GCSE FOUNDATION · REVISION MAT 2

Sampling

1 A council wants to know how the 20 000 people in a town travel to work. It asks 200 people.

(a) What is the population?

(b) What is the sample?

2 A council wants to know how the 20 000 people in a town travel to work. They asks people at a bus stop.

Explain why this sample may be biased.

3 A council wants to know how the 20 000 people in a town travel to work. It asks 200 people.

Explain why a larger sample would give more reliable results.

4 A council wants to know how the 20 000 people in a town travel to work. It asks 200 people.

46 out of the 200 in the sample cycle to work.

Show that this suggests about 4600 of the people cycle to work.

5 A survey includes this question:

"How much do you spend on travel? £0–£5, £5–£10, £10–£20"

Give one criticism of the question.

6 Two samples of 200 are taken from the 20 000 people in the town.
In the first, 46 cycle to work. In the second, 52 cycle to work.

Use both samples to estimate how many of the 20 000 people in the town cycle to work.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Sampling

1 (a) **20 000 people in the town**

(b) **200 people asked**

2 People who drive or walk are less likely to be included.

3 A larger sample is more likely to represent the whole population.

Results from small samples vary more by chance.

4 46 ÷ 200 × 20 000 = **4600** ✓

5 The groups overlap (£5 is in two) and there is no option above £20.

6 Combined: 98 out of 400

98 ÷ 400 × 20 000 = **4900**