D. Mean Center :

the mean was discussed as an important measure of central tendency for a set of data. If this concept of central tendency is extended to locational point data in two dimensions (X and Y coordinates), the average location, called the mean center, can be determined. the only stipulation is that the phenomenon can be displayed graphically as a set of points in a two-dimensional coordinate system.

The directional orientation of the coordinate axes and the location of the origin are both arbitrary.

Once a coordinate system has been established and the coordinates of each point determined, the mean center can be calculated by separately averaging the X and Y coordinates, as follows:

$$\bar{x} = \frac{\sum X_i}{n} \quad , \qquad \bar{Y} = \frac{\sum Yi}{n}$$

where:

$\bar{X}$= mean center of X

$\bar{Y}$= mean center of Y

Xi = X coordinate of point i

Yi = Y coordinate of point i

n = number of points in the distribution

for example\ Calculate the central mean of the following data

Point	Xi	Yi
A	61	33
B	80	20
C	10	18
D	12	14
E	20	12

H.W

A- Calculate the central mean of The following points represent weather stations centers.

weather stations centers	X	Y
1	10	4
2	16	8
3	8	9
4	24	12
5	18	16
6	28	13
7	11	10
8	30	20

B\ find the weighted mean center for the following data:

weather stations centers	Weight
1	1
2	3
3	3
4	2
5	4
6	5
7	2
8	5