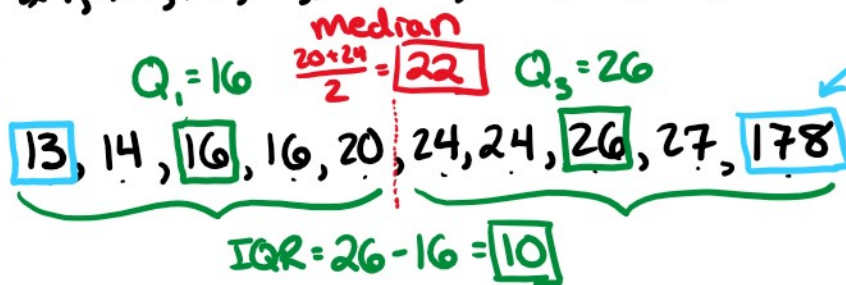


Data Set: 24, 27, 16, 14, 20, 24, 178, 13, 16, 26

Potential lower outlier

Not a lower outlier because $13 < 1$



Potential upper outlier

Yes 178 is an upper outlier because $178 > 41$

Mean - average of all data values in set

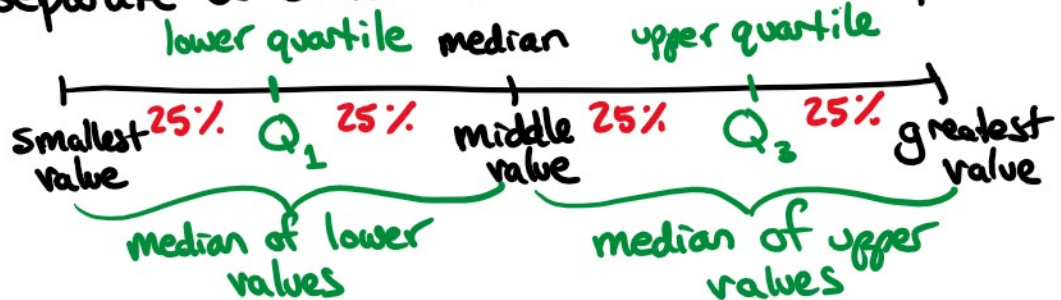
$$\bar{x} = \frac{\text{Sum of all data values}}{\# \text{ of data values}} \quad \bar{x} = \frac{13+14+16+16+20+24+24+26+27+178}{10} = \frac{358}{10} = 35.8$$

Median - middle value or the average of the two middle values

Mode - the data value(s) that occur the most frequently

16 and 24

quartiles - separate a data set into four equal parts



Inter-Quartile Range: $IQR = Q_3 - Q_1$

outliers - data values that are significantly different than the majority of the other data values

Lower Outlier Test:

$$Q_1 - 1.5 \cdot IQR$$

$$16 - 1.5 \cdot 10$$

1

Upper Outlier Test:

$$Q_3 + 1.5 \cdot IQR$$

$$26 + 1.5 \cdot 10$$

41

1

If any data value is less than 1 then that data value is a lower outlier.

41

If any data value is greater than 41 then that data value is an upper outlier.

standard deviation - a measure of how spread out a data set is

median = 4

3, 3, 3, 4, 4, 5, 5, 5

$$\bar{x} = 4$$

data set is

median = 2.5

1, 1, 1, 4, 7, 10

$$\bar{x} = 4$$

The green data set has a greater standard deviation because the values are more spread out compared to the red data set.