2.1 Statistics: Sampling: 10-minute Pack

EDEXCEL 9MA0 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A gym has 3 types of membership: Standard (240 members), Premium (160 members) and Family (100 members). A stratified sample of 25 members, proportional to membership type, is taken to survey satisfaction scores out of 10.

(a) Calculate the number of Premium members that should be included in the sample. **(2)**

(b) The satisfaction scores of the 8 Premium members sampled are: 7, 9, 6, 8, 10, 7, 9, 8. Calculate the mean satisfaction score for this stratum. **(2)**

(c) The mean satisfaction scores for the Standard and Family strata are 6.5 (from the 12 Standard members sampled) and 7.6 (from the 5 Family members sampled) respectively. Calculate an estimate of the overall mean satisfaction score across the whole sample of 25 members. **(3)**

(Total for Question 1 is 7 marks)

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2 State what is meant by a 'population' in the context of statistical sampling.

(Total for Question 2 is 1 mark)

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Mark scheme · 2.1 Statistics: Sampling: 10-minute Pack

Question 1

(a) 160 / 500 x 25	**M1**
(a) cao 8	**A1**
(a) Answer: 8 Premium members.	
(b) sum of the 8 scores divided by 8	**M1**
(b) cao 8	**A1**
(b) Answer: Mean = 8.	
(c) 12 x 6.5 + 8 x 8 + 5 x 7.6	**M1**
(c) = 78 + 64 + 38 = 180	**M1**
(c) cao 180 / 25 = 7.2	**A1**
(c) Answer: Overall mean = 7.2.	

Question 2

the whole set of individuals or items that information is wanted about, oe	**B1**
Answer: The whole set of individuals or items about which information is wanted.	

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