Discrete and continuous data

Grade 2 | Worked solutions

GCSE Statistics topic practice

1 A leisure centre records these three things each day.

	What is recorded
A	the number of people who use the pool
B	the temperature of the water in the pool
C	the number of lockers in use

For each of A, B and C, write down whether the data is discrete or continuous. (3 marks)

counted data is discrete

A is discrete

C is discrete

measured data is continuous

B is continuous

A discrete, B continuous, C discrete

2 A vet records these four things about each dog she sees.

- the mass of the dog, in kg
- the number of teeth the dog has
- the length of the dog's tail, in cm
- the number of visits the dog has made this year

a. Write down the two things that are discrete data. (2)

b. Explain why the mass of a dog is continuous data. (1) (3 marks)

a) discrete data is counted

the number of teeth

the number of visits

b) continuous data is measured

Mass can take any value

for example 12.4 kg or 12.43 kg

a) teeth and visits b) measured, any value

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3 Maya works in a shoe shop. She records the shoe size of each pair of shoes she sells.

Here are the sizes she sold one morning.

4 5.5 6 6.5 5.5 7 4.5

Maya says, "Shoe size is continuous data because some of the sizes are not whole numbers."

a. Is Maya correct? Give a reason for your answer. (2)

b. Write down one thing about a shoe that is continuous data. (1)

c. Write down one more thing Maya could record in the shop that is discrete data. (1)

(4 marks)

a)

No, Maya is not correct

Shoe size can only take certain values

There is no size between 5.5 and 6

so shoe size is discrete

b) something that is measured

the length of the shoe in cm

c) something that is counted

the number of pairs of shoes sold

a) No, it is discrete b) length of shoe c) pairs sold

4 A garden centre keeps a record card for each tree it sells. Here is one of the cards.

Record card	
Type of tree	Silver birch
Height	152 cm
Number of branches	14

a. Write down the one item on the card that is qualitative data. (1)

b. Write down the one item on the card that is discrete data. (1)

c. Ali says, "The height is discrete data because 152 is a whole number."
Explain why Ali is wrong. (2)

(4 marks)

a) qualitative data is words, not numbers

the type of tree

b) discrete data is counted

the number of branches

c)

Height is measured, so it is continuous

It can take any value, such as 152.3 cm

152 cm has been rounded to the nearest cm

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a) type of tree b) branches c) measured, then rounded

5 Visitors to a theme park are asked these four questions.

	Question
1	How many rides did you go on today?
2	How long did you queue for your first ride?
3	How tall are you?
4	How many people are in your group?

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

b. Explain why the answers to question 2 are continuous data. (1)

c. To go on one ride you must be at least 1.2 m tall.
Tom writes that his height is 1.2 m, correct to 1 decimal place.
Explain why Tom might not be tall enough to go on the ride. (2)

(5 marks)

a) discrete data is counted

question 1 and question 4

b)

Time is measured

It can take any value, such as 12.5 minutes

c) height is continuous, so 1.2 m is rounded

His real height could be 1.17 m

1.17 m rounds to 1.2 m

but 1.17 m is less than 1.2 m

a) 1 and 4 b) time is measured c) could be under 1.2 m

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