



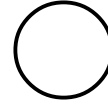
Math Study Strategies

Standard Equations of Conics

Circle

$$(x-h)^2 + (y-k)^2 = r^2$$

Center = (h,k) Radius = r



Ellipse

Center = (h,k)
Major Axis = 2a
Minor Axis = 2b

$$\frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1$$



Vertices and Foci
lie on the major axis
Use $c^2 = a^2 - b^2$,
where $a > b$
Foci are located c units
from the center

$$\frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1$$



Hyperbola

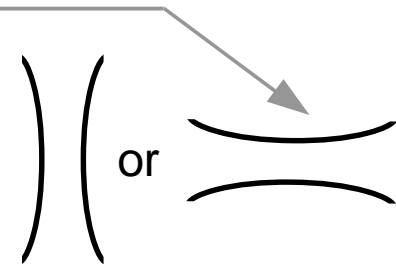
Center = (h,k)

Vertices and Foci
Use $c^2 = a^2 + b^2$,
where $a > b$

Vertices are located
"a" units from center
Foci are located "c"
units from center

$$\frac{(x-h)^2}{a^2} - \frac{(y-k)^2}{b^2} = 1$$

$$\frac{(x-h)^2}{b^2} - \frac{(y-k)^2}{a^2} = 1$$



Parabola

Vertex = (h,k)
p = directed distance
from the vertex
Focus is on the axis p
units from the vertex

$$(x-h)^2 = 4p(y-k)$$

$$(y-k)^2 = 4p(x-h)$$

