Types of data and Mean Median Mode

1. Find the **Mean**, **Median** and **Mode** for the following set of data:

$$2, 5, 1, 4, 6, 7, 3, 0, 1, 6, 6, 10$$

$$-3, 6, -5, -9, 4, 15, 3, 4, 1, -4, -10$$

$$0.01, 0.04, 0.043, 0.2, 3, 0.12, 0.05, 0.13, 1$$

$$\frac{1}{2}, \frac{2}{3}, \frac{4}{6}, \frac{2}{5}, \frac{7}{15}, \frac{5}{60}, \frac{2}{90}$$

2. Find the **Upper** $(\boldsymbol{Q_1})$ and **Lower Quartiles** $(\boldsymbol{Q_3})$ for the following set of data. Hence work out the Inter Quartile Range (IQR) for these sets of data.

$$2, 5\ , 1\ , 4\ , 6\ , 7\ , 3\ , 0\ , 1\ , 6\ , 6\ , 10$$

$$-3\ , 6\ , -5\ , -9\ , 4\ , 15\ , 3\ , 4\ , 1\ , -4\ , -10$$

$$0.01\ , 0.04\ , 0.043, 0.2\ , 3\ , 0.12\ , 0.05\ , 0.13, 1$$

$$\frac{1}{2}\ , \frac{2}{3}\ , \frac{4}{6}\ , \frac{2}{5}\ , \frac{7}{15}\ , \frac{5}{60}\ , \frac{2}{90}$$

3. Josh is collecting data regarding the number of rooms of each house within his district. He has collected all the data in the following table. Using the table, calculate the following:

   i) Mean
   ii) Median
   iii) Mode
   iv) Upper Quartile
   v) Lower Quartile

Number of houses (x)	**Frequency** (f)	**Cumulative Frequency**
1	3	
2	2	
3	11	
4	9	
5	0	
$\sum x =$	$\sum f =$	

4. Adam and six other men ran a race.

The times, in seconds, of the six other men are shown.

9.75 9.79 9.80 9.88 9.94 9.98

The mean time for all seven men was 9.83 seconds.

Did Adam win the race? (YES/NO). **You must show your working.**

5. The mean of the ages of a football team with 11 players is 22 years. One of the players is expelled from the team. The mean of the ages now drops to 21 years.

What was the age of the player expelled?

6. The mean mark for a mathematics test of a class of 25 students was 73%.
   Two new students, George and Peter were moved in this class and the new mean of the class was now 74%.

   What marks did George and Peter get if George got 5 marks more than Peter?
   Show all your working.

7. Six lifeguards work at a swimming pool.

The table shows the number at the swimming pool each day for three weeks.

Number of lifeguards	Frequency
1	0
2	5
3	4
4	5
5	6
6	1

a) Work out how many days there were more than 3 lifeguards.

b) Work out the median number of lifeguards. You must show your working.

c) Work out the mean number of lifeguards. Give your answer correct to 3 significant figures.

7. The speed of 60 cars was recorded and the results are summarised on the table below. Using the data on the table, find the following:

a) An estimation for the Mean speed,

b) The modal class,

c) The Median class,

d) The Upper and Lower Quartile class

$\boldsymbol{Speed}$ $\left(v\ \boldsymbol{Km/h}\right)$	$\boldsymbol{Frequency}$	$\boldsymbol{Mid-point}$ (x)	$\boldsymbol{Cumulative\ Frequency}$
$40 < v \leq 50$	5		
$50 < v \leq 60$	14		
$60 < v \leq 70$	16		
$70 < v \leq 80$	10		
$80 < v \leq 90$	9		
$90 < v \leq 100$	6		