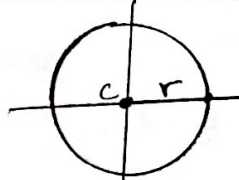
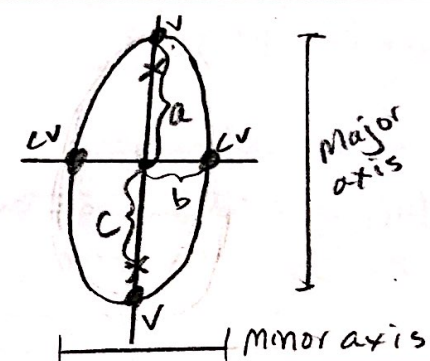
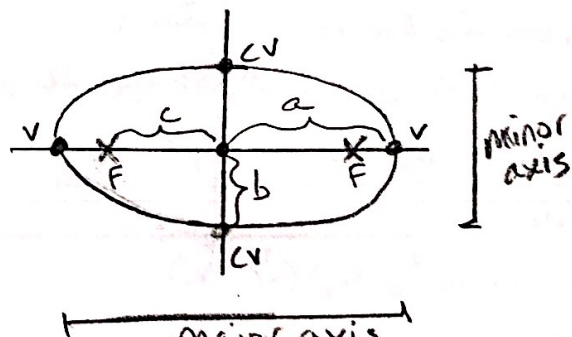
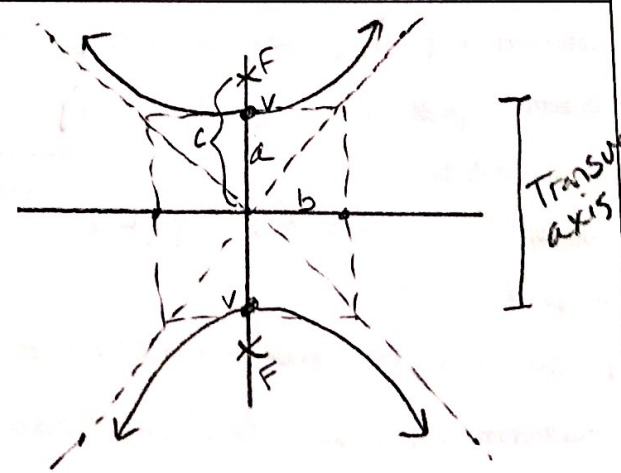
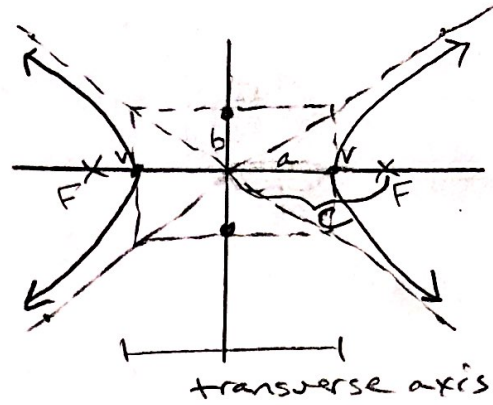
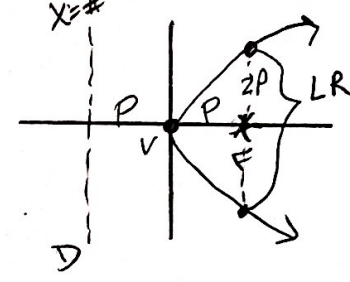
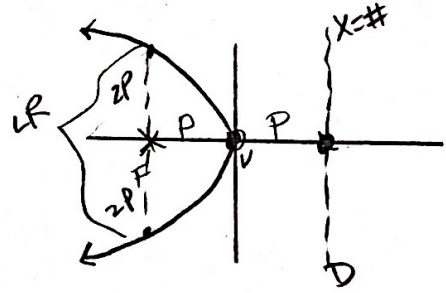
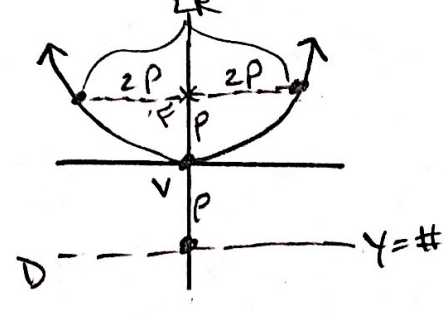


Formula Sheet for Conics – Complete using as much detail as possible.

<p>Midpoint:</p> <p>Point – <math>(x_1, y_1), (x_2, y_2)</math></p> <p>Formula – <math>\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)</math></p>	<p>Distance:</p> <p>Point – <math>(x_1, y_1), (x_2, y_2)</math></p> <p>Formula – <math>\sqrt{(x_2-x_1)^2 + (y_2-y_1)^2}</math></p>
<p>Circle:</p> <p>Equation – <math>(x-h)^2 + (y-k)^2 = r^2</math></p> <p>Center – <math>(h, k)</math></p> <p>Radius – <math>r</math></p>	<p>Graph at Origin and Label Center &amp; Radius</p> 
<p>Vertical Ellipse:</p> <p>Equation – <math>\frac{(x-h)^2}{b^2} + \frac{(y-k)^2}{a^2} = 1</math></p> <p>Center – <math>(h, k)</math></p> <p>a – center to vertex on major axis (y)</p> <p>b – center to covertex on minor axis (x)</p> <p>c – center to focus on major axis (y)</p> <p>Pythagorean Rule: <math>c^2 = a^2 - b^2</math></p>	<p>Graph at Origin and Label center, a, b, c, Foci, Vertices, Co-Vertices, Major &amp; Minor Axis</p> 
<p>Horizontal Ellipse:</p> <p>Equation – <math>\frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1</math></p> <p>Center – <math>(h, k)</math></p> <p>a – center to vertex on major axis (x)</p> <p>b – center to covertex on minor axis (y)</p> <p>c – center to focus on major axis (x)</p> <p>Pythagorean Rule: <math>c^2 = a^2 - b^2</math></p>	<p>Graph at Origin and Label center, a, b, c, Foci, Vertices, Co-Vertices, Major &amp; Minor Axis</p> 
<p>Vertical Hyperbola:</p> <p>Equation – <math>\frac{(y-k)^2}{a^2} - \frac{(x-h)^2}{b^2} = 1</math></p> <p>Center – <math>(h, k)</math></p> <p>a – center to vertex on transverse axis (y)</p> <p>b – center to edge of box (x)</p> <p>c – center to focus on transverse axis (y)</p> <p>Equation to Asymptotes: <math>y-k = \pm \frac{a}{b}(x-h)</math></p> <p>Pythagorean Rule: <math>c^2 = a^2 + b^2</math></p>	<p>Graph at Origin and Label center, a, b, c, Foci, Vertices, Asymptotes &amp; Transverse Axis</p> 

<p><b>Horizontal Hyperbola:</b></p>	<p>Graph at Origin and Label center, a, b, c, Foci, Vertices, Asymptotes &amp; Transverse Axis</p>
<p>Equation - <math>\frac{(x-h)^2}{a^2} - \frac{(y-k)^2}{b^2} = 1</math></p> <p>Center - <math>(h, k)</math></p> <p>a - center to vertex on transverse axis (x)</p> <p>b - center to edge of box (y)</p> <p>c - center to focus on transverse axis (x)</p> <p>Equation to Asymptotes: <math>y - k = \pm \frac{b}{a}(x - h)</math></p> <p>Pythagorean Rule: <math>c^2 = a^2 + b^2</math></p>	
<p><b>Right Parabola:</b></p>	<p>Graph at Origin and Label, p, LR, Focus, Vertex &amp; Directrix</p>
<p>Equation - <math>(y-k)^2 = 4p(x-h)</math></p> <p>Vertex - <math>(h, k)</math></p> <p>p - vertex to focus (Positive)</p> <p>Latus Rectum - <math> 4p </math> width of parabola through focus.</p> <p>Directrix - <math>x = \#</math> (vertical line)</p>	
<p><b>Left Parabola:</b></p>	<p>Graph at Origin and Label, p, LR, Focus, Vertex &amp; Directrix</p>
<p>Equation - <math>(y-k)^2 = 4p(x-h)</math></p> <p>Vertex - <math>(h, k)</math></p> <p>p - vertex to focus (negative)</p> <p>Latus Rectum - <math> 4p </math> width of parabola through focus</p> <p>Directrix - <math>x = \#</math> (vertical line)</p>	
<p><b>Up Parabola:</b></p>	<p>Graph at Origin and Label, p, LR, Focus, Vertex &amp; Directrix</p>
<p>Equation - <math>(x-h)^2 = 4p(y-k)</math></p> <p>Vertex - <math>(h, k)</math></p> <p>p - vertex to focus (Positive)</p> <p>Latus Rectum - <math> 4p </math> width of parabola through focus</p> <p>Directrix - <math>y = \#</math> (horizontal line)</p>	
<p><b>Down Parabola:</b></p>	<p>Graph at Origin and Label, p, LR, Focus, Vertex &amp; Directrix</p>
<p>Equation - <math>(x-h)^2 = 4p(y-k)</math></p> <p>Vertex - <math>(h, k)</math></p> <p>p - vertex to focus (negative)</p> <p>Latus Rectum - <math> 4p </math> width of parabola through focus</p> <p>Directrix - <math>y = \#</math> (horizontal line)</p>	