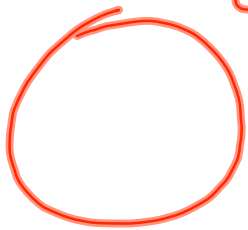
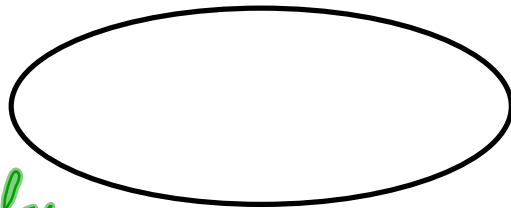


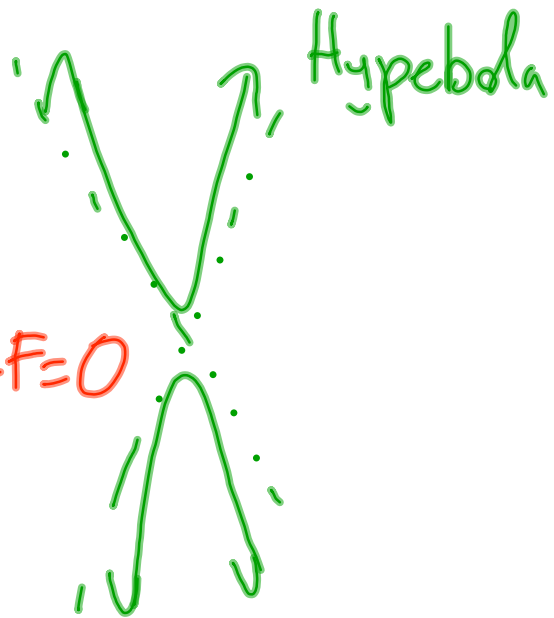
Conics

circle

Ellipse



parabolas



Hyperbola

$$Ax^2 + Cy^2 + Dx + Ey + F = 0$$

Circles

Cutting a cone

generator

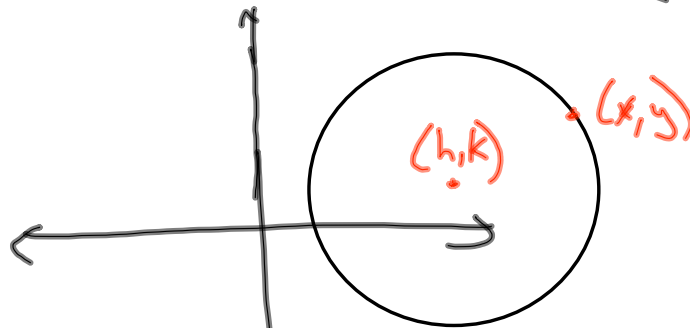


Axis of symmetry

A right circular cone

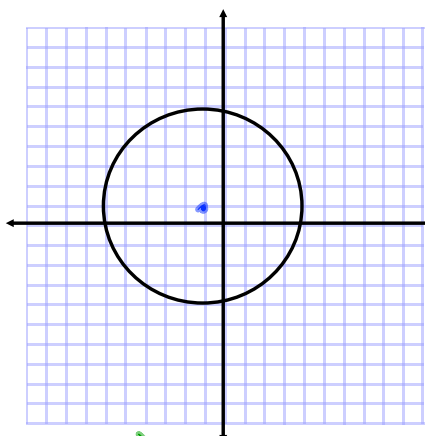
— cut a cone perpendicular to the axis of symmetry to get a circle.

Standard Equation for a circle.



$$r = \sqrt{(x-h)^2 + (y-k)^2} \quad d = \sqrt{\Delta x^2 + \Delta y^2}$$

$$\boxed{(x-h)^2 + (y-k)^2 = r^2}$$



Find the equation of the circle in standard form $(x-h)^2 + (y-k)^2 = r^2$ and general form $Ax^2 + (y^2 + D) + Ey + F = 0$

$(-1, 1) \quad r=5$

$$\boxed{(x+1)^2 + (y-1)^2 = 25}$$

$$(x+1)(x+1) \quad (x+1)^2 + (y-1)^2 - 25 = 0$$

$$x^2 + x + x + 1 \quad x^2 + 2x + 1 + y^2 - 2y + 1 - 25 = 0$$

$$x^2 + y^2 + 2x - 2y - 23 = 0$$