

IGCSE – Estimated Mean and Histogram - 3

May 02 Paper 4

- 9 (a) The number of people living in six houses is

3, 8, 4, x , y and z .

The median is $7\frac{1}{2}$.

The mode is 8.

The mean is 7.

Find a value for each of x , y and z .

[5]

- (b) The grouped frequency table below shows the amount (\$A) spent on travel by a number of students.

Cost of travel (\$A)	$0 < A \leq 10$	$10 < A \leq 20$	$20 < A \leq 40$
Frequency	15	m	n

- (i) Write down an estimate for the total amount in terms of m and n . [2]

- (ii) The calculated estimate of the mean amount is \$13 exactly.

Write down an equation containing m and n .

Show that it simplifies to $2m + 17n = 120$.

[3]

- (iii) A student drew a histogram to represent this data.

The area of the rectangle representing the $0 < A \leq 10$ group was equal to the sum of the areas of the other two rectangles.

Explain why $m + n = 15$.

[1]

- (iv) Find the values of m and n by solving the simultaneous equations

$$2m + 17n = 120,$$

$$m + n = 15.$$

[3]

Oct 03 Paper 4

- 8 Answer the whole of this question on a sheet of graph paper.

120 passengers on an aircraft had their baggage weighed. The results are shown in the table.

Mass of baggage (M kg)	$0 < M \leq 10$	$10 < M \leq 15$	$15 < M \leq 20$	$20 < M \leq 25$	$25 < M \leq 40$
Number of passengers	12	32	28	24	24

- (a) (i) Write down the modal class. [1]

- (ii) Calculate an estimate of the mean mass of baggage for the 120 passengers. Show all your working. [4]

- (iii) Sophia draws a pie chart to show the data.
What angle should she have in the $0 < M \leq 10$ sector? [1]

- (b) Using a scale of 2 cm to represent 5 kg, draw a horizontal axis for $0 < M \leq 40$.
Using an area scale of 1 cm^2 to represent 1 passenger, draw a histogram for this data. [7]