AQA - Correlation and Regression – GCSE Statistics – 2020

1. June/2020/Paper_1F/No.2

Which of these values could **not** be a measure of correlation?

Circle your answer.

[1 mark]

−0.9 0 +0.5 +1.2

2. June/2020/Paper_1H/No.4

Here are four scatter diagrams.

Diagram A

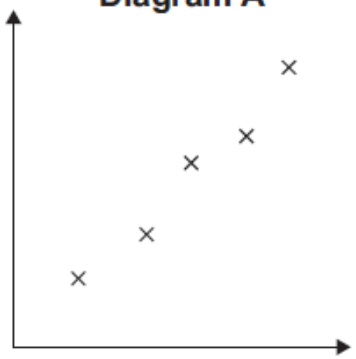


Diagram B

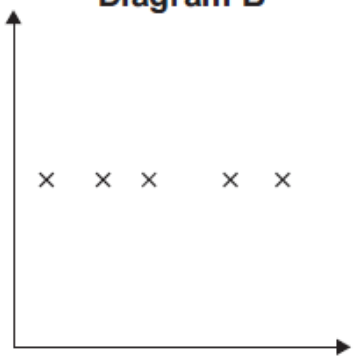


Diagram C

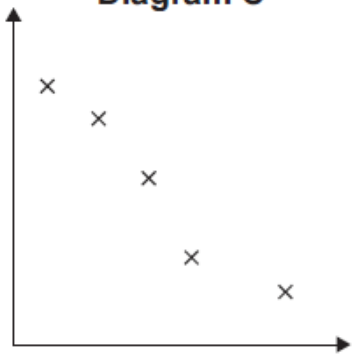
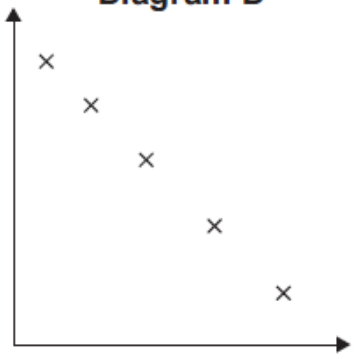


Diagram D



Circle the letter of the scatter diagram for which the Pearson's product moment correlation coefficient is −1

[1 mark]

A B C D

3. June/2020/Paper_2F/No.8

When customers have enjoyed a meal at a restaurant, they might

- tweet positively about it
- leave a star rating on a review website.

Dylan suggests that there is a positive correlation between the number of positive tweets and the average star rating.

(a) Dylan collects secondary data for these variables for 10 restaurants in his town.

Where may he have been able to source the data?

[1 mark]

Answer _____

(b) Here are the data he collected for tweets and star ratings last month.

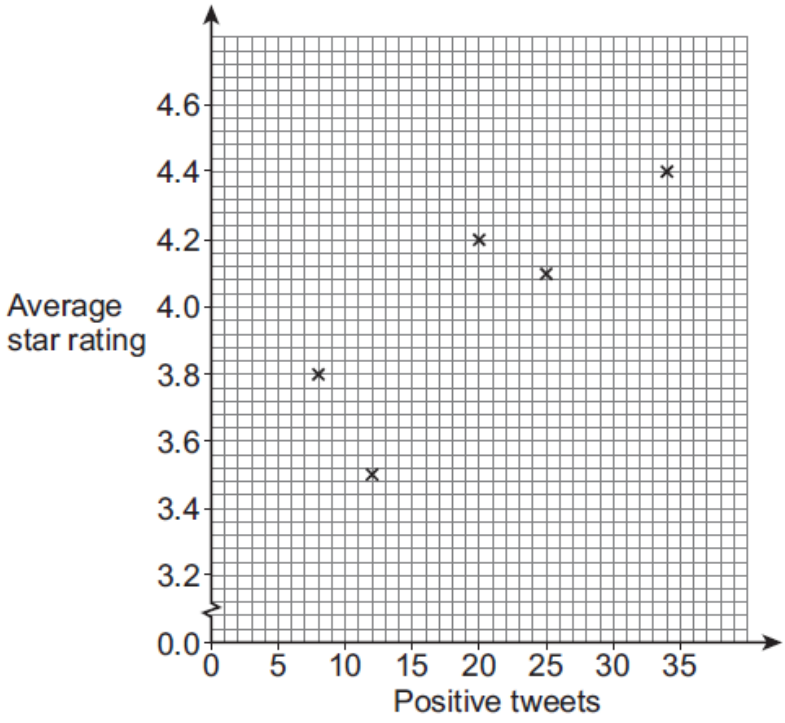
Positive tweets	Average star rating
25	4.1
8	3.8
20	4.2
12	3.5
34	4.4

Positive tweets	Average star rating
10	3.8
30	4.3
0	4.2
24	4.6
8	3.3

(b) (i) The data for the left-hand table is plotted on the scatter diagram below.

Complete the diagram by plotting the points for the right-hand table.

[2 marks]



(b) (ii) Circle the outlier on your scatter diagram.

[1 mark]

(b) (iii) Ignoring the outlier, the mean number of positive tweets for these restaurants is 19

Show that the mean star rating, ignoring the outlier, is exactly 4

[2 marks]

(b) (iv) Use these means to help you draw a line of best fit on the diagram.

[2 marks]

(b) (v) Estimate the average star rating for a restaurant with 15 positive tweets last month.

[1 mark]

Answer _____

(c) Dylan says,

"The data show a correlation of about 0.99 so my suggestion is correct."

Make **two** comments on what Dylan has said.

[2 marks]

Comment 1 _____

Comment 2 _____