

## Section 2: Data presentation and interpretation

### Exercise level 1

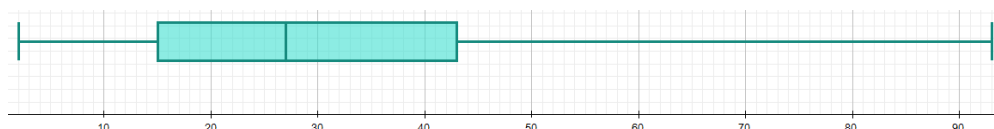
1. Find the median and interquartile range of each of the sets of data below.

- (i) 2 5 3 8 1 7 2 4 6 8 4
- (ii) 17 13 14 19 12 13 18 16 22 18 11 20
- (iii) 52 71 32 28 44 58 36 29 48 56 78 32 16
- (iv) 74 81 63 72 88 79 92 68 75 81 89 76 78 65

2. The frequency table below shows the number of pets owned by 100 primary school children.

Number of pets	Frequency
0	44
1	33
2	16
3	5
4	1
6	1

- (i) Find the mean, median, mode and midrange for the data.
  - (ii) Comment on how representative of the data each of these measures are.
3. The box-and-whisker diagram shows the age distribution of the people watching the screening of a football match in a pub.



The two oldest people were aged 82 and 93, and the two youngest were aged 2 and 3. Which of these, if any, are outliers? (Use the definition that an outlier is more than 1.5 times the interquartile range below the lower quartile or above the upper quartile).

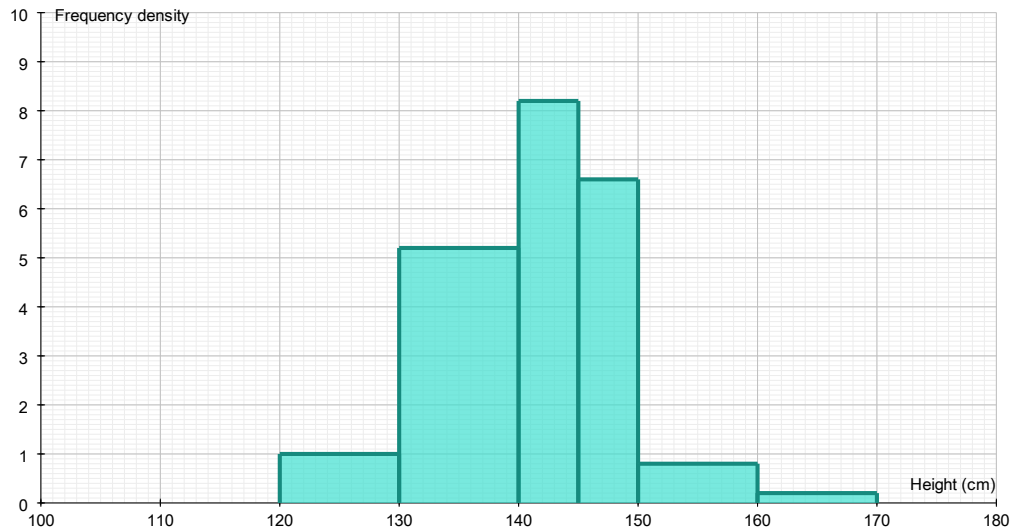
4. The data below shows the weights of 15 babies born on the same day in a particular hospital.

3.61 4.85 3.47 2.53 3.07 3.39 1.36 3.84  
4.21 3.73 2.84 3.22 4.15 5.81 4.79

- (i) Find the mean and standard deviation of the weights of this group of babies.
- (ii) Which of these weights are outliers for this sample? Use the definition that an outlier is more than two standard deviations from the mean.

## Edexcel AS Maths Data 2 Exercise

5. The histogram below shows the heights of 146 12-year old boys.



- (i) Copy and complete the grouped frequency table below.

Height $h$ (cm)	Frequency
$120 \leq h < 130$	10
$130 \leq h < 140$	
$140 \leq h < 145$	
$145 \leq h < 150$	
$150 \leq h < 160$	
$160 \leq h < 170$	
<b>Total</b>	<b>146</b>

- (ii) Estimate the mean and standard deviation of the heights.  
 (iii) Estimate the median height.

6. At a fete, 200 people guess the weight of a cake.  
 The frequency table below shows the results.

Weight $w$ (kg)	Frequency
$1.0 \leq w < 1.5$	2
$1.5 \leq w < 1.8$	8
$1.8 \leq w < 2.0$	15
$2.0 \leq w < 2.2$	24
$2.2 \leq w < 2.4$	47
$2.4 \leq w < 2.6$	53
$2.6 \leq w < 2.8$	39
$2.8 \leq w < 3.0$	11
$3.0 \leq w < 3.5$	1
<b>Total</b>	<b>200</b>

- (i) Draw a cumulative frequency graph and use it to estimate the median and interquartile range of the guesses.  
 (ii) The cake actually weighed 2.35 kg. What percentage of those who took part overestimated the weight?