

KURBA ERABILIENAK \mathbb{R}^2 ESPAZIOAN

Zuzenak:

Ekuazio orokorra (implizitua):

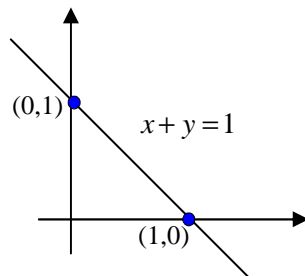
$$ax + by = c .$$

$$\text{Malda: } m = \frac{-a}{b}$$

Adibideak:

$$x + y = 1$$

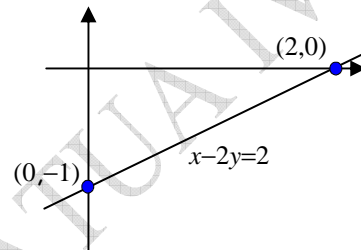
x	y
0	1
1	0



$$m = \frac{-1}{1} = -1$$

$$x - 2y = 2$$

x	y
0	-1
2	0



$$m = \frac{1}{2}$$

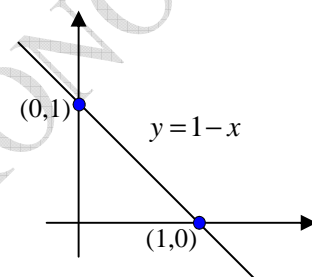
Ekuazio sinplifikatua (esplizitua):

$$y = mx + b .$$

Adibideak:

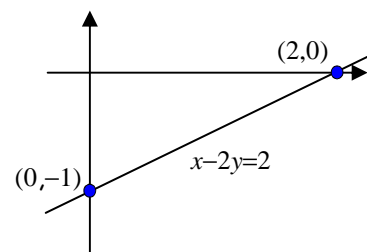
$$y = 1 - x$$

x	y
0	1
1	0



$$y = \frac{1}{2}x - 1$$

x	y
0	-1
2	0

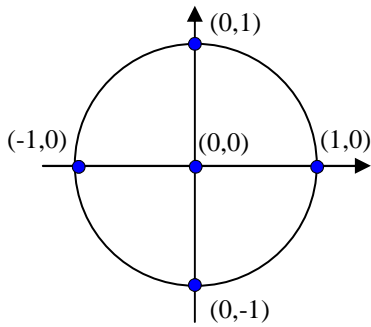


Zirkunferentziak: $(x - x_0)^2 + (y - y_0)^2 = r^2$, zentroa (x_0, y_0) eta erradioa $r > 0$ izanik.

Adibideak:

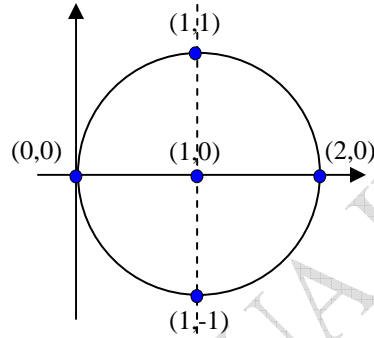
$$x^2 + y^2 = 1$$

Zentroa $(0,0)$ eta erradioa 1



$$(x-1)^2 + y^2 = 1$$

Zentroa $(1,0)$ eta erradioa 1



Elipseak: $\frac{(x - x_0)^2}{a^2} + \frac{(y - y_0)^2}{b^2} = 1$ ($a, b > 0$),

Zentroa: (x_0, y_0)

x ardatzaren ardatzerdia: a

y ardatzaren ardatzerdia: b

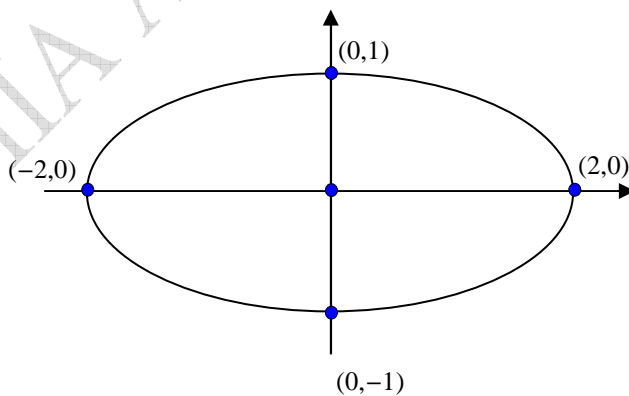
Adibideak:

$$\frac{x^2}{4} + y^2 = 1$$

Zentroa: $(0,0)$

x ardatzaren ardatzerdia: 2

y ardatzaren ardatzerdia: 1

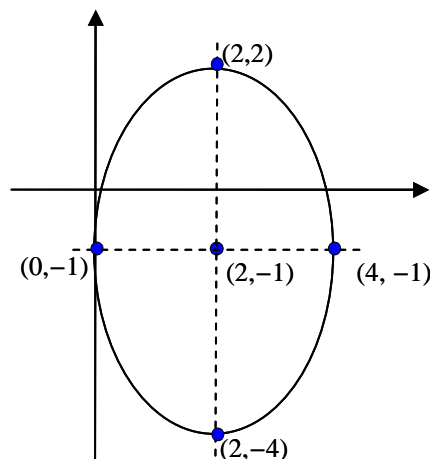


$$\frac{(x-2)^2}{9} + \frac{(y+1)^2}{4} = 1$$

Zentroa: $(2,-1)$

x ardatzaren ardatzerdia: 3

y ardatzaren ardatzerdia: 2



Parabolak:

Simetria bertikala: $y = ax^2 + bx + c$. Erpina (x_0, y_0) , $x_0 = \frac{-b}{2a}$ eta $y_0 = ax_0^2 + bx_0 + c$

Simetria horizontala $x = ay^2 + by + c$. Erpina (x_0, y_0) , $y_0 = \frac{-b}{2a}$ eta $x_0 = ay_0^2 + by_0 + c$

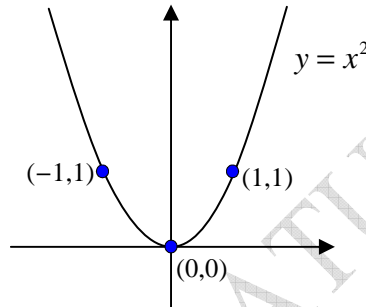
Adibideak:

$y = x^2$ (simetria bertikala)

Erpina: $x_0 = \frac{-0}{2} = 0$

x	y
0	0
1	1
-1	1

Erpina: (-0,0)

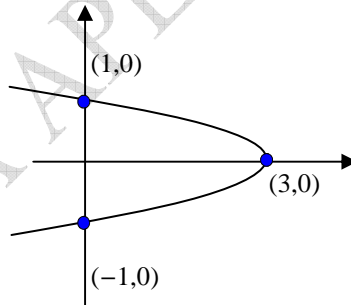


$x = -3y^2 + 3$ (simetria horizontala)

Erpina: $y_0 = \frac{-0}{-6} = 0$

x	y
3	0
0	1
0	-1

Erpina: (2,0)

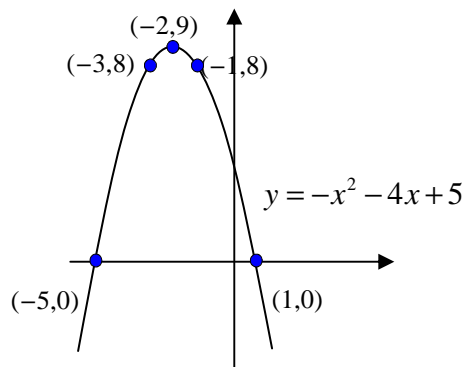


$y = -x^2 - 4x + 5$ (simetria bertikala)

Erpina: $x_0 = \frac{4}{-2} = -2$

x	y
-2	9
-1	8
-3	8

Erpina: (-2,9)



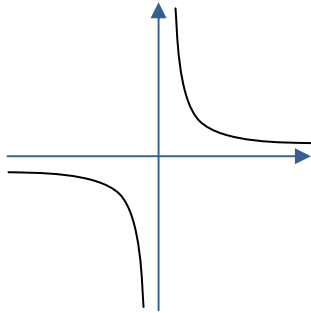
Hiperbolak: $(x-a)(y-b) = k$

$x = a$ eta $y = b$ asintotak

Adibideak:

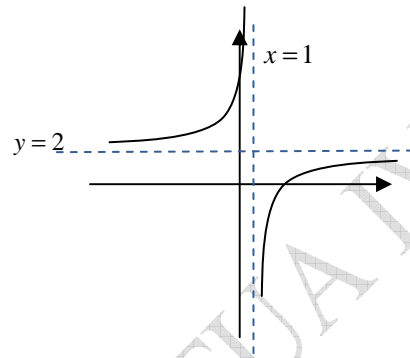
$k > 0$

$$xy = 4$$



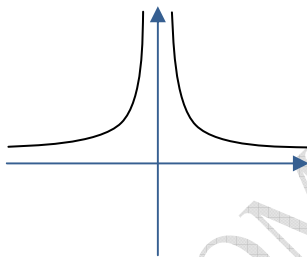
$k < 0$

$$(x-1)(y-2) = -4$$



Beste kurba batzuk:

$$x^2 y = 1$$



$$x^2 y^2 = 1$$

