Marked example 1

Paper 1 style · No calculator

1 5 marks SL 4.3

●○○ Routine

The number of pets owned by each student in a class is shown below.

pets	0	1	2	3	4
frequency	3	7	k	5	1

The mean number of pets is 1.8.

(a) Find the value of k. **[3]**

(b) Find the median number of pets. **[1]**

(c) Write down the mode. **[1]**

MARKSCHEME (a)

$\dfrac{0+7+2k+15+4}{16+k} = 1.8$ **M1A1**

$26+2k = 28.8+1.8k,\ k = 14$ **A1**

Total 3 marks

Note M1 for $\frac{\sum fx}{\sum f}$; A1 for the correct equation.

MARKSCHEME (b)

2 **A1**

Total 1 mark

Note 30 students: the 15th and 16th values are both 2.

MARKSCHEME (c)

2 **A1**

Total 1 mark

Written and verified by a practising IB mathematics teacher, produced with AI assistance; solved twice and recomputed by software.
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