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LeeSmithSBCC / Jupyter-Math-For-Nerds

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Jupyter-Math-For-Nerds / Jupiter-Files / MathWithSumpy\_PLOTTING\_082918.ipynb

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LeeSmithSBCC Added Plotting

48439ca 8 minutes ago

1 contributor

356 lines (355 sloc) 188 KB

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# PLOT Just about any math equation !!!

## - ALGEBRA

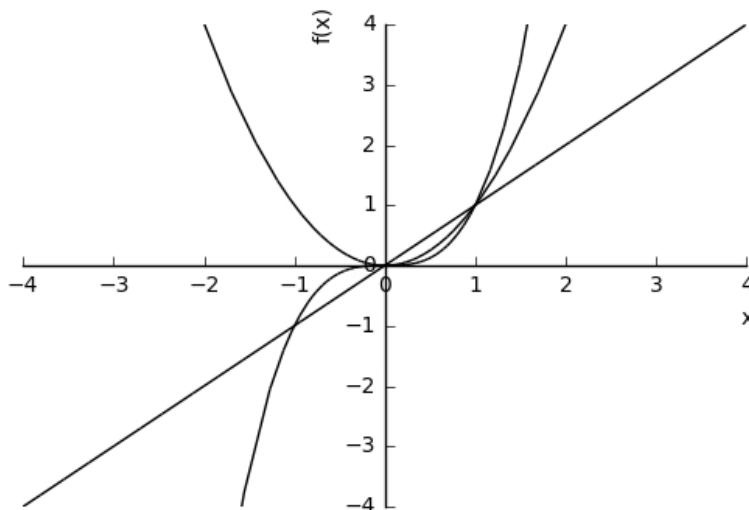
## - TRIGONOMETRY

```
In [2]: from sympy import *  
init_printing()  
from matplotlib import style  
#style.use('grayscale')
```

```
In [3]: x, y, z = symbols("x, y, z")
```

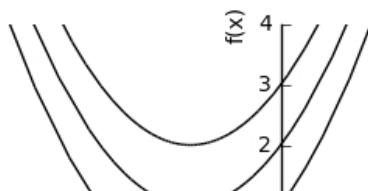
```
In [4]: a, b, c, d = symbols('a b c d')
```

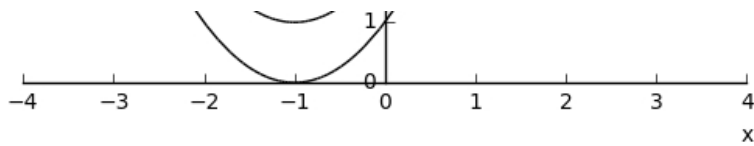
```
In [5]: plot(x, x**2, x**3, xlim=(-4,4), ylim=(-4,4))
```



```
Out[5]: <sympy.plotting.plot.Plot at 0x1983eb1bba8>
```

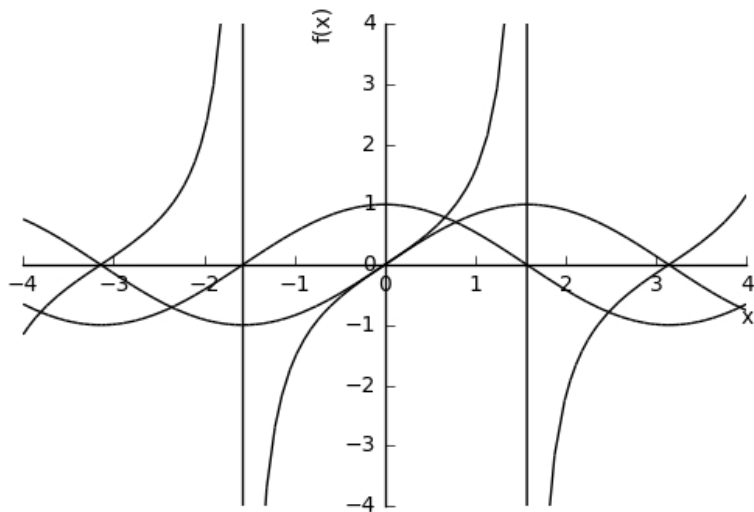
```
In [6]: plot(x**2+2*x+1, x**2+2*x+2, x**2+2*x+3, xlim=(-4,4), ylim=(-4,4))
```





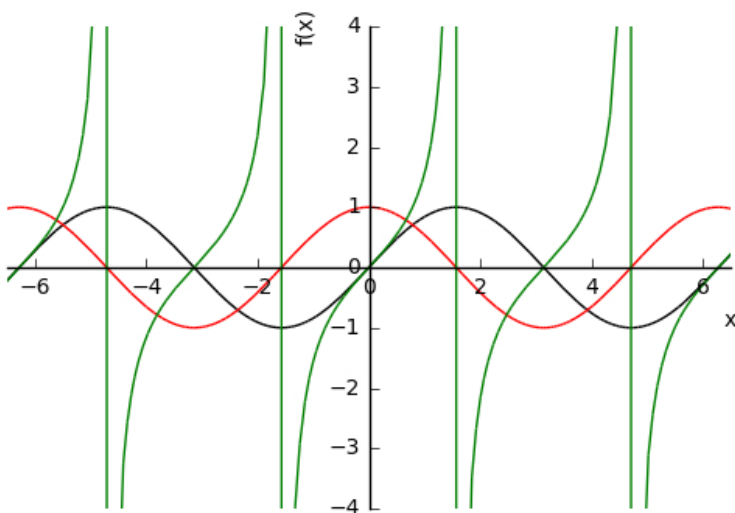
Out[6]: <sympy.plotting.plot.Plot at 0x198409dd780>

In [7]: `plot(sin(x), cos(x), tan(x), (x, -4, 4), ylim=(-4,4))`



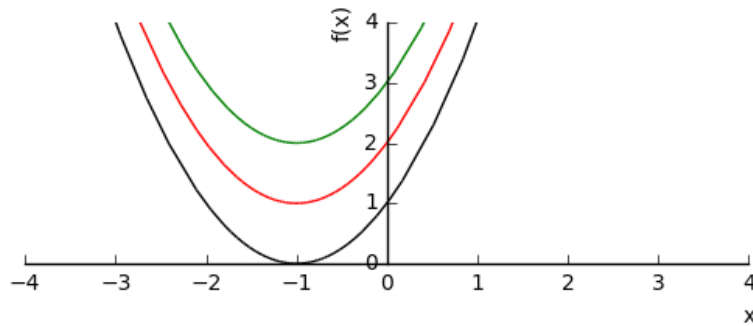
Out[7]: <sympy.plotting.plot.Plot at 0x1983f1c5a58>

In [23]: `p1 = sin(x)  
p2 = cos(x)  
p3 = tan(x)  
leePlot = plot(p1,p2,p3,xlim=(-6.5,6.5),ylim=(-4,4), show=false)  
leePlot[1].line_color = 'r'  
leePlot[2].line_color = 'g'  
leePlot.show()`

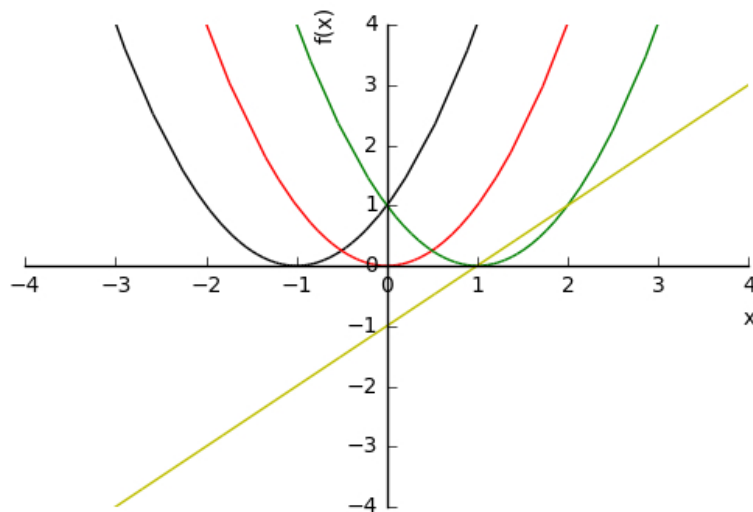


In [24]: `p1=x**2+2*x+1  
p2=x**2+2*x+2  
p3=x**2+2*x+3  
#leePlot2 = plot(p1, xlim=(-4,4),ylim=(-4,4))  
leePlot2 = plot(p1,p2,p3, xlim=(-4,4),ylim=(-4,4),show=false)  
leePlot2[1].line_color='r'`

```
leePlot2[2].line_color='g'
leePlot2.grid='True'
leePlot2.show()
```



```
In [22]: p1 = (x+1)**2
p2 = (x)**2
p3 = (x-1)**2
p4 = (x-1)
leePlot3 = plot(p1, p2, p3, p4, xlim=(-4,4),ylim=(-4,4), show=false)
leePlot3[1].line_color='r'
leePlot3[2].line_color='g'
leePlot3[3].line_color='y'
leePlot3.show()
```



```
In [10]: solve(x**2+2*x+1)
```

```
Out[10]: [-1]
```

```
In [11]: solve(x**2+2*x+2)
```

```
Out[11]: [-1 - i, -1 + i]
```

```
In [12]: solve(x**2+2*x+3)
```

```
Out[12]: [-1 - sqrt(2)i, -1 + sqrt(2)i]
```

```
In [13]: import matplotlib.pyplot as plt
print(plt.style.available)
```

```
['bmh', 'seaborn-poster', 'seaborn-talk', 'seaborn-paper', 'seaborn-dark', 'fivethirtyeight', 'seaborn-ticks', 'seaborn-notebook', 'seaborn-pastel', 'classic', 'ggplot', 'seaborn-muted', 'seaborn-bright', 'grayscale', 'seaborn-white', 'seaborn-colorblind', 'seaborn-darkgrid', 'seaborn-whitegrid', 'seaborn-dark-palette', 'dark_background', 'seaborn-deep']
```

