DATA
Facts or figures, which are numerical or otherwise, collected with a definite purpose are called data.

Types Of Data

Quantitative Data	Qualitative Data
These represent numerical value.	These represent some characteristics or attributes.
These can be numerically computed.	These depict descriptions that may be observed but cannot be computed.

Primary Data	Secondary Data
Data collected for first time.	Data that is sourced by someone other than the user.

Discrete Data	Continuous Data
These are the data that can take only specific value.	These are the data that can take values from a given range.

Frequency Distribution Table
A list, table or graph that displays the frequency of various outcomes in a sample of data.

Frequency Distribution Table

Ungrouped
It is used for small data set. For eg.

Marks Obtained	Frequency
16	3
17	4
18	8
19	10
20	12
21	6
22	3

Grouped
It is used for large data set. For eg.

Class Interval	Frequency
0-5	3
5-10	11
10-16	14
15-20	2

Graphical Representation of Frequency Distribution Table

Bar Graph

Represents categorical data with rectangular bars whose height is proportional to frequency.

Histogram

Represents continuous data with no gap between bars.

Frequency Polygon

Represents quantitative data using line graph.
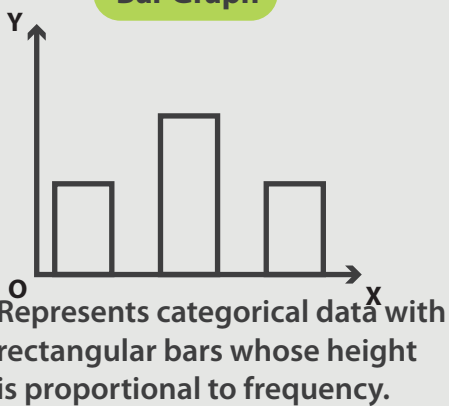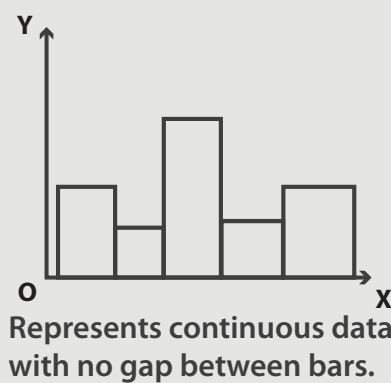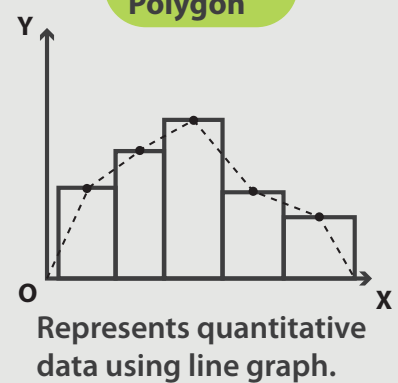
Mean for Ungrouped Data
Let the data set be $x_1, x_2, x_3, ..., x_n$

$$\text{mean} = \frac{x_1 + x_2 + x_3 + ... + x_n}{n}$$

Mean for Grouped Data

(1) Direct Method

$$\text{mean} = \frac{\Sigma x_i f_i}{\Sigma f_i}$$

Where
x_i = Corresponding class mark
f_i = Corresponding frequency

(2) Assumed mean method

$$\text{mean} = a + \frac{\Sigma d_i f_i}{\Sigma f_i}$$

Where

a = Assumed mean for the given data

d_i = deviation = $x_i - a$

x_i = Corresponding class mark

f_i = Corresponding frequency

(3) Step Deviation method

$$\text{mean} = a + \frac{\Sigma f_i u_i}{\Sigma f_i} \times h$$

Where

a = Assumed mean for the given data

$u_i = \frac{x_i - a}{h}$

h = Class width

x_i = Corresponding class mark

f_i = Corresponding frequency