Measures of Dispersion.

Inter Quartile Range and Quartile Deviation (QD) and their coefficient.

Inter Quartile Range

Difference between third Quartile (Q_3) and first Quartile (Q_1) of a series, is called Inter Quartile Range.

Formula.

$$\text{Inter Quartile Range} = Q_3 - Q_1$$

Quartile Deviation.

Quartile Deviation is Half of Inter Quartile Range.

Formula:

$$\text{Quartile Deviation} = \frac{Q_3 - Q_1}{2}$$

It is also called Semi. Inter Quartile Range.

Coefficient of Quartile Deviation -

$$\text{Coefficient of QD} = \frac{Q_3 - Q_1}{2} \div \frac{Q_3 + Q_1}{2}$$

$$\frac{Q_3 - Q_1}{Q_3 + Q_1}$$

Coefficient of QD = $\frac{Q_3 - Q_1}{Q_3 + Q_1}$

Calculation of Q.D. and Coefficient of Q.D for Different types of statistical series.

(1). Individual Series and Q.D.

Q_1 = Size of $\frac{N+1}{4}$ th item.

Q_3 = Size of $3\left(\frac{N+1}{4}\right)$ th items.

Quartile Deviation (QD) and the Coefficient of QD are then calculated using the following formulae.

$$QD = \frac{Q_3 - Q_1}{2}.$$

Coefficient of QD = $\frac{Q_3 - Q_1}{Q_3 + Q_1}$