

Representing Statistical Data Revision

(a)

The length in mm of 80 leaves is recorded in a grouped frequency table.

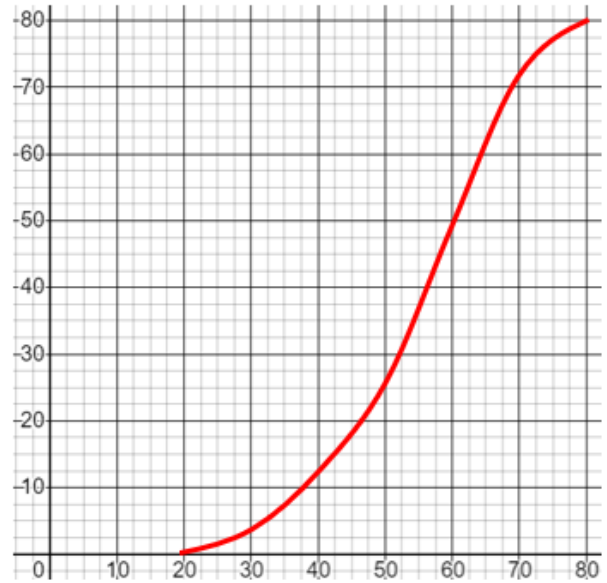
Complete a cumulative frequency table.

Length L (mm)	Frequency
$20 < L \leq 30$	4
$30 < L \leq 40$	7
$40 < L \leq 50$	15
$50 < L \leq 60$	23
$60 < L \leq 70$	22
$70 < L \leq 80$	9

Length L (mm)	Cumulative Frequency
$20 < L \leq 30$	4
$30 < L \leq 40$	11
$40 < L \leq 50$	26
$50 < L \leq 60$	49
$60 < L \leq 70$	71
$70 < L \leq 80$	80

(b)

Plot a cumulative frequency graph.



(c)

- (i) Find the median length.

57 mm
- (ii) Find the interquartile range of lengths.

 $65 - 47 = 18 \text{ mm}$
- (iii) Find an estimate for the number of leaves greater than 75 mm in length.

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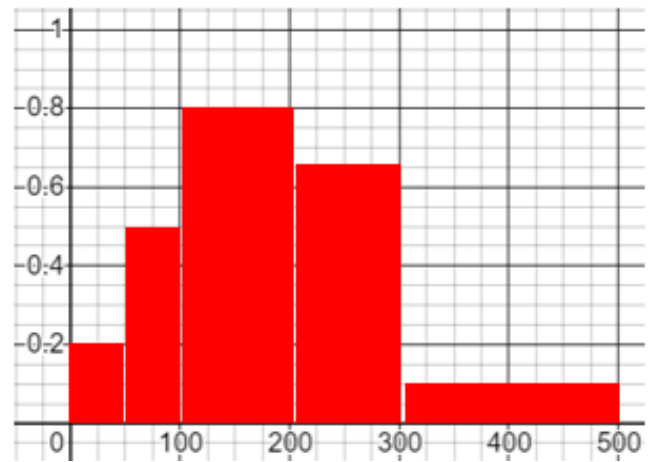
(a)

The areas in m^2 of 200 gardens are recorded in a grouped frequency table. Calculate the frequency density.

Area (m^2)	Frequency	Class Width	Freq Density
$0 < A \leq 50$	10	50	0.2
$50 < A \leq 100$	25	50	0.5
$100 < A \leq 200$	80	100	0.8
$200 < A \leq 300$	65	100	0.65
$300 < A \leq 500$	20	200	0.1

(b)

Plot a histogram.



(c)

- (i) Use your histogram to estimate the number of gardens that are larger than $220 m^2$.

 $(80 \times 0.65) + 20 = 72$
- (ii) Use your histogram to estimate the median garden size.

 $\frac{65}{80} \times 100 = 81.25$
Median = 181.25