



H02-10min Correlation and Causation (Higher): 10-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Total Marks

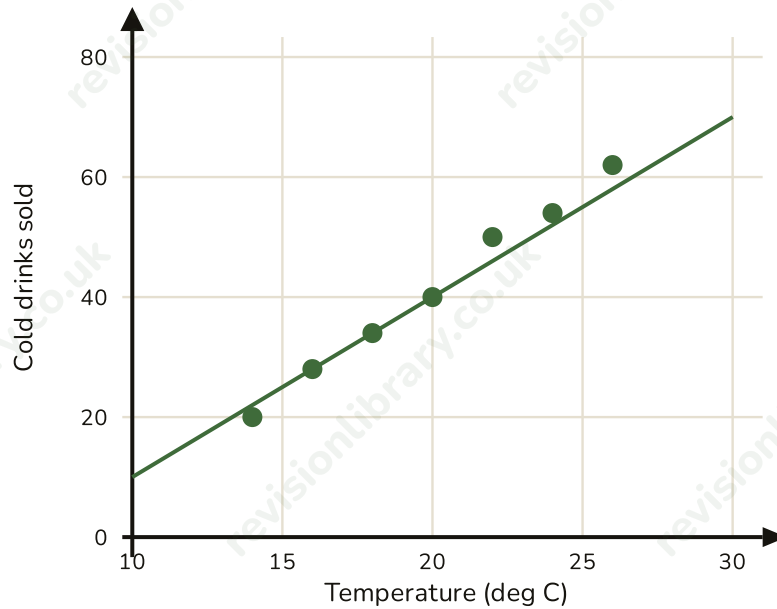
Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** For each statement about correlation and lines of best fit, write down whether it is True or False.
- (i) If two variables have a strong correlation, this proves that one variable causes changes in the other. (1)
- _____
- (ii) A confounding variable is a factor, other than the two variables being studied, that could explain why they appear to be related. (1)
- _____
- (iii) Using a line of best fit to estimate a value for x that lies outside the range of the original data is called interpolation. (1)
- _____
- (iv) Estimates made by extrapolating a line of best fit are generally less reliable than estimates made by interpolating. (1)
- _____

(Total for Question 1 is 4 marks)

- 2 A shopkeeper records the midday temperature and the number of cold drinks sold on 7 different days. The scatter graph shows the results, together with a line of best fit.



- (a) Use the line of best fit to estimate the number of cold drinks sold when the temperature is 18 degrees C. (2)
- (b) State whether your estimate in part (a) was found by interpolation or extrapolation, and explain whether you would expect it to be reliable. (2)
- (c) Give one reason why this estimate might still not be exactly correct. (1)

(Total for Question 2 is 5 marks)

Mark scheme · H02-10min Correlation and Causation (Higher): 10-minute Pack

Question 1

- (i) **B1** False cao
- **(i) Answer: False**
- (ii) **B1** True cao
- **(ii) Answer: True**
- (iii) **B1** False cao
- **(iii) Answer: False**
- (iv) **B1** True cao
- **(iv) Answer: True**

Question 2

- (a) **M1** reads from the line of best fit at $x = 18$
- (a) **A1** awrt 34 (accept 32 to 36)
- **(a) Answer: 34 (accept 32-36)**
- (b) **B1** Interpolation cao
- (b) **B1** reliable/fairly reliable because $x = 18$ lies within the range of the recorded temperatures (14 to 26), oe
- **(b) Answer: Interpolation; it should be fairly reliable because 18 degrees C lies within the range of the temperatures recorded (14 to 26 degrees C).**
- (c) **B1** the data points do not all lie exactly on the line, so any single estimate may differ from the true value, oe
- **(c) Answer: The actual data points do not lie exactly on the line of best fit, so the true value could be a little higher or lower.**