In [31]:

```
import matplotlib.pyplot as plt
import numpy as np
import math as mt
import numpy as np
```

In [39]:

```
def ecuacion_recta():
    x = np.random.random(20)*10
    #print(x)
    y = np.random.random(20)*10
    #print(y)
    #return x,y
    X = np.array(x.reshape((20,1)))
    Y = np.array(y.reshape((20,1)))
    print(X)
    print(Y)
    """plt.plot(X, Y, 'o')
    plt.axhline(y = 0, color = "blue")
    plt.axvline(x = 0, color = "blue")
    plt.grid()
    plt.show()"""

    ex=sum(X)
    ey=sum(Y)
    exy=sum(X*Y)
    exx=sum(X*X)
    lon=len(X)
    m=(lon*exy-ex*ey)/(lon*exx-mt.pow(abs(ex),2))
    b=(ey*exx-ex*exy)/(lon*exx-mt.pow(abs(ex),2))
    ecua=""
    m=round(m[0],4)
    b=round(b[0],4)
    if (b < 0):
        ecua='y = {}x {}'
    else:
        ecua='y = {}x + {}'
    print(ecua.format(m,b))
    fu=lambda x: m*x+b
    li=np.arange(min(X)-5.0,max(X)+5.0,0.5)
    plt.plot(X,Y,'o')
    plt.axhline(y=0,color="red")
    plt.axvline(x=0,color="red")
    plt.plot(li,fu(li))
    plt.grid(True)
    plt.show()
```

In [42]:

```
ecuacion_recta()
```

```
[[2.89441583]
 [1.26077928]
 [5.84574101]
 [9.26323066]
 [5.92899844]
 [9.01694208]
 [7.24827687]
 [0.20745964]
 [2.25524934]
 [1.13663916]
 [3.99301907]
 [8.43914966]
 [9.97467307]
 [4.00753514]
 [7.03735413]
 [1.51869677]
 [5.50025228]
 [2.90222003]
 [4.56055779]
 [1.96985001]]
[[1.96147258]
 [9.7792522 ]
 [1.20347232]
 [0.64504582]
 [5.82007825]
 [4.12499136]
 [2.93139417]
 [5.99849145]
 [2.98687993]
 [4.10404101]
 [3.74735538]
 [7.07412483]
 [7.00530394]
 [3.75226937]
 [5.3337578 ]
 [2.36377155]
 [8.43201611]
 [0.69334924]
 [3.48664117]
 [0.81835525]]
y = 0.0733x + 3.7652
```