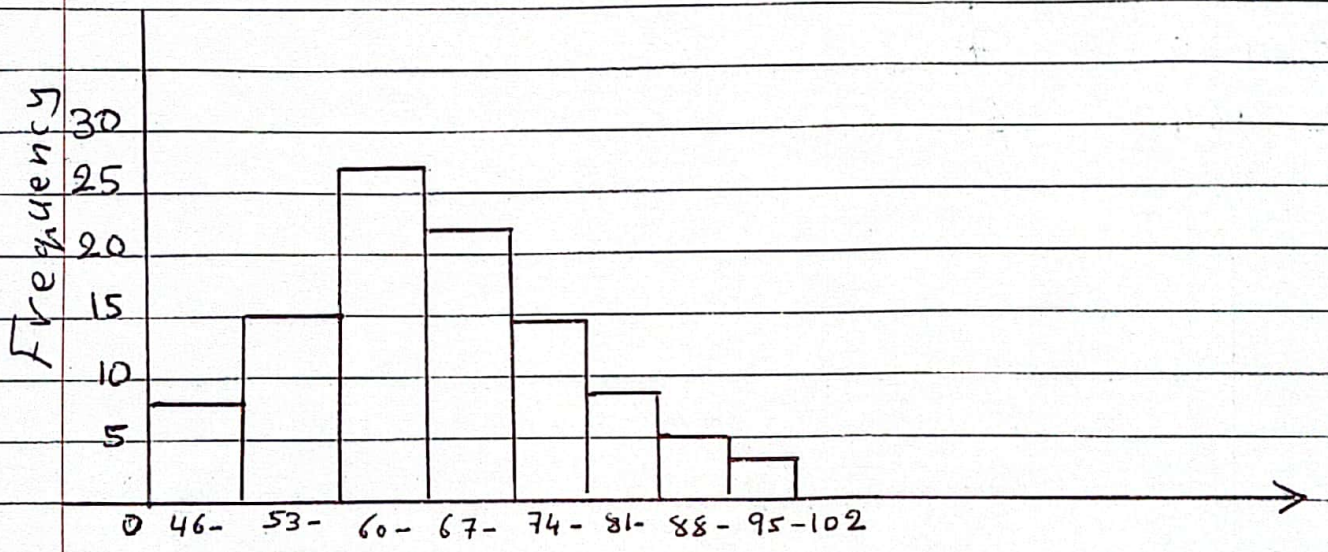
Example:

| classes | Frequency |
|---|---|
| 46 - | 7 |
| 53 - | 15 |
| 60 - | 27 |
| 67 - | 21 |
| 74 - | 14 |
| 81 - | 8 |
| 88 - | 5 |
| 95 - 102 | 3 |

Continuous variables.



27/3/2024

3- **Frequency Polygon:** - It is a number of lines connected to each other in the form of a series, and the point where one line connects to the other corresponds to the center of the category.

This means that when drawing the recurrence polygon, it is necessary to find the centers of the categories and then draw the polygon on the basis of the pairs of values, (Categorycenter * frequency)

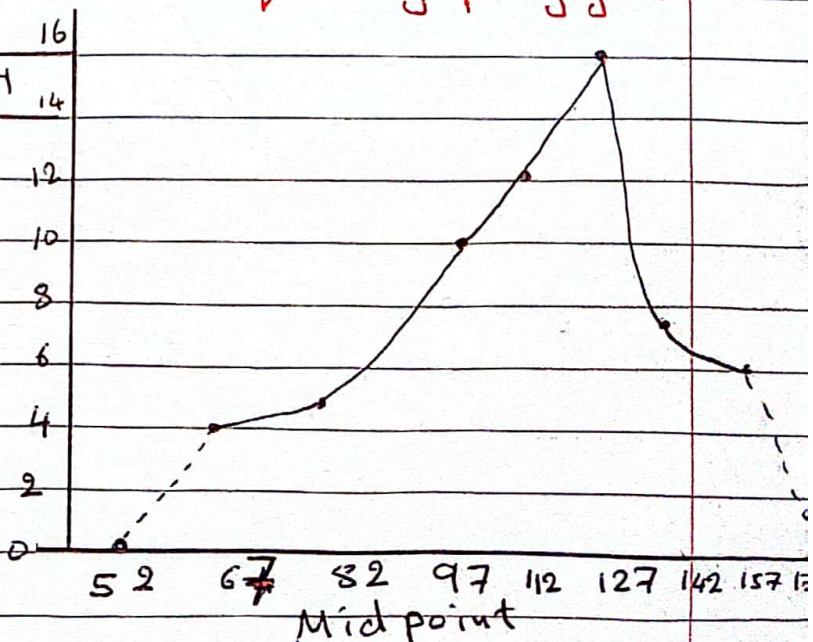
It is preferable to close the iterative polygon with x-axis by choosing an imaginary class centerbefore the first class center.

And another after the last category center.

We assume that the frequency of these two Centers is equal to zero, and the closing process is completed with a dotted line.

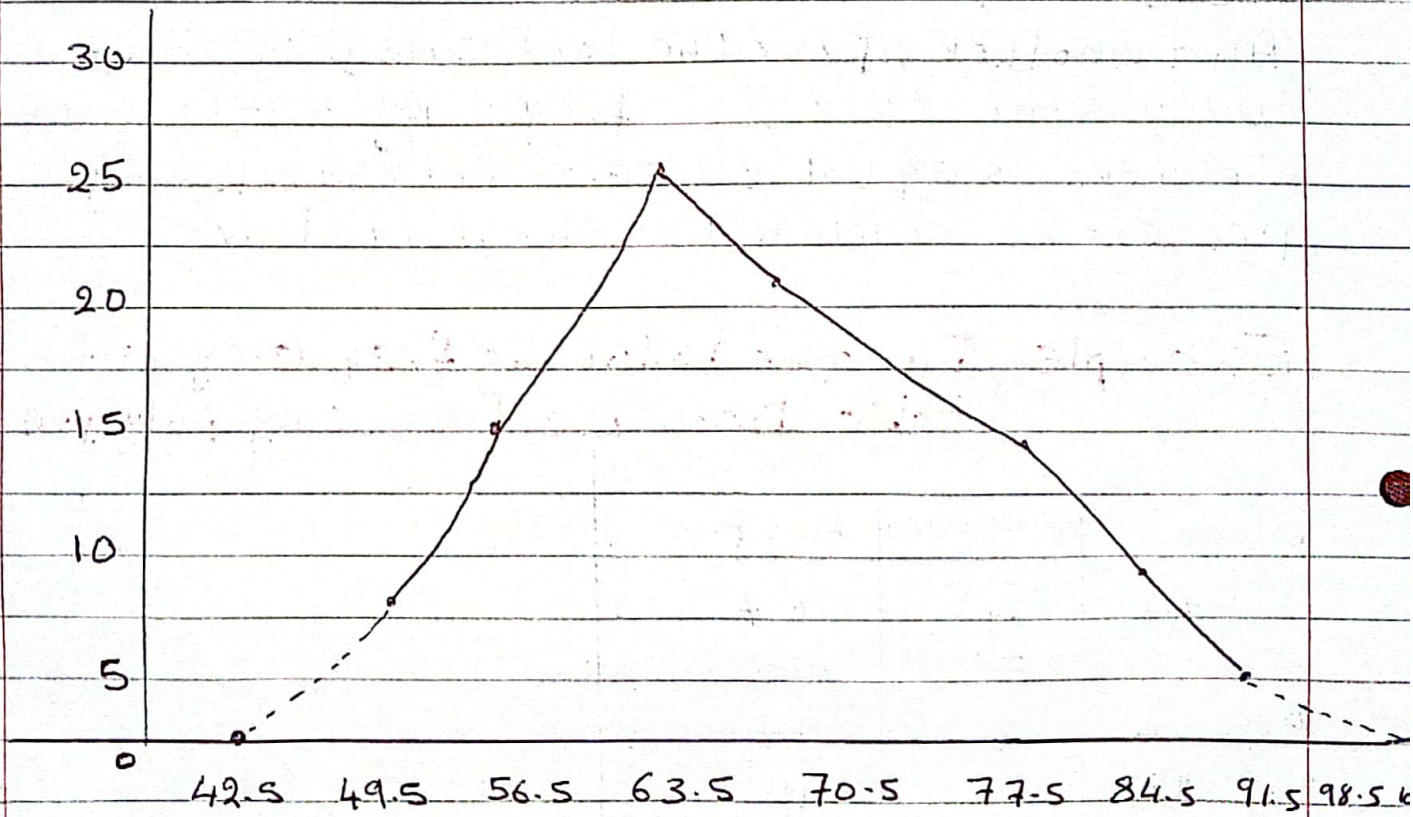
**Example:** For the following frequency distribution table Draw the frequency polygon

| classes | Frequency | Mid point |
|---|---|---|
| 60-74 | 4 | 67 |
| 75-89 | 5 | 82 |
| 90-104 | 10 | 97 |
| 105-119 | 12 | 112 |
| 120-134 | 16 | 127 |
| 135-149 | 7 | 142 |
| 150-164 | 6 | 157 |



Example: For the following frequency distribution Draw ~~draw~~ the polygon

| classes | $f_i$ | Midpoint |
|---|---|---|
| 46 - | 7 | 49.5 |
| 53 - | 15 | 56.5 |
| 60 - | 27 | 63.5 |
| 67 - | 21 | 70.5 |
| 74 - | 14 | 77.5 |
| 81 - | 8 | 84.5 |
| 88 - | 5 | 91.5 |
| 95-102 | 3 | 98.5 |



If the random variable is of a continuous variable, it is as in the following example:

The following is a frequency distribution of the weights of a sample of students from a college the size of which is 100 students. what is required is to creat a frequency distribution table for the ascending clustered, and the relative ascending clustered frequency distribution table.

| classes | Upper limit | fi | Fi (الصاعد) | Fi* (النسبي) | (النسبي المئوي) |
|---|---|---|---|---|---|
| -46 | Less than 53 | 7 | 7 | 7/100 | $(\frac{7}{100}) \times 100 = 7$ |
| -53 | Less than 60 | 15 | 22 | 22/100 | 22 |
| -60 | Less than 67 | 27 | 49 | 49/100 | 49 |
| -67 | less than 74 | 21 | 70 | 70/100 | 70 |
| -74 | Less than 81 | 14 | 84 | 84/100 | 84 |
| -81 | Less than 88 | 8 | 92 | 92/100 | 92 |
| -88 | Less than 95 | 5 | 97 | 97/100 | 97 |
| 95-102 | Less than 102 | 3 | 100 | 100/100 | 100 |
| | | 100 | | | |

② Down clustered frequency distribution:
It is the distribution that shows the decreasing frequencies starting with the last category of it

The distribution table of the collected frequencies is calculated on the basis of the minimum limits of the categories

Example: The frequency table represents the distribution of 60 peasant families according to their ownership of the number of orange trees.

Requires the configuration of the descending relative clustered frequency distribution Fi' (Downward Repetition)

| classes | Minimum Limits | fi | Fi' (التكرار النازل النازل) | Fi* (التكرار النازل النسبي) | PFi* (النسبي المئوي) |
|---|---|---|---|---|---|
| 60-74 | greaterthan or equal 60 | 4 | 60 | 60/60 | $\frac{60}{60} \times 100 = 100$ |
| 75-89 | greaterthan or equal 75 | 5 | 60-4 ~~56~~ 56 | 56/60 | $\frac{15}{60} \times 100 = 25$ |
| 90-104 | 90 | 10 | 60-9 51 | 51/60 | 85 |
| 105-119 | 105 | 12 | 60-19 41 | 41/60 | 68.333 |
| 120-134 | 120 | 16 | 60-31 29 | 29/60 | 48.333 |
| 135-149 | 135 | 7 | 60-47 13 | 13/60 | 21.66 |
| 150-164 | 150 | 6 | 60-54 6 | 6/60 | 10 |
| | | 60 | | | |