Averages from Grouped Tables

1   The table shows information about the heights of 25 students.

Height, h (cm)	Frequency		
$130 < h \leq 140$	3		
$140 < h \leq 150$	15		
$150 < h \leq 160$	6		
$160 < h \leq 170$	1		

1 (a)   Write down the modal class.   **[1 mark]**

Answer _____ $< h \leq$ _____

1 (b)   Work out an estimate for the mean height of the students.   **[3 marks]**

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Answer _____ cm

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2 The table shows information about the masses of 400 apples.

Mass, m (grams)	Frequency		
$70 < m \leq 90$	62		
$90 < m \leq 110$	118		
$110 < m \leq 130$	194		
$130 < m \leq 150$	26		

2 (a) Write down the modal class. **[1 mark]**

Answer _____ $< m \leq$ _____

2 (b) Work out an estimate for the mean mass of the apples. **[3 marks]**

Answer _____ grams

2 (c) Which interval contains the median?
You **must** show your working. **[2 marks]**

Answer _____ $< m \leq$ _____

3　　The table shows information about the speeds of some cars on a road.

Speed, s (mph)	Frequency		
$30 < s \leq 40$	1		
$40 < s \leq 50$	14		
$50 < s \leq 60$	37		
$60 < s \leq 70$	48		

3　(a)　Write down the modal class.　　　　　　　　　　　　　**[1 mark]**

Answer ＿＿＿＿＿＿ $< s \leq$ ＿＿＿＿＿＿

3　(b)　Work out an estimate for the mean speed of the cars.　　**[3 marks]**

Answer ＿＿＿＿＿＿＿＿＿＿ mph

3　(c)　Which interval contains the median?
You **must** show your working.　　　　　　　　　　　　**[2 marks]**

Answer ＿＿＿＿＿＿ $< s \leq$ ＿＿＿＿＿＿

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Turn over ▶

4 The table shows information about the weekly pay of some workers.

Weekly Pay, (£w)	Frequency		
400 < w ≤ 500	12		
500 < w ≤ 600	11		
600 < w ≤ 700	6		
700 < w ≤ 800	5		
800 < w ≤ 900	1		

4 (a) Write down the modal class.

[1 mark]

Answer _____ < w ≤ _____

4 (b) Work out an estimate for the mean weekly pay for the workers.

[3 marks]

Answer £ _____

4 (c) Which interval contains the median?
You **must** show your working.

[2 marks]

Answer _____ < w ≤ _____

Solutions

5 The table shows information about the race times of 50 runners.

Time, t (minutes)	Frequency		
$15 < t \leq 16$	6		
$16 < t \leq 17$	10		
$17 < t \leq 18$	10		
$18 < t \leq 19$	21		
$19 < t \leq 20$	3		

5 (a) Write down the modal class. **[1 mark]**

Answer _____ $< t \leq$ _____

5 (b) Work out an estimate for the mean race time of the runners.
Give your answer in minutes and second. **[4 marks]**

Answer _____ minutes _____ seconds

5 (c) Which interval contains the median?
You **must** show your working. **[2 marks]**

Answer _____ $< t \leq$ _____

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6 The table shows information about the distances jumped by 11 athletes.

Distance, d (metres)	Frequency		
$4 < d \leq 4.5$	6		
$4.5 < d \leq 5$	1		
$5 < d \leq 5.5$	2		
$5.5 < d \leq 6$	2		

6 (a) Write down the modal class.

[1 mark]

Answer _____ $< d \leq$ _____

6 (b) Work out an estimate for the mean distance jumped.
Give your answer in centimetres.

[3 marks]

Answer _____ cm

6 (c) Which interval contains the median?
You **must** show your working.

[2 marks]

Answer _____ $< d \leq$ _____

 Solutions

6 **(d)** Two more athletes jump and their distances are recorded.
Both athletes jump more than 4.5 metres.

The results for the two extra athletes are added to the table.

How will the two extra athletes affect your answers to parts (a), (b) and (c).
For each statement below tick one box. **[3 marks]**

	Remains the same	**Changes**	**Not possible to tell**
Part (a) The modal class	☐	☐	☐
Part (b) The estimate of the mean	☐	☐	☐
Part (c) The interval containing the median	☐	☐	☐

6 **(e)** Mo says: *"The range of the jumps is 1.5 metres as 5.75 – 4.25 = 1.5"*

Explain why Mo may not be correct. **[1 mark]**

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