THE CONICS

CIRCLE: General Form: $Ax^2 + Ay^2 + Bx + Cy + D = 0$

Standard Form: $(x - h)^2 + (y - k)^2 = r^2$ or $x^2 + y^2 = r^2$

Center (h,k)	Center (0,0)
Radius r	Radius r

PARABOLA: General Form: $Ax^2 + Bx + Cy + D = 0$ or $Ay^2 + By + Cx + D = 0$

Standard Forms: $(x - h)^2 = 4p(y - k)$ $\quad$ $(y - k)^2 = 4p(x - h)$

V (h,k)	V (h,k)
F (h, k+p)	F (h+p,k)
D y = k-p	D x = h - p
AS x = h	AS y = k
LLR |4p|	LLR |4p|

ELLIPSE: General Form: $Ax^2 + By^2 + Cx + Dy + E = 0$

Standard Forms: $\dfrac{(x - h)^2}{a^2} + \dfrac{(y - k)^2}{b^2} = 1$ $\quad$ $\dfrac{(x - h)^2}{b^2} + \dfrac{(y - k)^2}{a^2} = 1$

$c^2 = a^2 - b^2$

C	(h,k)	
V	(h+a,k)	(h-a,k)
	(h,k+b)	(h,k-b)
F	(h+c,k)	(h-c,k)

C	(h,k)	
V	(h, k+a)	(h, k-a)
	(h+b,k)	(h-b, k)
F	(h, k+c)	(h, k-c)

HYPERBOLA: General Form: $Ax^2 - By^2 + Cx + Dy + E = 0$

Standard Forms: $\dfrac{(x - h)^2}{a^2} - \dfrac{(y - k)^2}{b^2} = 1$ $\quad$ $\dfrac{(y - k)^2}{a^2} - \dfrac{(x - h)^2}{b^2} = 1$

$c^2 = a^2 + b^2$

C	(h,k)	
V	(h+a,k)	(h-a,k)
F	(h+c,k)	(h-c,k)
A	$y-k = \pm b/a\ (x-h)$	

C	(h,k)	
V	(h,k+a)	(h,k-a)
F	(h,k+c)	(h,k-c)
A	$y-k = \pm a/b\ (x-h)$	