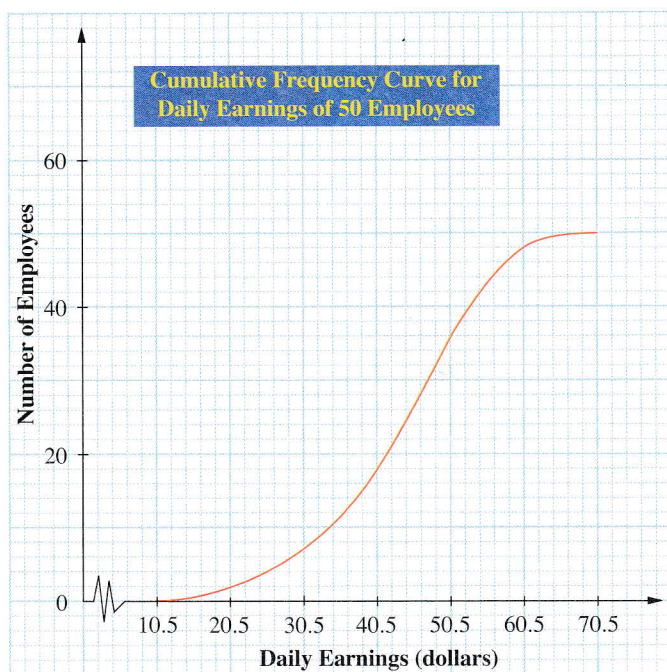


Find the range, lower quartile, median, upper quartile and interquartile range for the following set of data.

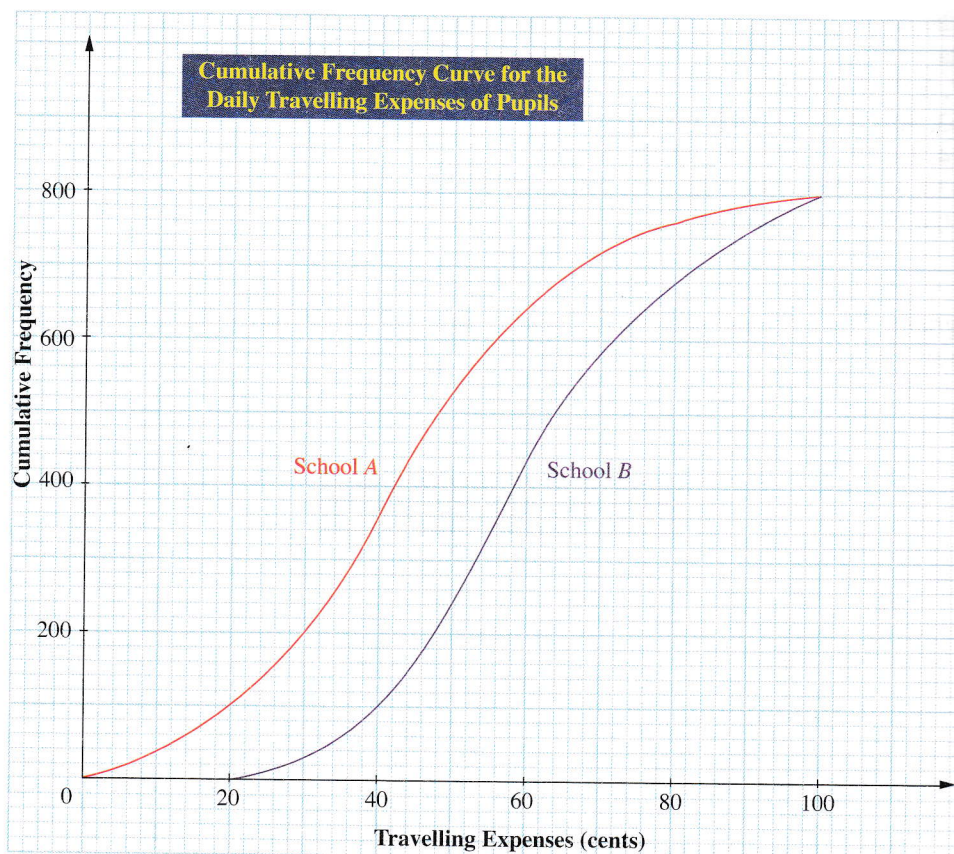
- a) 7, 6, 4, 8, 2, 5, 10
- b) 63, 80, 54, 70, 51, 72, 64, 66
- c) 14, 18, 22, 10, 27, 32, 40, 16, 9
- d) 138, 164, 250, 184, 102, 244, 168, 207, 98, 86
- e) 10.4, 8.5, 13.1, 11.8, 6.7, 22.4, 4.9, 2.7, 15.1

The graph shows the cumulative frequency curve of the daily earnings of 50 employees in a company.



- a) Use the graph to estimate
  - (i) the median, the lower and upper quartiles,
  - (ii) the interquartile range.
- b) Find
  - (i) the 20th percentile
  - (ii) the 90th percentile
 of the daily earnings of the employees.
- c) Estimate the percentage of the employees' earnings which are higher than \$50.

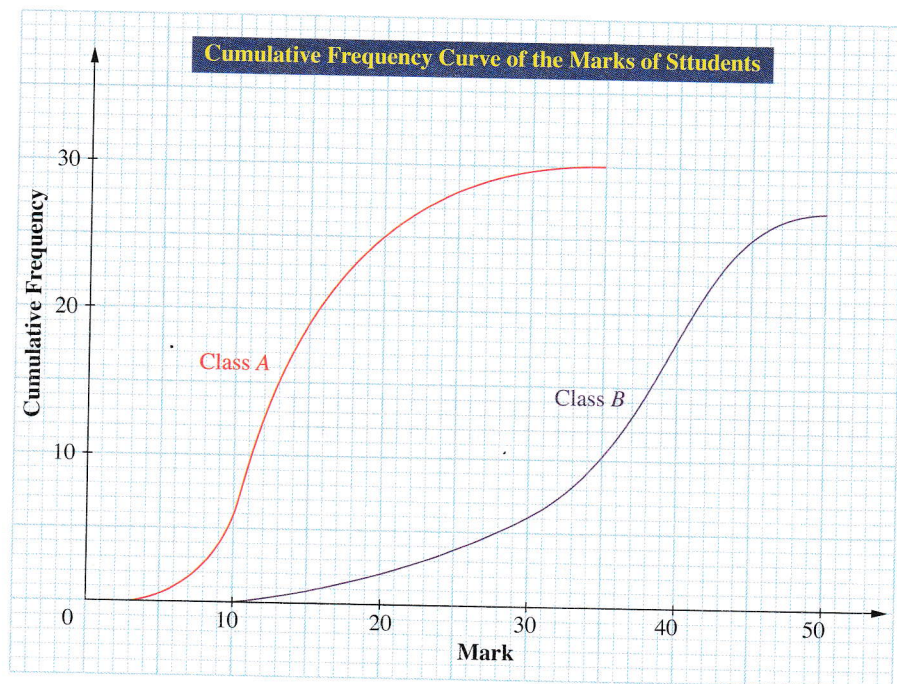
3. The graph shows the cumulative frequency curves of the daily travelling expenses of 800 pupils in two schools, A and B.



Use the graph to

- (a) estimate the median travelling expenses of the pupils from
  - (i) School A,
  - (ii) School B;
- (b) find the interquartile range of the travelling expenses of
  - (i) School A,
  - (ii) School B;
- (c) find (i) the 30th percentile,  
(ii) the 80th percentile  
of the travelling expenses of the pupils of School B;
- (d) state, with a reason, which school's pupils spent more on the daily travelling.

All the students from two classes, A and B, took the same general knowledge competition. The cumulative frequency curves show the results for the two classes.



- Estimate the lower quartile, median and upper quartile in Class A.
- How many students are there in Class B?
- Find the interquartile range of Class B.
- Estimate the percentage of the students from Class B who received a gold award, if the mark for gold award is more than 40.
- Gauss said that Class B performed better in the competition than Class A. Do you agree? Give a reason for your answer.

The following are the PSI (Pollutant Standards Index) of two cities measured in 10 days.

City X

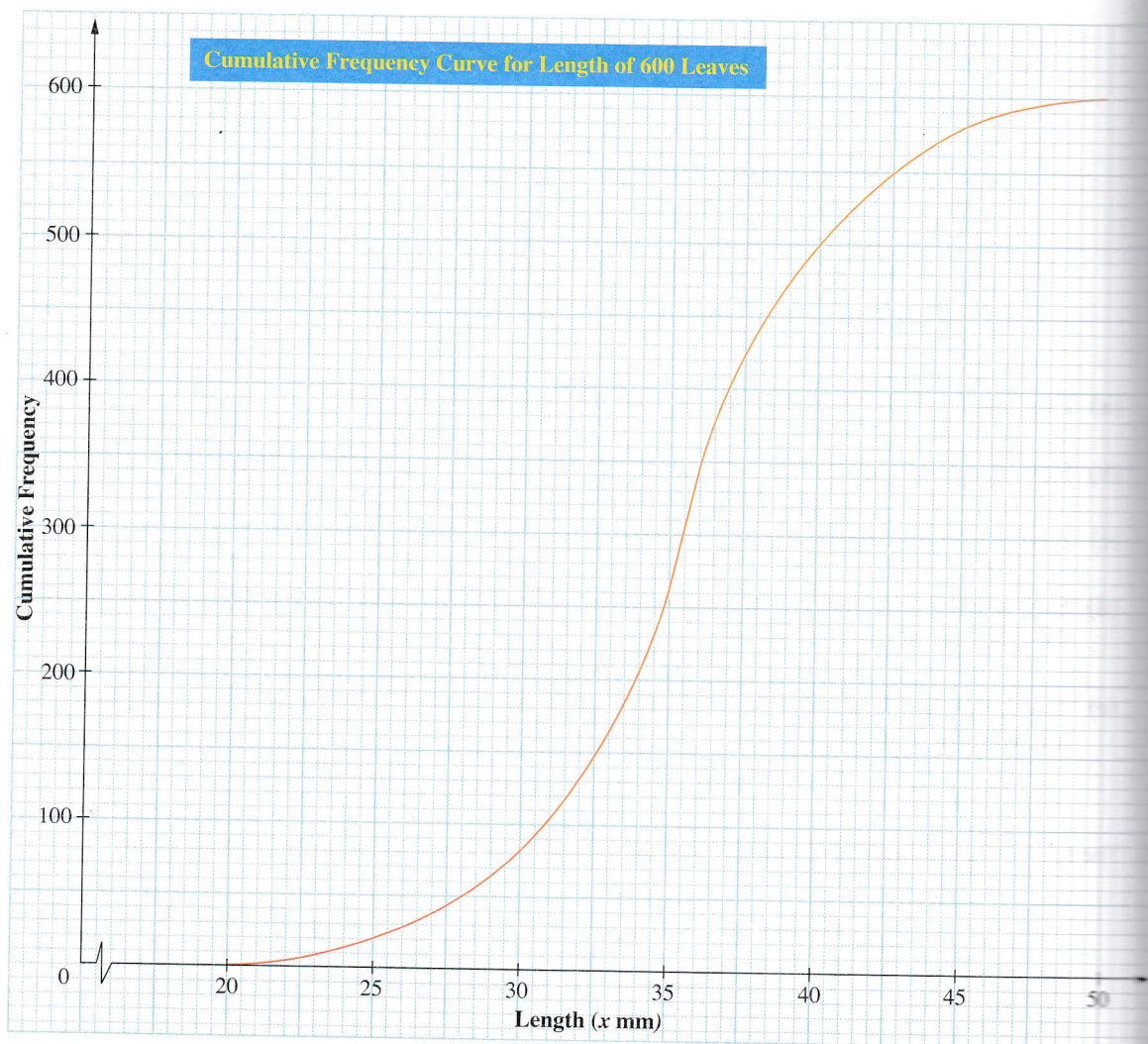
80	65	21	81	16
23	37	42	50	53

City Y

103	66	79	121	99
86	114	152	100	171

- (a) For each city, find (i) the range,  
(ii) the median, and  
(iii) the interquartile range of the PSI.
- (b) Which data set shows a greater spread?
- (c) Comment briefly on the air quality of the two cities.

6. The following diagram is the cumulative frequency curve for the length of 600 leaves from a tree.



- (a) Use the graph to find
- the median length,
  - the interquartile range.
- (b) Given that 65% of the leaves are considered as healthy, use the graph to find the shortest length of the healthy leaves.
- (c) Copy and complete the following frequency distribution table:

Length ( $x$ mm)	Number of Leaves
$20 < x \leq 25$	20
$25 < x \leq 30$	60
$30 < x \leq 35$	
$35 < x \leq 40$	
$40 < x \leq 45$	
$45 < x \leq 50$	

- (d) Draw a histogram to represent the frequency distribution in (c).