ENGINEERING GRAPHICS (ME1001)

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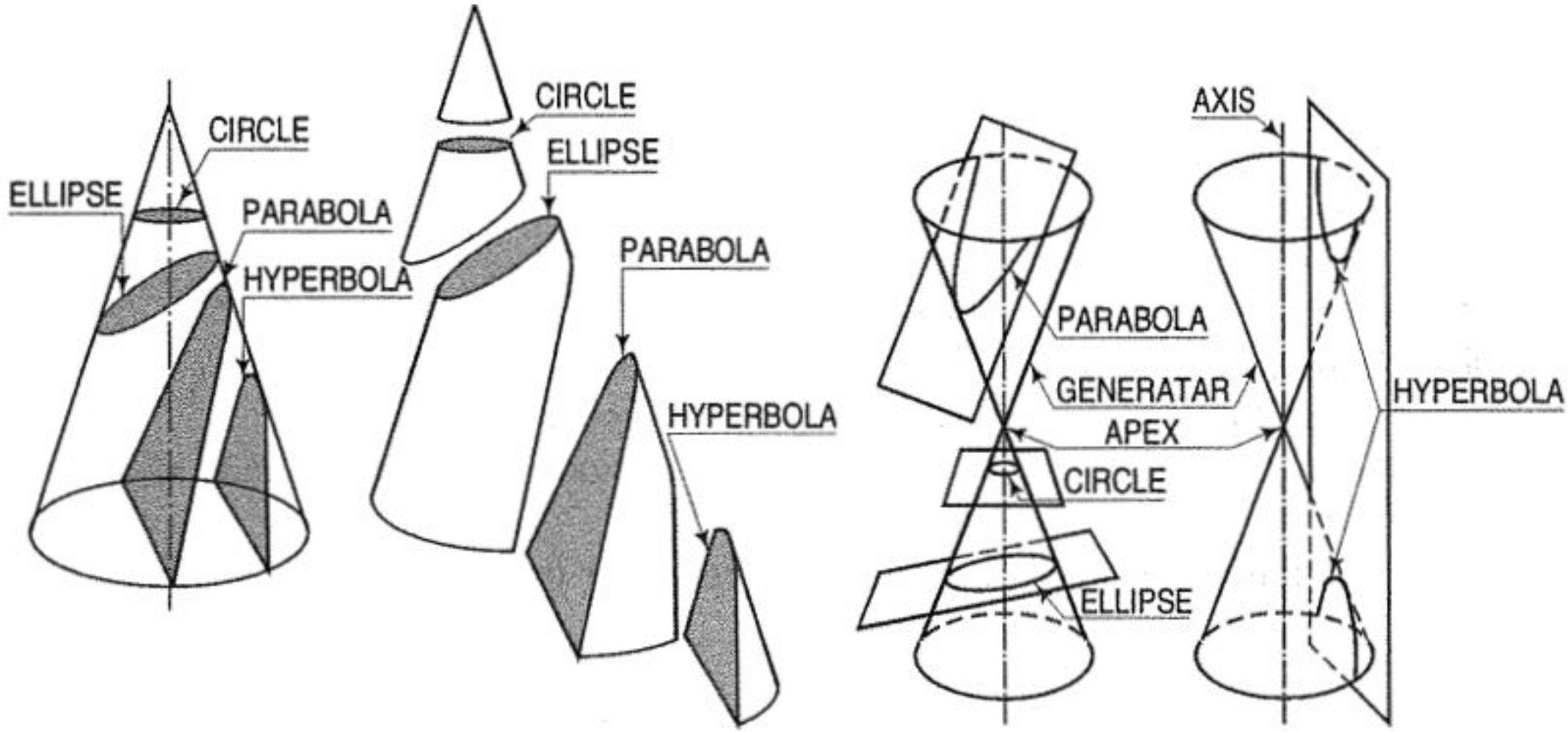
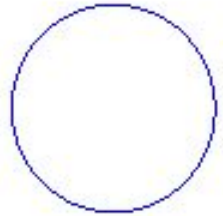
PLANE CURVES



Conic sections

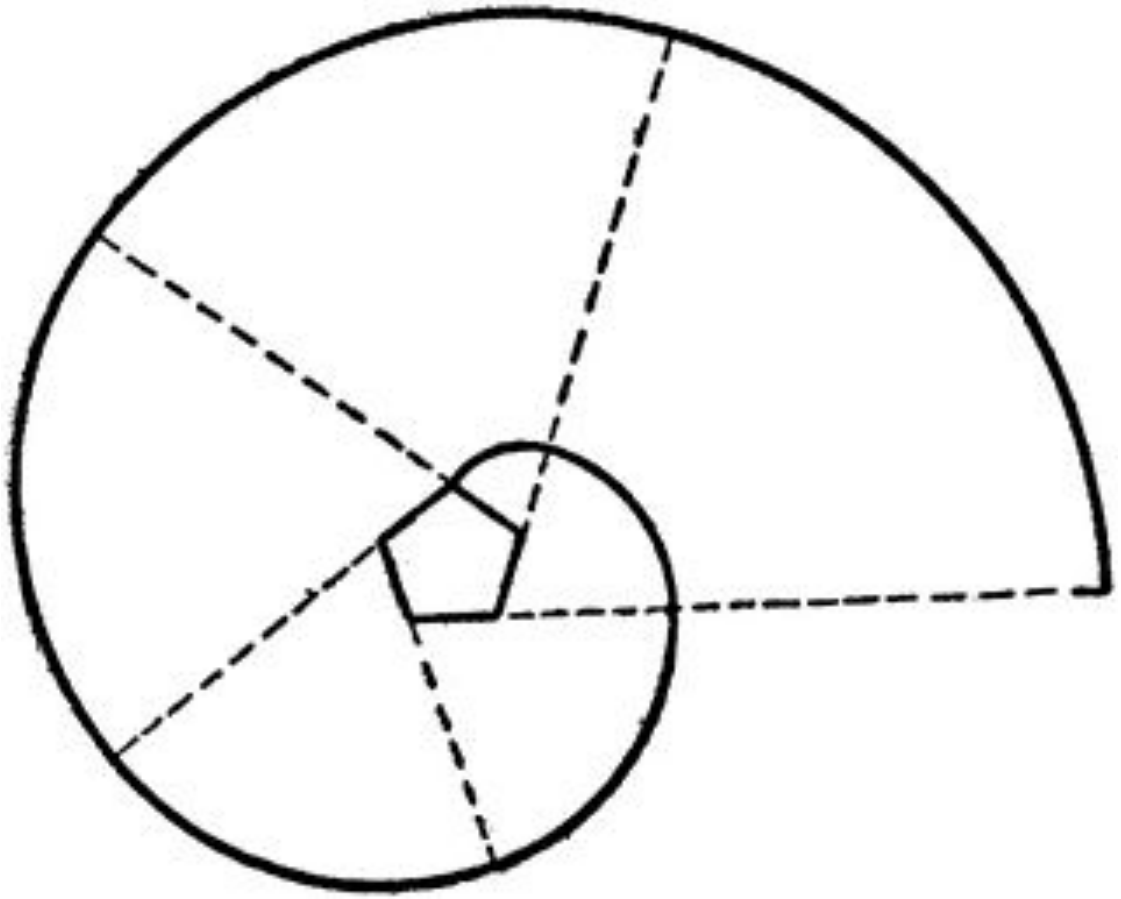
INVOLUTE OF A CIRCLE

- The involute of a circle is **the path traced out by a point on a straight line that rolls around a circle**.
- More practically, it is the curve traced by a hand unwinding a wire reel held in the other hand.



INVOLUTE OF A POLYGON

- The involute of a polygon is **the path traced out by a point on a straight line that rolls around a polygon**.

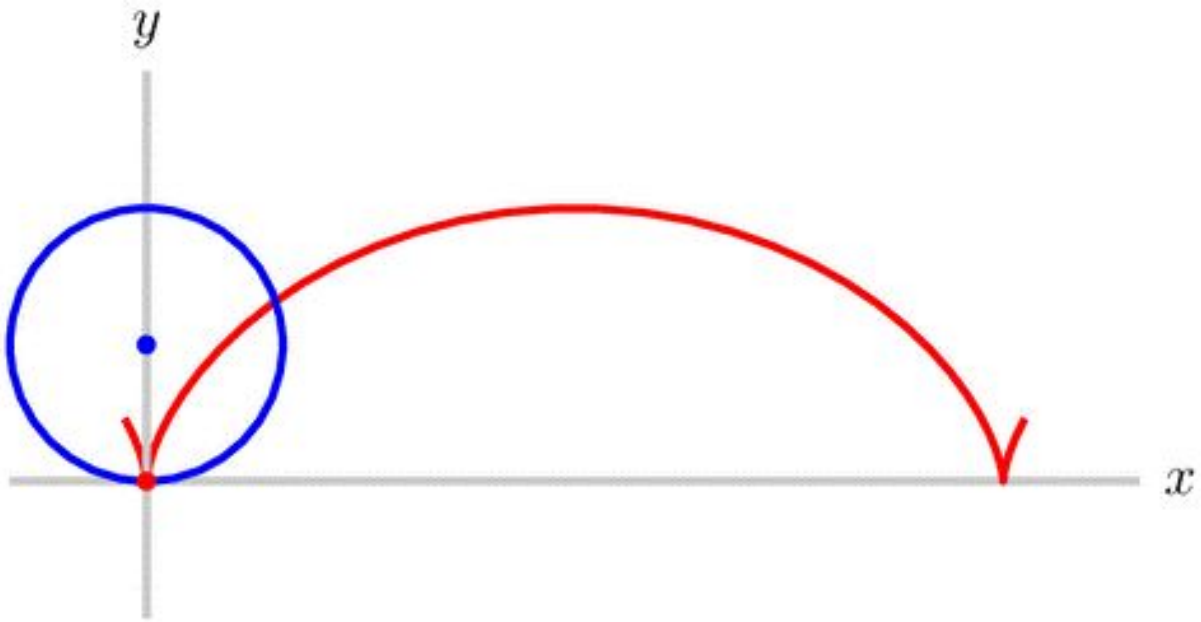


HELIX

- A **helix** is a shape like a corkscrew or spiral staircase. It is a type of smooth space curve with tangent lines at a constant angle to a fixed axis.

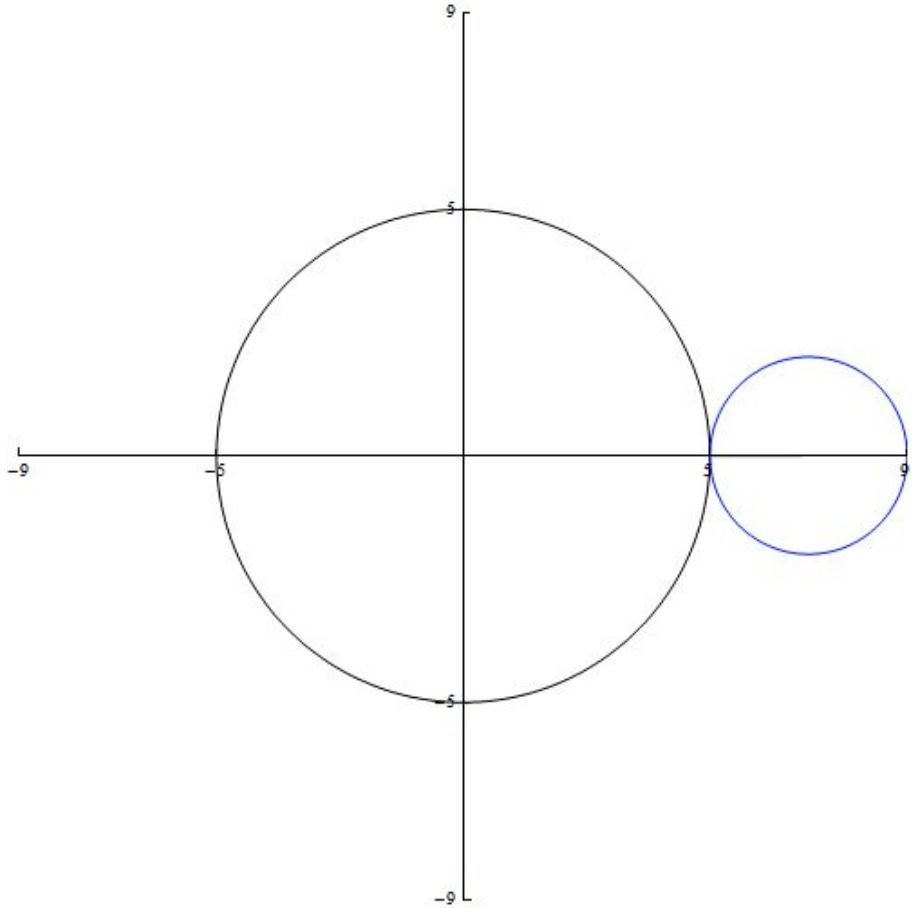
CYCLOID

- A cycloid is **the curve generated by a point on the circumference of a circle that rolls along a straight line**.



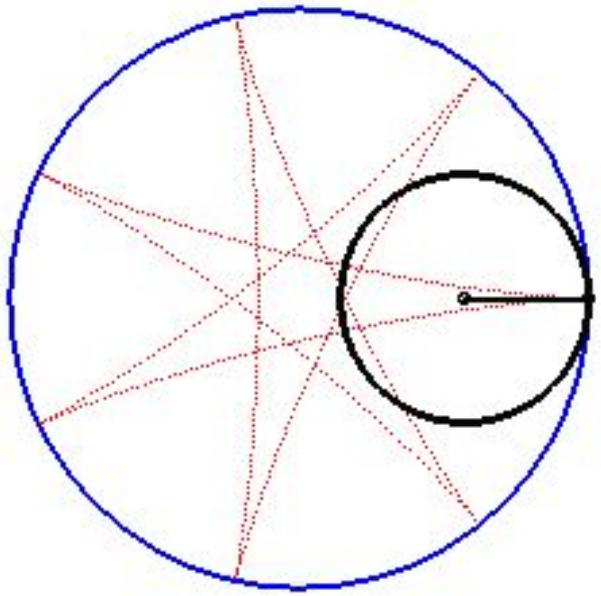
EPI-CYCLOID

- An epi-cycloid is **the curve generated by a point on the circumference of a circle that rolls around a fixed circle**.



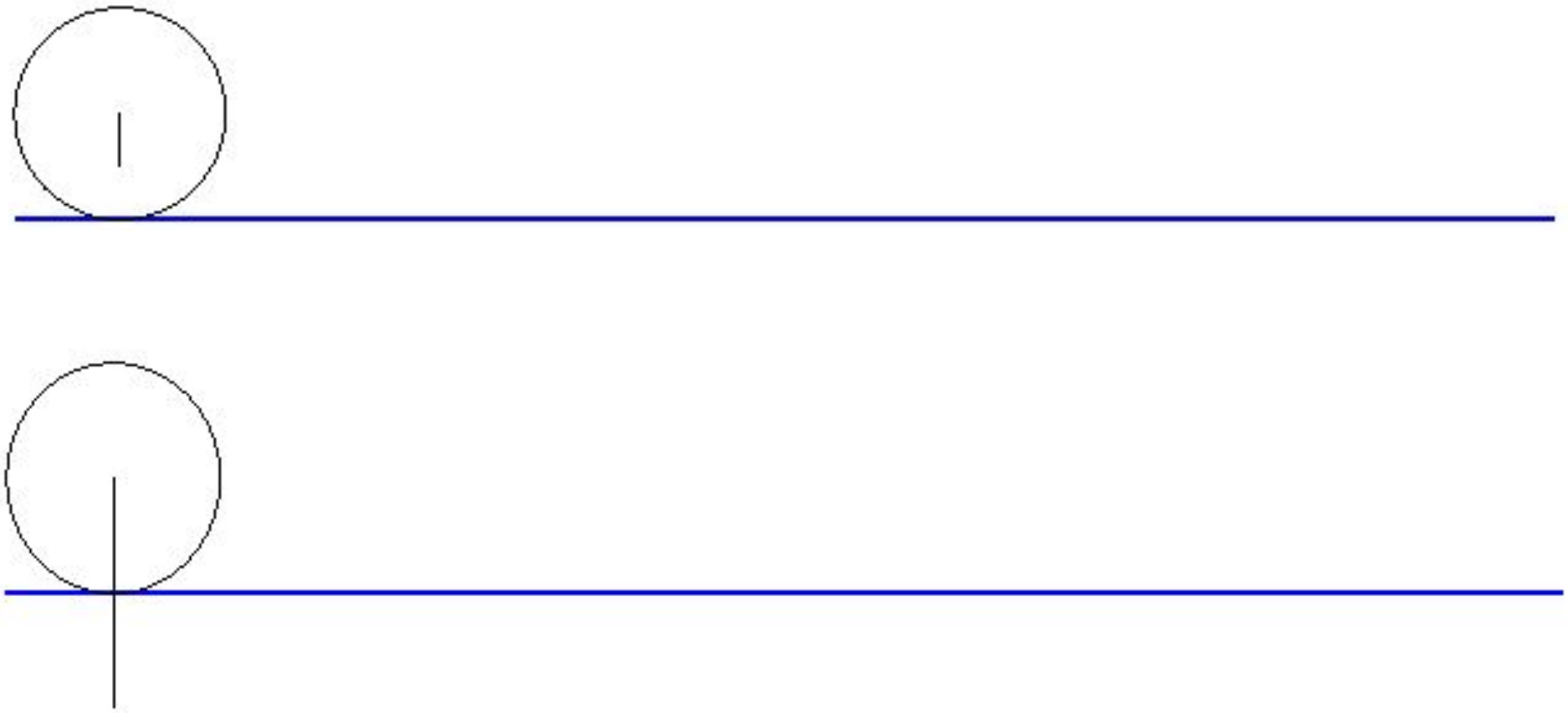
HYPO-CYCLOID

- A hypo-cycloid is **the curve generated by a point on the circumference of a circle that rolls inside the directing circle**.



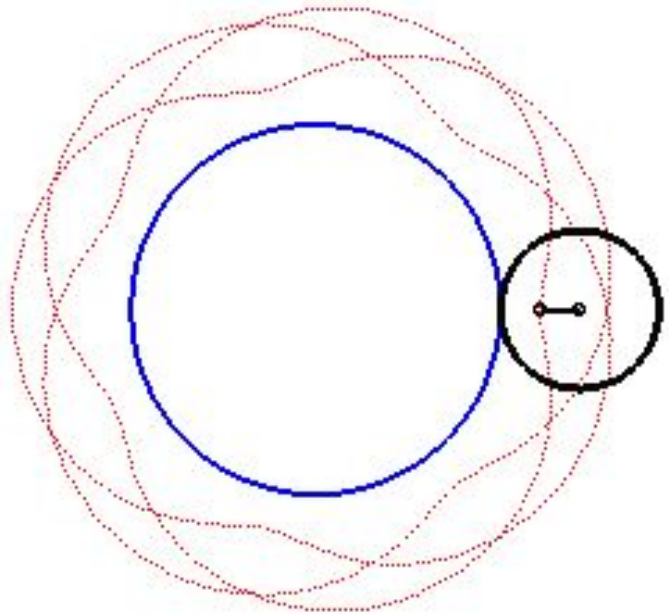
TROCHOID

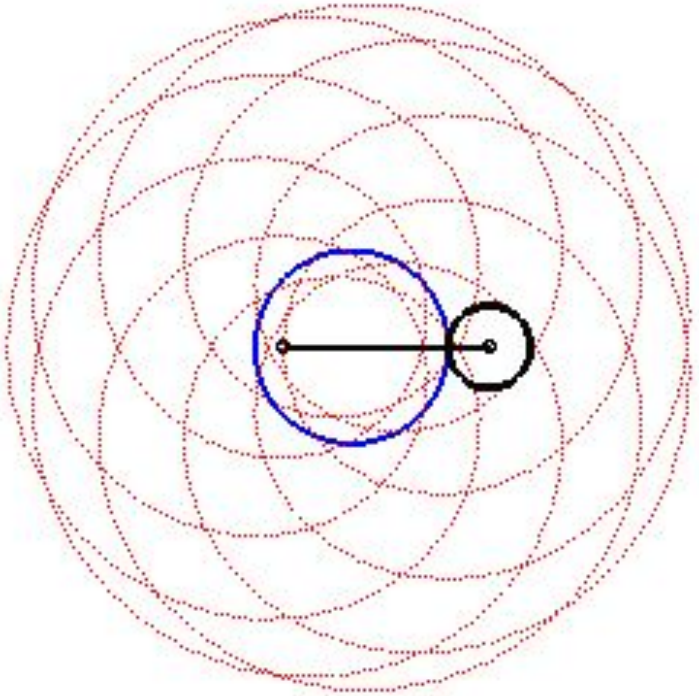
- A trochoid is **the curve generated by a point either inside (inferior) or outside (superior) the generating circle, when it rolls along a straight line**.



EPI-TROCHOID

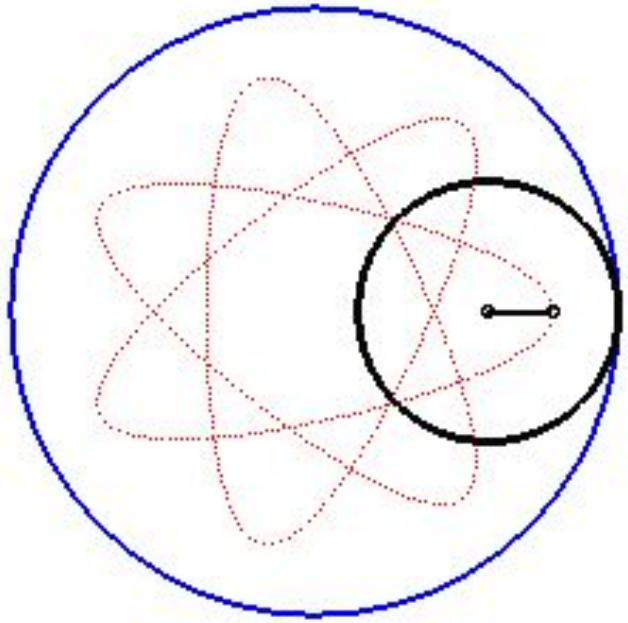
- An epi-trochoid is **the curve generated by a point either inside or outside a generating circle that rolls on the circumference of a directing circle**.

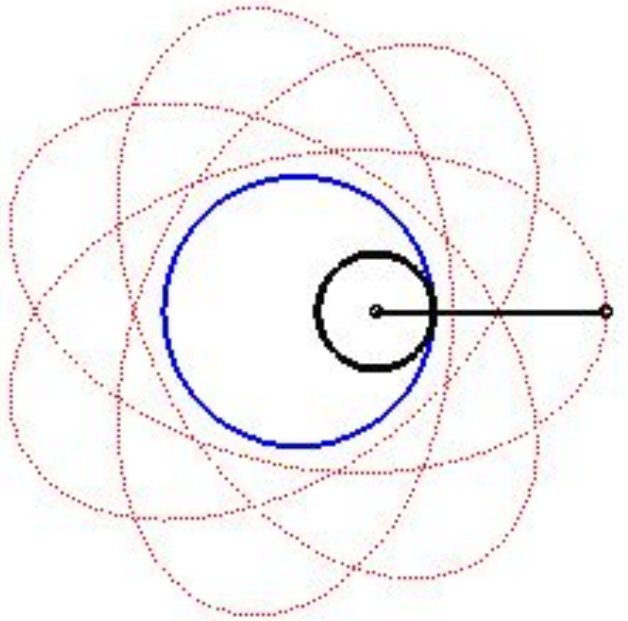




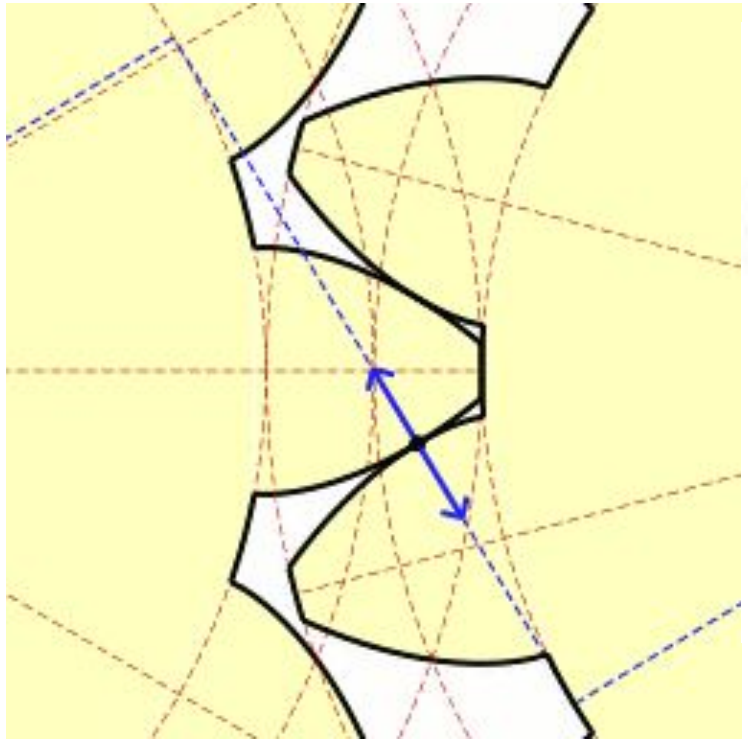
HYPO-TROCHOID

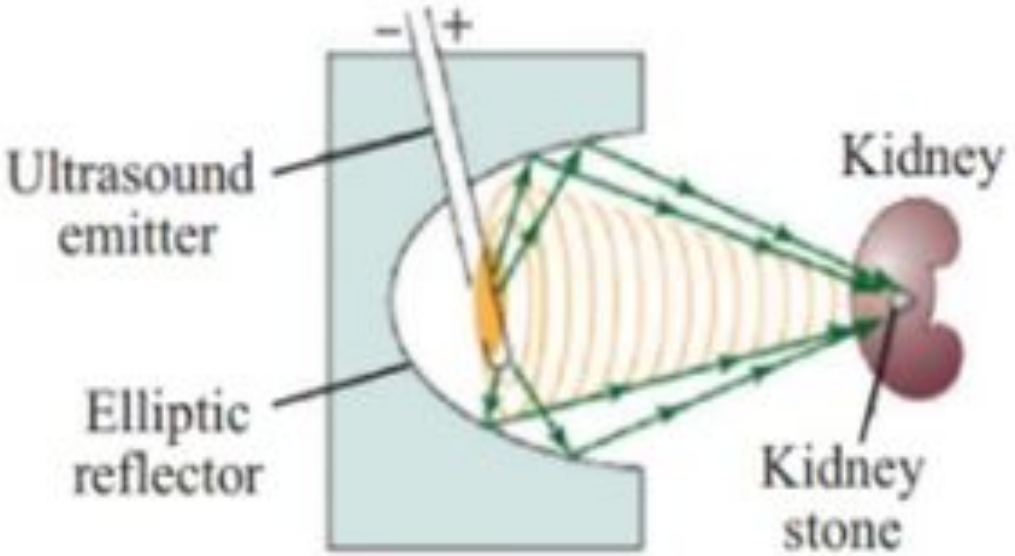
- A hypo-trochoid is **the curve generated by a point inside or outside the generating circle that rolls inside a directing circle**.





Applications of Conic Sections





Applications of Conic Sections