Part 5.4: Shift – Overall Visual Spread Calculation

You also need to consider the difference in the medians (which we calculated earlier) in relation to the overall visual spread (the highest upper quartile minus the lowest lower quartile).

The calculation that you need to do is $\frac{\text{difference between medians}}{\text{overal visual spread}}$ to tell you how significant the difference is. In the example we have been working through this would be $\frac{18.5}{117.0-88.0} = 0.638$. The closer this number is to one the more significant the difference is.

You can use the table below to work out if the number you have calculated indicates there is a significant difference or not.

Sample Size	Difference NOT Significant	Difference IS Significant
30 – 99	0 – 0.33	0.33 – 1
100 – 999	0 – 0.20	0.20 – 1
1000 +	0 – 0.10	0.10 – 1

Discuss the shift for each of the sets of data, the first one has been done for you.

1. The difference between the medians is 18.5 kg which is 0.638 of the overall visual spread which is a significant difference.