$\alpha>\varphi$, when the angle between the plane and the vertical axis is less than the vertical angle, the plane intersects both the nappes of the cone which form
$\varphi=90^{\circ}$, when the plane is perpendicular at the axis, or the angle of intersection of plane and the vertical axis is equal to $90^{\circ}$, the ellipse becomes the circle. Or you can say that circle is the special type of ellipse, the section is circle.


$\varphi=0^{\circ}$, when a cone is sliced perpendicular to the base and through the vertex, the cross section formed is a triangle.

## Circle <br> Circle

