When a pencil that has a hexagonal cross section is sharpened, a hyperbola is formed. This results from the intersection of the conical point of the pencil by one of its flat sides.

Two lines VF anf FD are shown in the drawing below. V is the vertex of a hyperbola, $F$ is a focal point of the curve and $D$ is a point on the directrix.
Locate the directrix and eccentricity line and draw a portion of the curve.

## Key Principles:

If a right circular cone is intersected by a plane parallel to its axis, part of a hyperbola is formed.


