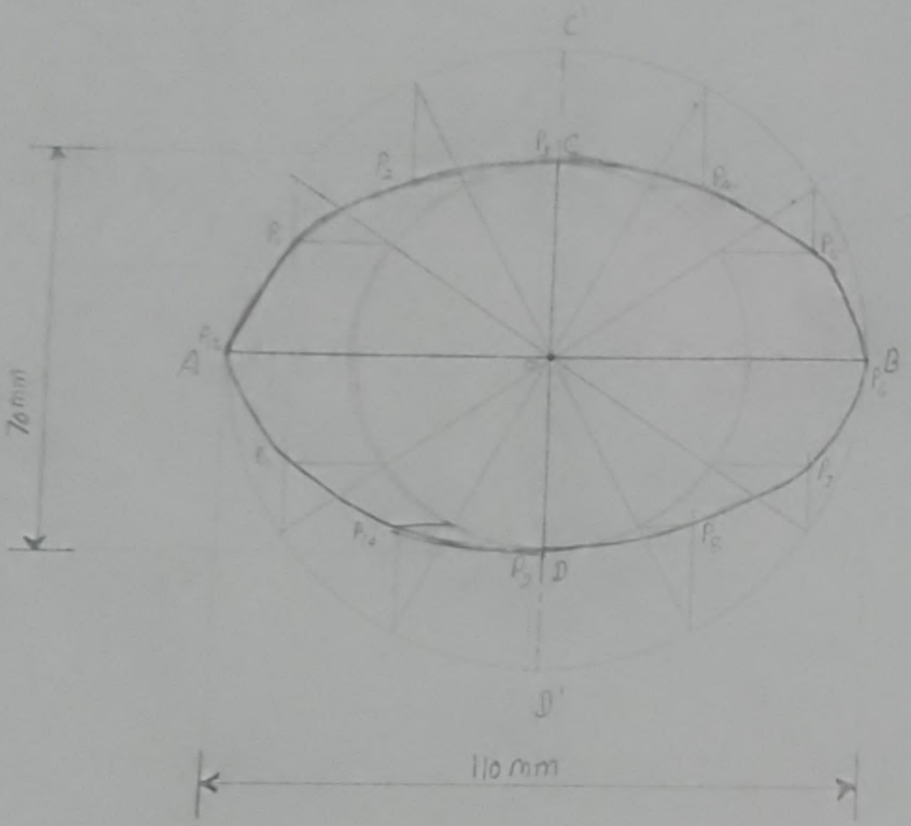
(6)

Conic Section

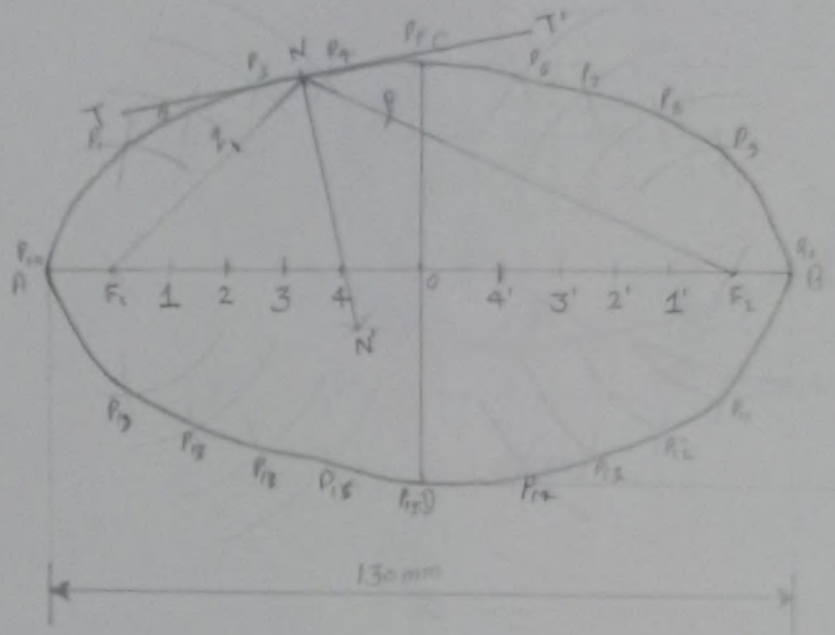
Ellipse

Concentric circle method

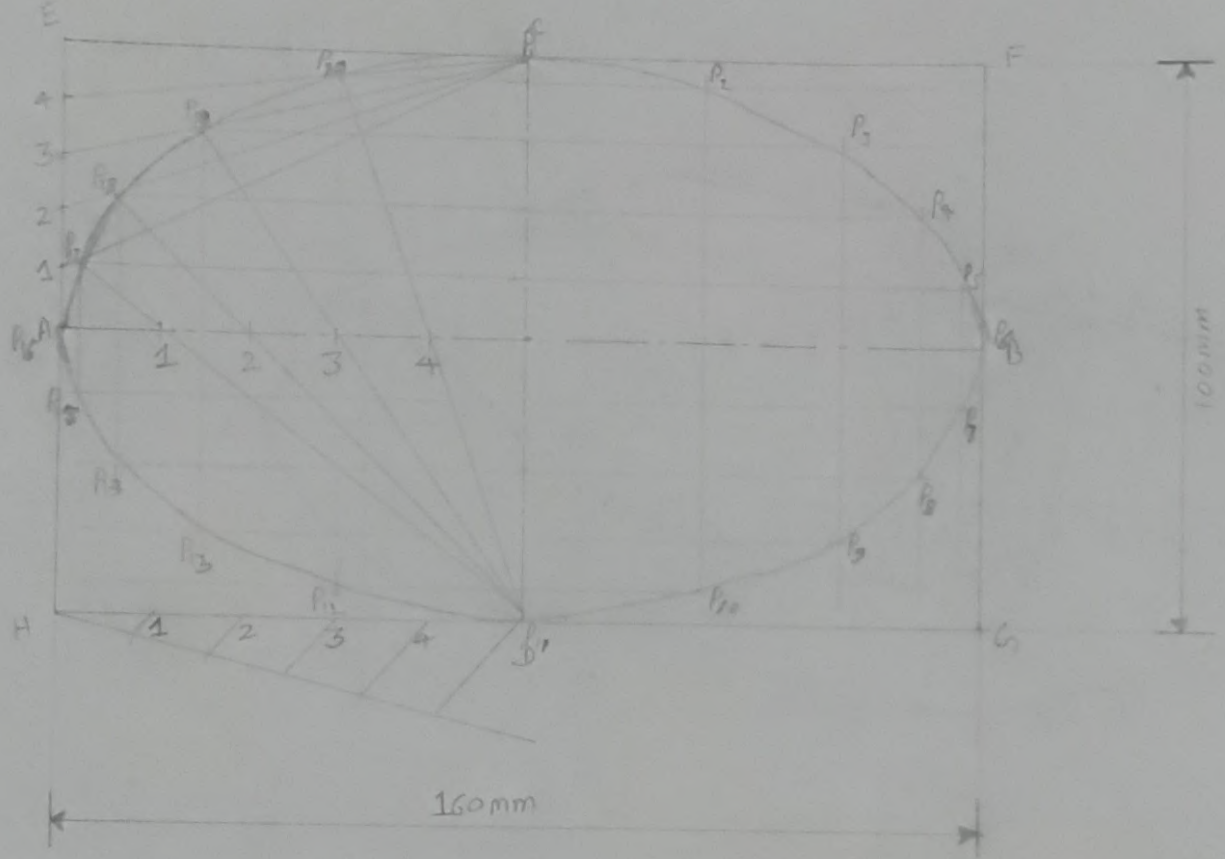


Arc of Circle

(7)

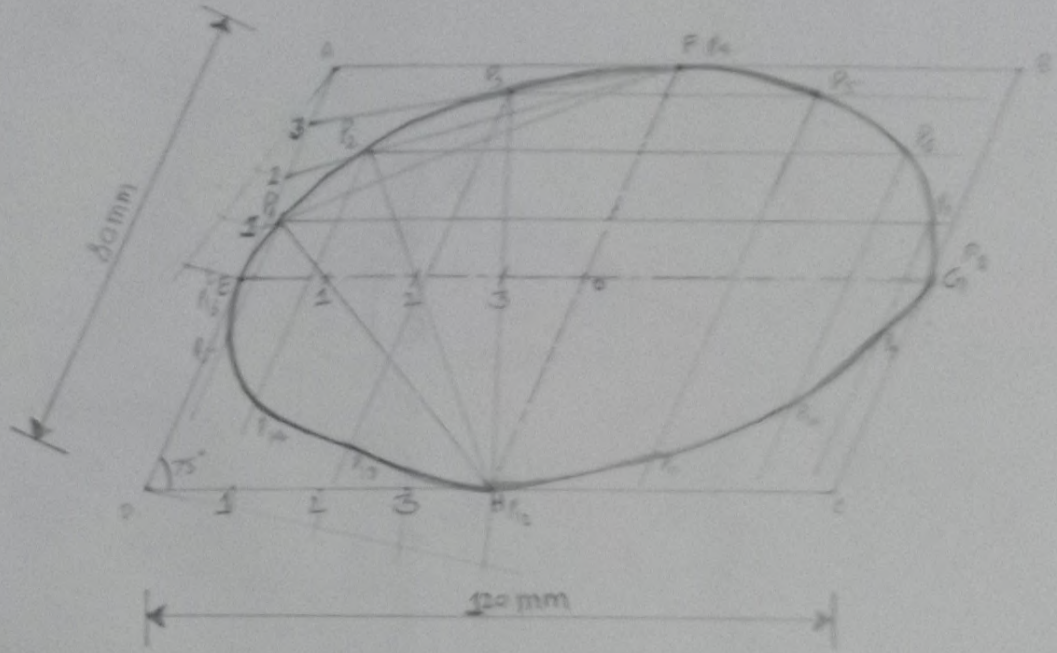


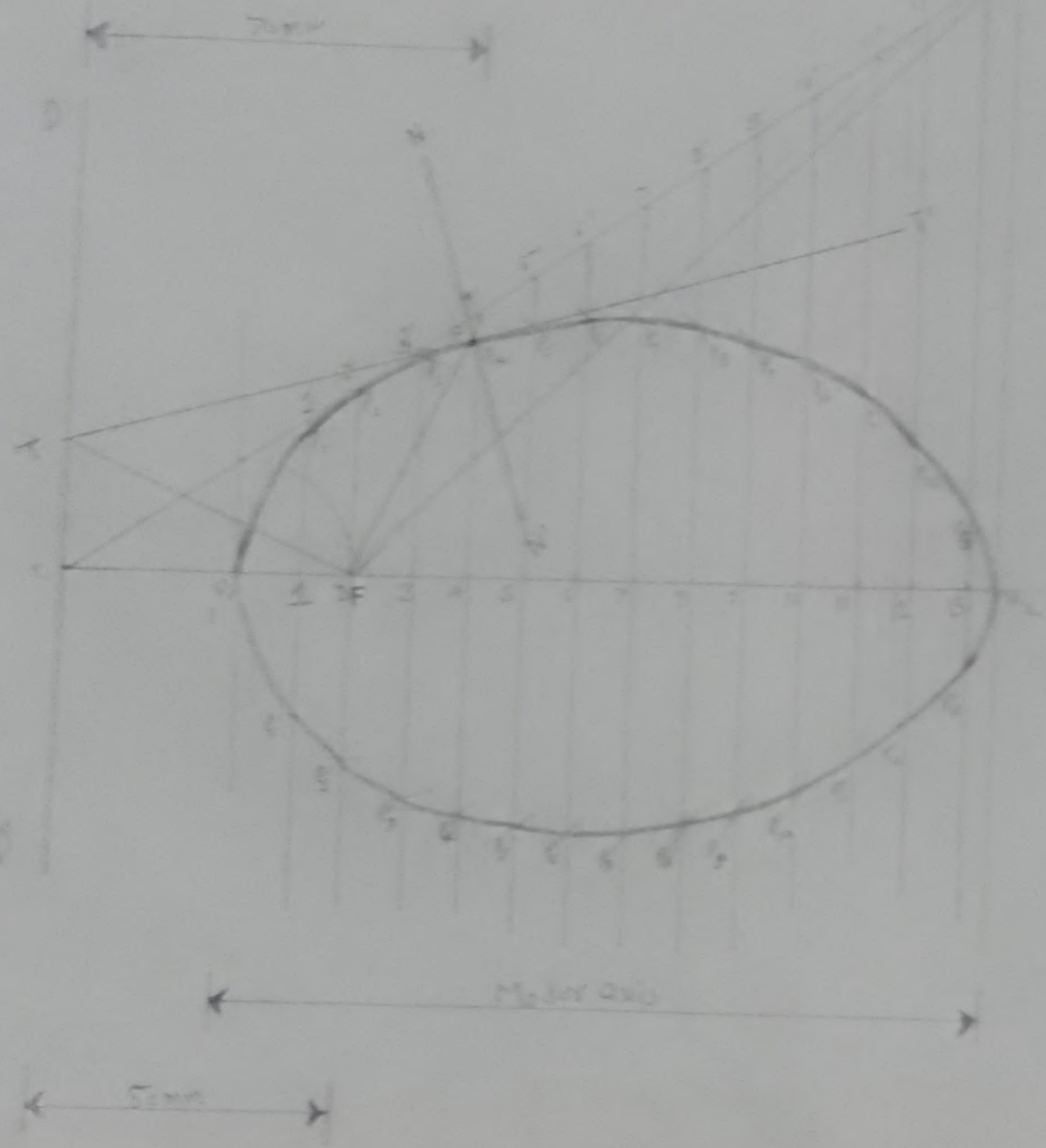
(5) (oblong) Rectangular method



(9)

Parallelogram (oblong) method

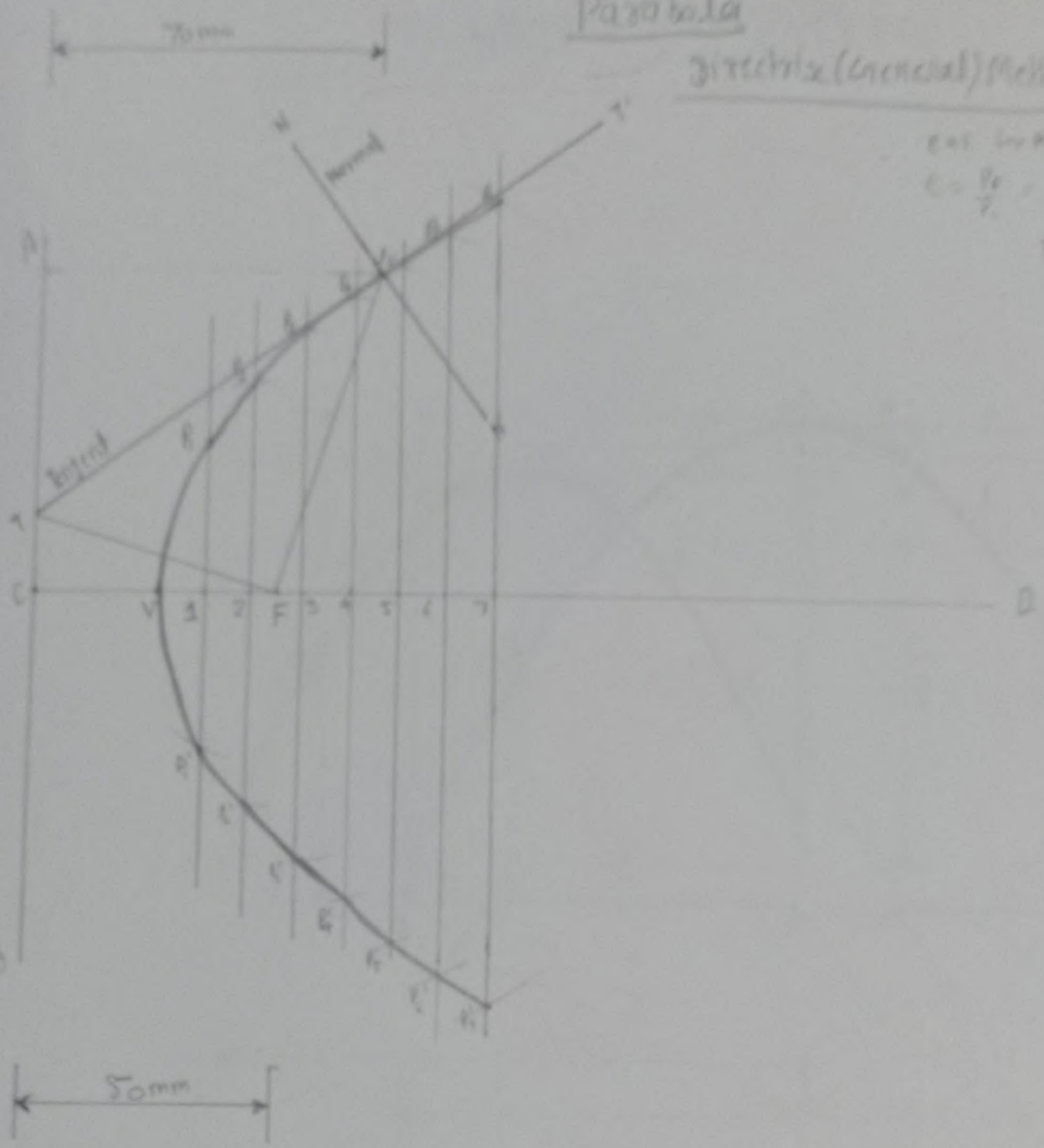



F
Major axis

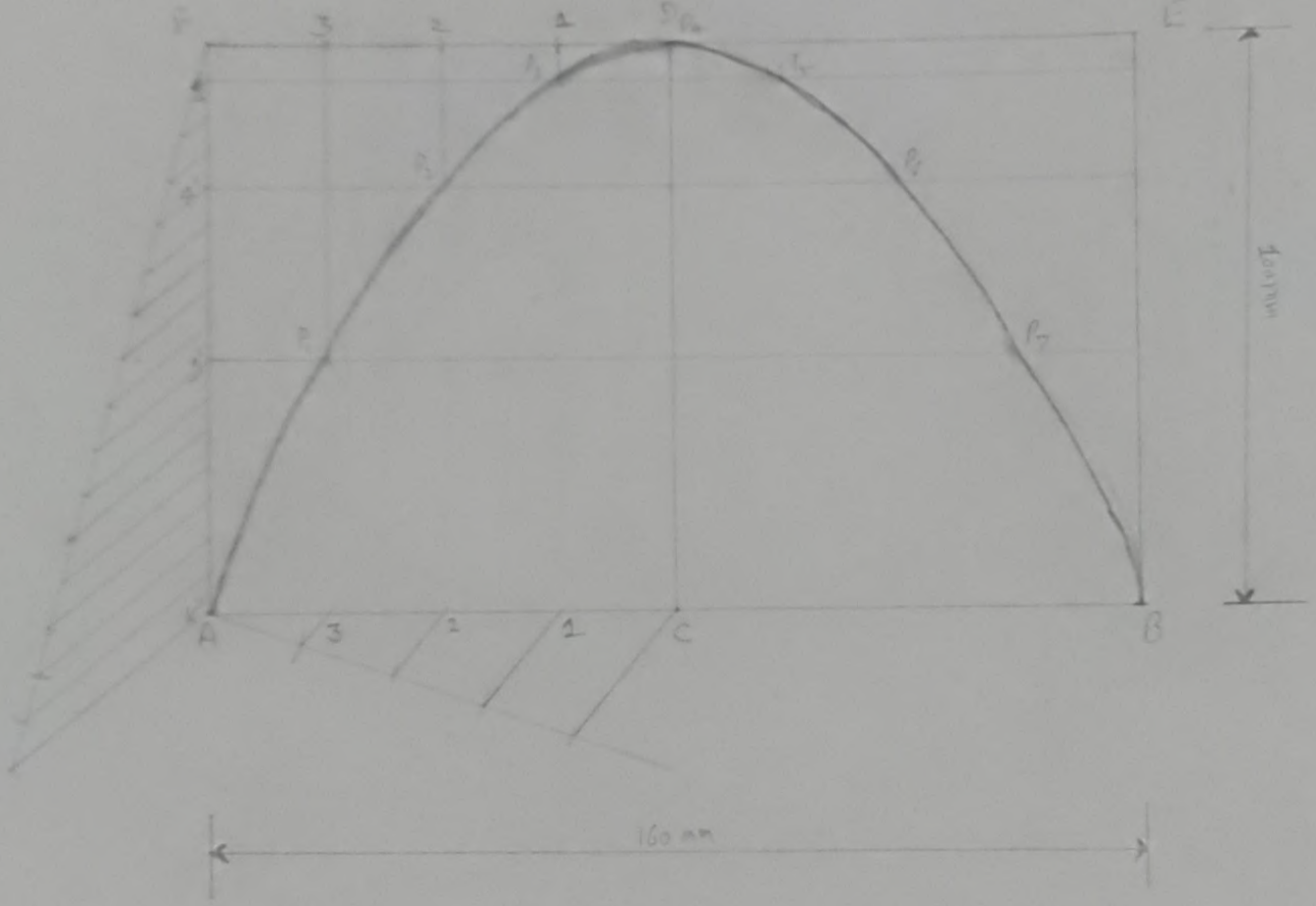
(12)

Parabola

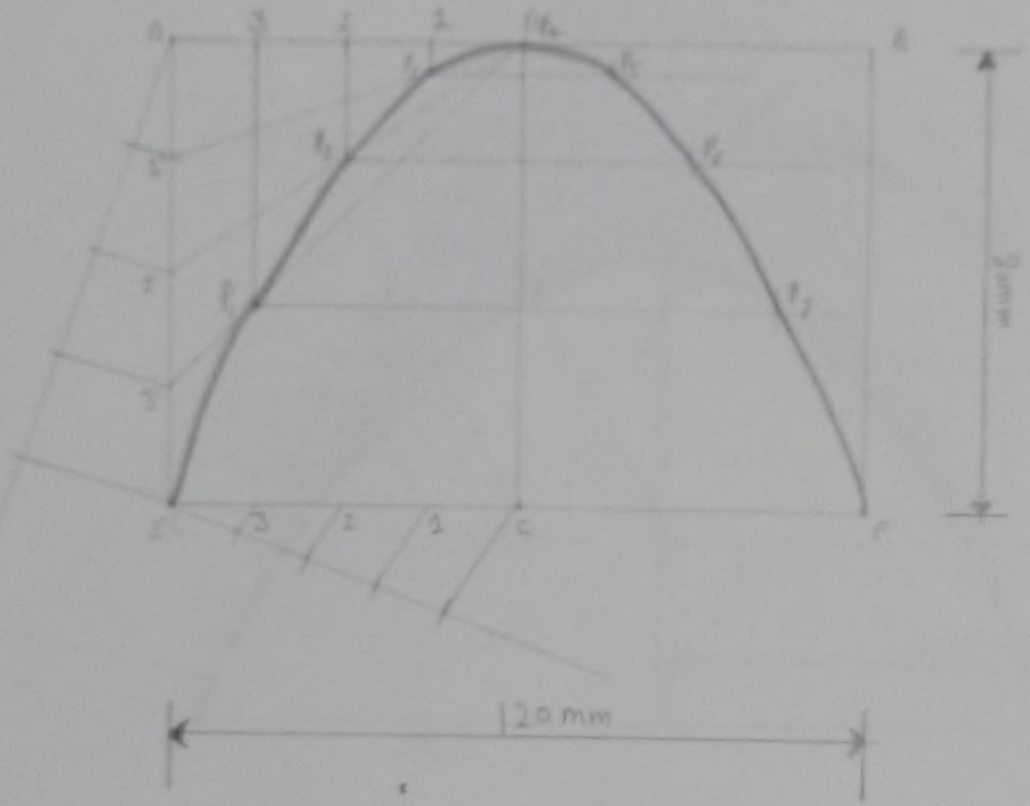
Directrix (eccentricity) Method



Offset Method

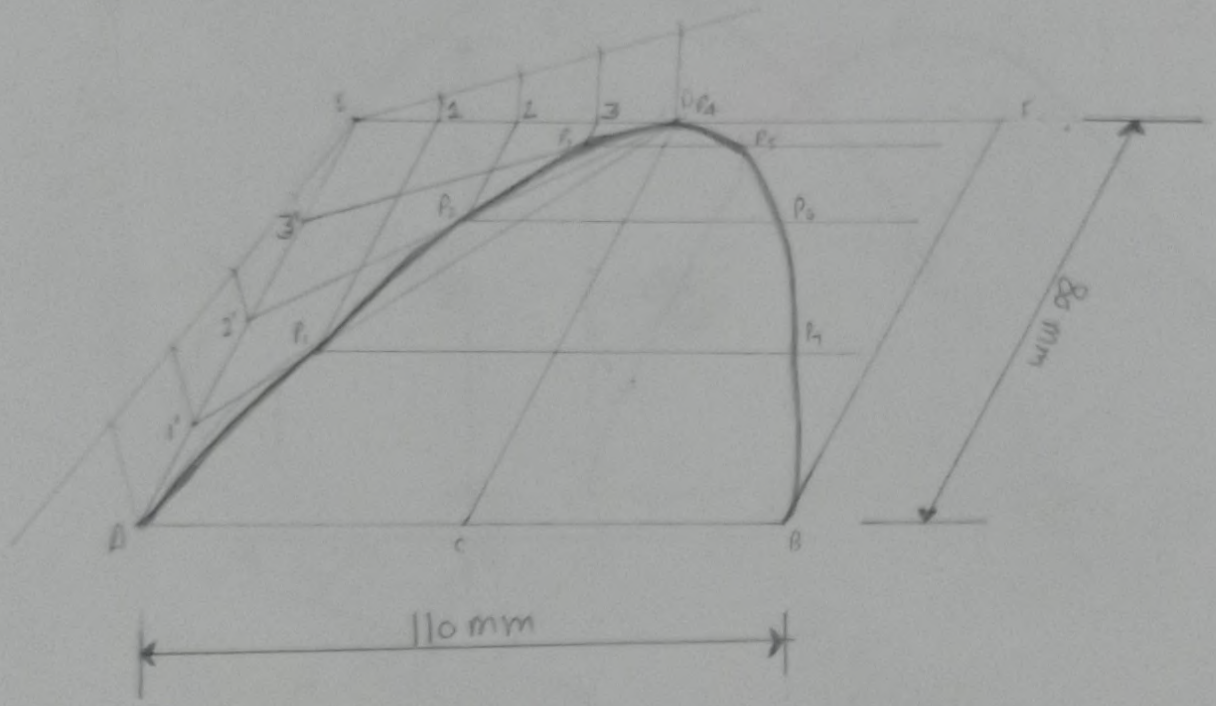


Rectangular (oblong) Method



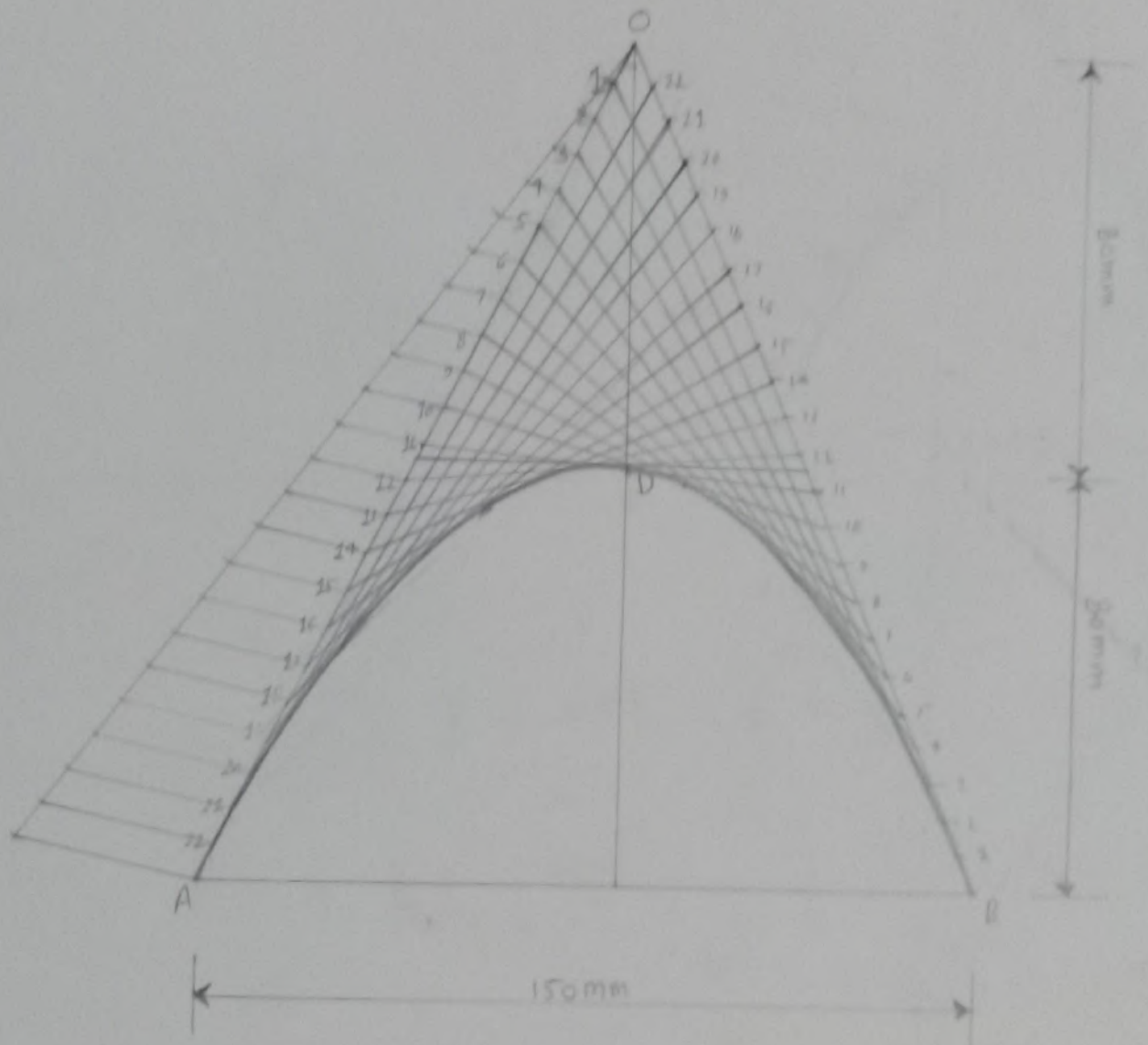
(14)

Parallelogram (Oblong) Method



15

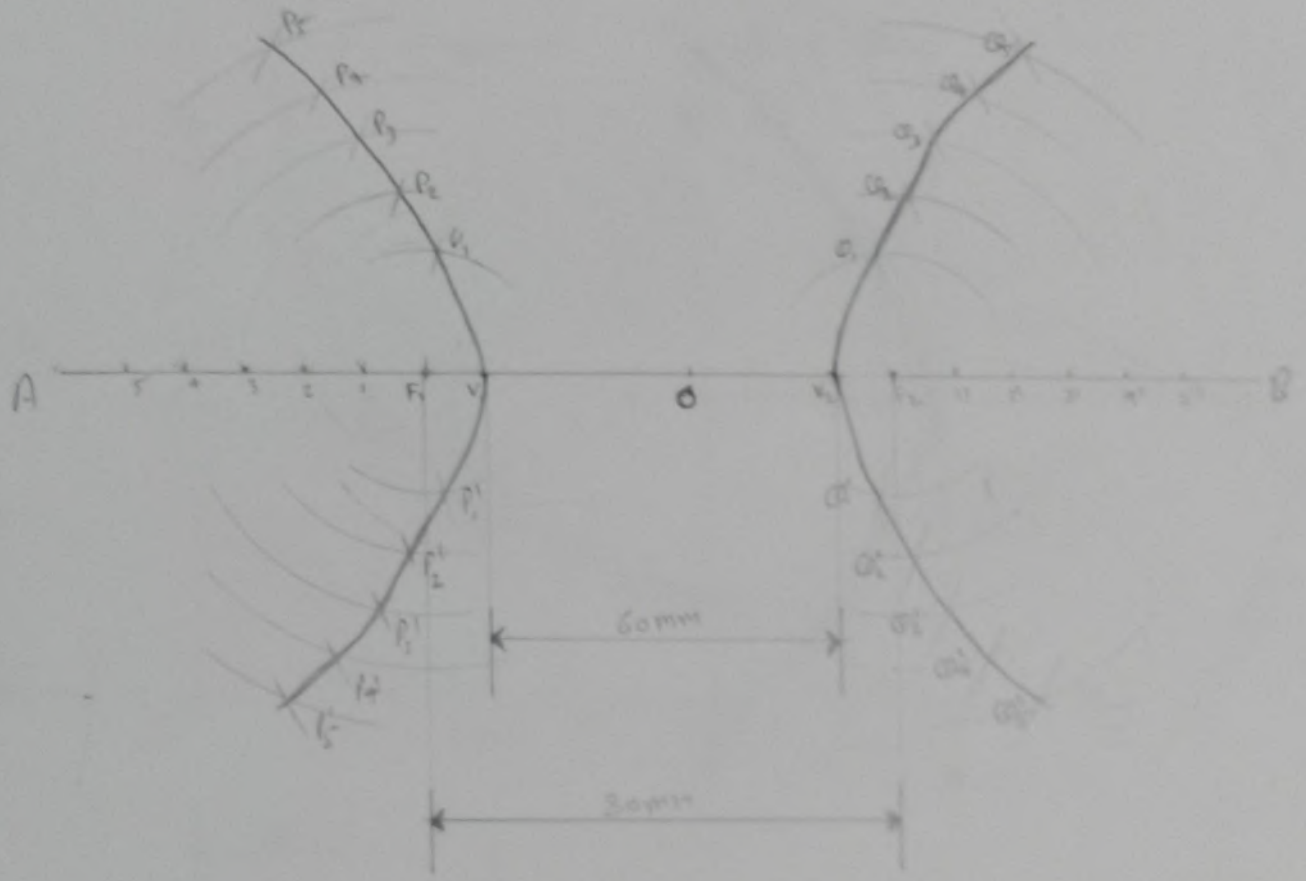
Tangent Method



50mm

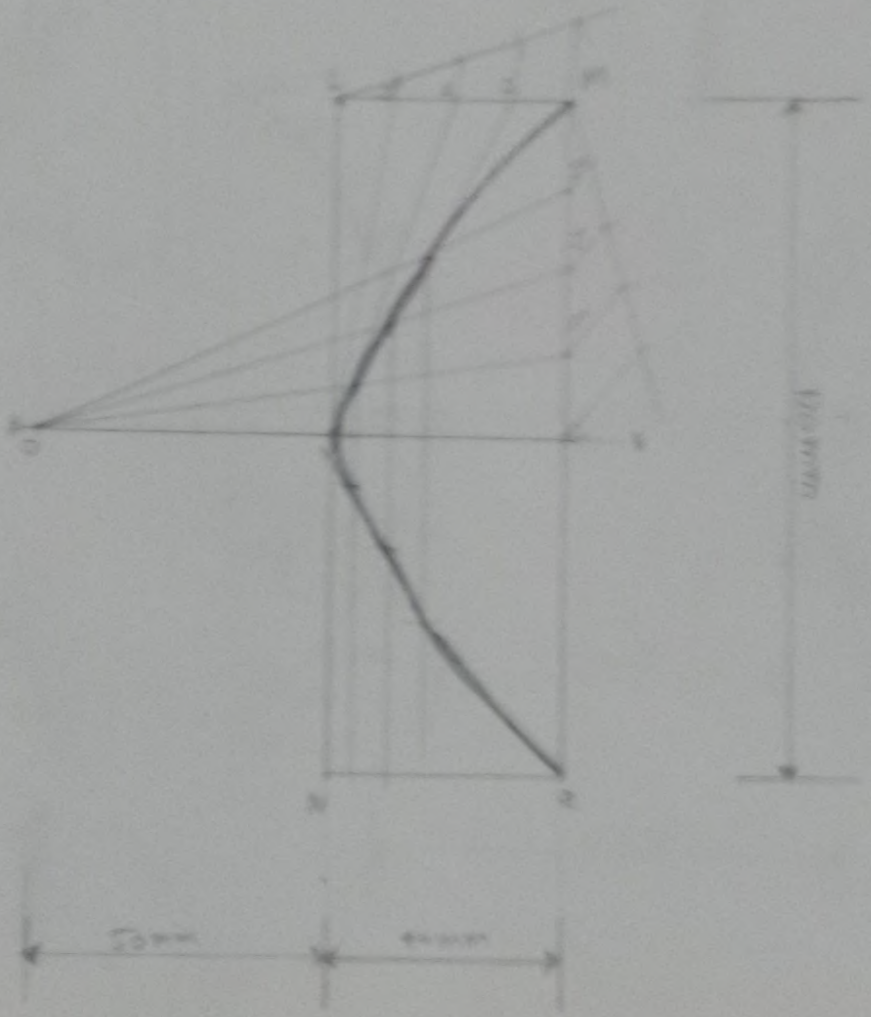
(17)

Intersecting Arc Method



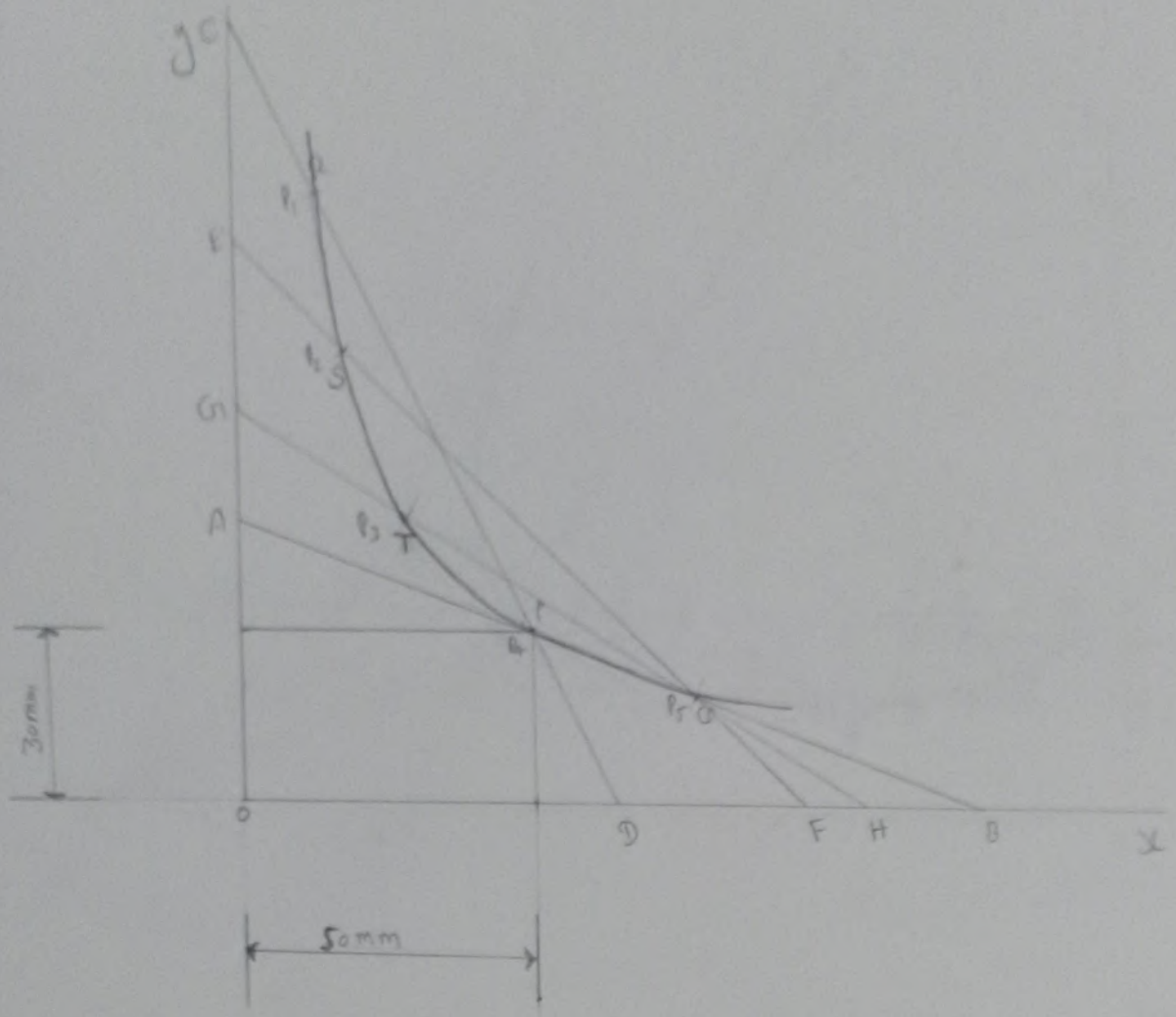
(11)

Oblong Method

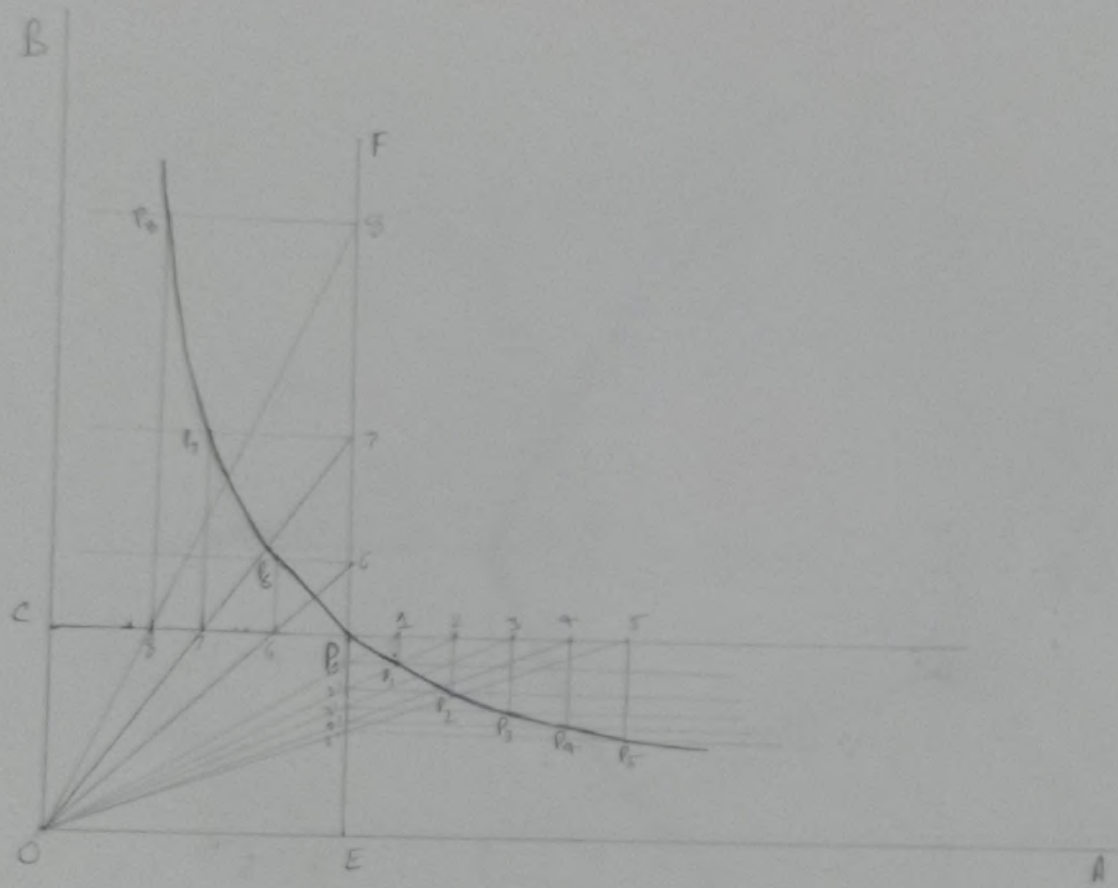


(12)

Intercept Method

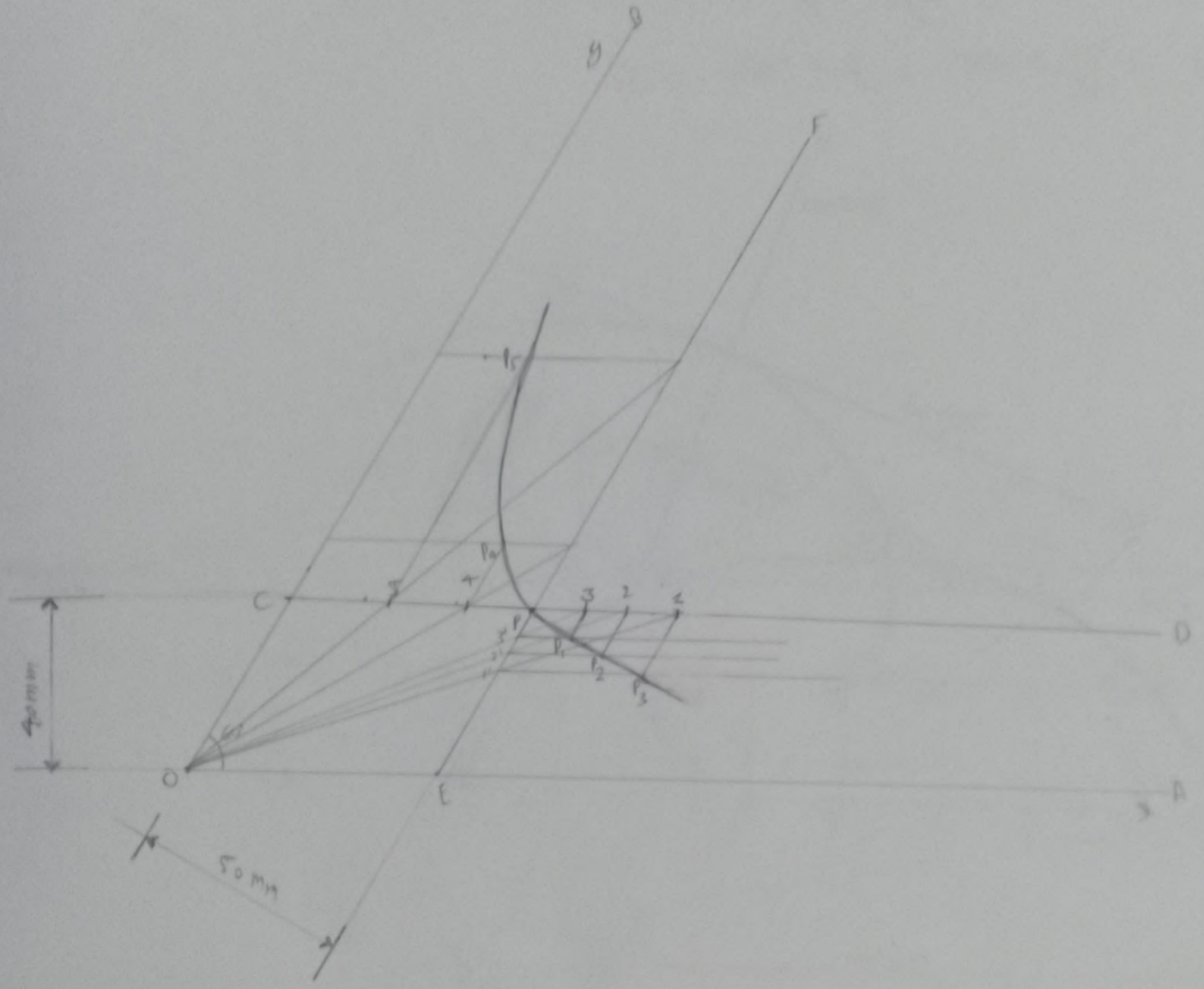


Orthogonal (Asymptote) Method

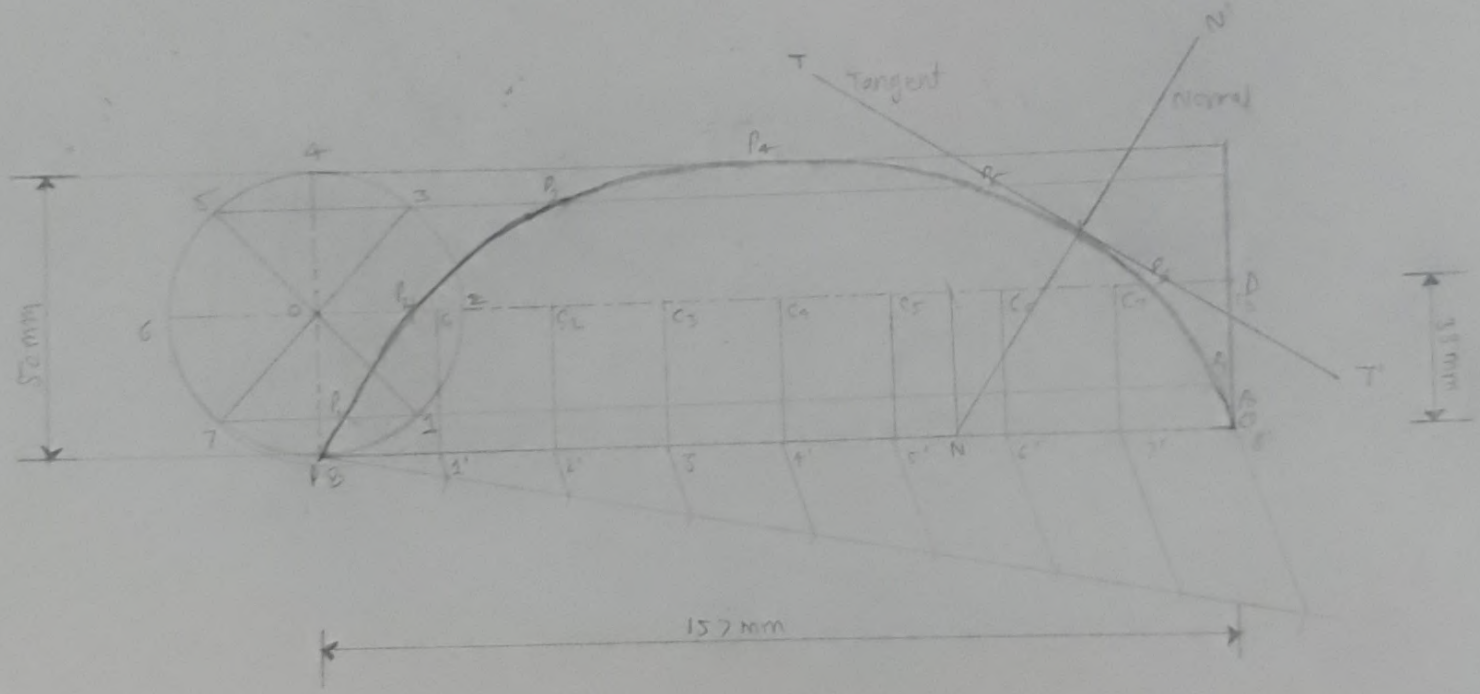


(21)

Oblique Asymptotes Method



Cycloid



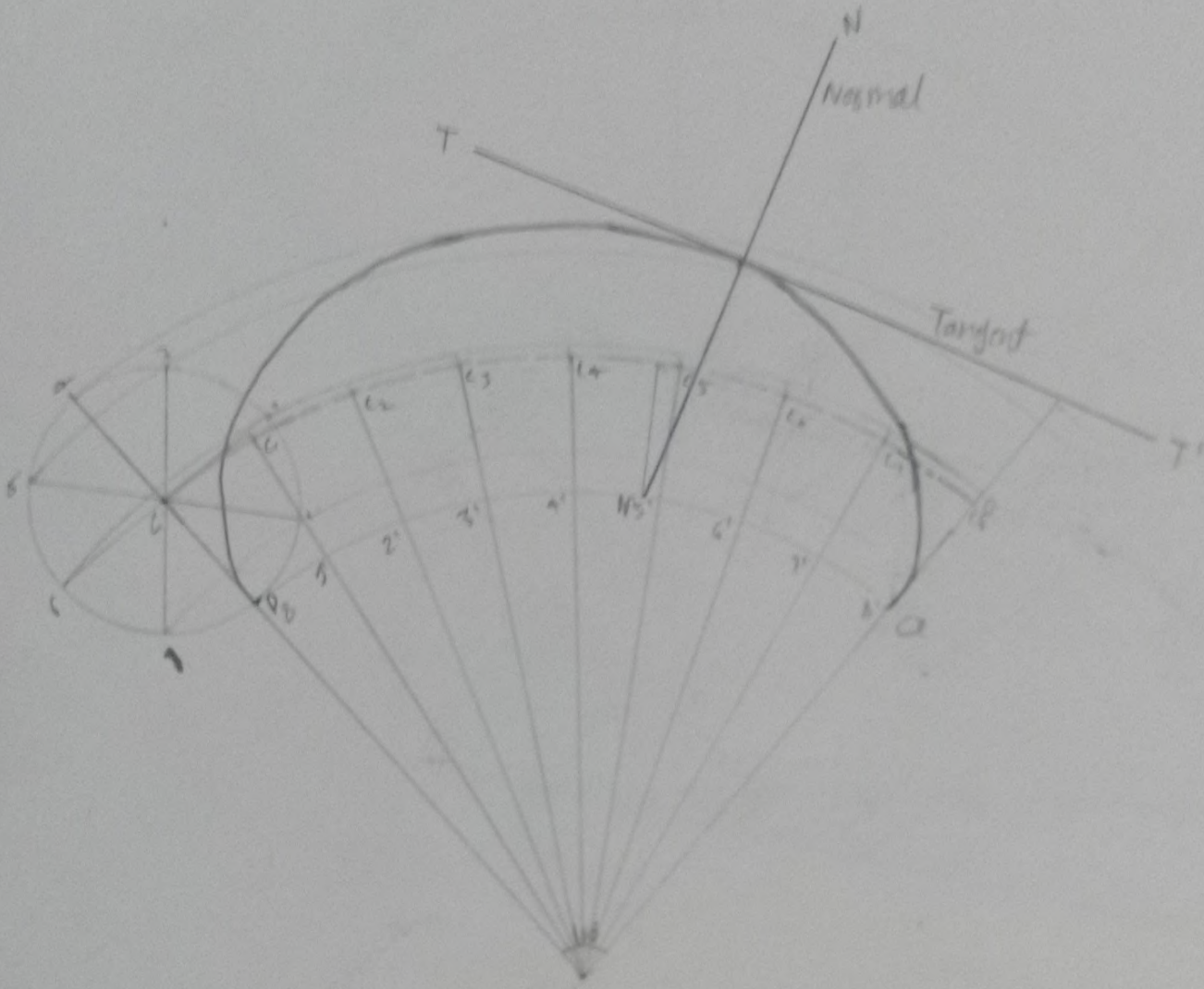
23

EPICYCLOID

Radius of generating circle $r = \frac{50}{2} = 25\text{mm}$

Radius of directing circle $R = \frac{120}{2} = 60\text{mm}$

$\theta = 360° \times \frac{r}{R} = 360° \times \frac{25}{60} = 150°$



(29)

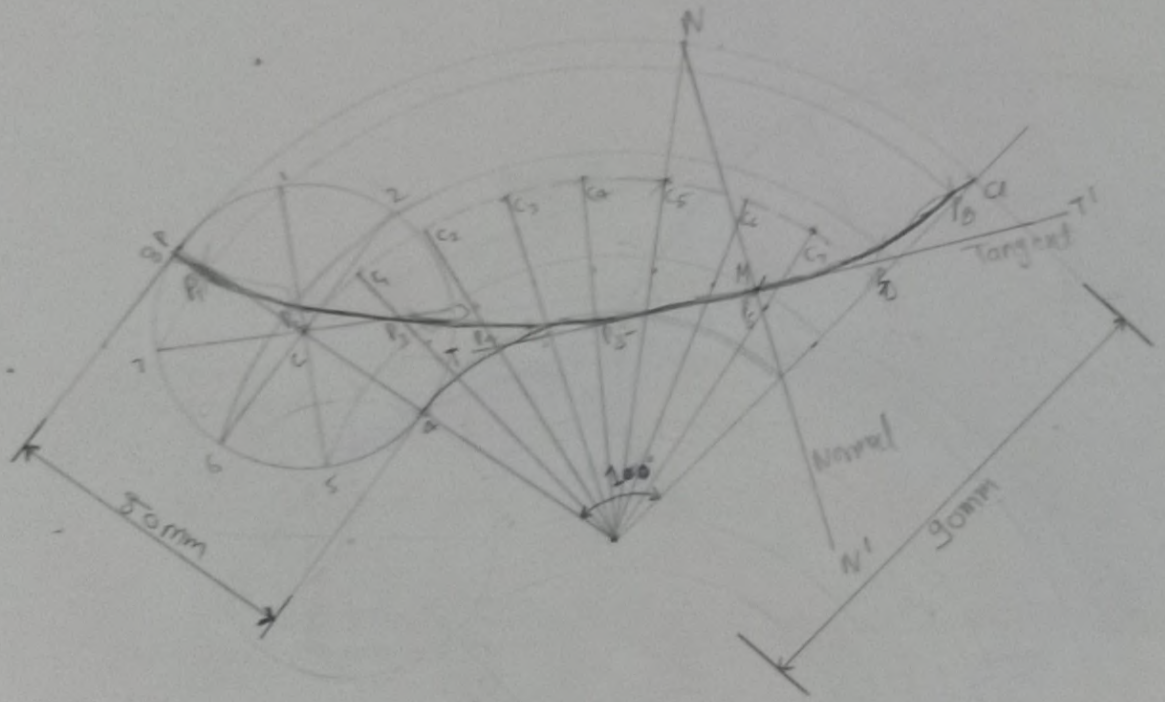
Hypocycloid

Radius of rolling circle, $r = \frac{50}{2} = 25$ mm

Radius of directing circle, $R = \frac{150}{2} = 75$ mm

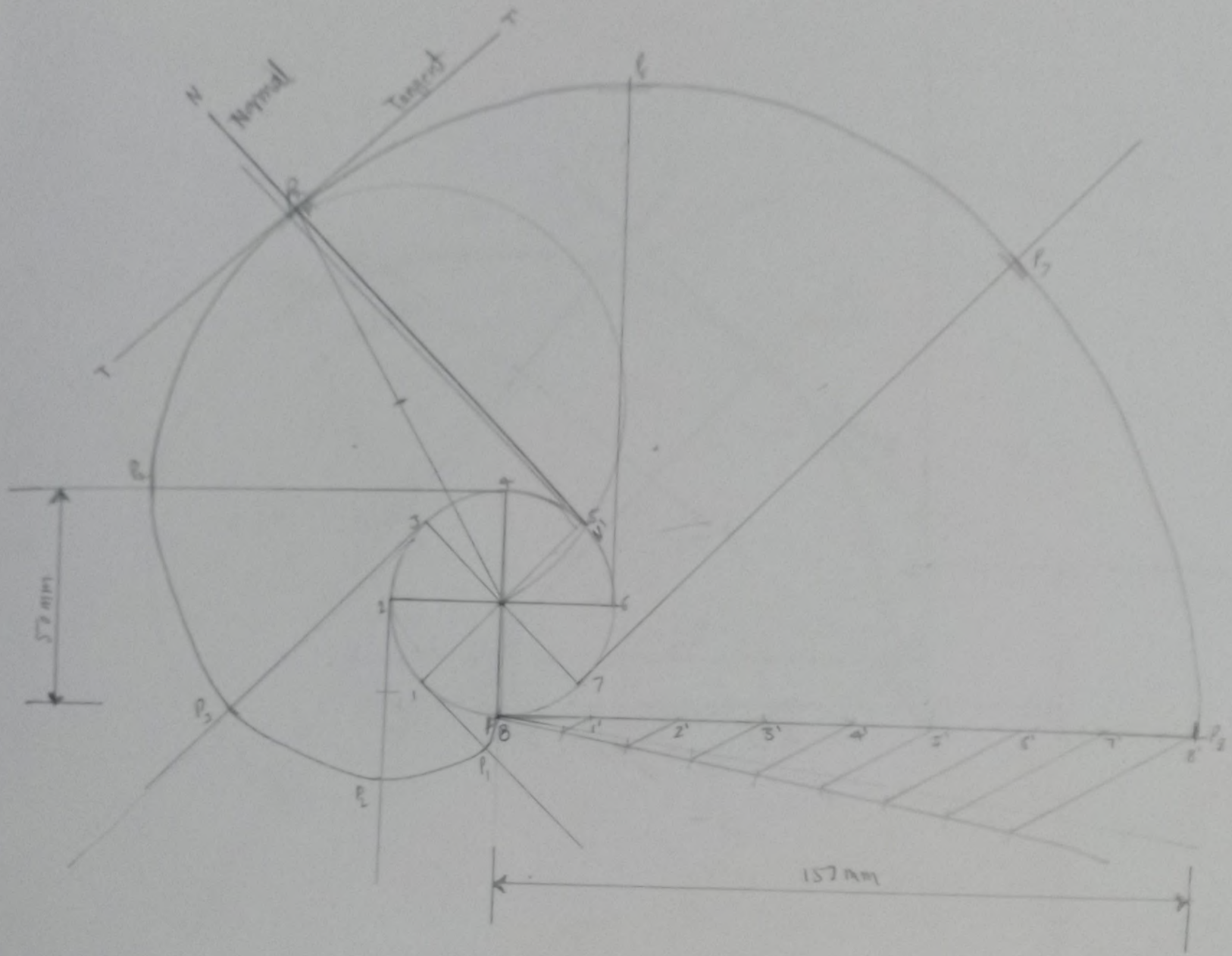
$\theta = 360° \times \frac{r}{R}$

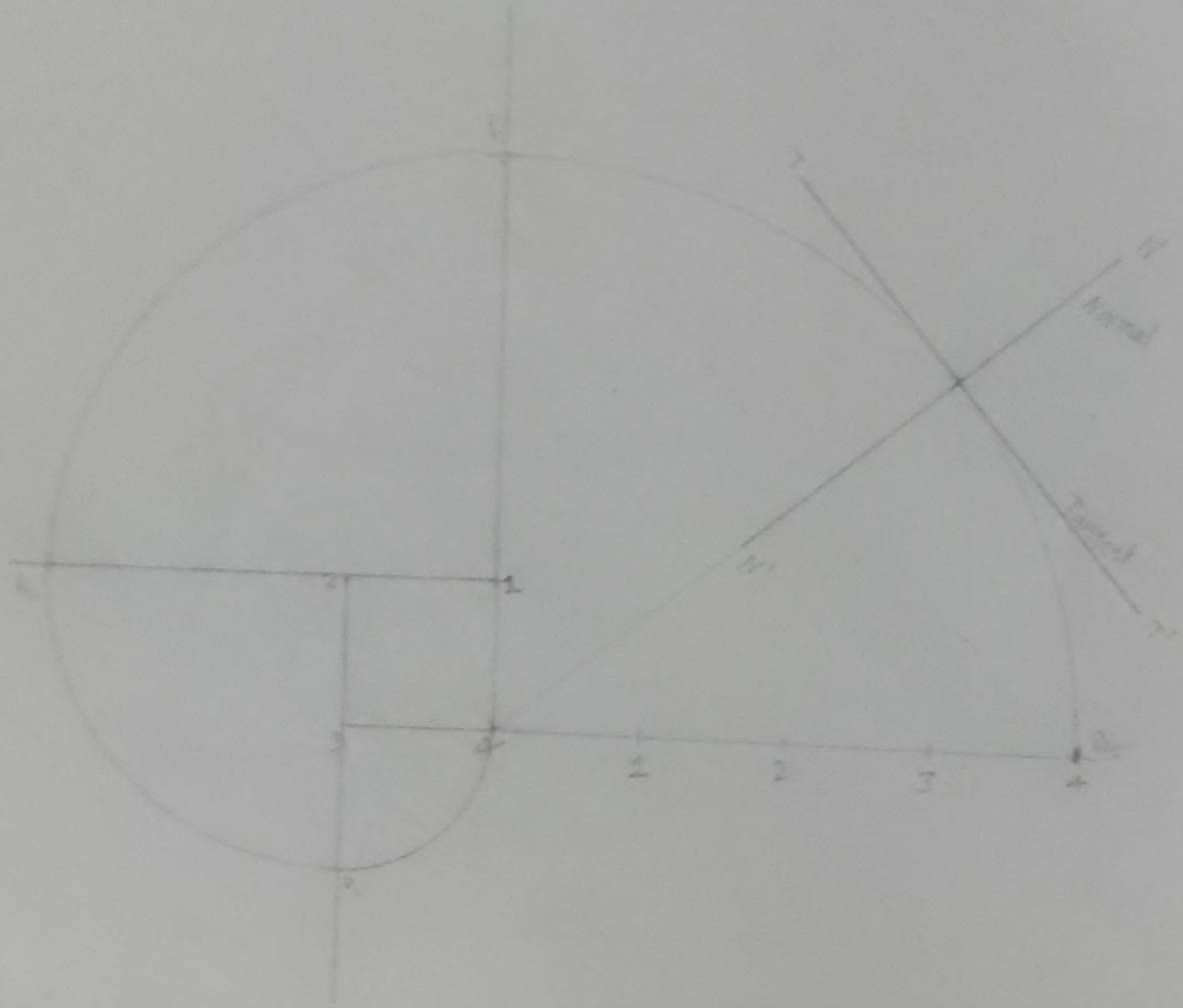
$\theta = 120°$



25

Circular Involute

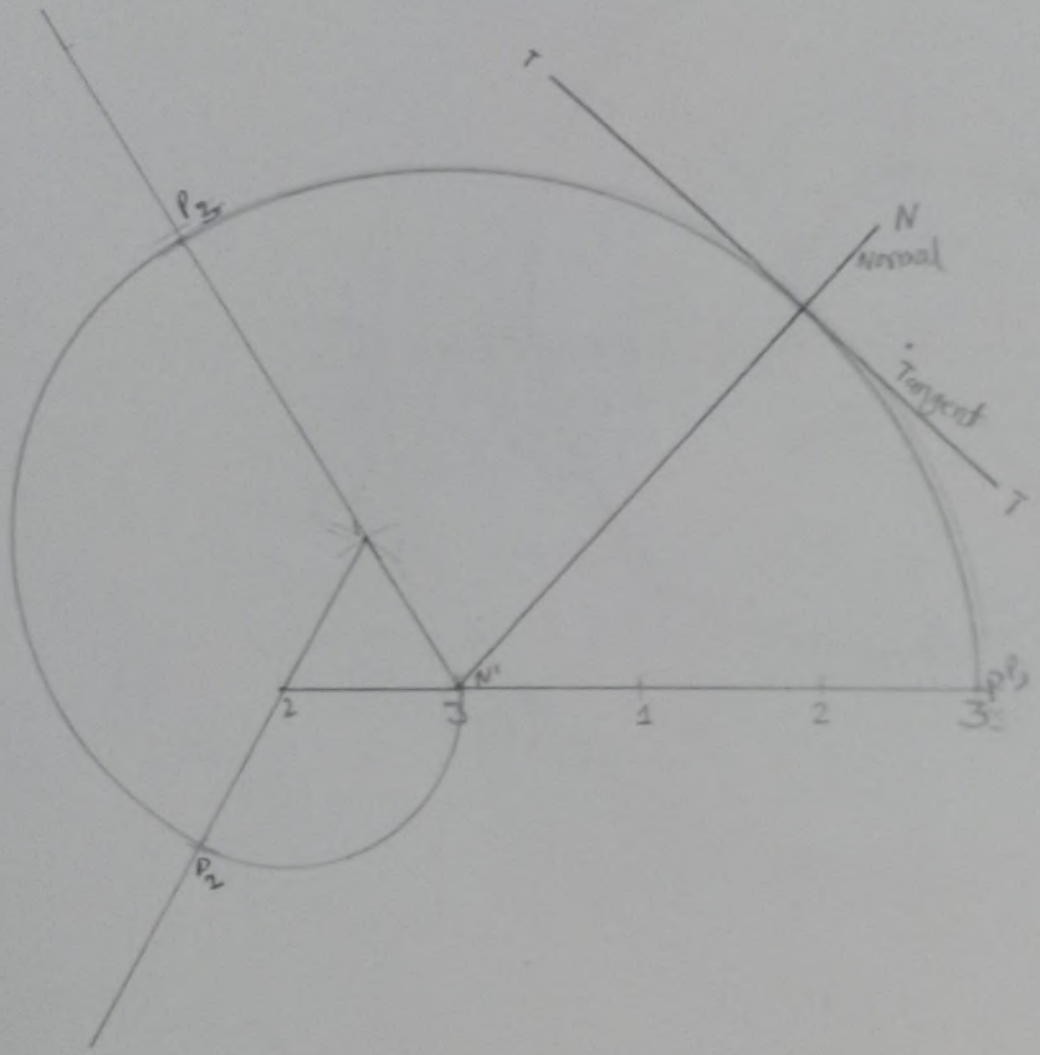


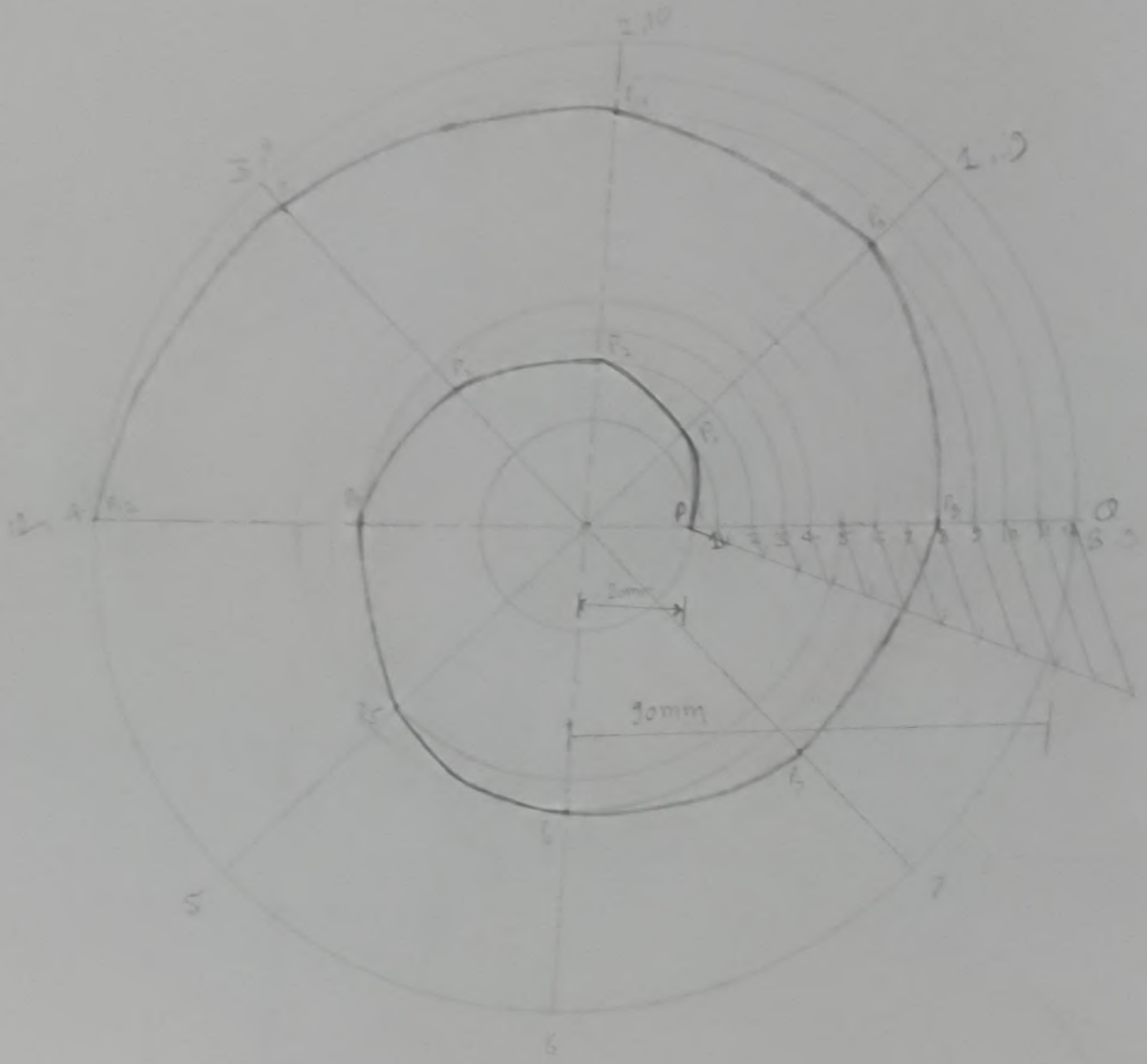


Normal
Tangent
1
2
3
4

Triangular Involute

(27)



(23)

Archimedean Spiral