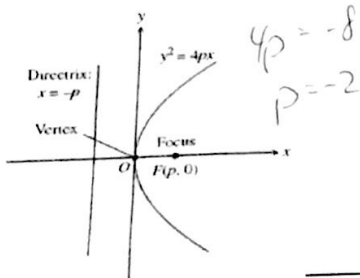


Parabola

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

Focal Width = $4p$



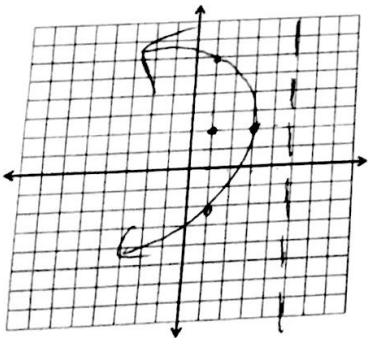
Example: $(y-2)^2 = -8(x-3)$

Vertex: $(3, 2)$

Axis of Symmetry: $y = 2$

Focus: $(1, 2)$

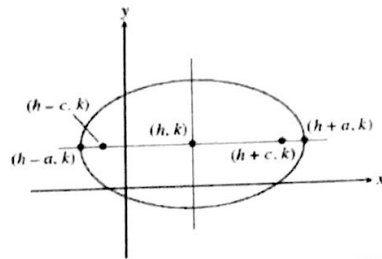
Directrix: $x = 5$



Ellipse

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

$$c = \sqrt{a^2 - b^2}$$



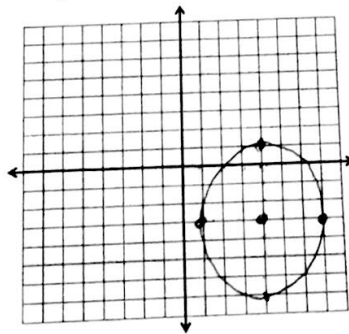
Example: $\frac{(x-4)^2}{9} + \frac{(y+3)^2}{16} = 1$ $c = \pm\sqrt{7}$

Center: $(4, -3)$

Vertices: $(4, 1)$ $(4, -7)$

Co-Vertices: $(1, -3)$ $(7, -3)$

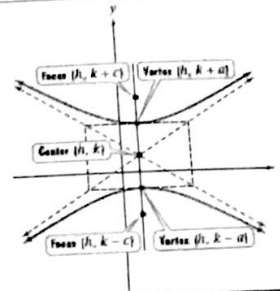
Foci: $(4, -3 \pm \sqrt{7})$



Hyperbola

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

$$c = \sqrt{a^2 + b^2}$$



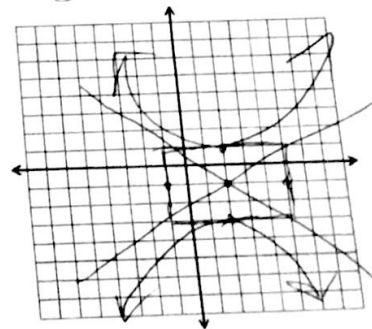
Example: $\frac{(y+1)^2}{4} - \frac{(x-2)^2}{9} = 1$

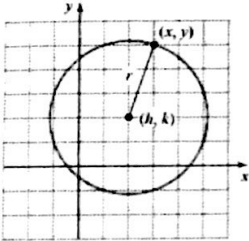
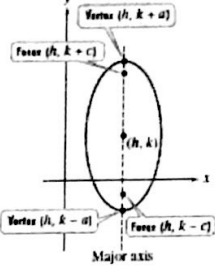
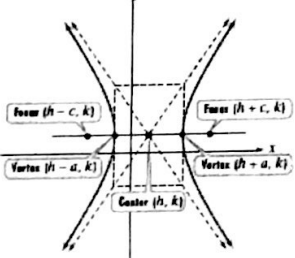
Center: $(2, -1)$

Transverse Axis: $x = 2$

Conjugate Axis: $y = -1$

Asymptotes: $y + 1 = \pm \frac{2}{3}(x - 2)$



Circle	Ellipse	Hyperbola
$(x-h)^2 + (y-k)^2 = r^2$ <p>Center: (h, k)</p>	$\frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1$ $c = \sqrt{a^2 - b^2}$	$\frac{(x-h)^2}{a^2} - \frac{(y-k)^2}{b^2} = 1$ $c = \sqrt{a^2 + b^2}$
		
<p>Example: $(x-4)^2 + (y-3)^2 = 4$</p>	<p>Example: $\frac{x^2}{49} + \frac{(y-1)^2}{25} = 1$ $c = \sqrt{24}$</p>	<p>Example: $\frac{(x-2)^2}{16} - \frac{(y+3)^2}{4} = 1$</p>
<p>Center: (4, 3)</p>	<p>Center: (0, 1)</p>	<p>Center: (2, -3)</p>
<p>Radius: 2</p>	<p>Vertices: (7, 1) (-7, 1)</p>	<p>Transverse Axis $y = -3$</p>
	<p>Co-Vertices: (0, 6) (0, -4)</p>	<p>Conjugate Axis $x = 2$</p>
	<p>Foci: $(\pm 2\sqrt{6}, 1)$</p>	<p>Asymptotes: $y + 3 = \pm \frac{1}{2}(x - 2)$</p>
