AQA – Data presentation and interpretation – A2 Mathematics P3

1. June/2021/Paper_7357/3/No.10

Anke has collected data from 30 similar-sized cars to investigate any correlation between the age of the car and the current market value.

She calculates the correlation coefficient.

Which of the following statements best describes her answer of -1.2?

Tick (✓) **one** box.

[1 mark]

- Definitely incorrect ☐
- Probably incorrect ☐
- Probably correct ☐
- Definitely correct ☐

2. June/2021/Paper_7357/3/No.13

The table below is an extract from the Large Data Set.

Propulsion Type	Region	Engine Size	Mass	CO_2	Particulate Emissions
2	London	1896	1533	154	0.04
2	North West	1896	1423	146	0.029
2	North West	1896	1353	138	0.025
2	South West	1998	1547	159	0.026
2	London	1896	1388	138	0.025
2	South West	1896	1214	130	0.011
2	South West	1896	1480	146	0.029
2	South West	1896	1413	146	0.024
2	South West	2496	1695	192	0.034
2	South West	1422	1251	122	0.025
2	South West	1995	2075	175	0.034
2	London	1896	1285	140	0.036
2	North West	1896	0	146	

(a) (i) Calculate the mean and standard deviation of CO_2 emissions in the table.

[2 marks]

(a) (ii) Any value more than 2 standard deviations from the mean can be identified as an outlier.

Determine, using this definition of an outlier, if there are any outliers in this sample of CO_2 emissions.

Fully justify your answer.

[2 marks]

(b) Maria claims that the last line in the table must contain two errors.

Use your knowledge of the Large Data Set to comment on Maria's claim.

[2 marks]