Laboratorul 1

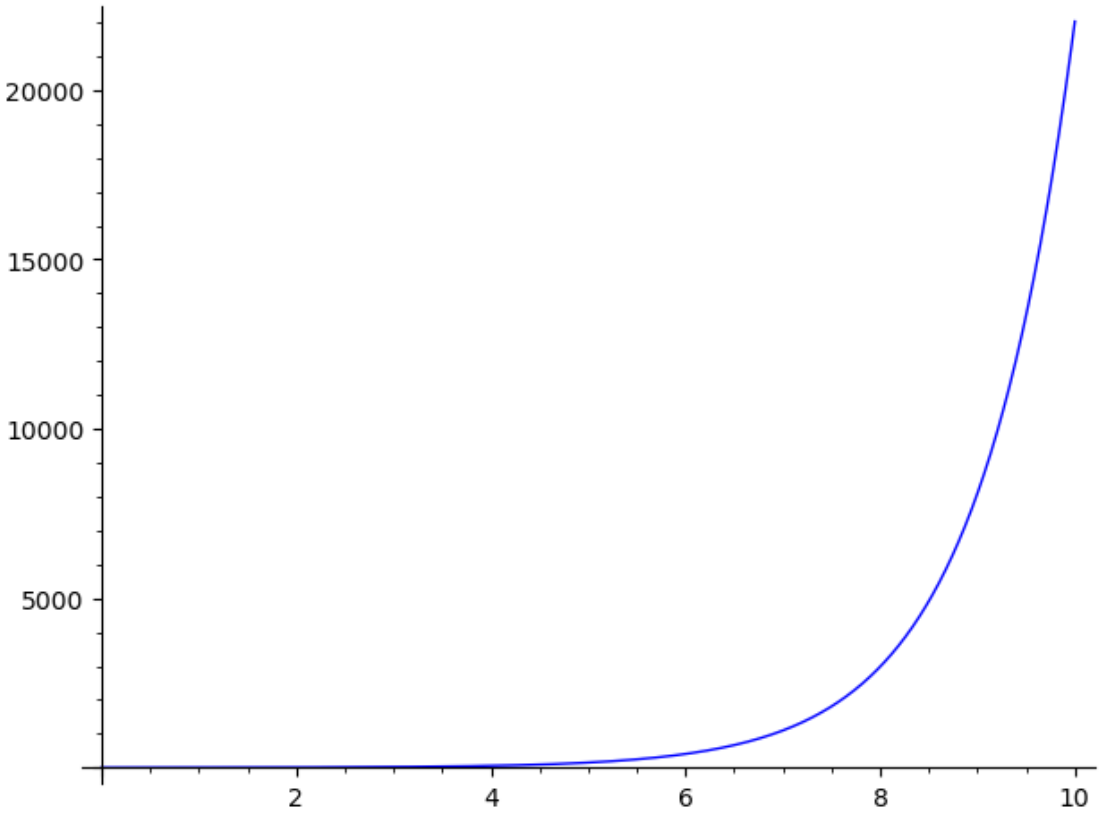
October 6, 2023

[1]:
```
x=var('x')
```

[2]:
```
f(x)=exp(x) #functia e^x
```

[3]:
```
plot(f,0,10)
```

[3]:

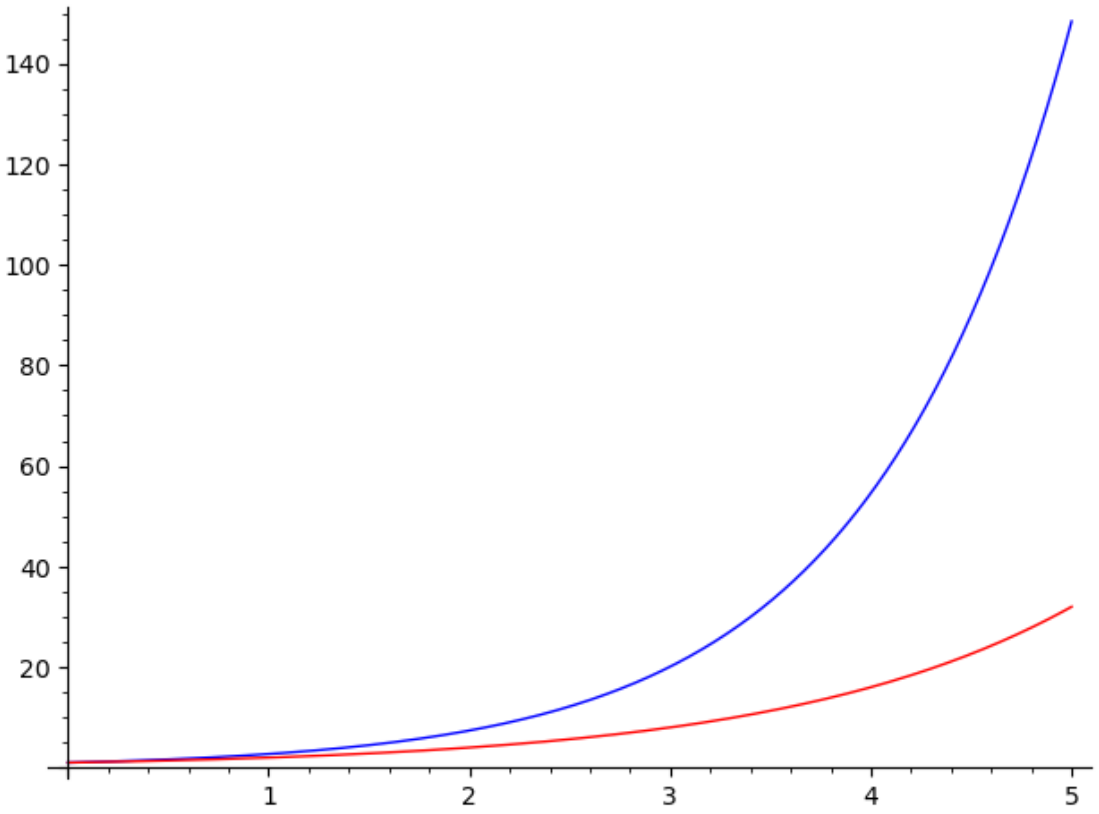


[4]:
```
p1=plot(f,0,5) #graficul lui e^x
```

[5]:
```
f(x)=2^x
```

[6]:
```
p2=plot(f,0,5,color='red') #graficul lui 2^x
```

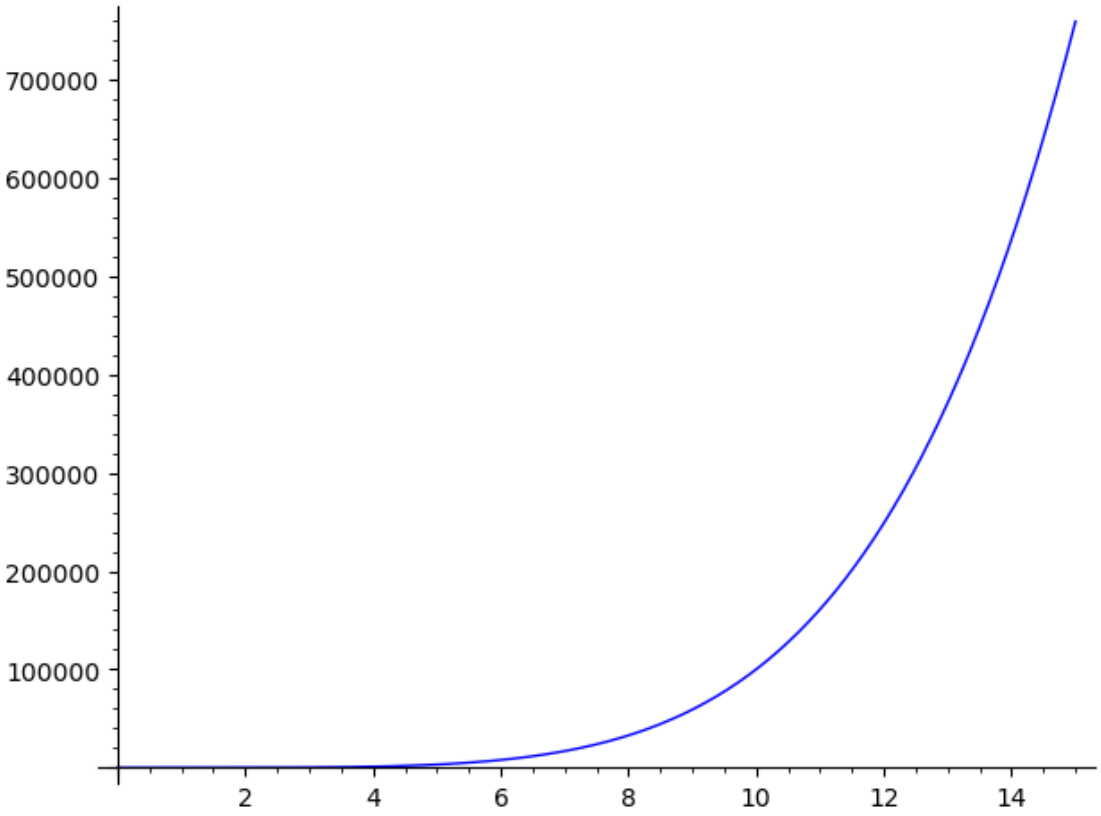
[7]:
```
(p1+p2).show()
```



[8]:
```
g(x)=5^x
```

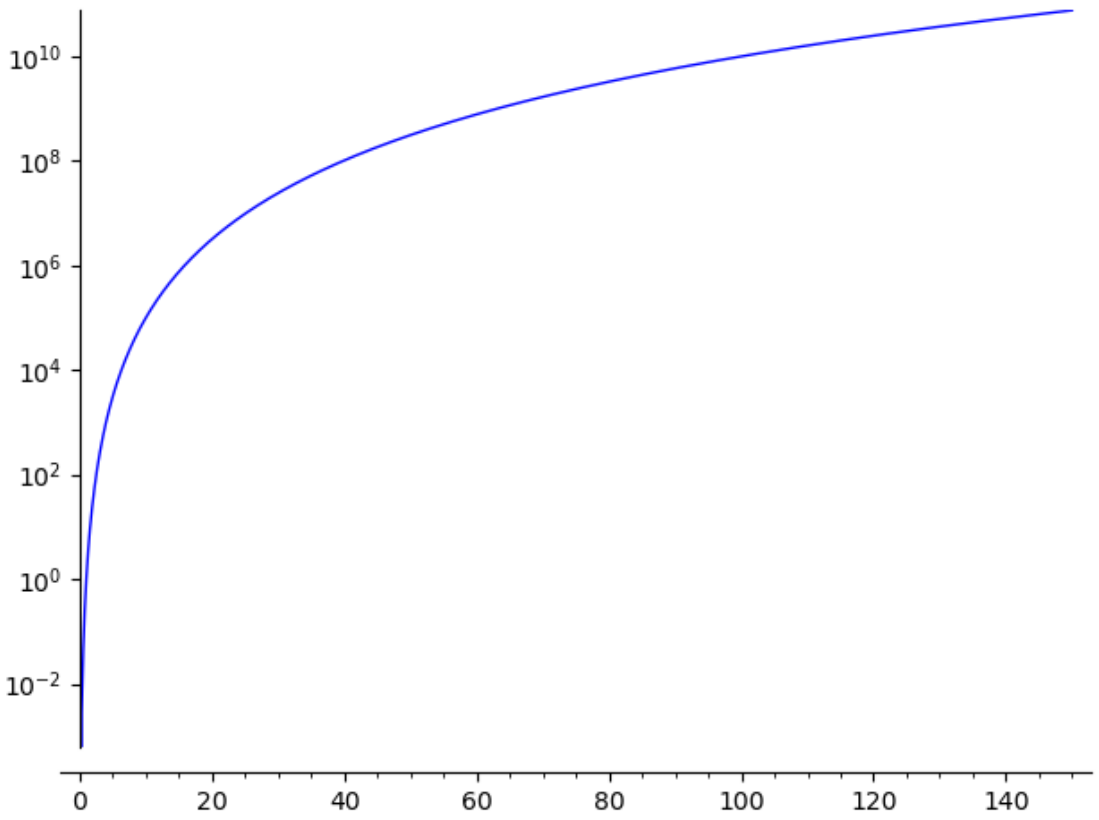
[9]:
```
p3=plot(g,0,5,color='yellow')
```

[10]:
```
(p1+p2+p3).show()
```

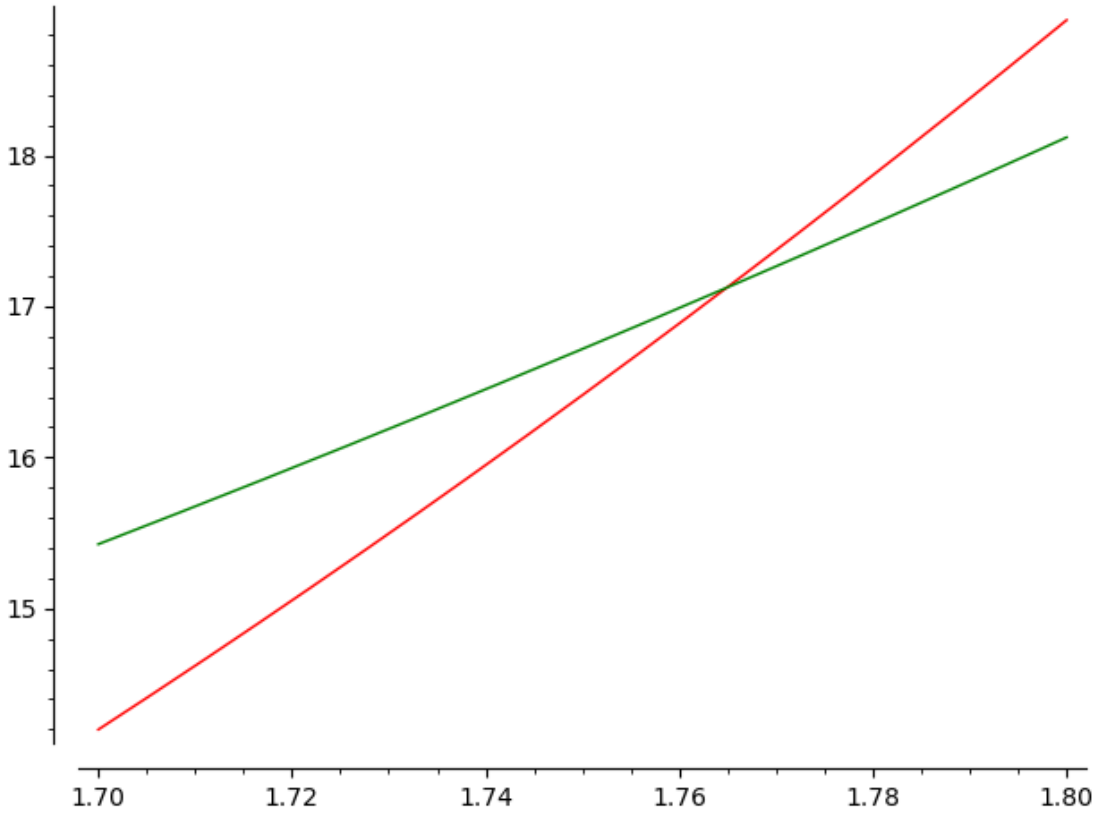


[11]:
```
f1(x)=x^5
f2(x)=5^x
```

[12]:
```
p1=plot(f1,0,6,color='red')
p2=plot(f2,0,6,color='green')
(p1+p2).show()
```

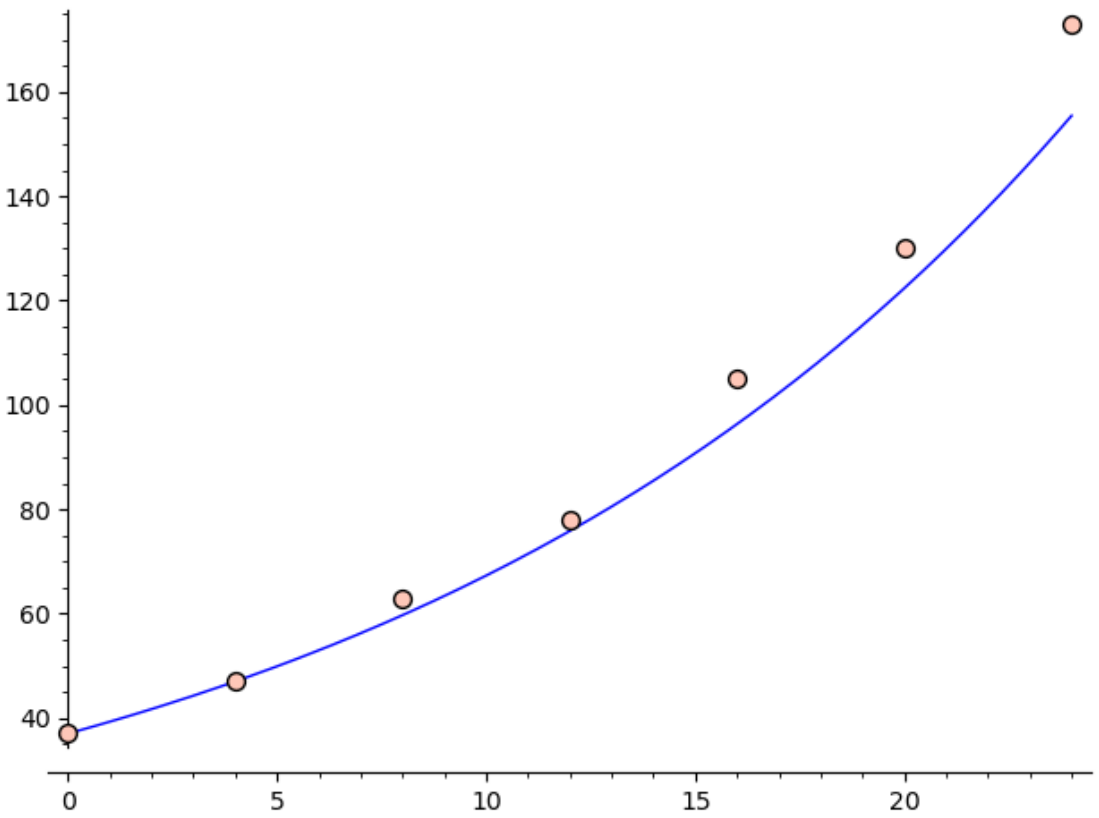


[13]:
```
p1=plot(f1,1.7,1.8,color='red')
p2=plot(f2,1.7,1.8,color='green')
(p1+p2).show()
```



[14]:
```
data=[(0,37),(4,47),(8,63),(12,78),(16,105),(20,130),(24,173)]
q1=scatter_plot(data)
```

[15]:
```
t=var('t')
a=37  #=h(0)
b=(47/37)^(1/4)
h(t)=a*b^t
q2=plot(h,0,24)
(q1+q2).show()
```



[16]:
```
numerical_approx(h(24)-173)
```

[16]: -17.5543664460913

[17]:
```
numerical_approx(h(11.6))
```

[17]: 74.0458140882053

De saptamina viitoare - sapt para grupa 3; - sapt impara grupa 2; grupa 1 joi 15-16.

Cursul joi 10-12

[18]:
```
b0=-log(1/2)/1.5
```

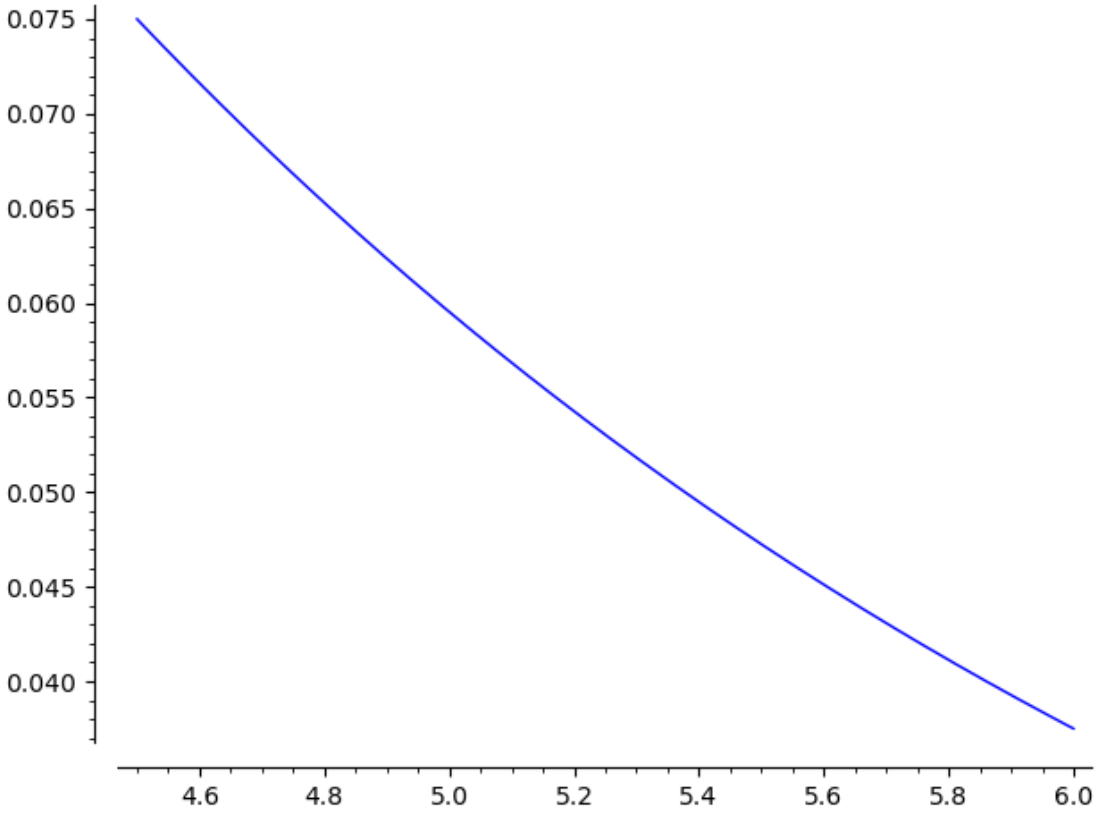
[19]:
```
numerical_approx(b0)
```

[19]: 0.462098120373297

[20]:
```
a(t)=0.6*exp(-b0*t)
```

[21]:
```
plot(a,4.5,6)
```

[21]:


0.075
0.070
0.065
0.060
0.055
0.050
0.045
0.040
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0