

Representing Statistical Data

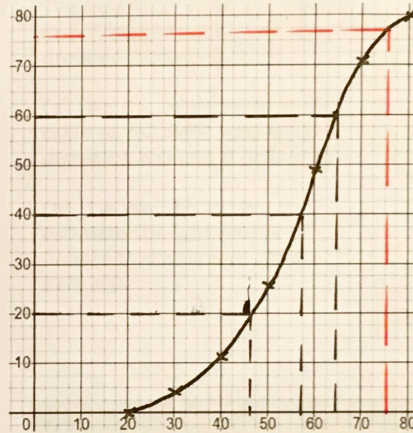
1. The length in mm of 80 leaves is recorded in a grouped frequency table.

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

(a) Complete a cumulative frequency table.

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) Find the median length.

57 mm

(d) Find the interquartile range of lengths.

$$65 - 47 = 18 \text{ mm.}$$

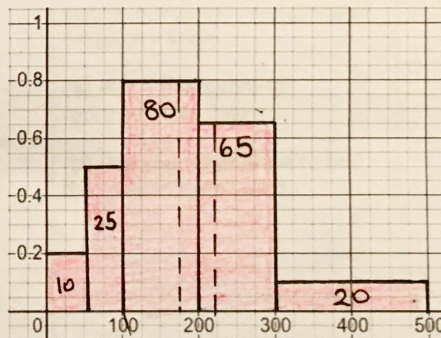
(e) Find an estimate for the number of leaves greater than 75 mm in length.

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

Area (m^2)	Frequency	Class Width	Freq. Dens.
$0 < A \leq 50$	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

(a) Plot a histogram.



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

$$(80 \times 0.65) + 20 = 72$$

(c) Use your histogram to estimate the median garden size.

$$65 \div 0.8 = 81.25$$

Median = $181.25 m^2$