks)**

Question 1(f)

Candidate 10 evidence

The candidate was awarded **0/1 marks**.

- ⁸ Unacceptable response. The candidate defines d = difference in mean of fat content. So μ_d is therefore the mean of the difference in means. **(0 marks)**

Candidate 11 evidence

The candidate was awarded **1/1 marks**.

- ⁸ Acceptable response. The use of μ_d initially suggests note 3 is appropriate to apply, but the candidate then defines μ_d to be $\mu_b - \mu_{nb}$ **(1 mark)**

Question 1(g)

Candidate 12 evidence

The candidate was awarded **2/2 marks**.

- ⁹ •¹⁰ See note 3. The response was accepted even though they did not explicitly mention $P(Z > \dots)$ **(2 marks)**

Candidate 13 evidence

The candidate was awarded **0/2 marks**.

- ⁹ Incorrect response. The candidate has calculated $P(Z < 1.05)$ **(0 marks)**
- ¹⁰ Unacceptable response. The doubling has given a p -value that is greater than one. **(0 marks)**

Question 1(h)

Candidate 14 evidence

The candidate was awarded **0/2 marks**.

- ¹¹ Incorrect response. 0.006131 is not less than 0.005 **(0 marks)**
- ¹² Unacceptable response. The phrasing is too definitive ('... there would be an impact...') and it suggests a one-tailed conclusion (see Note 3). **(0 marks)**

Candidate 15

The candidate was awarded **1/2 marks**.

- ¹¹ Correct response. **(1 mark)**
- ¹² Insufficient response. The first paragraph of the response is of good quality, but it does not offer any comment on the impact, as the question required. The final sentence describes the impact as a definite one-tailed conclusion (see Note 3). **(0 marks)**

Candidate 16

The candidate was awarded **1/2 marks**.

- ¹¹ Incorrect response. The candidate compared a test statistic to a p -value. **(0 marks)**
- ¹² Accepted response, consistent with rejecting the null hypothesis. **(1 mark)**

Question 2(a)(ii)

Candidate 17 evidence

The candidate was awarded **2/2 marks**.

- ² Correct response. **(1 mark)**
- ³ Correct response. **(1 mark)**

Candidate 18 evidence

The candidate was awarded **1/2 marks**.

- ² Correct response. **(1 mark)**
- ³ Insufficient response. The candidate refers to the accuracy of a single piece of data, rather than the accuracy of the linear model at that point. **(0 marks)**

Question 2(b)(i)

Candidate 19 evidence

The candidate was awarded **1/3 marks**.

- ⁶ Correct response. **(1 mark)**
- ⁷ Incorrect use of 28.477 to give incorrect value of a . **(0 marks)**
- ⁸ Inconsistent response. The coefficient of x is written as 1.1732 rather than 1.732 **(0 marks)**

Candidate 20 evidence

The candidate was awarded **1/3 marks**.

- ⁶ Incorrect response. There is a transcription error of using 78.8615 rather than 78.8165 leading to the division process giving an incorrect value **(0 marks)**
- ⁷ Consistent response. **(1 mark)**
- ⁸ Incorrect response. The subject of the equation was not \sqrt{y} **(0 marks)**