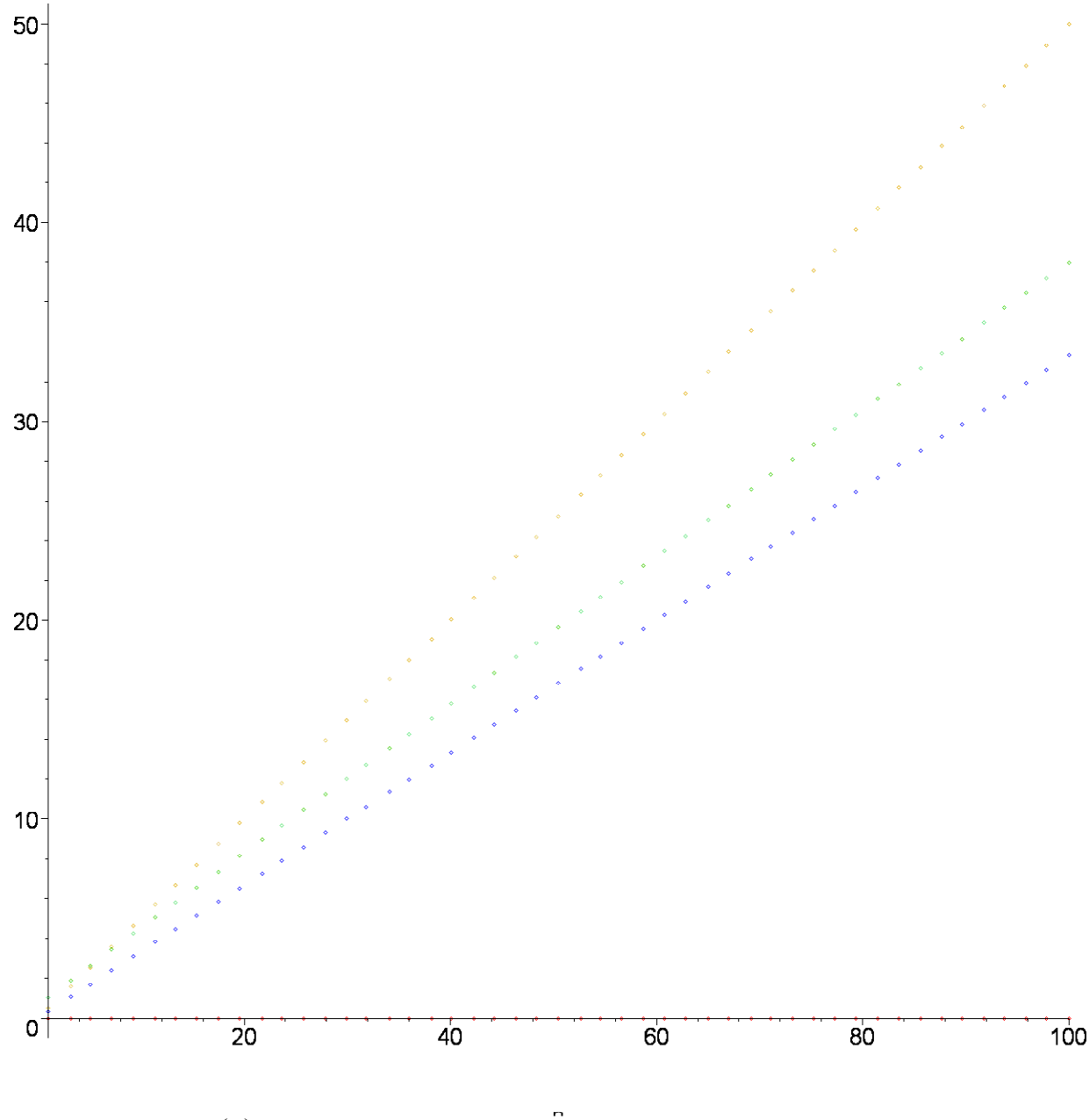
```
> restart:
> with(plots):with(geometry):
```

Posloupnost (n!)^(1/n)

Chová se tak, že $(n!)^{\left(\frac{1}{n}\right)}$ je pomalejší než (n/2) a rychlejší než (n/3)

```
>
> plot({0,n/2,n/3,(GAMMA(n+1)^(1/n))},n=1..100,style=point);
```



Přesně platí, že $(n!)^{\left(\frac{1}{n}\right)}$ / n konverguje k 1/e

```
>
> Limit(((n!)^(1/n)/(n)),n=infinity)=limit(((n!)^(1/n)/(n)),n=infi
```

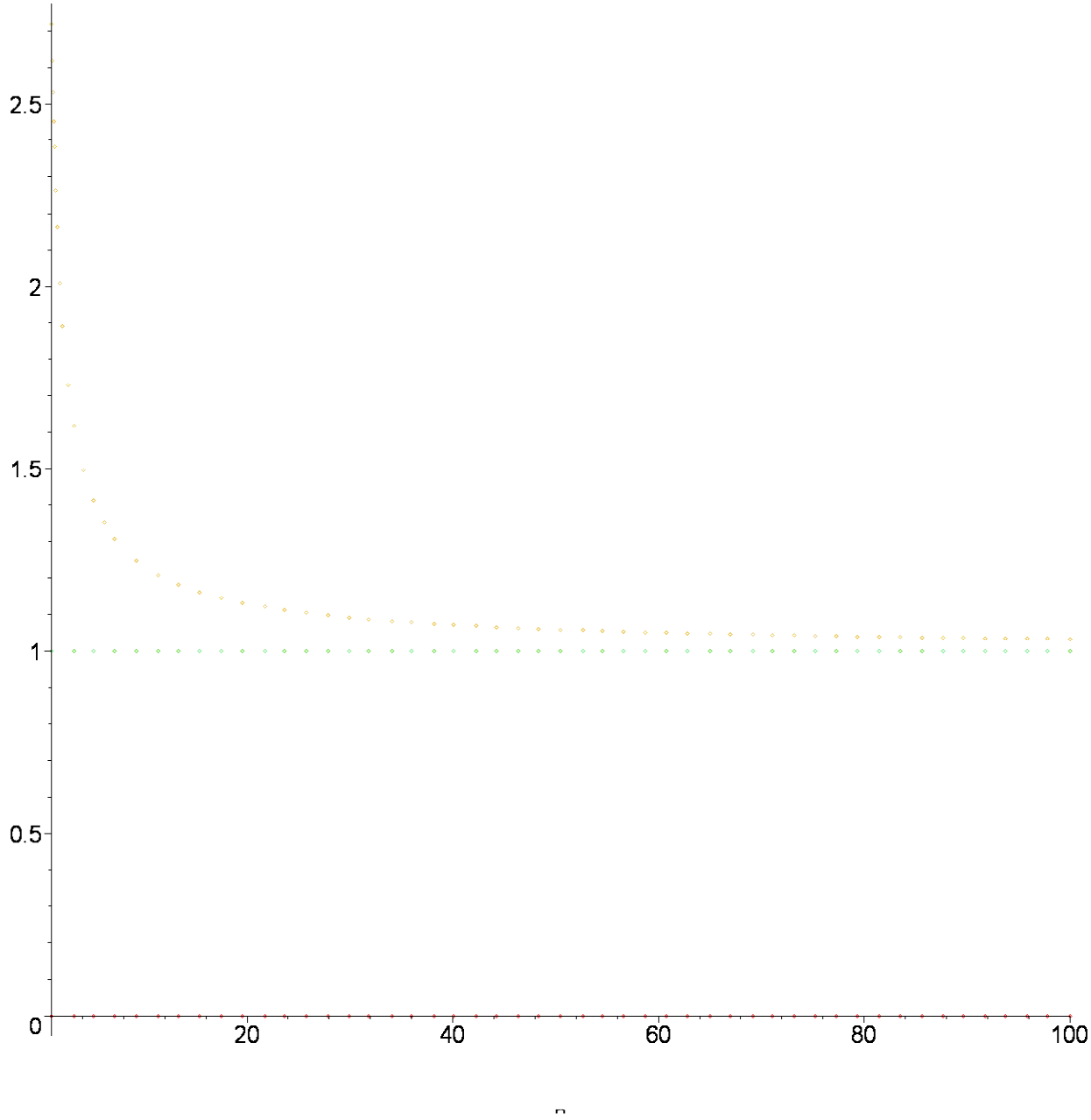
```
nity);
```

$$\lim_{n \to \infty} \frac{(n!)^{\left(\frac{1}{n}\right)}}{n} = \mathbf{e}^{(-1)}$$

```
>
>
```

Posloupnost $(n!)^{\left(\frac{1}{n}\right)}$ / (n/e) konverguje k 1, jak je vidět na grafu

```
> plot({0,1,(GAMMA(n+1)^(1/n)/(n/exp(1)))},n=1..100,style=point);
```




```
>
> aaa:=animate({1,(GAMMA(x+1)^(1/x)/(x/t))},x=1..100,
  t=1..3,numpoints=100):
> bbb:=animate({1,(GAMMA(x+1)^(1/x)/(x/(4-t)))},x=1..100,
  t=1..3,numpoints=100):
```

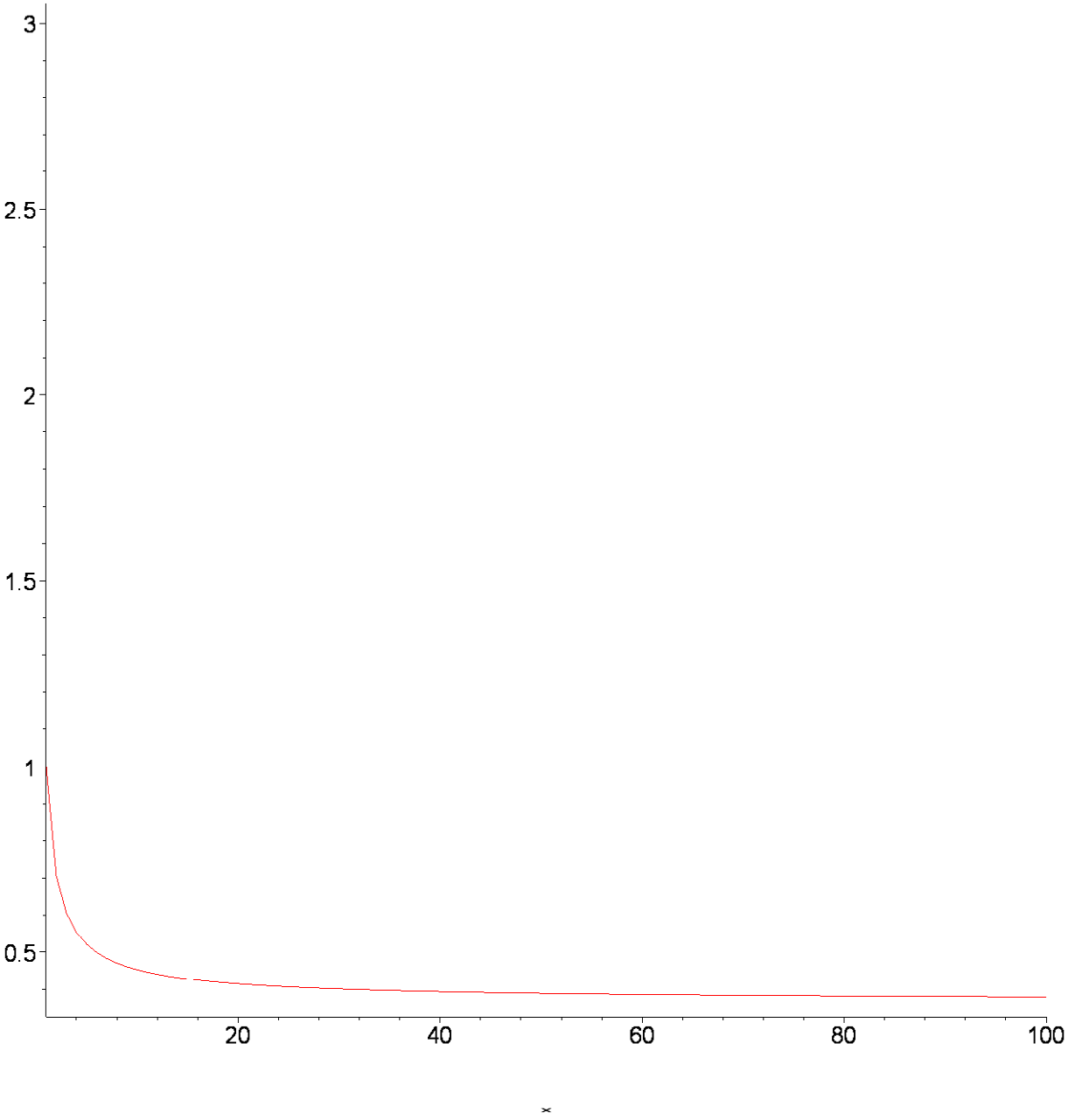
```
> set( title="Faktoriál ",w=600,h=600,x=hide,r=hide,bg=image,
  axes=show,align=center,workingPath=installationPath,v="0 1 -1"
  );
```

set(*title* = "Faktoriál ", *w* = 600, *h* = 600, *x* = *hide*, *r* = *hide*, *bg* = *image*, *axes* = *show*, *align* = *geometry*:-*center*, *workingPath* = *installationPath*, *v* = "0 1 -1")

```
>
>
>
>
```

Posloupnost $(n!)^{\left(\frac{1}{n}\right)}$ / (n/t) pro 1 < t < 3

```
> display(aaa,bbb,insequence=true);
```




```
>
```

[>