Name of curve	Standard form of equation	Graph
Circle	$(x-h)^2 + (y-k)^2 = r^2$	(h, k)
Ellipse (a) Major axis parallel to <i>x</i> -axis (b) Major axis parallel to <i>y</i> -axis	$\frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1$ $a > b$ $a < b$	$ \begin{array}{cccc} F_1 & F_2 \\ \bullet & (h, k) \\ \hline & (a) & (b) \end{array} $
Hyperbola(a) Transverse axis parallel to <i>x</i>-axis(b) Transverse axis parallel to <i>y</i>-axis	$\frac{(x-h)^2}{a^2} - \frac{(y-k)^2}{b^2} = 1$ $\frac{(y-k)^2}{b^2} - \frac{(x-h)^2}{a^2} = 1$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
Parabola (a) Opens upward (b) Opens downward (c) Opens to the right (d) Opens to the left	$(y - k) = a(x - h)^{2}, a > 0$ $(y - k) = a(x - h)^{2}, a < 0$ $(x - h) = a(y - k)^{2}, a > 0$ $(x - h) = a(y - k)^{2}, a < 0$	(h, k) (h, k)