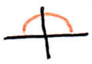
Resumen Conicas !

Griselda Aguirre

* Circunferencia :-

$C: (x-h)^2 + (y-k)^2 = r^2$ → ecc. ordinaria

$C: x^2 + y^2 + Dx + Ey + F = 0$ → ecc. General.

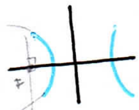
 $y = k + \sqrt{r^2 - (x-h)^2}$

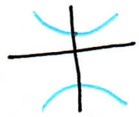
 $y = k - \sqrt{r^2 - (x-h)^2}$

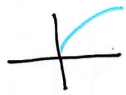
$x = h + \sqrt{r^2 - (y-k)^2}$ 

$x = h - \sqrt{r^2 - (y-k)^2}$ 

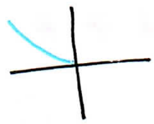
** Parabola :

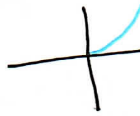
$P: (y-k)^2 = 4|P|(x-h)$ eje Focal o Simetrica  // eje x

$P: (x-h)^2 = 4|P|(y-k)$  // eje y

$y = k + \sqrt{4p(x-h)}$ 

$y = k - \sqrt{4p(x-h)}$ 

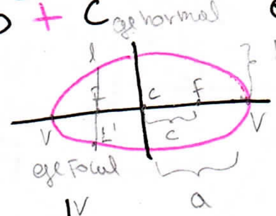
$x = h - \sqrt{4p(y-k)}$ 

$x = h + \sqrt{4p(y-k)}$ 

*** Elipse :

$a^2 = b^2 + c^2$ $\qquad e = \frac{c}{a} = \frac{\sqrt{a^2-b^2}}{a}$

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

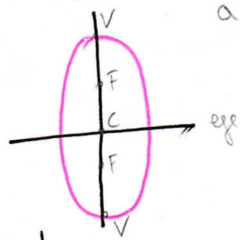


eje Focal // eje x (abscisa)

V-V : eje mayor

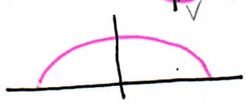
ll' : LLR

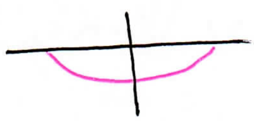
$\mathcal{E}: \frac{(y-k)^2}{a^2} + \frac{(x-h)^2}{b^2} = 1$



// eje y

$LLR = \frac{2b^2}{a}$

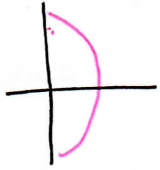
$y = k + \sqrt{b^2\left(1 - \frac{(x-h)^2}{a^2}\right)}$ 

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

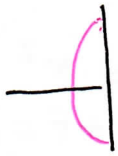
Nota: No tiene Asint. Horizontales ni verticales

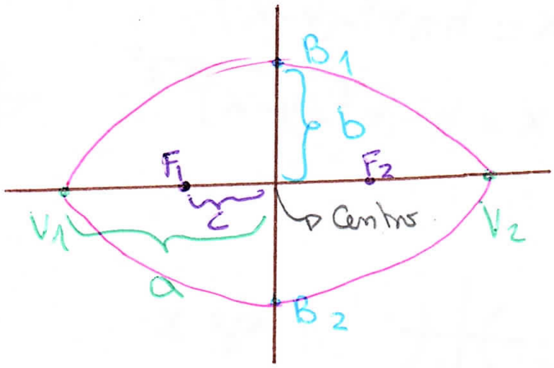
Nota: denominador mayor esta asociado a la variable correspondiente al eje coord. el cual coincide ~~de~~ el eje mayor de la Elipse.

$$X = h + \sqrt{b^2\left(1 - \frac{(y-k)^2}{a^2}\right)}$$



$$X = h - \sqrt{b^2\left(1 - \frac{(y-k)^2}{a^2}\right)}$$





$\overline{B_1 B_2}$ = eje menor = eje normal = 2

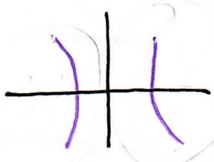
$\overline{V_1 V_2}$ = eje mayor = eje focal = 2

$\overline{F_1 F_2} = 2c$

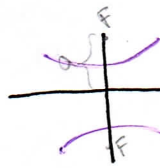
$LLR = \frac{2b^2}{a}$ $\quad e = \frac{c}{a}$

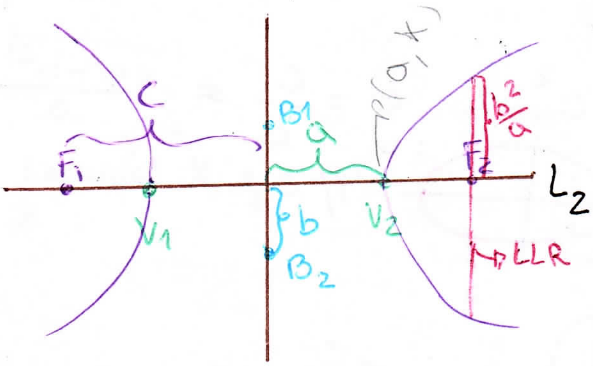
****** Hiperbola:**

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



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





$\overline{B_1 B_2}$ = eje conjugado = $2b$ $\quad L$ = eje nor

$\overline{V_1 V_2}$ = eje transv. = $2a$ $\quad L_2$ = eje Foc

$\overline{F_1 F_2} = 2c$ $\quad LLR = \frac{2b^2}{a}$

$c^2 = a^2 + b^2$ $\quad e = \frac{c}{a}$

Asintotas:

$$\frac{(y-k)^2}{a^2} - \frac{(x-h)^2}{b^2} = 0$$

$$\frac{(y-k)}{a} - \frac{(x-h)}{b}\ 0 \ \vee \ \frac{(y-k)}{a} + \frac{(x-h)}{b} = 0$$