

**End of Unit Test**      Name: Answers  
**Statistical Inquiry - HIGHER**



Calculator allowed

1. This table shows information about the weights of 200 rabbits.

Weight, $w$ (grams)	Frequency	Midpoint	$fx$
$60 < w \leq 70$	101	65	6565
$70 < w \leq 80$	64	75	4800
$80 < w \leq 90$	25	85	2125
$90 < w \leq 100$	10	95	950
Total = 200			14440

(a) Tick whether each statement is true or false.

You can use the table to calculate the exact median.

True

False

You can use the table to work out the weight of the heaviest rabbit.



(1)

(b) Calculate an estimate of the mean weight of the 200 rabbits.

$$\frac{\sum fx}{\sum f} = \frac{14440}{200} = 72.2$$

.....  
 .....  
 .....

Answer ..... 72.2 .....grams

(3)

(d) Which **two** of these diagrams could you use to represent this grouped data? Circle your answers.

stem and leaf

frequency polygon

scatter graph

histogram

cumulative frequency

(1)

(Total 5 marks)

2. The table shows data about the times for men and women in a race.

	Mean	Interquartile range
Men	34m 50s	6m 30s
Women	40m 10s	4m 45s

Use data from the table to make **two** comparisons between the performances of the men and women in the race.

Comparison 1

On average, the men were faster.

Comparison 2

The women's times were more consistent.

(Total 2 marks)

3. Here is some information about the number of books read by a group of people in 2014. One of the frequencies is missing.

Number of books	Frequency	Midpoint	$fx$
0 - 4	16	2	32
5 - 9	$a$	7	$7a$
10 - 14	20	12	240
15 - 19	10	17	170
	$46 + a$		$442 + 7a$

Midpoints are used to work out an estimate for the mean number of books read. The answer is 8.5. Work out the missing frequency.

$$\frac{\sum fx}{\sum f} = 8.5$$

$$442 + 7a = 8.5(46 + a)$$

$$442 + 7a = 391 + 8.5a$$

$$51 = 1.5a$$

$$34 = a$$

Answer ..... 34 .....

(Total 5 marks)

4. Garage A sold 4960 vehicles. The garage takes a sample of customers, stratified by type of vehicle sold. Some information about the sample is shown.

	Car	People carrier	Van	Total
Number sold	2520	880	1560	4960
Number in sample	126	44	78	248

Complete the table.  $\frac{1}{20}$

(Total 3 marks)

5. A scientist wants to estimate the number of fish in a disused canal. He catches a sample of 30 fish from the canal. He marks each fish with a dye and then puts them back in the canal. The next day the scientist catches 20 fish from the canal. He finds that 4 of them are marked with the dye.

- (a) Estimate the total number of fish in the canal.

$$x^s \left( \frac{30}{x} = \frac{4}{20} \right) \times 5$$

$$x = 150$$

150 fish in the canal.

(3)

- (b) Write down any assumptions you made.

The sample was properly mixed.

(2)

(Total 5 marks)

(Total for test = 20 marks)