

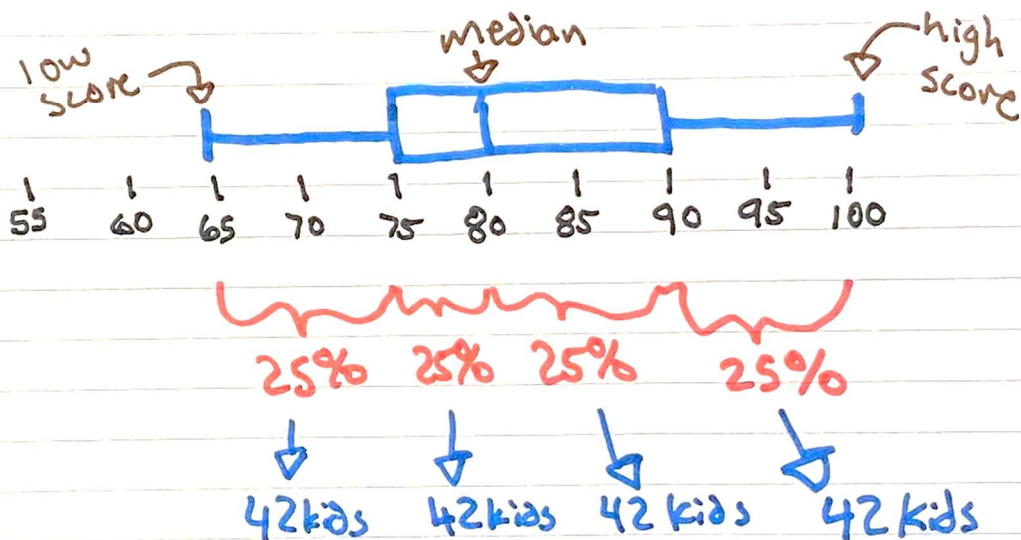
# Box & Whisker Plots (IQR)

A box & whisker plots both summarizes data and shows how spread out the data is.

The IQR is the inter-quartile range, the size of the middle 50%

## Example

A math teacher has 168 students and summarizes a recent test with this graph



The IQR is 15 points large  $90 - 75 = 15$

Median 80 tells how well kids did

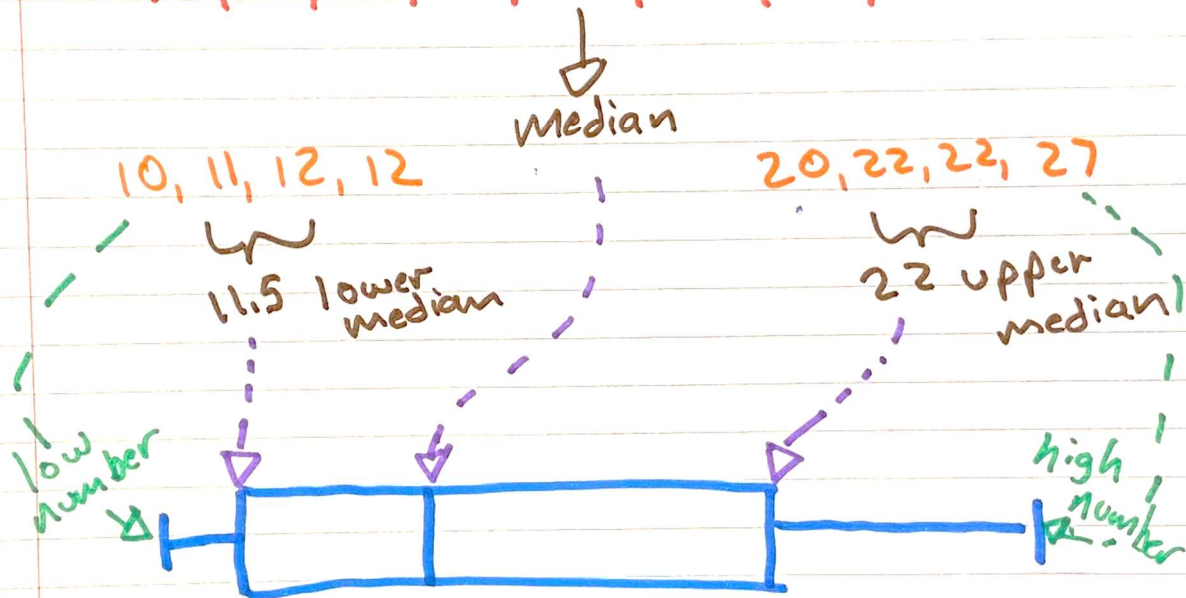
IQR of 15 tells how spread out scores were

# How to make a Box-and Whisker Plot

- step ① arrange data least to greatest
- step ② get median
- step ③ get median of TOP  $\frac{1}{2}$  & Bottom  $\frac{1}{2}$

12, 15, 22, 10, 12, 11, 27, 22, 20,

10, 11, 12, 12, 15, 20, 22, 22, 27



Range 17  
( $27 - 10 = 17$ )

IQR 10.5  
( $22 - 11.5 = 10.5$ )