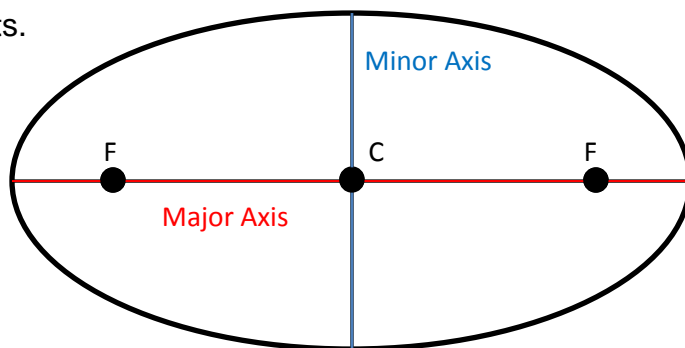


Conic Sections

1. On the graph, label the important parts.

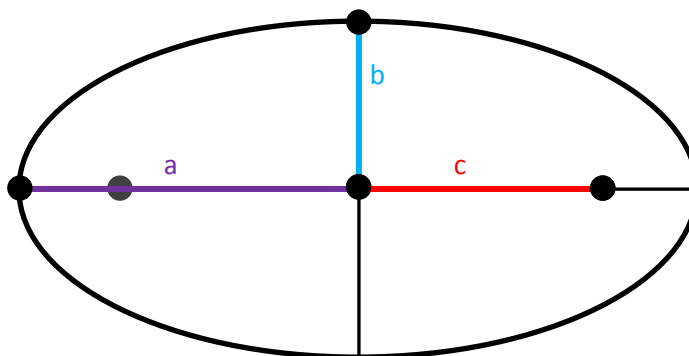
- Center
- Foci
- Major Axis
- Minor Axis



2. Fill in the table for ellipses:

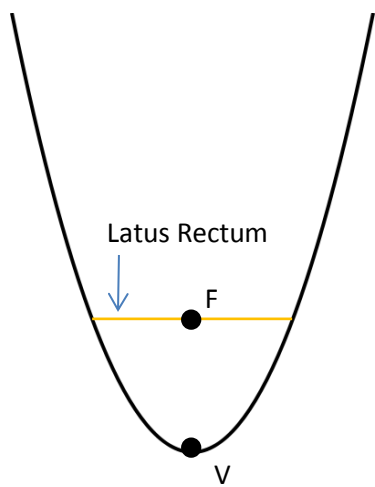
Standard Form of Equation, $a > b$	$\frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1$	$\frac{(x-h)^2}{b^2} + \frac{(y-k)^2}{a^2} = 1$
Direction of Major Axis	horizontal	vertical
Foci	$(h \pm c, k)$	$(h, k \pm c)$
Length of Major Axis	$2a$	$2a$
Length of Minor Axis	$2b$	$2b$

3. Label the lengths of a , b and c



4. For ellipses: $c^2 = a^2 - b^2$

5. Fill in the table for Parabolas.



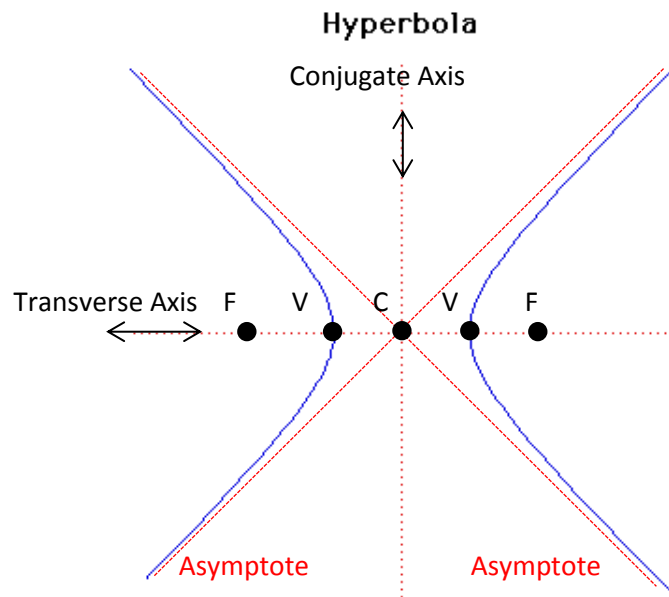
Form of EQ	$y = a(x-h)^2 + k$	$x = a(y-k)^2 + h$
Vertex	(h, k)	(h, k)
Axis of Symmetry	$x = h$	$y = k$
Focus	$(h, k + \frac{1}{4a})$	$(h + \frac{1}{4a}, k)$
Directrix	$y = k - \frac{1}{4a}$	$x = h - \frac{1}{4a}$
Direction of Opening	$a > 0$ – up $a < 0$ – down	$a > 0$ – right $a < 0$ – left
Length of Latus Rectum	$ \frac{1}{a} $	$ \frac{1}{a} $

← Directrix →

6. On the graph, label the Vertex, Focus, Directrix and Latus Rectum.

7. On the graph, label the important parts.

- Center
- Foci
- Vertices
- Asymptotes
- Transverse Axis
- Conjugate Axis

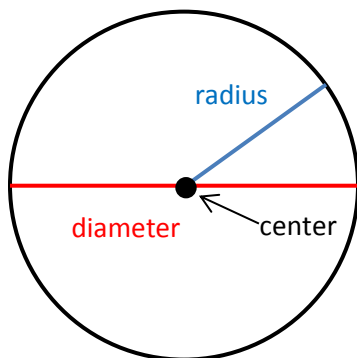


8. Fill in the table for Hyperbolas

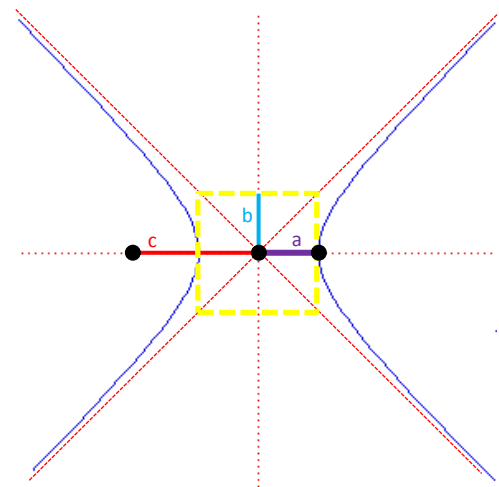
Standard Form of Equation	$\frac{(x-h)^2}{a^2} - \frac{(y-k)^2}{b^2} = 1$	$\frac{(y-k)^2}{a^2} - \frac{(x-h)^2}{b^2} = 1$
Direction of the Transverse Axis	horizontal	vertical
Vertices	$(a+h, k), (-a+h, k)$	$(h, a+k), (h, -a+k)$
Foci	$(c+h, k), (-c+h, k)$	$(h, c+k), (h, -c+k)$
Length of Transverse Axis	2a	2a
Length of Conjugate Axis	2b	2b
Equations of Asymptotes	$y = \pm \frac{b}{a}(x-h) + k$	$y = \pm \frac{a}{b}(x-h) + k$

9. Label the lengths for a, b, and c.

10. For hyperbolas: $c^2 = a^2 + b^2$



Hyperbola



11. On the graph, label the important parts. The Center, Radius, and Diameter.

12. The equation for a circle is: $(x-h)^2 + (y-k)^2 = r^2$