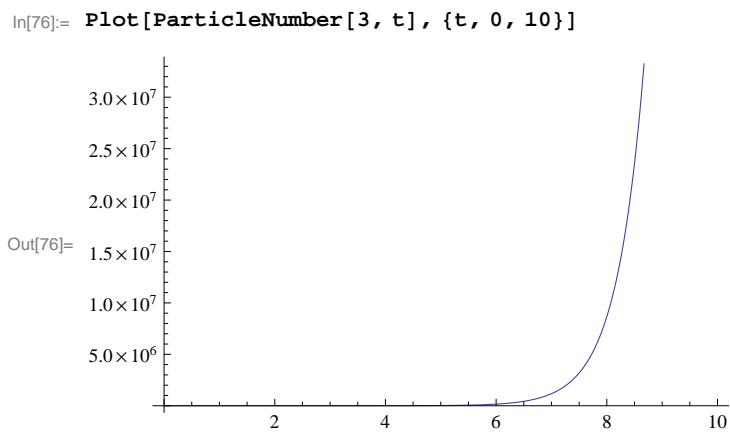
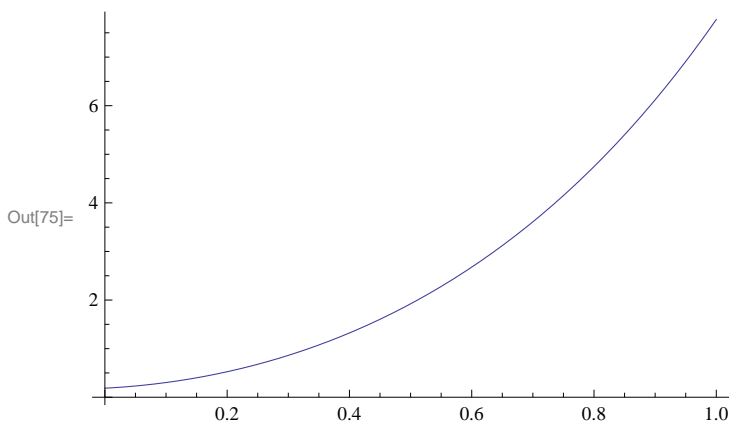


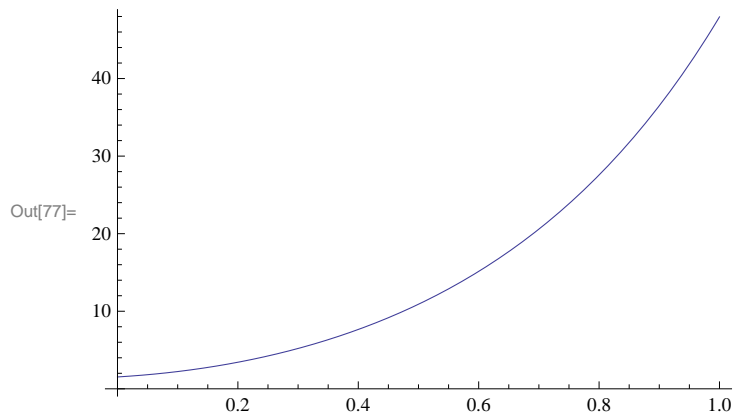
```

In[46]:= myH1[x_, n_, t_] := HankelH1[(n - 1) / 2, x Exp[-t]]
In[47]:= myH2[x_, n_, t_] := HankelH2[(n - 1) / 2, x Exp[-t]]
In[48]:= myHP1[x_, n_, t_] := D[myH1[x, n, t], x]
In[49]:= myHP2[x_, n_, t_] := D[myH2[x, n, t], x]
In[50]:= myBeta[x_, n_, t_] := ((n - 1) / 2 - I x) myH1[x, n, t] + x myHP1[x, n, t]
In[51]:= myBetastar[x_, n_, t_] := ((n - 1) / 2 + I x) myH2[x, n, t] + x myHP2[x, n, t]
In[52]:= BE[x_, n_] := x^(n - 1) / (Exp[x] - 1)
In[62]:= ParticleDensity[x_, n_, t_] := BE[x, n] myBeta[x, n, t] myBetastar[x, n, t]
In[72]:= ParticleNumber[n_, t_] := Re[NIntegrate[ParticleDensity[x, n, t], {x, 0, Infinity}]]
In[73]:= ParticleNumber[3, 0]
Out[73]= 0.186325
In[74]:= ParticleNumber[3, 1]
Out[74]= 7.77392
In[75]:= Plot[ParticleNumber[3, t], {t, 0, 1}]

```



```
In[77]:= Plot[ParticleNumber[4, t], {t, 0, 1}]
```



```
In[78]:= Plot[ParticleNumber[4, t], {t, 0, 10}]
```

