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


mesure_experience=[[(0,0),(-1,-1),(0,1),(-1,1),(-1,0),(1,1),(-1,0),(-1,1),(-1,0),(-1,
1),(-1,1),(-1,2),(0,0)],
   [(2,1),(1,1),(0,0),(-1,0),(-2,0),(-1,0),(0,0),(0,0),(0,-1),(-1,1),(-1,1),(-2,1),(-2,
1)],
   [(1,0),(0,0),(0,1),(-2,0),(-2,-1),(-1,2),(0,1),(0,0),(-1,1),(0,-1),(0,1),(-1,1),(-1,
3)],
   [(1,0),(0,0),(0,0),(-2,-1),(0,-1),(1,-1),(0,-1),(0,-1),(0,0),(0,-1),(-2,-1),(-1,0),
(-1,0)],
   [(2,0),(0,-1),(0,0),(-2,0),(-1,0),(0,0),(1,0),(1,0),(-1,-2),(0,0),(0,0),(-1,-1),(-1,
0)],
   [(1,0),(0,0),(1,0),(-1,0),(0,0),(0,0),(0,0),(0,-1),(0,0),(0,0),(2,0),(-1,1),(-1,-
1)],
   [(1,0),(0,0),(2,0),(-1,0),(0,0),(0,0),(-2,2),(0,0),(0,0),(-1,0),(-1,1),(0,0),(-1,-
1)],
   [(2,-2),(0,0),(1,-1),(0,-1),(0,0),(0,0),(0,0),(0,0),(-1,0),(0,0),(0,-1),(-2,0),(-1,-
1)],
   [(1,-1),(-1,1),(1,0),(-1,0),(0,0),(0,0),(0,-1),(0,0),(0,0),(0,0),(-1,0),(-1,-1),(-2,
-1)],
   [(0,0),(1,-1),(-1,0),(2,0),(0,0),(0,-1),(0,0),(0,0),(0,0),(0,0),(0,-1),(0,0),(0,0)],
   [(0,0),(1,-1),(-1,0),(1,-2),(0,-1),(1,-1),(0,0),(0,-1),(0,-1),(-1,-1),(0,0),(0,0),
(0,0)]]

d=19.50

def der(t,x,y,u):
    a,b=t[y][x]
    if u:
        return a/(-d)
    else:
        return b/(-d)


#plan de coupe x=cte
def frontx(t):
    fig, ax = plt.subplots()
    for a in range(len(t)):
            x,y=[0],[0]
            for i in range(len(t)):
                x.append(x[i]+0.5)
                y.append(der(t,a,i,1)*0.5+y[i])
            print(y)
            print(x)
            ax.plot(1.5*np.array(y)+a,np.array(x),'b')


    ax.set(xlim=(-0.5, 10.3), xticks=np.arange(0, 11),
           ylim=(0, 6), yticks=np.arange(0, 6, 0.5))
    plt.show()

#plan de coupe y=cte
def fronty(t):
    fig, ax = plt.subplots()
    for a in range(len(t[0])):
            x,y=[0],[0]
            for i in range(len(t)):
                x.append(x[i]+0.5)
```

```
                y.append(der(t,a,i,0)*0.5+y[i])
            ax.plot(np.array(x),1.5*np.array(y)+a,'b')


    ax.set(xlim=(0, 6), xticks=np.arange(0, 6),
           ylim=(-0.3, 12.5), yticks=np.arange(0, 12, 0.5))
    plt.show()

fronty(mesure_experience)
```