



S05-10min Estimated Mean from Grouped Data: 10-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Total Marks

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Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

1 For each statement about grouped frequency tables, write down whether it is True or False.

(i) The midpoint of a class interval is found by adding the lower and upper boundaries of the interval and dividing by 2. **(1)**

(ii) An estimated mean calculated from a grouped frequency table will always be exactly equal to the true mean of the original raw data. **(1)**

(Total for Question 1 is 2 marks)

2 State whether this is True or False: The midpoint of a class interval is found by adding the lower and upper boundaries of the interval and dividing by 2.

(Total for Question 2 is 1 mark)

3 State whether this is True or False: An estimated mean calculated from grouped data is always exactly equal to the true mean of the original raw data.

(Total for Question 3 is 1 mark)

- 4 The table shows the mass, in kg, of 30 parcels sent by a delivery company.

Class interval (kg)	Frequency	Midpoint	fx
$0 < m \leq 5$	4		
$5 < m \leq 10$	10		
$10 < m \leq 15$	9		
$15 < m \leq 20$	5		
$20 < m \leq 25$	2		
Total	30		

- (a) Complete the table to show the midpoint and the value of fx for each class interval. (3)

- (b) Work out an estimate for the mean mass of the parcels. (2)

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(Total for Question 4 is 5 marks)

- 5 For each statement, write down whether it is True or False.

- (i) A class interval written $10 < x \leq 20$ includes the value 10, but not the value 20.
(ii) Using narrower class intervals when grouping data always gives an exact mean.

(Total for Question 5 is 2 marks)

Mark scheme · S05-10min Estimated Mean from Grouped Data: 10-minute Pack

Question 1

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

Question 2

- **B1** True cao
- **Answer: True**

Question 3

- **B1** False cao
- **Answer: False**

Question 4

- (a) **B1** all midpoints correct: 2.5, 7.5, 12.5, 17.5, 22.5
- (a) **B1** all fx values correct: 10, 75, 112.5, 87.5, 45
- (a) **B1** sum of fx = 330
- (a) **Answer: Midpoints 2.5, 7.5, 12.5, 17.5, 22.5; fx values 10, 75, 112.5, 87.5, 45; sum of fx = 330**
- (b) **M1** $330 \div 30$, oe (sum of fx $\div$ sum of f)
- (b) **A1** 11 cao
- (b) **Answer: 11 kg**

Question 5

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