Comparing box-and-whisker graphs (CSSI)

Compare each plot's Centre, Shape, Spread, and Interesting features.

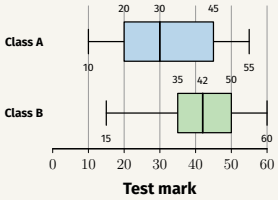
Name _____ **Date** _____

Reading a box-and-whisker plot

CSSI: **Centre** (median, mean), **Shape** (left skew/right skew/symmetric), **Spread** (IQR = Q3−Q1, range = max−min), **Interesting** features (outliers, groups). The box spans Q1 to Q3; the line inside is the median; the whiskers reach the minimum and maximum.

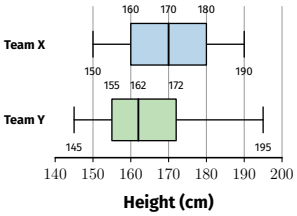
Worked example

Compare the median and IQR of Class A and Class B.



Median: Class A $= 30$, Class B $= 42$ — Class B scored higher by 12 marks.
IQR: Class A $= 45 - 20 = 25$, Class B $= 50 - 35 = 15$ — Class A was more spread out.

1. Which class has the higher median? By how much?



Working

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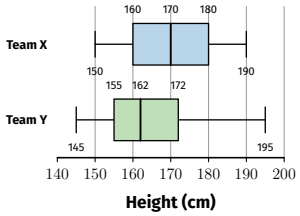
2. Which class has the greater spread (IQR)? What does that mean?



Working

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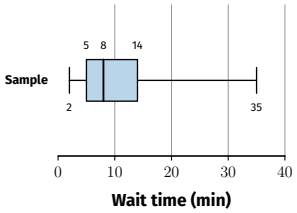
3. Describe the shape of this distribution. Justify your answer.



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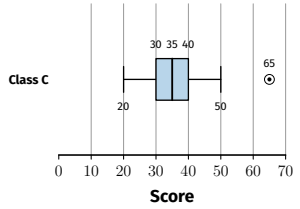
4. Identify any outliers shown on this plot.



Working

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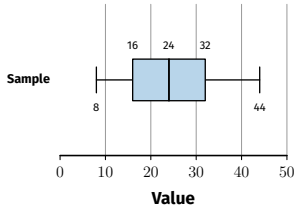
Comparing box-and-whisker graphs (CSSI) (continued)

Compare each plot's Centre, Shape, Spread, and Interesting features.

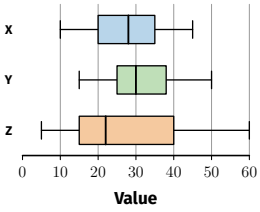
Name _____ **Date** _____

5. Calculate the IQR and range for this distribution.



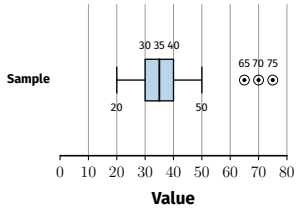
Working

6. Compare the centre, shape, and spread of these three distributions.



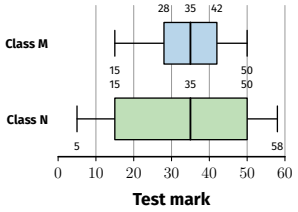
Working

7. This plot shows several outliers on one side. What might this suggest?



Working

8. Two classes have the same median. Compare their spread and shape, and say which was more consistent.



Working