IQR - Interquartile Range

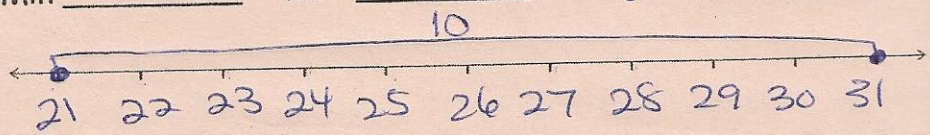
Variation: Describes the variation of the data set.
Variability

Range: Difference between the greatest value (maximum) and the lowest value (minimum)

Find the range of 26, 21, 27, 31, 24, 29, 24, 30, 22

21, 22, 24, 24, 26, 27, 29, 30, 31

Min 21 Max 31 Range 31-21 = 10



Interquartile Range: Difference between the 3rd quartile and the 1st Quartile $Q_3 - Q_1$
- Represents the range of the middle half of the data

Interquartile Range: Even Sets of Data

Warning! Do not use the median of the data to find Q1 or Q3.

Set of data with an odd amount of values.

3, 4 | 4, 7, 8 | 8, 10, 12 | 12, 13

Q1 = 4 Q3 = 11

The lower quartile (Q1) is the median of the lower half of the data.

The upper quartile (Q3) is the median of the upper half of the data.

What is the IQR? 11 − 4 = 7

Set of data with an even amount of values.

6, 7, 8, 8, 8 | 10, 11, 14, 15, 18

Q1 = 8 M = 9 Q3 = 14

Even though you will use 8 and 10 to find the median, you still use those values to find Q1 and Q3. Those numbers are used to find the median, but they are not the median.

What is the IQR? 14 − 8 = 6

Practice

Find the median, Q1, Q3, and IQR of the data.

5, 10, 8, 4, 14, 9

4, 5, 8 | 8.5 | 9, 10, 14

Median	8.5	Q1	5
Q3	10	IQR	10 − 5 = 5

Find the median, Q1, Q3, and IQR of the data.

20, 21, 15, 17, 23, 14, 21, 19

14, 15 | 17, 19 | 20, 21 | 21, 23

Median	19.5	Q1	16
Q3	21	IQR	~~23 − 21~~ 21 − 16 = 5