

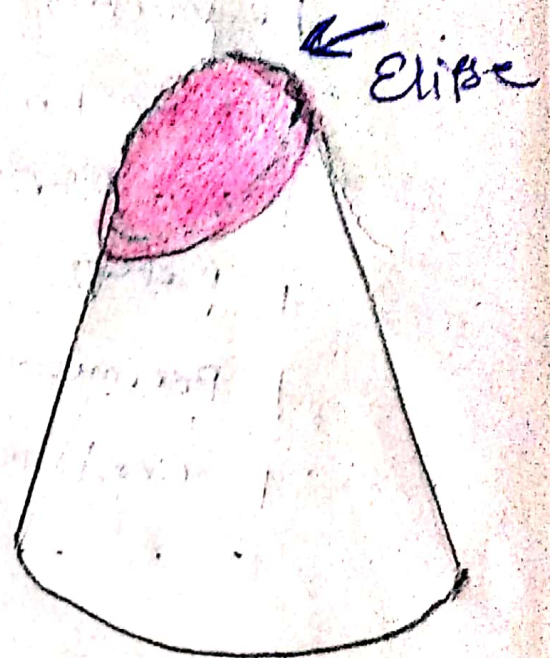
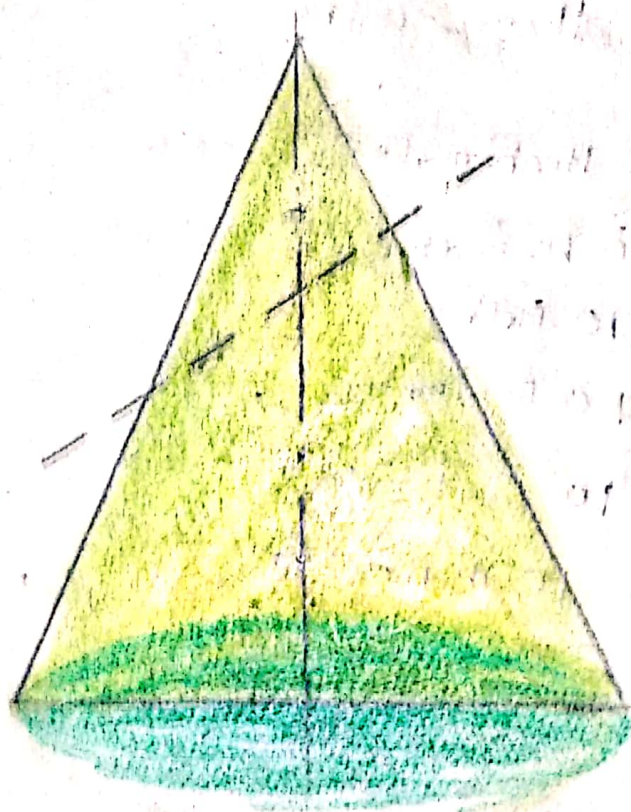
## CONIC SECTION

Conic sections or conics are obtained by cutting off a right regular cone by a section plane in different position, relative to the axis of the cone.

The conic section are:-

- 1) Ellipse
- 2) Parabola
- 3) Hyperbola

## Ellipse



When the section plane is inclined to the axis and cuts all the generators on the side of the apex, the section is an ellipse.

$$\text{eccentricity} = \frac{\text{distance from the focus}}{\text{distance from the directrix}}$$

The fixed point is called focus

The fixed line is called directrix

Here,  $e$  = eccentricity

$$e < 1$$

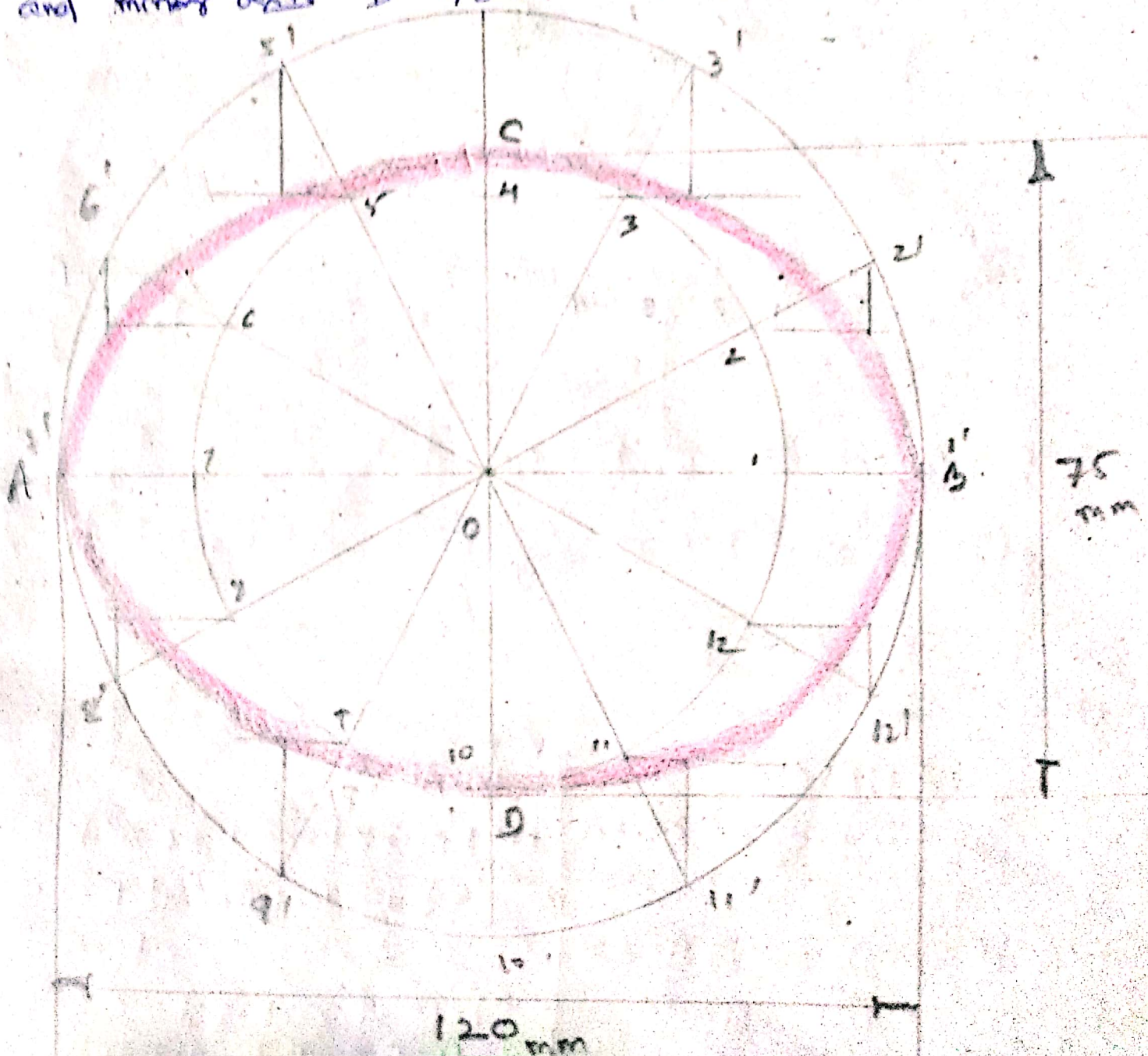


We can construct an ellipse by following method:-

- 1) Concentric Circle method
- 2) Arc of Circle method
- 3) Directrix Method

Concentric Circle method:-

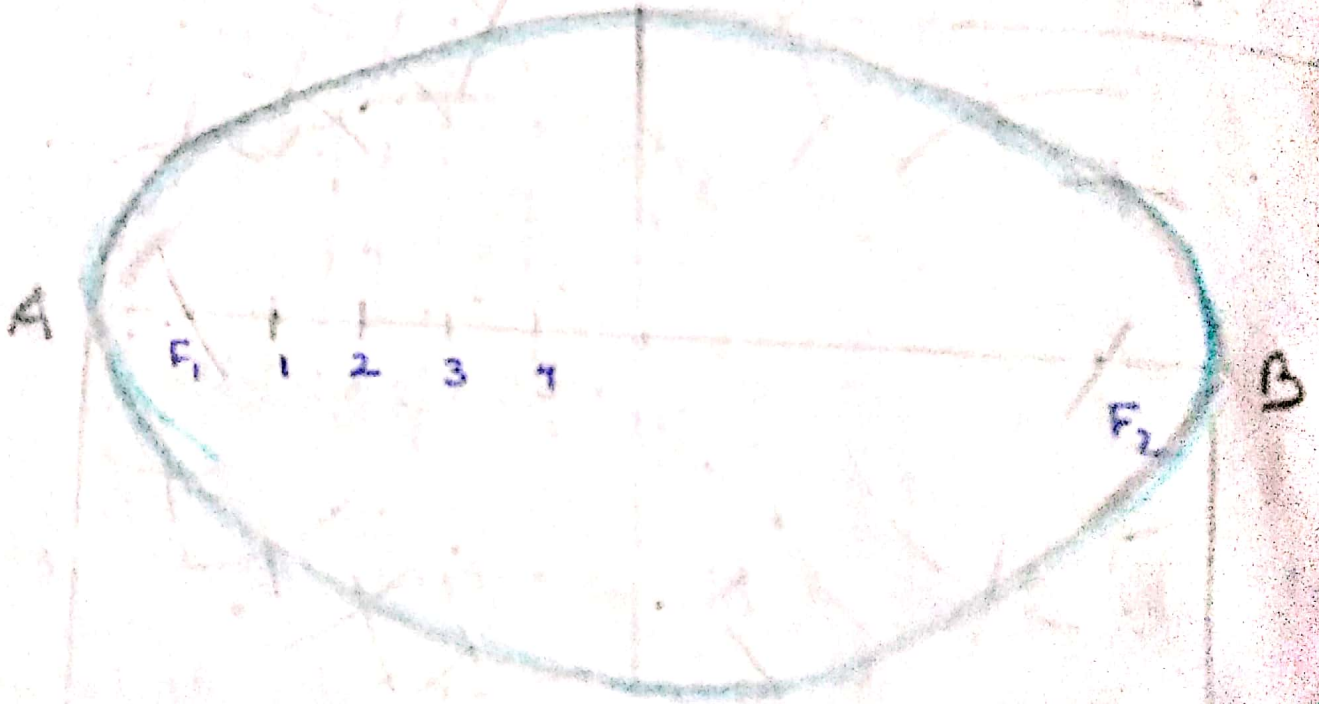
Draw an ellipse when the major axis is 120 mm and minor axis is 75 mm.





## Asc of Circle method

Draw an ellipse when major and minor axes are given.



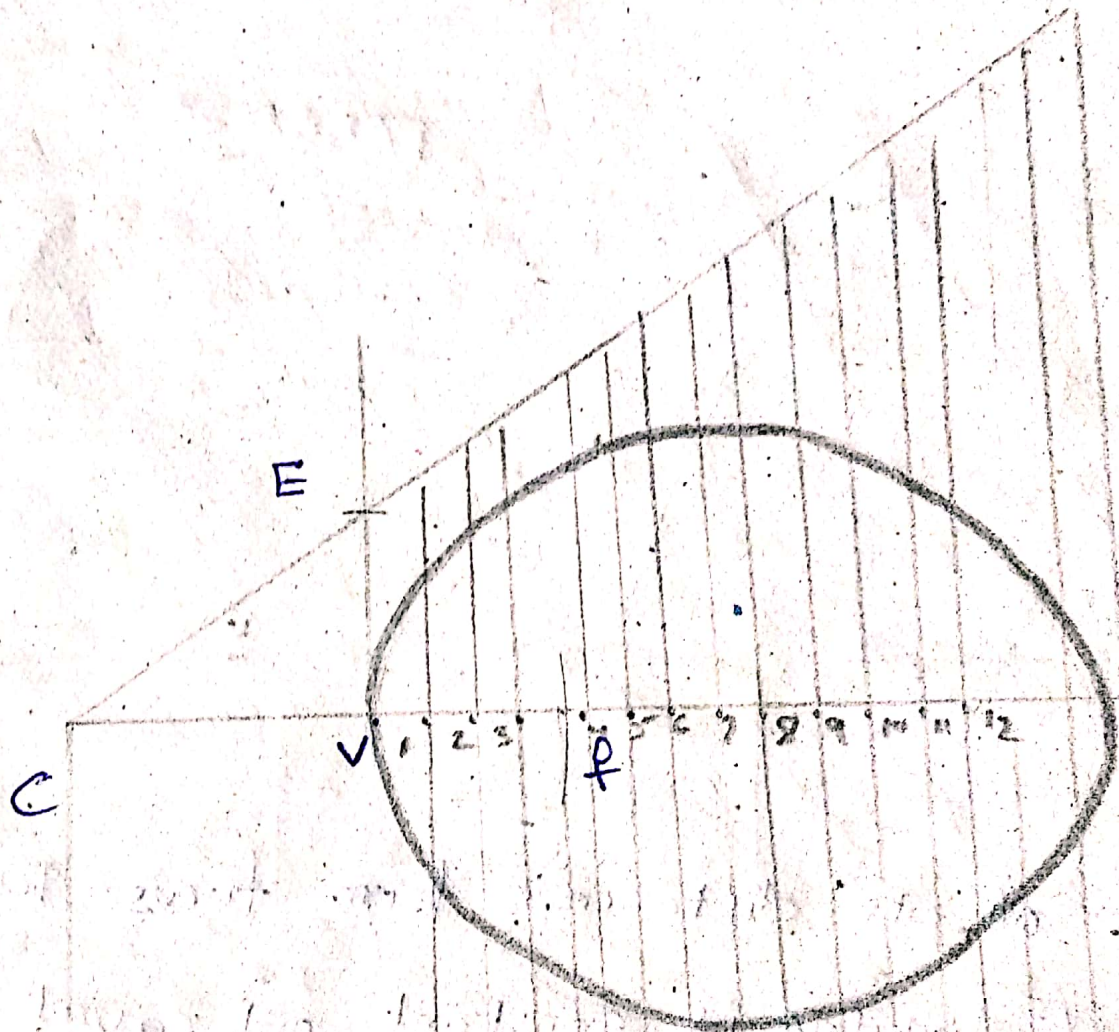


### Directrix Method.

Draw an ellipse when the distance between director to focus is 50mm & eccentricity is  $\frac{2}{3}$ .

$$e = \frac{v_f}{v_c} = \frac{2}{3}$$

$$\vee F = \vee E$$



$$e = 2/3$$

50 mm