



F11-10min Stratified Sampling (Foundation): 10-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** Redbourne Leisure Centre has 350 members split across three fitness classes.

Class	Yoga	Spin	Pilates
Members	140	105	105

The centre manager wants to take a stratified sample of 50 members, split across the three classes in proportion to their membership.

- (a) Write down the fraction of members who attend the Yoga class. (1)

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- (b) Work out the number of Yoga members that should be included in the sample of 50. (2)

.....

- (c) Work out the number of Spin members that should be included in the sample of 50. (2)

.....

(Total for Question 1 is 5 marks)

- 2** A mobile phone company has 2000 customers split across four regions.

Region	North	South	East	West
Customers	900	600	300	200

The company wants to survey a stratified sample of 100 customers across the four regions.

- (a)** Work out the number of North customers that should be included in the sample. **(2)**

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- (b)** Work out the number of South customers that should be included in the sample. **(1)**

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- (c)** Work out the number of East customers that should be included in the sample. **(1)**

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- (d)** Show that the four regional sample sizes add up to the total sample of 100. **(1)**

(Total for Question 2 is 5 marks)

Mark scheme • F11-10min Stratified Sampling (Foundation): 10-minute Pack

Question 1

- (a) **B1** $140/350$ oe ($2/5$, 0.4) cao
- (a) **Answer: 140/350 (= 2/5)**
- (b) **M1** $140/350 \times 50$, oe
- (b) **A1** 20 cao
- (b) **Answer: 20**
- (c) **M1** $105/350 \times 50$, oe
- (c) **A1** 15 cao
- (c) **Answer: 15**

Question 2

- (a) **M1** $900/2000 \times 100$, oe
- (a) **A1** 45 cao
- (a) **Answer: 45**
- (b) **B1** 30 cao ($600/2000 \times 100$)
- (b) **Answer: 30**
- (c) **B1** 15 cao ($300/2000 \times 100$)
- (c) **Answer: 15**
- (d) **B1** $45+30+15+10 = 100$, with West = 10 identified/used
- (d) **Answer: 45+30+15+10 = 100**