

MATH TIP OF THE DAY

Measures of Central Tendency

Mean average

Median middle

Mode most common



MashUp Math



MEANING

**CENTRAL TENDENCY OR AVERAGE OR
MEASURE OF CENTRAL VALUE**

The tendency of quantitative data

To concentrate around a particular value

Is called central tendency



AVERAGE (CENTRE OF THE DISTRIBUTION)

- It represents the whole series
- It conveys a general idea about the whole group.
- It is a value around which other values cluster.
- It is a value lying between the maximum and minimum values.
- It is generally located at the centre of the distribution.
- It is found by dividing the sum of the data by the no: of items in the data set.
- It is also called the “mean”

DEFINITION

**“An Average Is A Figure That Represents
The Whole Group”**

CLARK

MOST COMMON MEASURES OF CENTRAL TENDENCY

1. Arithmetic Mean
2. Median
3. Mode
4. Geometric Mean
5. Harmonic Mean



IMPORTANCE / FUNCTIONS /

USES/ OBJECTIVES

AVERAGES

1. GIVES A GENERAL IDEA ABOUT THE WHOLE GROUP

- ❑ Simplifies complexity of the data
- ❑ Data can be easily understood

Table 1. Income statement.

Income	
Sale of Crop Products	\$50,000
Sale of Livestock Products	\$25,000
Government Payments	\$10,000
Total Income	\$85,000
Expenses	
Seed	\$10,000
Fertilizer	\$20,000
Feed	\$10,000
Processing	\$10,000
Marketing	\$5,000
Interest	\$5,000
Depreciation	\$10,000
Total Expenses	\$70,000
Net Income	\$15,000

2. USED FOR SUMMARIZING THE DATA

- Data can be expressed in numbers.
- It reveals the salient features of the data.
- Ex: Average marks of a student in different subjects reveals the efficiency of the student.

	A	B	C	D	E	F	G	H
1	Name	English	Math	Biology	Chinese	Total		
2	Ashley	95	85	95	90	365		
3	Burt	90	80	60	90	320		
4	Bruce	75	60	45	60	240		
5	Vivian	80	95	85	85	345		
6	Peter	75	60	90	90	315		
7	Melody	55	90	40	70	255		
8	Doris	75	65	75	65	280		
9	Lee	100	85	90	80	355		
10	Dean	60	55	45	85	245		

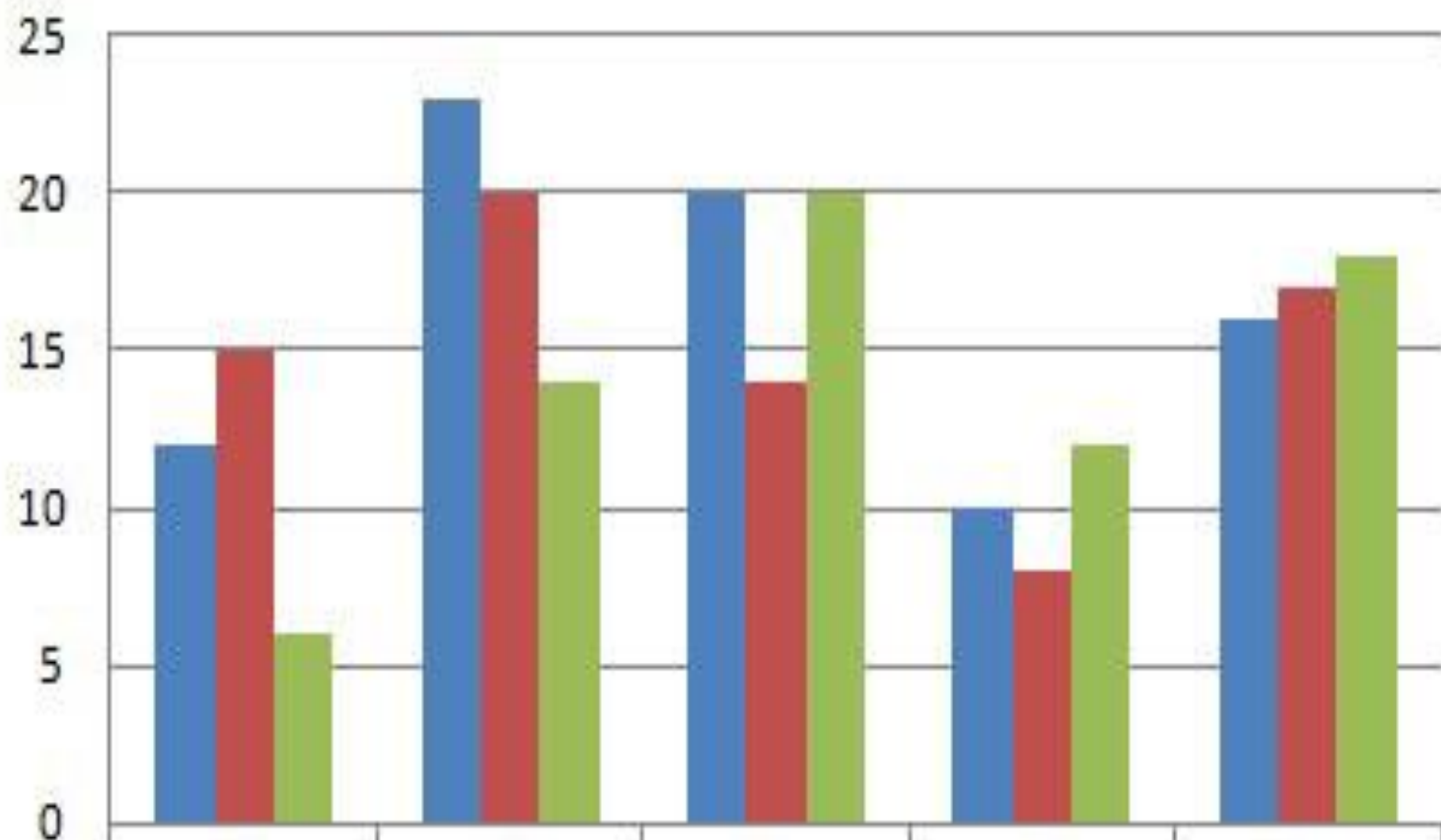
First term / Second term / Third term / **Fourth term**

3. HELPS COMPARISON

Comparing two sets of data.

Ex: Average income of Indians and Americans reveals that Americans are economically better than Indians.

Number of Units

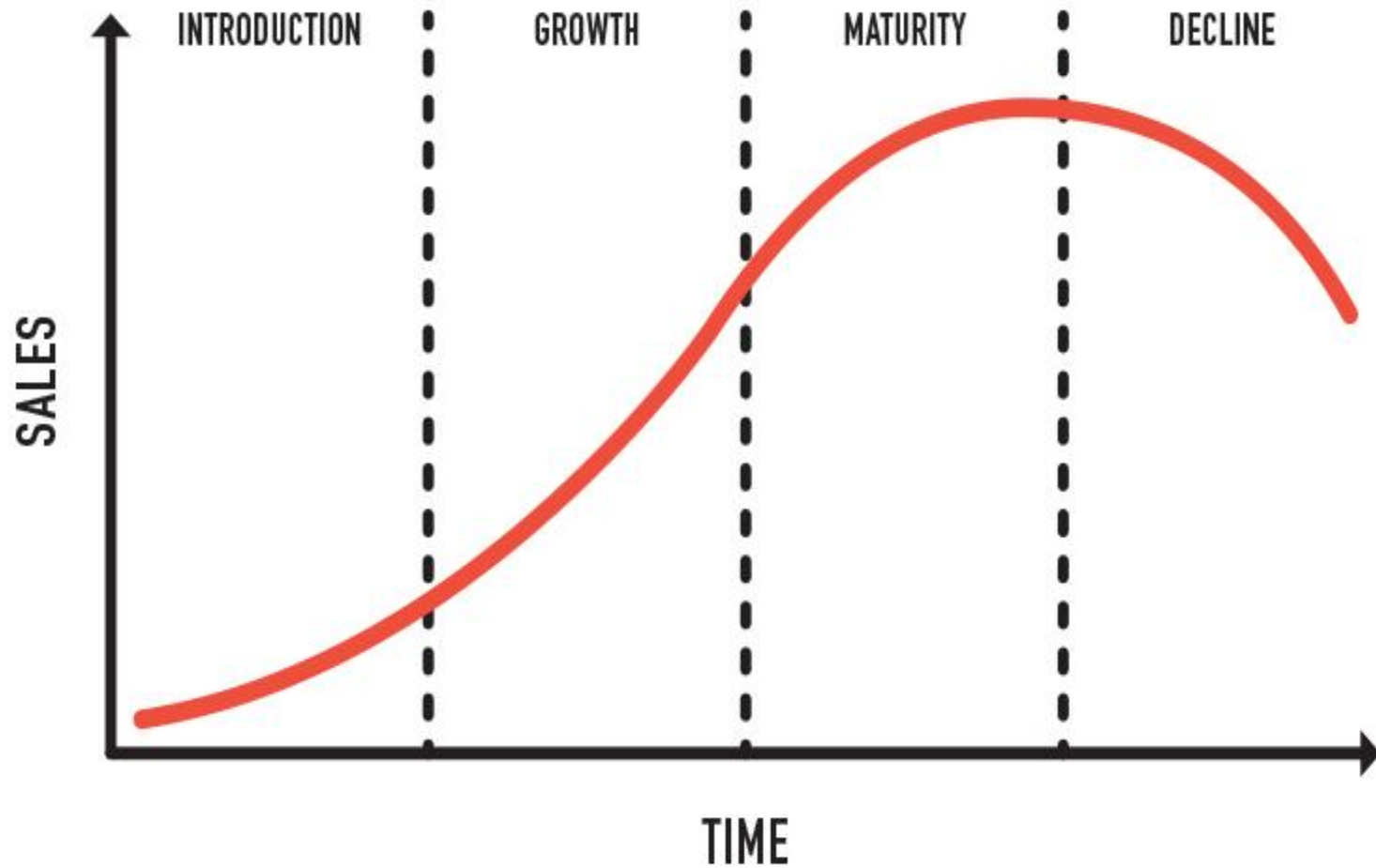


In Stock	12	23	20	10	16
Purchased	15	20	14	8	17
Sold	6	14	20	12	18

4. HELPS IN DECISION MAKING

- It helps in formulation of policies.
- Ex: If average sales in a shop is very poor, the shop owner has to formulate policies to increase the sales.

PRODUCT LIFECYCLE

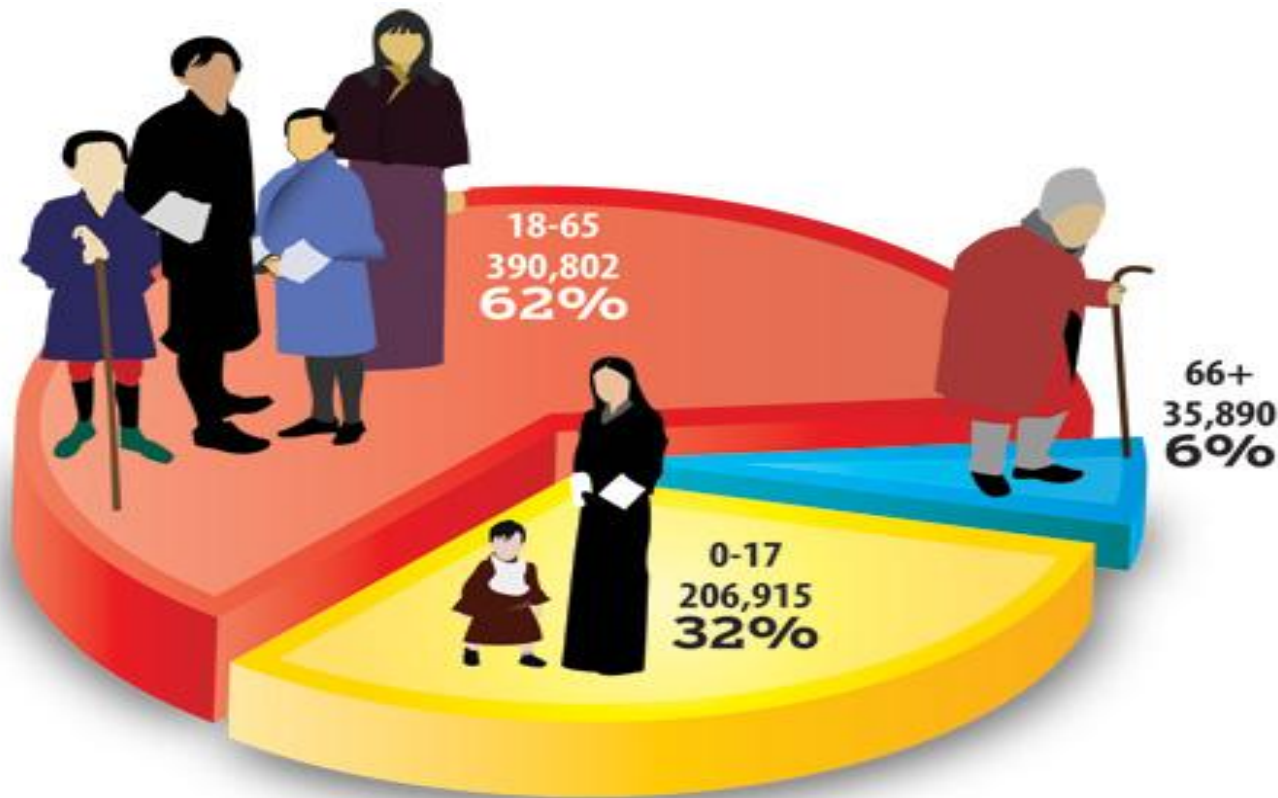


5. Constitute the basis of statistical Analysis

- The basic purpose of statistical analysis is to develop the summary measures which will describe the data adequately.

6. IT REPRESENTS THE UNIVERSE

- It gives the summary of mass of facts.
- It possess the characteristics of the whole group.



**ESSENTIAL PROPERTIES /
CHARACTERISTICS
OF A GOOD AVERAGE**

- 1. Clearly defined.**
- 2. Based on all the observations of the data.**
- 3. Easy to calculate and simple to follow.**
- 4. Not to be influenced by sampling fluctuations.**
- 5. Amenable to further algebraic treatment.**
- 6. Not be effected by extreme values.**



