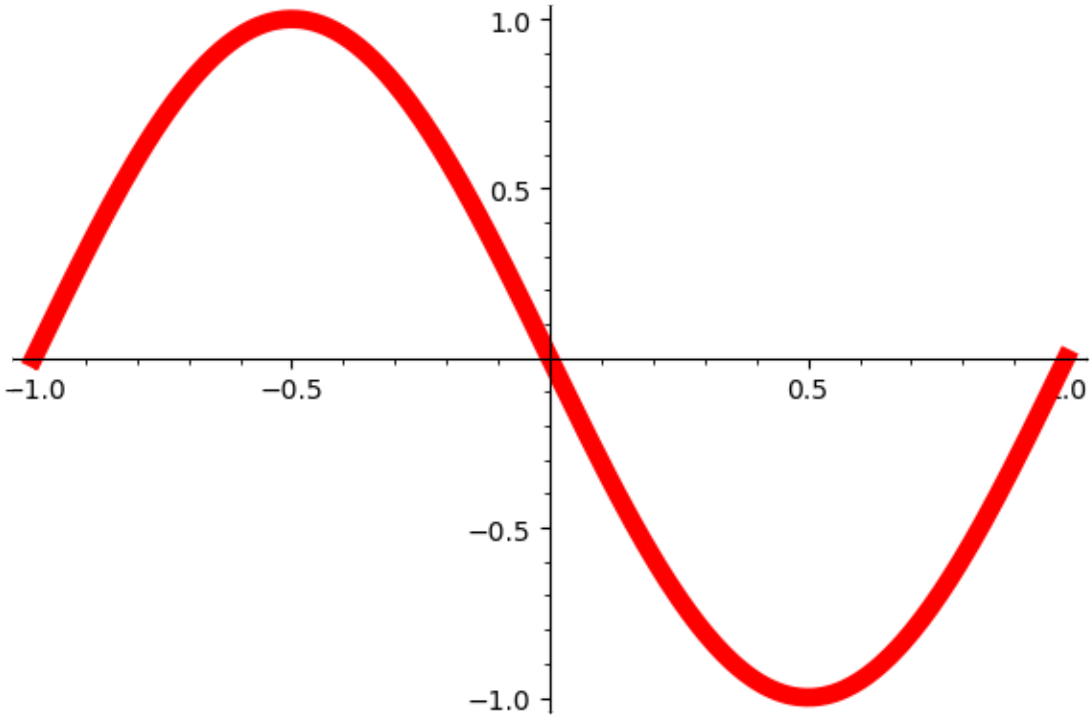
tarea7sage

December 18, 2022

[18]:
```
#DECLARACIÓN DE VARIABLES
x= var('x')
y= var('y')
z = var('z')
t = var('t')
```

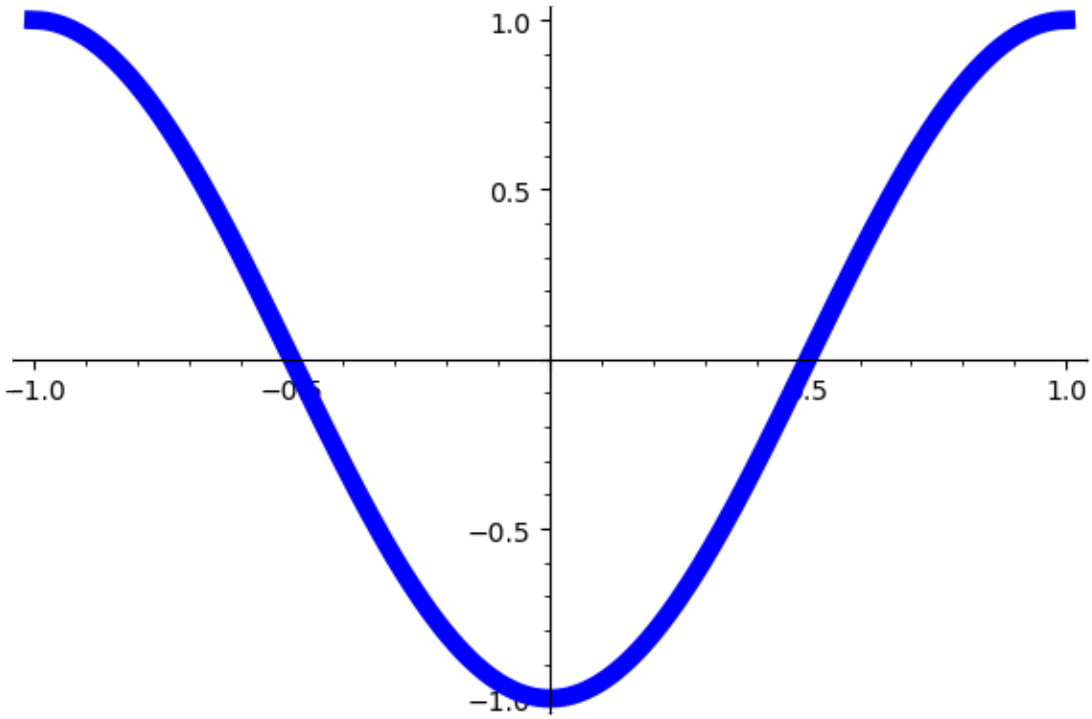
[2]:
```
#EJERCICIO 1
f(x) = sin(pi*x - pi)
plot(y, -1, 1, color = 'red', thickness = 7)
```

[2]:



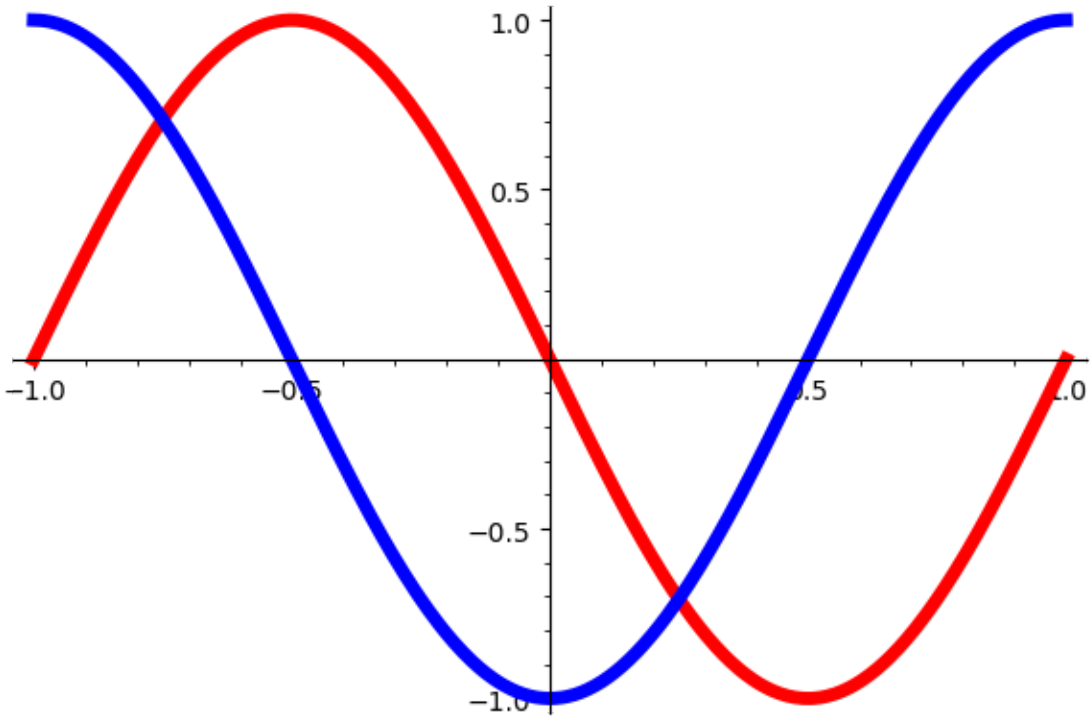
[40]:
```
#EJERCICIO 2
h = cos(pi*x - pi)
plot(h, -1, 1, color = 'blue', thickness = 7)
```

[40]:



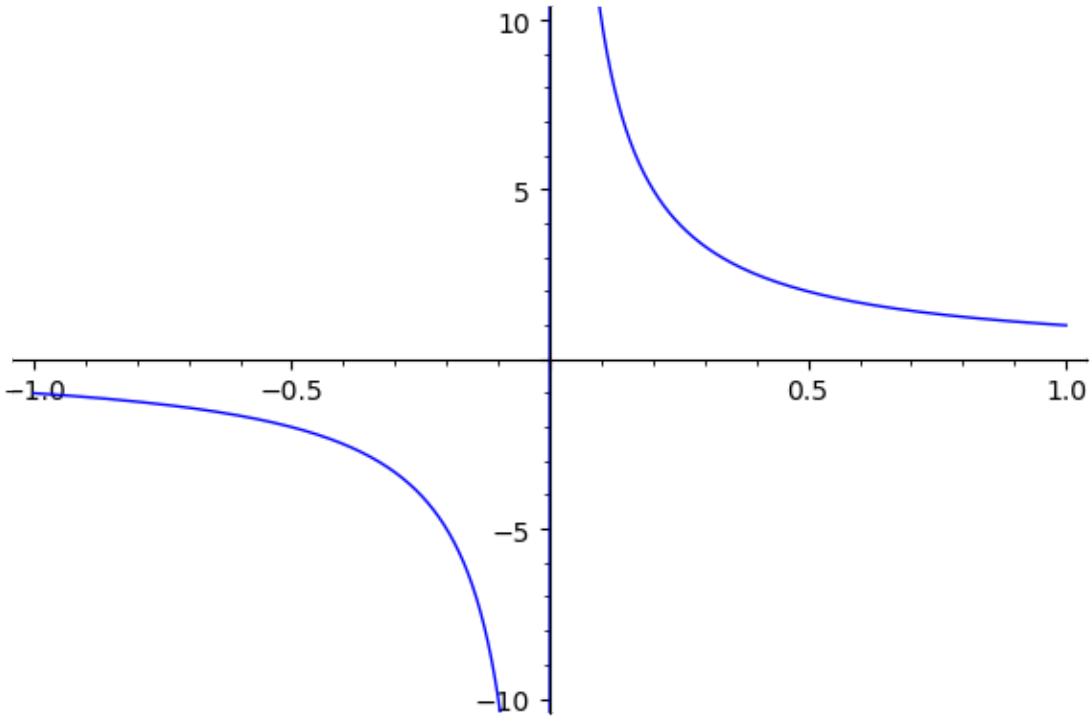
[41]:
```
#EJERCICIO 3
f(x) = sin(pi*x - pi)
plot(f(x), -1, 1, color = 'red', thickness = 5) + plot(h, -1, 1, color =␣
↪'blue',thickness = 5)
```

[41]:



[8]:
```
#EJERCICIO 4
reset("f")
f(x) = 1 / x
plot(f(x), -1, 1, ymin=-10, ymax=10)
```

[8]:

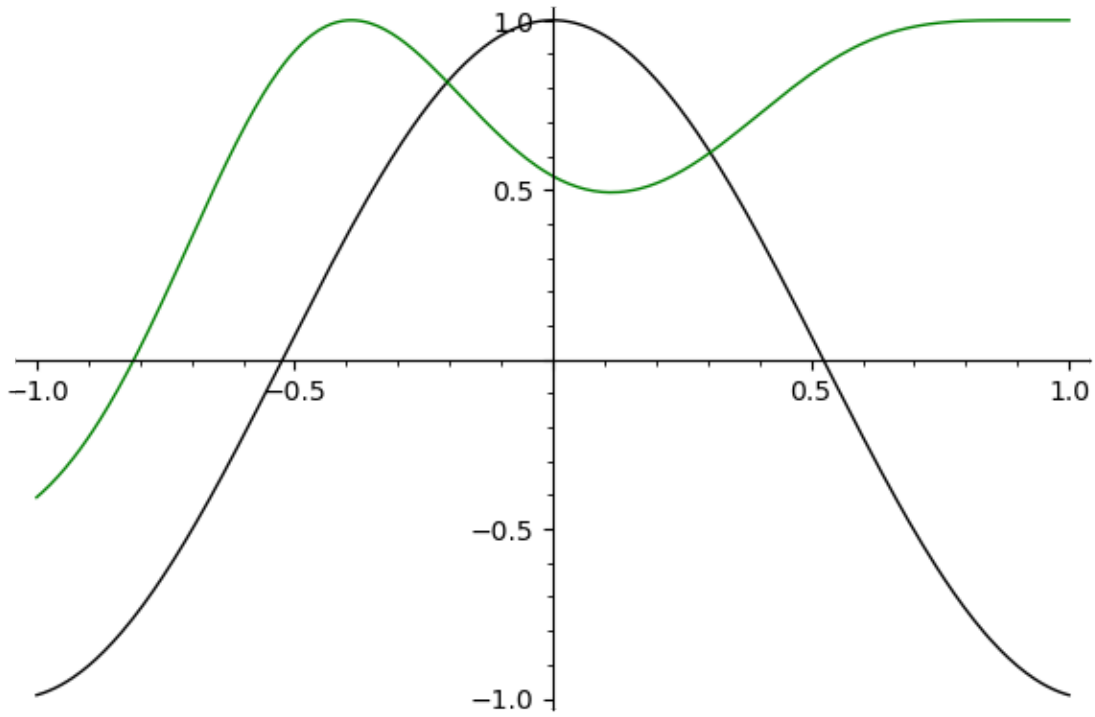


[56]:
```
#EJERCICIO 5
reset('f')
x= var('x')
y= var('y')
f(x) = y * sin(x^2 - y^2) == x * cos(x + y)
plot3d(f(x), (x,-3,3), (y,-3,3))
```

[56]: Graphics3d Object

[28]:
```
#EJERCICIO 6
reset("f")
f(x) = cos(3*t)
ft = cos(t + cos(3*t))
plot(f(x), color = 'black') + plot(ft, color = 'green')
```

[28]:



[54]:
```
#EJERCICIO 7
a = x^2 - y**2
plot3d(a, (x,-5,5), (y,-5,5))
```

[54]: Graphics3d Object

[46]:
```
#EJERCICIO 8
reset('f')
f(x) = x^2 + y^2 - z^2 ==0
implicit_plot3d(f(x), (x,-5,5), (y,-5,5), (z,-5,5))
```

[46]: Graphics3d Object

[49]:
```
#EJERCICIO 9
plano1 = 2*x + y + z == 1
implicit_plot3d(f(x), (x,-5,5), (y,-5,5), (z,-5,5)) + implicit_plot3d(plano1,␣
 ↪(x,-5,5), (y,-5,5), (z,-5,5), color ='red')
```

[49]: Graphics3d Object

[52]:
```
#EJERCICIO 10
plano2 = 0.5*x + 0.5*y + z == 1.4 #verde
plano3 = x - z + 3 == 0
plano2 = implicit_plot3d(plano2, (x,-5,5), (y,-5,5), (z,-5,5), color ='green')
```

```
plano3 = implicit_plot3d(plano3, (x,-5,5), (y,-5,5), (z,-5,5), color ='purple')
implicit_plot3d(f(x), (x,-5,5), (y,-5,5), (z,-5,5)) + plano2 + plano3
```

[52]: Graphics3d Object