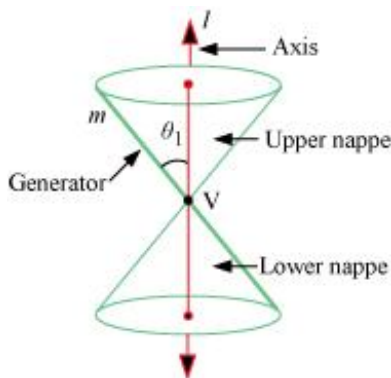


Conic Sections

- **Conic sections**

Conic sections or conics are the curves that are obtained by intersecting a plane with a double-napped right circular cone. Circles, ellipses, parabolas and hyperbolas are examples of conic sections.

A double-napped cone can be obtained by rotating a line (let us say m) about a fixed vertical line (let us say l).



Here, the fixed line l is called the axis of the cone and m is called the generator of the cone. The intersection (V) of l and m is called the vertex of the cone.

Different conics formed by intersecting a plane and a double-napped cone:

If θ_1 is the angle between the axis and the generator and θ_2 is the angle between the plane and the axis, then, for different conditions of θ_1 and θ_2 , we get different conics, which are described with the help of a table as shown below.

Condition	Conic Formed	Figure
$\theta_2 = 90^\circ$ (Only one nappe of the cone is entirely cut by the plane)	A circle	