



F09-10min Estimating from Samples (Foundation): 10-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** A sample of 30 students found that 6 study French. Write down the fraction of the sample who study French.

(Total for Question 1 is 1 mark)

- 2** A factory takes a sample of 8 boxes of matches from a delivery and counts the number of matches in each box.

48, 50, 47, 49, 50, 49, 49, 50

The full delivery contains 5000 boxes of matches.

- (a) Work out the mean number of matches per box in the sample. (2)

- (b) Estimate the total number of matches in a delivery of 5000 boxes like this. (2)

(Total for Question 2 is 4 marks)

3 For each statement about estimating from samples, write down whether it is True or False.

(i) To estimate a characteristic of a population, a sample must include every member of the population. **(1)**

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(ii) Multiplying a sample mean by the total number of items in the population gives an estimate of the population total. **(1)**

.....

(iii) A sample taken from only one part of a population, for example only one street in a town, is likely to give a reliable estimate for the whole population. **(1)**

.....

(Total for Question 3 is 3 marks)

4 Two samples are taken to estimate the mean height of a species of plant. Sample A has 10 plants. Sample B has 100 plants. Write down which sample is more likely to give a reliable estimate of the mean height.

(Total for Question 4 is 1 mark)

5 In a sample of 25 magazines, 5 are sports magazines. A shop has 400 magazines in total. Estimate the number of sports magazines in the shop.

(Total for Question 5 is 2 marks)

Mark scheme · F09-10min Estimating from Samples (Foundation): 10-minute Pack

Question 1

- **B1** $\frac{6}{30}$ oe ($\frac{1}{5}$, 0.2) cao
- **Answer:** $\frac{6}{30}$ (= $\frac{1}{5}$)

Question 2

- (a) **M1** $(48+50+47+49+50+49+49+50) / 8$, oe
- (a) **A1** 49 cao
- (a) **Answer:** 49
- (b) **M1** 49×5000 , oe (ft their mean from (a))
- (b) **A1** 245000 cao
- (b) **Answer:** 245 000

Question 3

- (i) **B1** False cao
- (i) **Answer:** False
- (ii) **B1** True cao
- (ii) **Answer:** True
- (iii) **B1** False cao
- (iii) **Answer:** False

Question 4

- **B1** Sample B cao
- **Answer:** Sample B

Question 5

- **M1** $\frac{5}{25} \times 400$, oe
- **A1** 80 cao
- **Answer:** 80