1. How can we figure out what the interquartile range is?

Ans: IQR describes the middle 50% of values when ordered from lowest to highest. To calculate the IQR it is required to calculate the quartile1 (Q1) and quartile3 (Q3) of the data i.e., 25th percentile and 75th percentile of the data. The IQR can be calculated by finding the difference between the Q3 and Q1 of the data.

IQR = Q3 – Q3

1. What exactly is the value of the 5-number theory?

Ans: It is a method used for summarizing the distribution of data and presenting it with the help of box plot. 5-number theory is a summary consist of five values:

* Minimum: The lower extreme of the data set
* Lower Quartile: Q1 or 25th percentile
* Median: Q2 or 50th percentile
* Upper Quartile: Q3 or 75th percentile
* Maximum: The highest extreme of the data set

1. What is the relationship between standard deviation & variance?

Ans: Standard deviation is the measure of how much a particular point is away from mean, while variance describes the amount of spread in the data present with respect to mean. The standard deviation is calculated as square root of variance.

1. What does the difference between variance and standard deviation mean?

Ans: Standard deviation is the measure of how much a particular point is away from mean, while variance describes the amount of spread in the data present with respect to mean. The unit of standard deviation is same as of the data points in the distribution while the unit of variance is much larger units and are harder to understand intuitively.

1. When is it appropriate to refer to a skewed data distribution?

Ans: Skewed data distribution are also known as asymmetric distribution as they do not show any type of symmetry about mean. For e.g., Exam results: the data is positively skewed if the exam is difficult and negatively skewed if the exam is easy. It is appropriate to use skew distribution when the mean & median of the data do not match with each other and rather have an offset between them.