AQA - Data Collection – GCSE Statistics – 2019

1. June/2019/Paper_1F/No.1

What is the name for data that has been collected but not sorted in any way?

Circle your answer.

[1 mark]

raw ordinal discrete grouped

2. June/2019/Paper_1F/No.2

Which of these is **least likely** to be a constraint that may be faced when designing an investigation?

Circle your answer.

[1 mark]

time cost privacy temperature

3. June/2019/Paper_1F/No.7

Fracking is a process used to extract oil or gas from the ground.

Some plans are made to use fracking near the town where Amelia lives.

Amelia is strongly opposed to it and decides to get opinions about it from residents in her town.

(a) Amelia decides to ask **everyone** in the town their opinion.

Circle the name for this data collection method.

[1 mark]

sample observation census experiment

(b) Why might it **not** be a good idea to try to ask everyone in the town?

[1 mark]

(c) Amelia writes a questionnaire to give to residents.

Write a **closed** question, with a response section, that Amelia could use to find out the distance a resident lives from the fracking site.

[3 marks]

Response section

(d) (i) Write an **open** question that Amelia could use to find out the age of a resident.

[1 mark]

(d) (ii) Was it a good idea to use an open question about age?

Tick (✓) one box.

Yes ☐ No ☐

Give a reason for your answer.

[1 mark]

(e) Another question Amelia writes is,

'Do you agree that fracking is dangerous and damages the countryside?'

Give **two** criticisms of this question.

[2 marks]

Criticism 1

Criticism 2

4. June/2019/Paper_1H/No.1

Amol wants to take a **systematic** sample of size 50 from the 1000 students in his school.

He numbers all the students from 0001 to 1000

He chooses the student numbered 0014 as his random starting point.

Circle the number corresponding to the next student who will be in his sample.

[1 mark]

0015 0020 0034 0064

5. June/2019/Paper_1H/No.3

Pierre is investigating how the mileage of a second-hand car affects the car's value.

What type of variable is the make of a car in Pierre's investigation?

Circle your answer.

[1 mark]

response extraneous independent dependent

6. June/2019/Paper_2F/No.1

For which data source would you have the greatest level of control of variables?

Circle your answer.

[1 mark]

observation field experiment laboratory experiment natural experiment

7. June/2019/Paper_2F/No.3

Amir is comparing the taste of sprouts from two farms.

He cooks a sample from each farm and asks volunteers to score the taste out of 10

(a) Which of these variables is the explanatory variable?

Circle your answer.

[1 mark]

the score given to the taste

how well the sample was cooked

which farm the sprouts were from

the gender of the volunteer

(b) Which of these variables is a possible extraneous variable?

Circle your answer.

[1 mark]

the score given to the taste

how well the sample was cooked

which farm the sprouts were from

the name of the farmer

8. June/2019/Paper_2H/No.2

Here are some statements comparing the use of closed questions and open questions on a questionnaire.

A Closed questions are generally quicker to answer than open questions.

B The responses to closed questions are easier to analyse.

C Closed questions allow respondents to give their true feelings more easily than open questions.

D The response choices given for closed questions can help clarify the meaning of the question for respondents.

Circle the letter for the statement that is **false**.

[1 mark]

A B C D

9. June/2019/Paper_2H/No.12

Max, Natalie and Lottie work on a cruise ship.

They want to ask passengers staying in standard class accommodation what they think about their cabins.

There are 900 passengers in total on the cruise ship, of which 460 are staying in standard cabins.

Max, Natalie and Lottie each decide to collect information from a sample of 50 passengers.

(a) Max says that the population for the investigation is all passengers on the cruise ship.

Explain why he is wrong.

[1 mark]

(b) Natalie's calculator has a button marked Ran#.

This button generates a random number between 0 and 1

She uses her calculator to select 50 passengers from the population using the following method.

> Assign every passenger in the population a number.
>
> Generate random numbers from a calculator by typing Ran# × 100
>
> Select the passenger that matches the answer.

Natalie's method contains some errors.

Correct Natalie's method to show how she can use her Ran# button to choose a **random sample** from the population.

[3 marks]

(c) Lottie designs a questionnaire.

Here is part of her questionnaire.

How would you rate the value for money and the quality of standard class cabins?			
Excellent ☐	Very good ☐	Good ☐	Fair ☐

Rewrite this part of Lottie's questionnaire so that she is more likely to obtain useful data.

[2 marks]