



# EXAM PAPERS PRACTICE

## Grouped Data

### Model Answer



In a traffic survey of 125 cars the number of people in each car was recorded.

Number of people in each car	1	2	3	4	5
Frequency	50	40	10	20	5

Find

(a) the range,

[1]

Range = Largest number – Smallest number

$$\text{Range} = 5 - 1 = 4$$

(b) the median,

[1]

The median of the traffic survey is 3.

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(c) the mode.

[1]

The median of the traffic survey is 3.



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The table shows information about the numbers of pets owned by 24 students.

Number of pets	0	1	2	3	4	5	6
Frequency	1	2	3	5	7	3	3

(a) Calculate the mean number of pets.

[3]

$$\text{Mean} = (0 + 4 + 9 + 20 + 35 + 18 + 18) / 24$$

$$\text{Mean} = 104 / 24$$

$$\text{Mean} = 4$$

(b) Jennifer joins the group of 24 students.

When the information for Jennifer is added to the table, the new mean is 3.44 .

Calculate the number of pets that Jennifer has.

[3]

$$3.44 = (23 * 3 + \text{Jennifer's number of pets}) / (24 + 1)$$

$$3.44 = 69 + \text{Jennifer's number of pets} / 25$$

$$\text{Jennifer's number of pets} = (3.44 * 25) - 69$$

$$\text{Jennifer's number of pets} = 3$$

Therefore, the number of pets that Jennifer has is 3 .



The heights, in metres, of 200 trees in a park are measured.

Height ( $h$ m)	$2 < h \leq 6$	$6 < h \leq 10$	$10 < h \leq 13$	$13 < h \leq 17$	$17 < h \leq 19$	$19 < h \leq 20$
Frequency	23	47	45	38	32	15

(a) Find the interval which contains the median height. [1]

$$19 < h \leq 20 \text{ m}$$

(b) Calculate an estimate of the mean height. [4]

The estimated mean height of the 200 trees in the park is 12.12 meters.

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(c) Complete the cumulative frequency table for the information given in the table above. [2]

Height ( $h$ m)	$2 < h \leq 6$	$h \leq 10$	$h \leq 13$	$h \leq 17$	$h \leq 19$	$h \leq 20$
Cumulative frequency	23	<b>70</b>	<b>115</b>	<b>153</b>	<b>185</b>	<b>200</b>



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James is an animal doctor.

The table shows some information about the cats he saw in one week.

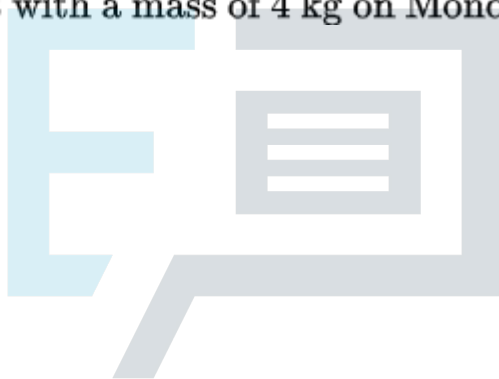
Day	Monday	Tuesday	Wednesday	Thursday	Friday
Number of cats seen	2	4	1		2
Mean mass of a cat (kg)	1.9	0.9	2.1	1.8	2

One of the cats James saw had a mass of 4kg.

On which day did he see this cat?

[2]

**James saw the cat with a mass of 4 kg on Monday.**



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Height ( $h$ cm)	$0 < h \leq 10$	$10 < h \leq 15$	$15 < h \leq 30$
Frequency	25	$u$	9
Frequency density	2.5	4.8	$v$

The table shows information about the heights of some flowers.

Calculate the values of  $u$  and  $v$ .

[2]

$$15 - 10 = 5$$

$$u = 4.8 \times 5 = 24$$

$$30 - 15 = 15$$

$$v = 9/15 = 0.6$$



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