```
>
```

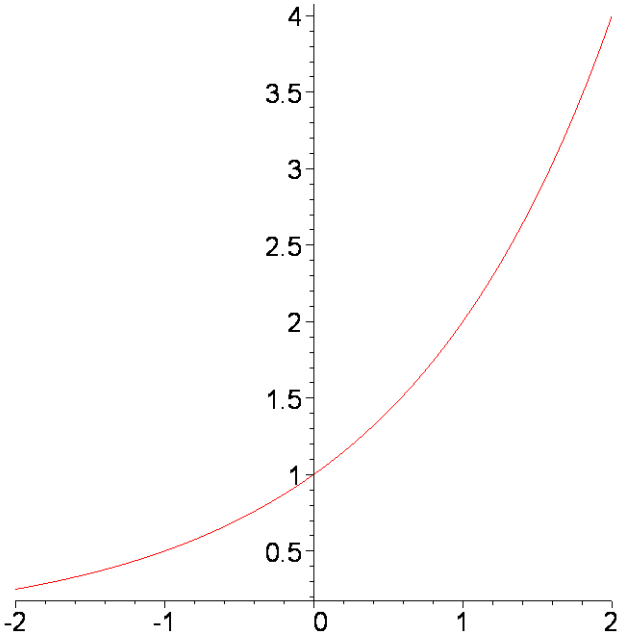
Exponenciální funkce je funkce tvaru $P(t) = P_0\, a^t$ kde P_0 a a jsou konstanty.

Začneme s $P(t) = 2^t$ s počáteční hodnotou $P_0 = 1$ a základem $a = 2$.

```
> P := t -> 2^t;
```

$$P := t \to 2^t$$

```
> plot(P, -2..2);
```




```
>
> seq(P(i+1)/P(i), i=1..10);
```

$$2, 2, 2, 2, 2, 2, 2, 2, 2, 2$$

```
>
```

Podle exponentu se pozná rychlost, sjakou si to mírí do nekonecna (nebo nuly)

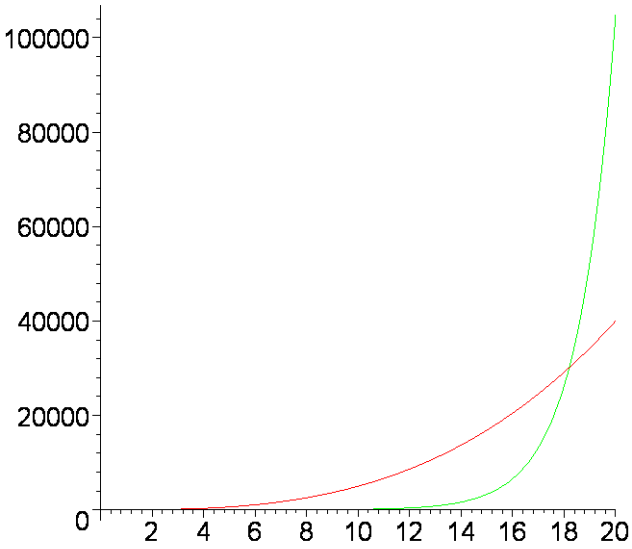
```
> f := t -> 5*t^3;
```

$$f := t \to 5\, t^3$$

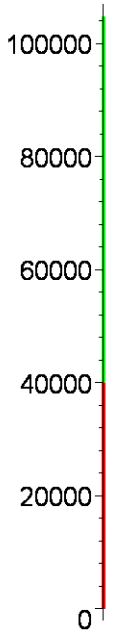
```
> g := t -> 0.1*2^t;
```

$$g := t \to 0.1\, 2^t$$

```
> plot([f,g], 0..20, color=[red,green]);
```




```
> plot([f,g], 0..20, color=[red,green],scaling=constrained,
  thickness=4);
```



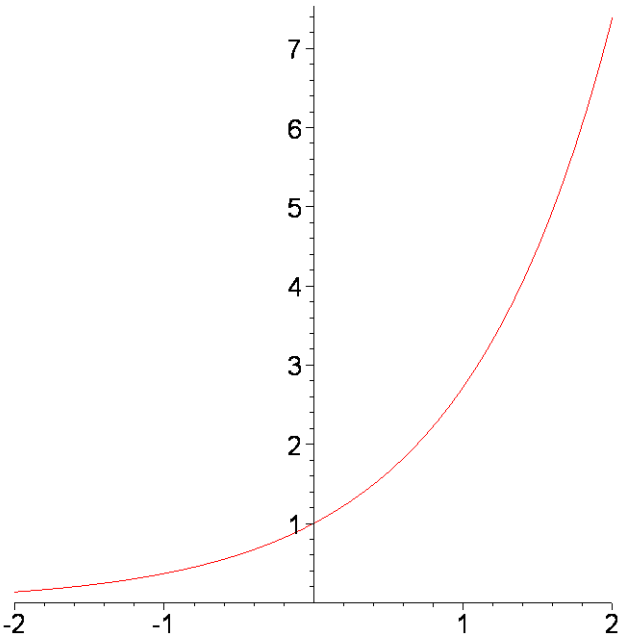

```
>
```

Při základu **e** = 2.718281828459 jde o exponencielu, Maple ji volá příkazem **exp()** :

```
> f := t -> exp(t);
```

$$f := t \to \mathbf{e}^t$$

```
> plot(f, -2..2);
```




```
> seq(f(i+1)/f(i), i=1..5);
```

$$\frac{e^2}{e}, \frac{e^3}{e^2}, \frac{e^4}{e^3}, \frac{e^5}{e^4}, \frac{e^6}{e^5}$$

```
> seq(simplify(f(i+1)/f(i)), i=1..5);
```

$$e, e, e, e, e$$

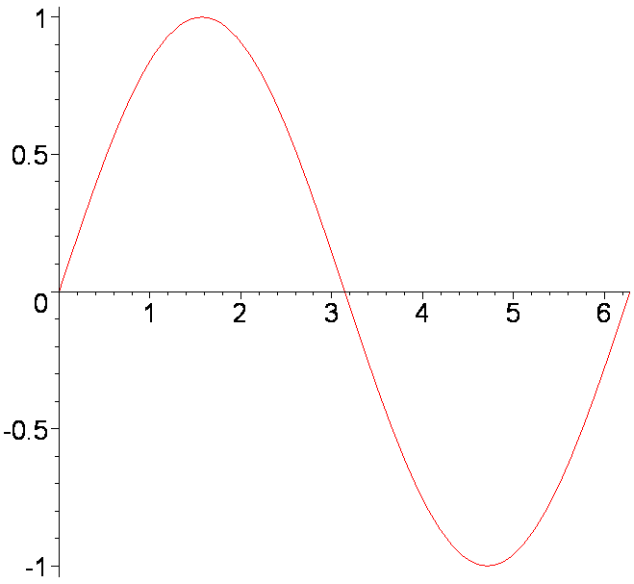
```
> seq(evalf(f(i+1)/f(i)), i=1..5);
```

2.718281829, 2.718281828, 2.718281829, 2.718281829, 2.718281829

```
>
>
> f := x -> sin(x);
```

$$f := x \rightarrow \sin(x)$$

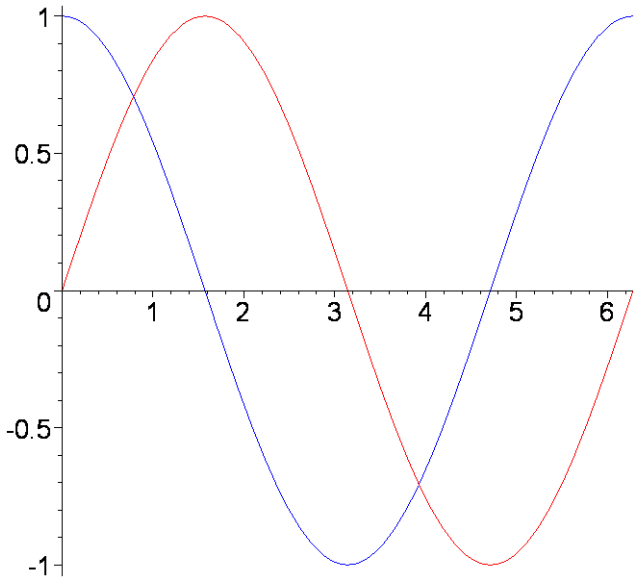
```
> plot(f, 0..2*Pi);
```



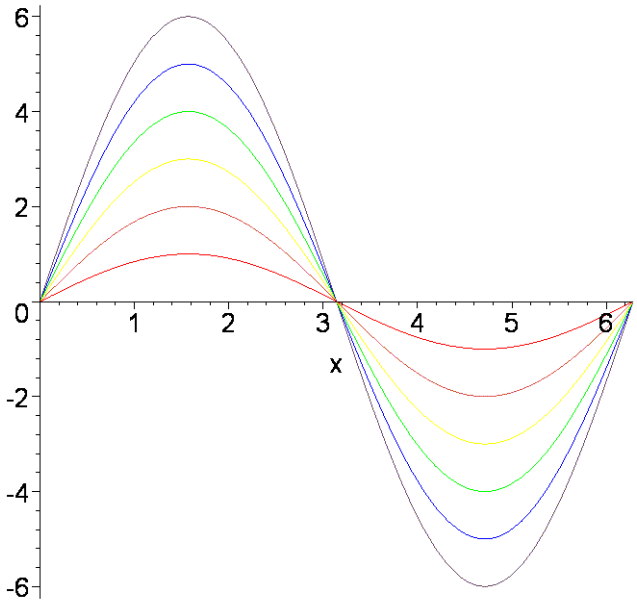

```
> g := x -> cos(x);
```

$$g := x \rightarrow \cos(x)$$

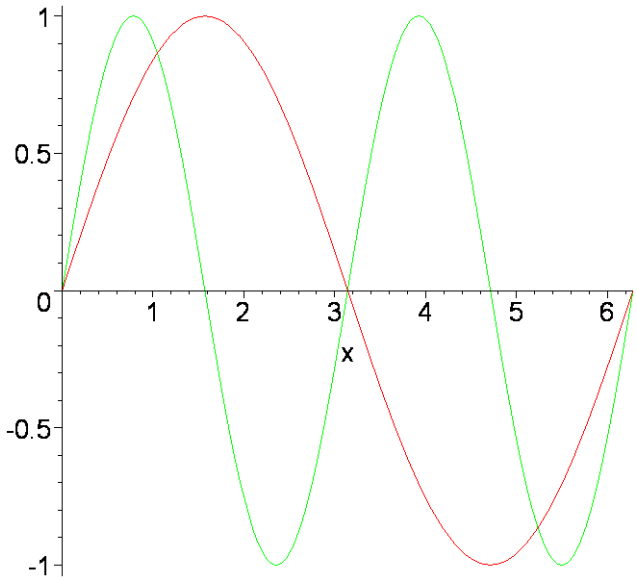
```
> plot([f,g], 0..2*Pi, color=[red,blue]);
```



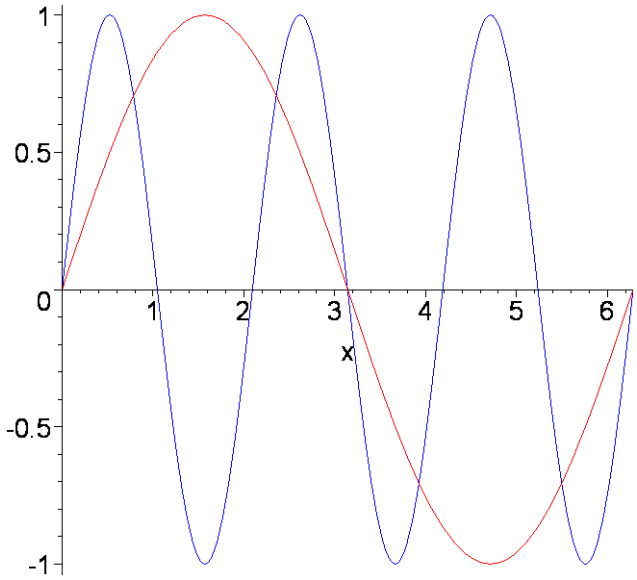

```
> plot([sin(x), 2*sin(x), 3*sin(x), 4*sin(x), 5*sin(x), 6*sin(x)],
  x=0..2*Pi, color=[red, orange, yellow, green, blue, violet]);
```




```
> plot([sin(1*x),sin(2*x)], x=0..2*Pi, color=[red,green]);
```



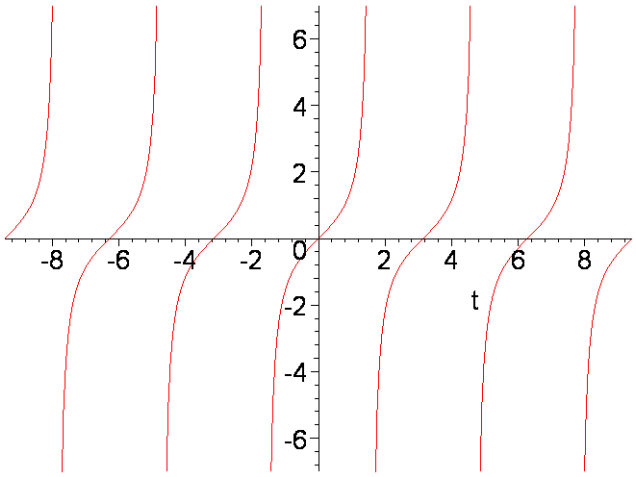

```
> plot([sin(x),sin(3*x)], x=0..2*Pi, color=[red,blue]);
```




```
>
>
```

Funkce tangens je v Maple tan(x) (ne tg(x) !!!)

```
>
>
Warning, premature end of input
> plot(tan(t), t=-3*Pi..3*Pi, -7..7, discont=true,
  scaling=constrained);
```


6
4
2
0
-2
-4
-6
-8
-6
-4
-2
2
4
6
8
t

>

>

>

>

>