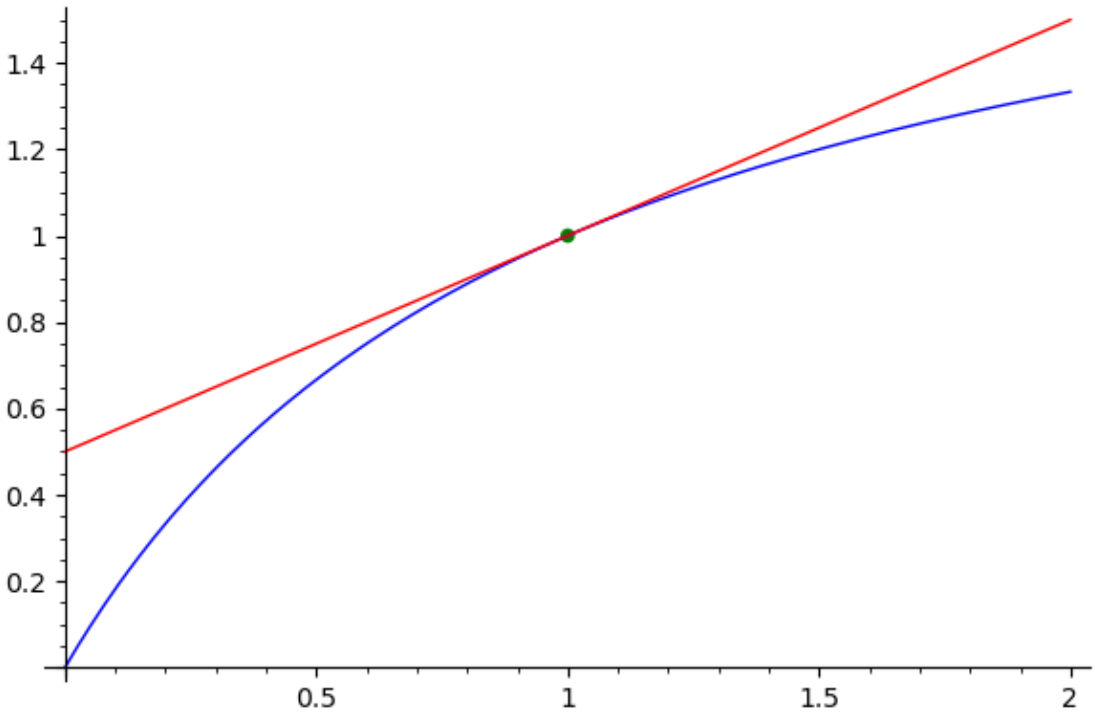
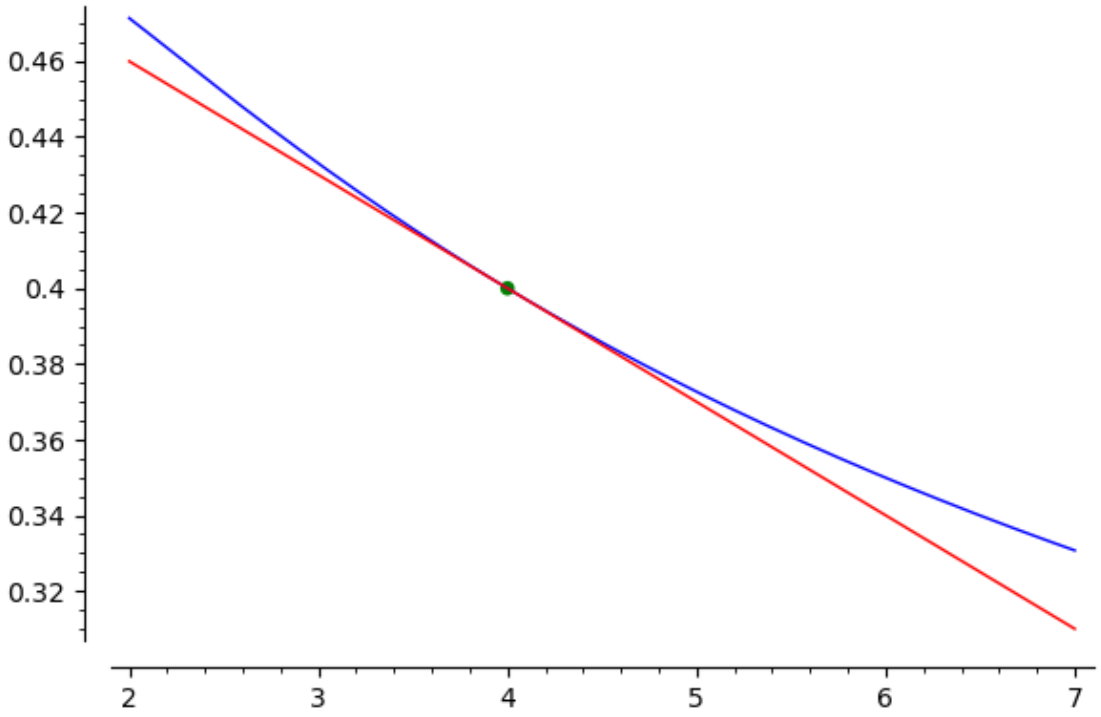
Laboratorul 2

October 12, 2023

[9]:
```
x=var('x')
f1(x) = 2*x/(x+1)
t1(x) = 1/2*x+1/2
p1=plot(f1,0,2)
p2=plot(t1,(0,2),color='red')
p3=point((1,1),color='green',size=30)
(p1+p2+p3).show()
```



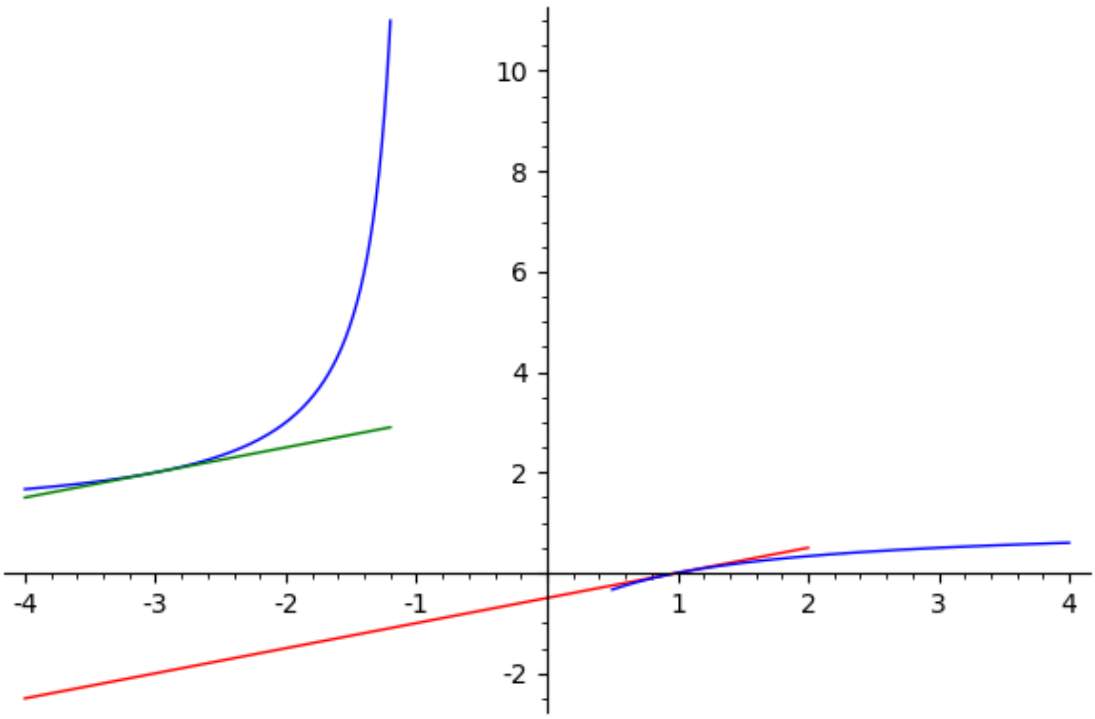
[12]:
```
f2(x)=sqrt(x)/(x+1)
t2(x)=-3*x/100+13/25
q1 = plot(f2,2,7)
q2 = plot(t2,2,7,color='red')
q3 = point((4,2/5),color='green',size=30)
(q1+q2+q3).show()
```



[13]:
```
820*0.14
```

[13]: 114.800000000000

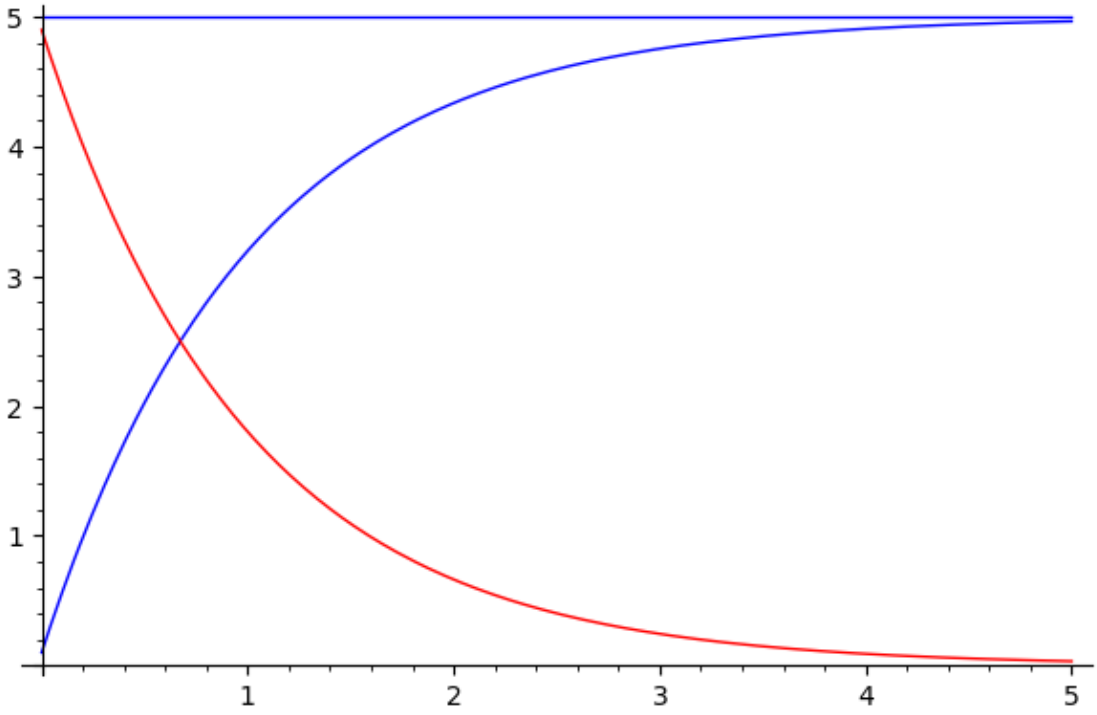
[22]:
```
f3(x)=(x-1)/(x+1)
h3=f3.diff()
t3(x)=h3(1)*(x-1)+f3(1)
t4(x)=h3(-3)*(x+3)+f3(-3)
r1=plot(f3,-4,-1.2)
r2=plot(t3,-4,2,color='red')
r3=plot(t4,-4,-1.2,color='green')
r4=plot(f3,0.5,4)
(r1+r2+r3+r4).show()
```



[18]:
```
t3(2)
```

[18]: 1/2

[25]:
```
t=var('t')
L0=0.1
Linf=5
k=1
L(t)=Linf-(Linf-L0)*exp(-k*t)
Lp=L.diff()
a(t) = Linf
p1=plot(L,0,5)
p2=plot(a,0,5)
p3=plot(Lp,0,5,color='red')
(p1+p2+p3).show()
```


5
4
3
2
1
1
2
3
4
5

[ ]: