



F02-10min Correlation and Causation (Foundation): 10-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

1 Complete each sentence with the correct word.

(a) Just because two variables show a correlation, this does not mean that one _____ the other. (1)

(b) A hidden variable that affects both of the variables being studied, and so creates an apparent relationship between them, is called a _____ variable. (1)

(Total for Question 1 is 2 marks)

2 State whether each pair of variables would most likely show positive correlation, negative correlation or no correlation.

(a) The number of pages printed by a printer and the amount of ink remaining in its cartridge.

(Total for Question 2 is 1 mark)

3 For each statement about correlation, write down True or False.

(i) A strong correlation means the points on a scatter graph lie close to a straight line.

(Total for Question 3 is 1 mark)

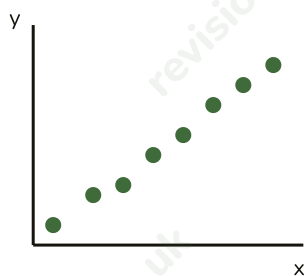
- 4** A survey of 9 households finds a strong positive correlation between the number of pets owned and the amount spent on pet food each month. Describe the strength and type of this correlation.

(Total for Question 4 is 2 marks)

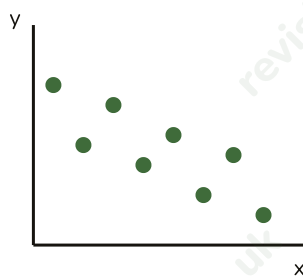
- 5** A study of 10 cars finds a weak negative correlation between the age of the tyres, in months, and the tyre's grip rating out of 10. Describe what this tells you about the relationship between tyre age and grip rating.

(Total for Question 5 is 2 marks)

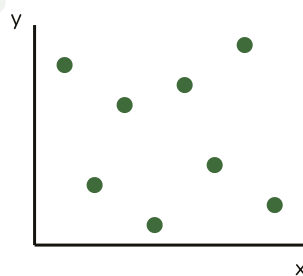
- 6** Three scatter graphs, Graph A, Graph B and Graph C, are shown below. For each graph, write down the type of correlation shown and, where appropriate, its strength.



Graph A



Graph B



Graph C

(a) Graph A

(1)

(b) Graph B

(1)

(c) Graph C

(1)

(Total for Question 6 is 3 marks)

Mark scheme · F02-10min Correlation and Causation (Foundation): 10-minute Pack

Question 1

- (a) **B1** causes oe (e.g. causing)
- (a) **Answer: causes**
- (b) **B1** confounding oe (accept third)
- (b) **Answer: confounding**

Question 2

- **B1** negative correlation cao
- **Answer: Negative correlation**

Question 3

- **B1** True cao
- **Answer: True**

Question 4

- **B1** positive correlation
- **B1** strong (correlation)
- **Answer: Strong positive correlation**

Question 5

- **B1** as tyre age increases, grip rating tends to decrease, oe (stated in context)
- **B1** identifies the relationship as weak, i.e. there is a lot of scatter/it is not a strong pattern oe
- **Answer: As the tyres get older, their grip rating tends to fall slightly, but the relationship is weak, so there is a lot of variation and the pattern is not strong.**

Question 6

- (a) **B1** strong positive correlation
- (a) **Answer: Strong positive correlation**
- (b) **B1** weak negative correlation
- (b) **Answer: Weak negative correlation**
- (c) **B1** no correlation
- (c) **Answer: No correlation**