

Reflect

- Why is one-half of the box wider than the other half of the box?



Math On the Spot
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Box Plots with Similar Variability

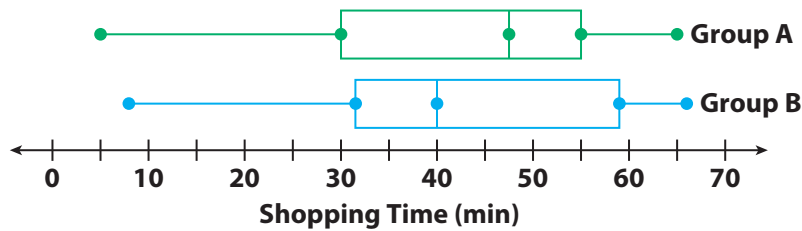
You can compare two box plots numerically according to their centers, or medians, and their spreads, or variability. Range and interquartile range (IQR) are both measures of spread. Data sets with similar variability should have box plots of similar sizes.

EXAMPLE 1



My Notes

The box plots show the distribution of times spent shopping by two different groups.



- Compare the shapes of the box plots.
The positions and lengths of the boxes and whiskers appear to be very similar. In both plots, the right whisker is shorter than the left whisker.
- Compare the centers of the box plots.
Group A's median, 47.5, is greater than Group B's, 40. This means that the median shopping time for Group A is 7.5 minutes more.
- Compare the spreads of the box plots.
The box shows the interquartile range. The boxes are similar in length.
Group A: $55 - 30 = 25$ min Group B: $59 - 32 = 27$ min

The length of a box plus its whiskers shows the range of a data set. The two data sets have similar ranges.

Reflect

- Which group has the greater variability in the bottom 50% of shopping times? The top 50% of shopping times? Explain how you know.

Math Talk
Mathematical Processes

Which store has the shopper who shops longest? Explain how you know.