Qualitative and quantitative data

Grade 1 | Worked solutions

GCSE Statistics topic practice

1 Aisha asks each pupil in her class four questions.

- What is your favourite fruit?
- How many pets do you have?
- How do you travel to school?
- How many minutes does it take you to get to school?

a. Two of these questions give qualitative data. Write down these two questions. (2)

b. Write down what is meant by quantitative data. (1)

(3 marks)

a) qualitative data is words, not numbers

What is your favourite fruit?

How do you travel to school?

b)

Data that is numbers

It can be counted or measured

a) favourite fruit, how you travel b) data that is numbers

2 Priya does a survey of the cars in a country park car park. For each car she writes down

- the colour of the car
- the number of people in the car
- the make of the car

a. Write down which one of these is quantitative data. (1)

b. Give a reason for your answer. (1)

c. Write down one other piece of quantitative data that Priya could collect about each car. (1)

(3 marks)

a)

The number of people in the car

b)

It is a number (a count)

Colour and make are words, so they are qualitative

c)

Any answer that is a number

For example, the number of doors on the car

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a) number of people b) it is a number c) e.g. number of doors

3 A cafe keeps a record of every drink it sells. For each drink it records

- the type of drink (tea, coffee or hot chocolate)
- the price of the drink in pence
- the size of the drink (small, medium or large)
- the number of sugars added

a. Write down the two pieces of data that are quantitative. (2)

b. Olu says, "The size of the drink is quantitative because large is bigger than small."
Is Olu correct? Give a reason for your answer. (1)

c. Write down one piece of qualitative data the cafe could record about each customer. (1)

(4 marks)

a) quantitative data is numbers

The price of the drink

The number of sugars added

b)

No, Olu is not correct

Small, medium and large are words, not numbers

so the size is qualitative

c) any answer that is a word, not a number

For example, eat in or take away

a) price, sugars b) No, sizes are words c) e.g. eat in

4 The table shows some of the data a gym keeps about five of its members.

Name	Membership type	Age (years)	Visits last month
Hannah	Gold	34	12
Tunde	Silver	19	5
Marek	Gold	52	20
Sana	Silver	27	8
Rhys	Gold	41	3

a. Write down one column of the table that shows qualitative data. (1)

b. Write down one column of the table that shows quantitative data. (1)

c. The gym also keeps each member's phone number.
Leon says, "A phone number is made of digits, so it is quantitative data."
Explain why Leon is wrong. (1)

d. Write down a question the gym could ask its members that would give quantitative data. (1)

(4 marks)

a) words

Membership type (or Name)

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b) numbers

Age (or Visits last month)

c)

A phone number is just a label

It does not count or measure anything

d) the answer must be a number

For example,

How many minutes do you spend at the gym each visit?

a) Membership type b) Age c) a label d) minutes per visit

5 Farah writes a questionnaire about her school canteen. Here are her five questions.

Question 1	Do you bring a packed lunch? (yes or no)
Question 2	How many times a week do you buy lunch in the canteen?
Question 3	What is your favourite canteen meal?
Question 4	How much do you usually spend on lunch, in pounds?
Question 5	How good is the food? (poor, okay or good)

a. Write down the numbers of the two questions that give quantitative data. (2)

b. Farah wants to change Question 5 so that it gives quantitative data.
Write down one way she could do this. (1)

c. Farah wants to work out the range of the answers to one of her five questions.
Write down the number of a question she could use. Give a reason for your answer. (2)

(5 marks)

a) the answers are numbers

Question 2 and Question 4

b) ask for a number

For example, give the food a mark out of 10

c)

Question 2 (or Question 4)

range = highest - lowest

so the answers have to be numbers

a) 2 and 4 b) mark out of 10 c) 2 or 4, answers are numbers

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