· EXERCISE 2   PLAIN SCALE, DIAGONAL SCALE. & CONIC SECTIONS

1. Construct a scale of R.F = 1:10 showing the feet & inches & long enough to read the distance of 5 feet. Show on it the distance of 4 feet & 10 inches.
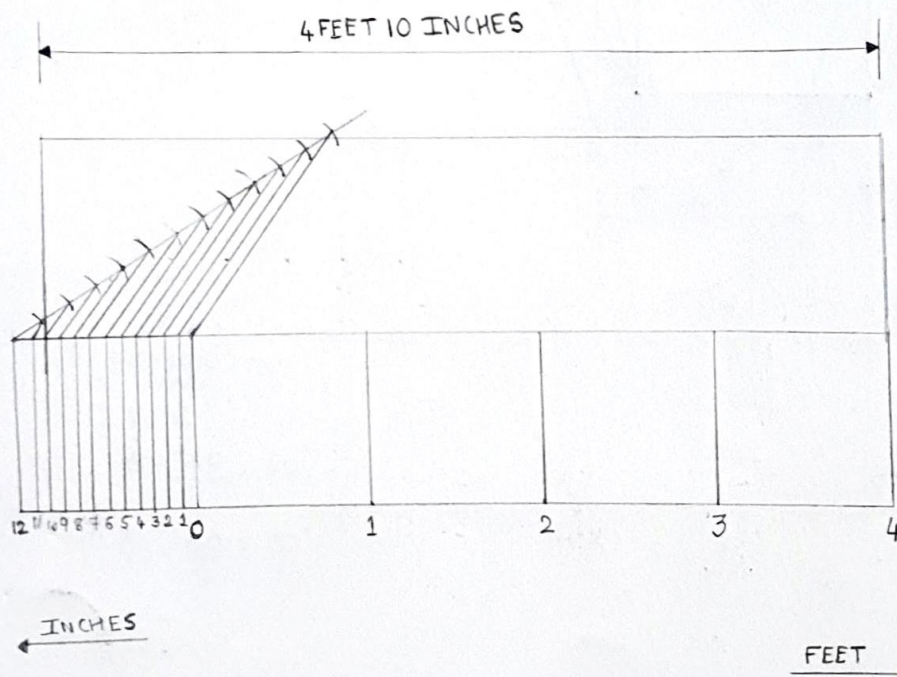
* Calculation:-

R.F = 1:10

LOS = R.F × max

$= \frac{1}{10_2} \times 5$

$= \frac{1}{2}$ FEET

= 6 INCHES

= 15 CENTIMETRE

15 CENTIMETRE → 5 equal parts

4 FEET 10 INCHES

12 11 10 9 8 7 6 5 4 3 2 1 0   1   2   3   4

← INCHES

FEET →

R.F = 1:10

LENGTH OF SCALE = $\frac{1}{2}$ FEET

= 15 CENTIMETRE

2. Construct a scale of R.F = 1/2 to show millimetre & centimetre to measure up to 35 centimetres. Show on scale a distance of 30.9 centimetre.

Caculation:-

R.F = 1:2

mm, cm

30.9 → show

L.O.S = R.F × max

$= \frac{1}{2} \times 35$

= 17.5 CENTIMETRE

7 equal parts => 17.5

1 parts => 2.5 CENTIMETRE

1 → 5 CENTIMETRE

→ 35 CENTIMETRE

30.9 CENTIMETRE

5' 4' 3' 2' 1' 0'

10 9 8 7 6 5 4 3 2 1 0

5 4 3 2 1 0   5   10   15   20   25   30

MILIMETRE
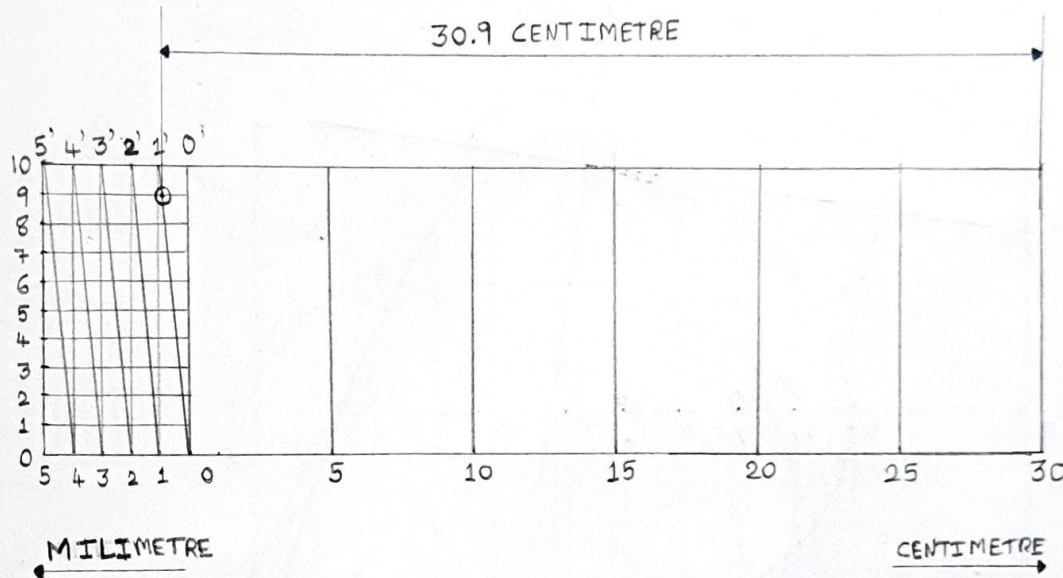
CENTIMETRE

R.F = 1:2
LENGTH OF SCALE = 17.5 CENTIMETRE
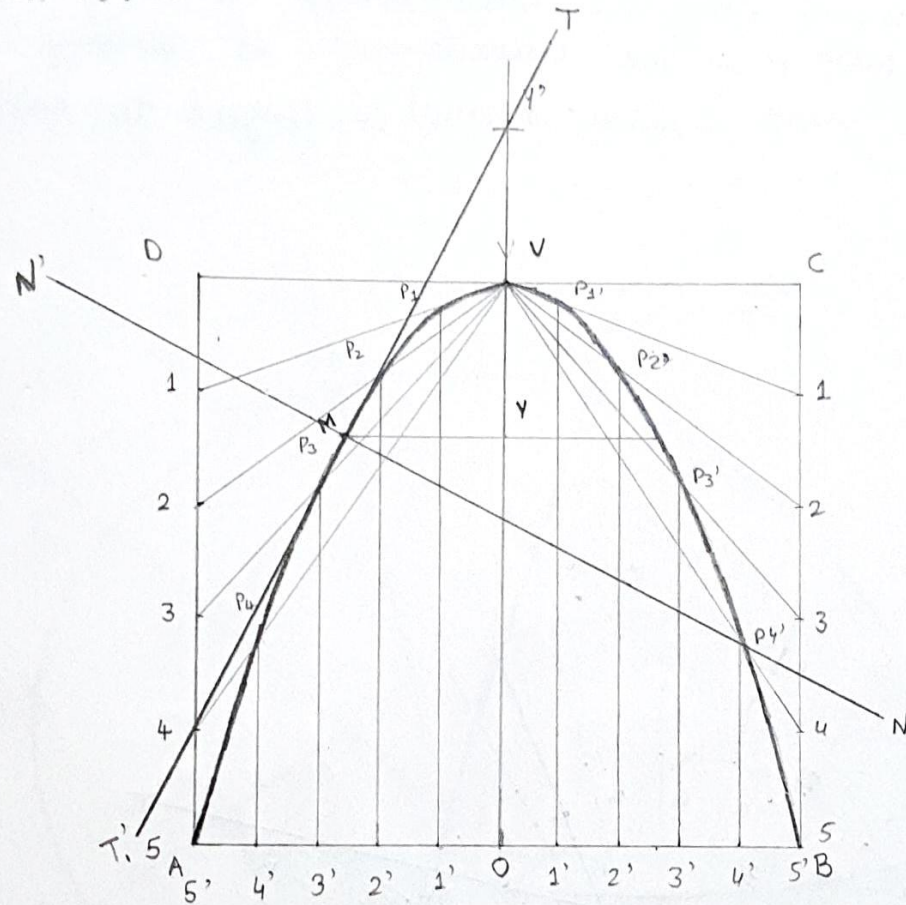
3. Construct the curve if the distance between the focus & the directrix is 50mm. The ecentricity is 2/3. Draw the tangent & normal to the ellipse at any point.

EV = VF
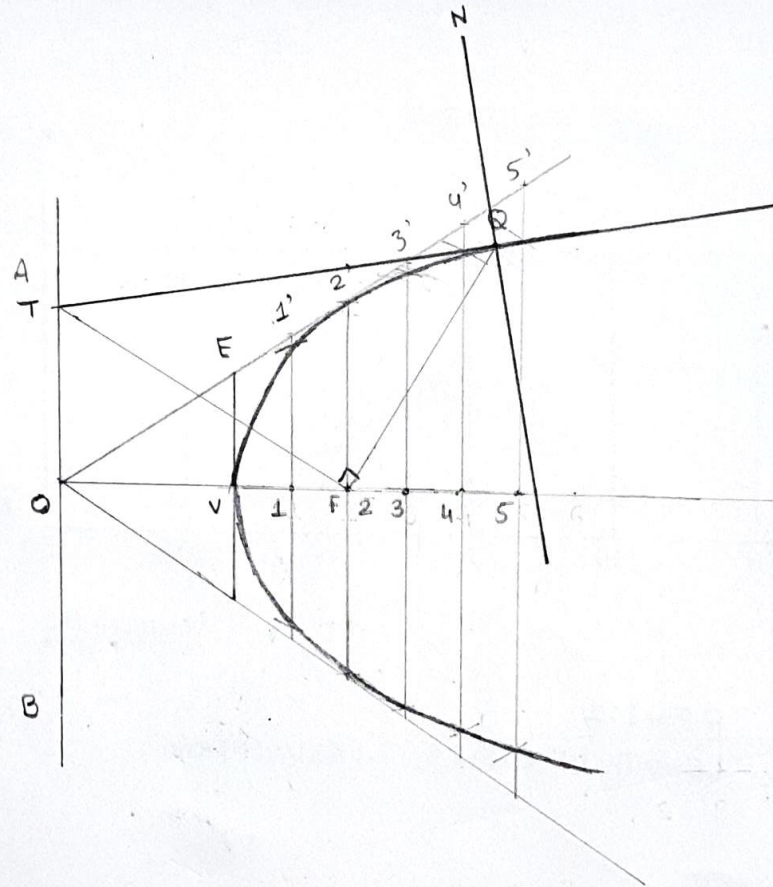
4. Construct the parabola if the base is 105mm & axis length is 96mm. Locate focus, vertex & directrix of the parabola. Also draw the tangent & normal to the parabola at any point on it.

MY ⊥ Axis

VY = VY'