



3055 BA SANGAM COLLEGE
PH: 6674003/9264117 E-mail: basangam@connect.com.fj



School: Ba Sangam College
Subject: Technical Drawing

Year/Level: 13
Week 8

Name: _____
Year: _____

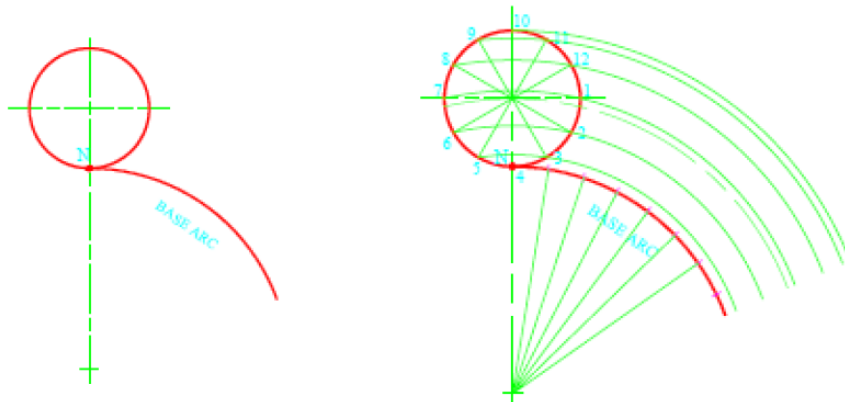
Strand	Geometrical Drawing
Sub Strand	Epi-cycloid
Content Learning Outcome	Define different types of rolling wheels and state their application. Construct the rolling wheels.

Construction of an Epicycloid

Below is a description of how to construct an **Epicycloid** for a point **N** on a circle as it rotates outside the base circle without slipping.

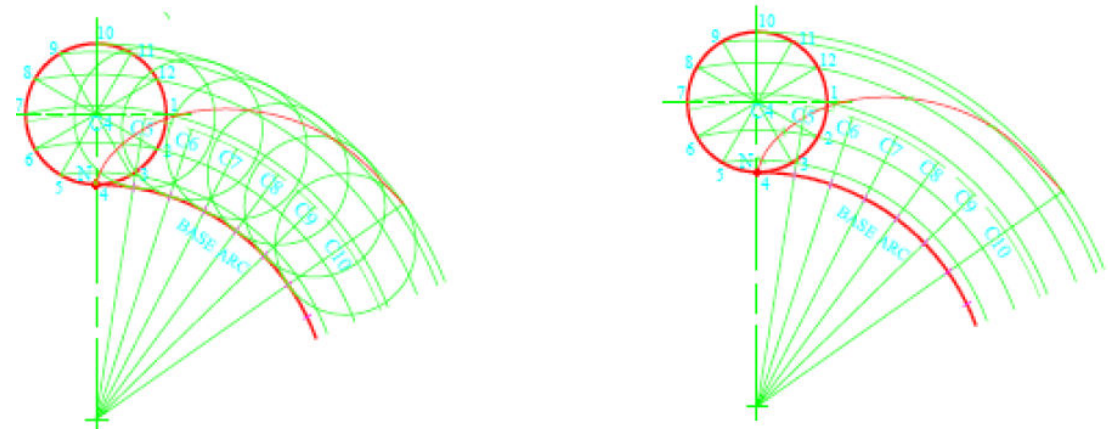
Step1: Draw the generating circle and the base arc from point **N** on the circumference of the generating circle.

Step 2: Divide the generating circle into 12 equal parts. Use $\frac{1}{12}$ of the generating circle to mark on the base arc. Draw lines from the centre of the base arc to all points on the base arc.



Step 3: Extend the lines from the centre of the base arc to the centre arc to locate C1, C2, etc. Set the compass to the radius of the generating circle and with centers as C1, C2, C3, etc, inscribe arcs on the arcs drawn from each point of the generating circle in its rolling direction.

Step 4: A locus of an epicycloid for point **N** is formed by joining these new points as it rotates on the base arc without slipping.



Given: A generating/rolling circle A & B, point N & N1 and a base circle/arc.

Required: a) Draw the locus of point N for Half revolution so that it reaches N1 and then draw the locus of point N1 for another Half revolution.

b) Name locus N: _____

c) Name locus N1: _____

