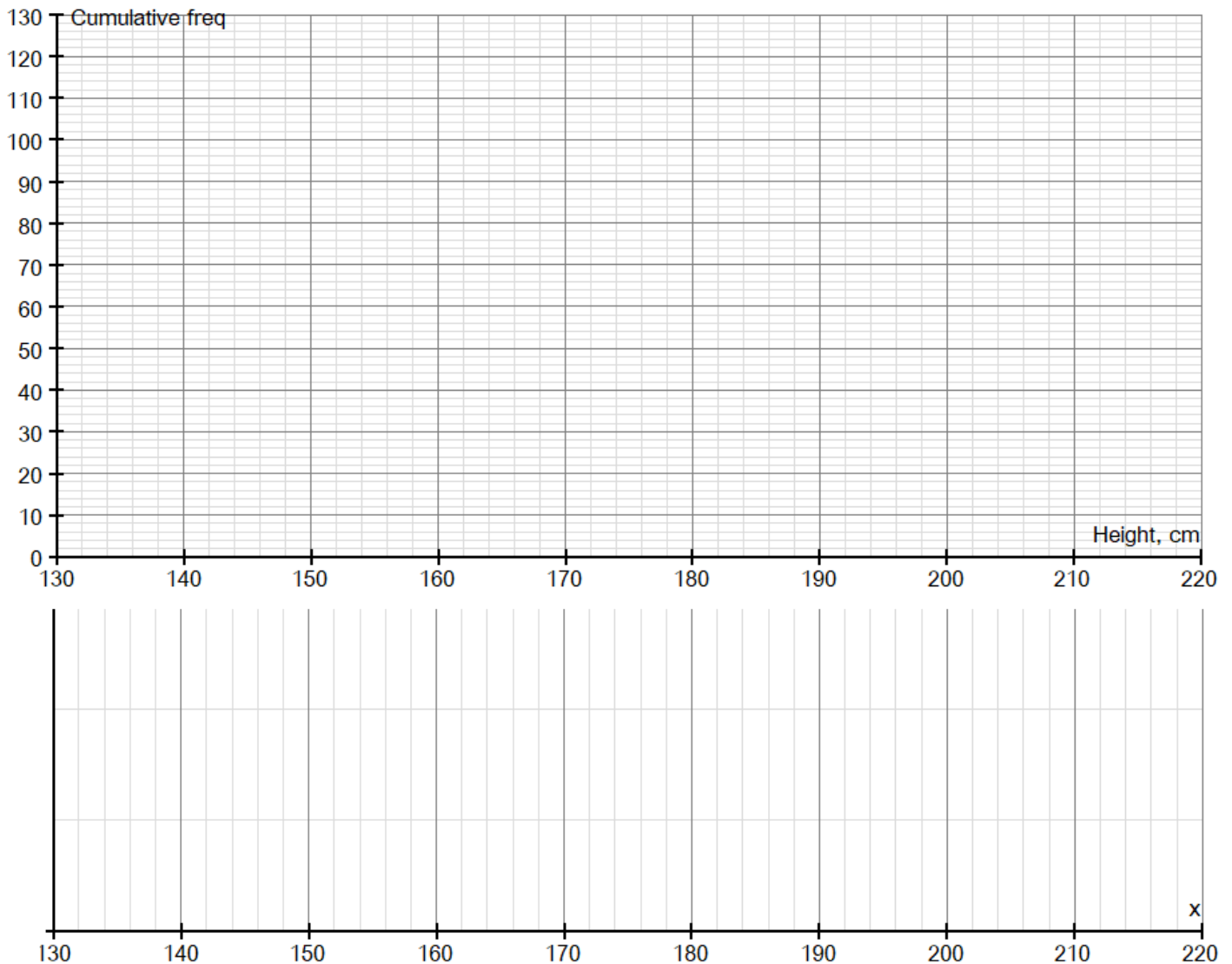


Practice questions: Cumulative frequency graphs and box plots

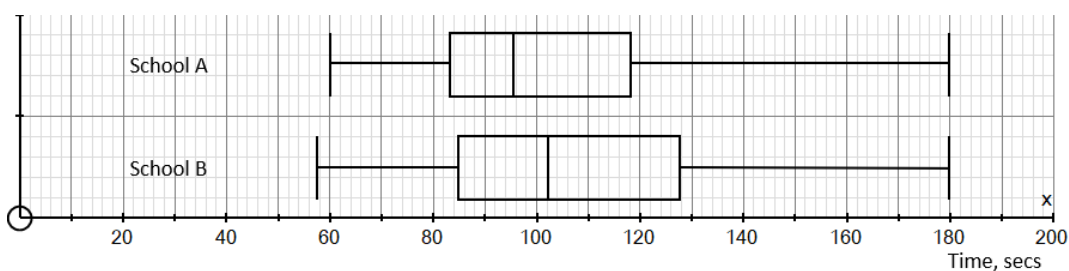
1. This is the same adult height data used on the Histograms worksheet.

Height (cm)	Freq	CF
141-160	20	
161-170	30	
171-175	25	
176-180	20	
181-185	17	
186-200	13	
Total	125	

- Plot a cumulative frequency curve of this data.
- Hence find estimates of the median and interquartile range.
- Make a box plot showing this information.

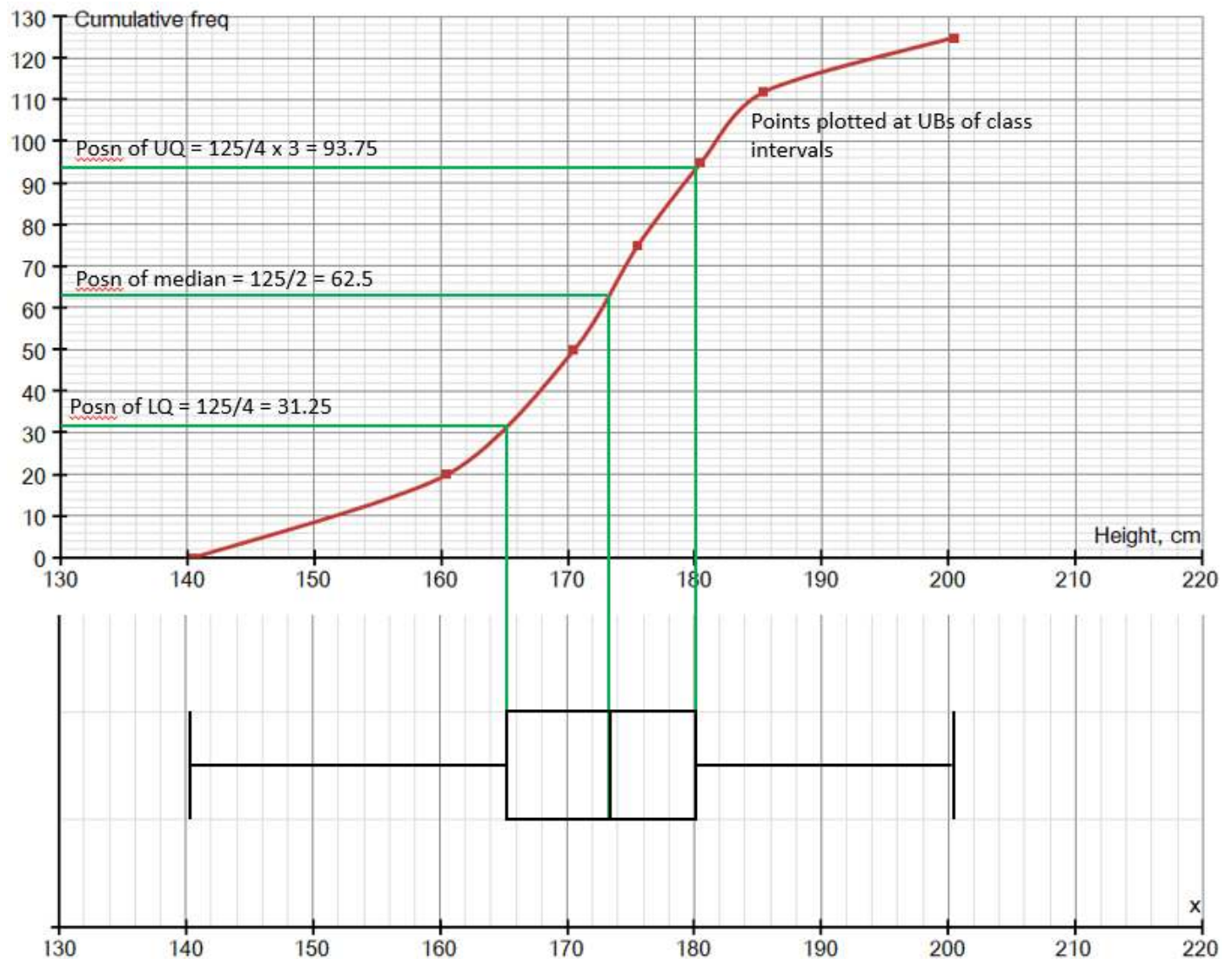


2. These box plots show times taken by the same year group at two different school to run 400m. Compare the two distributions.



Solutions:

1. a) and c)



b) Median = 173 cm LQ = 165 cm UQ = 180 cm IQR = $180 - 165 = 15$ cm (all to nearest cm)

2. Remember, compare location and compare spread, and put them in context.

The median time for School A (approx. 94 s) is lower than the median for School B (102 s), indicating that, on average, the students at School A can run faster.

IQR for A = $118 - 83 = 35$ s; IQR for B = $128 - 85 = 43$

The IQR for School A is less than for School B, indicating that the speeds of students at School B are more variable.