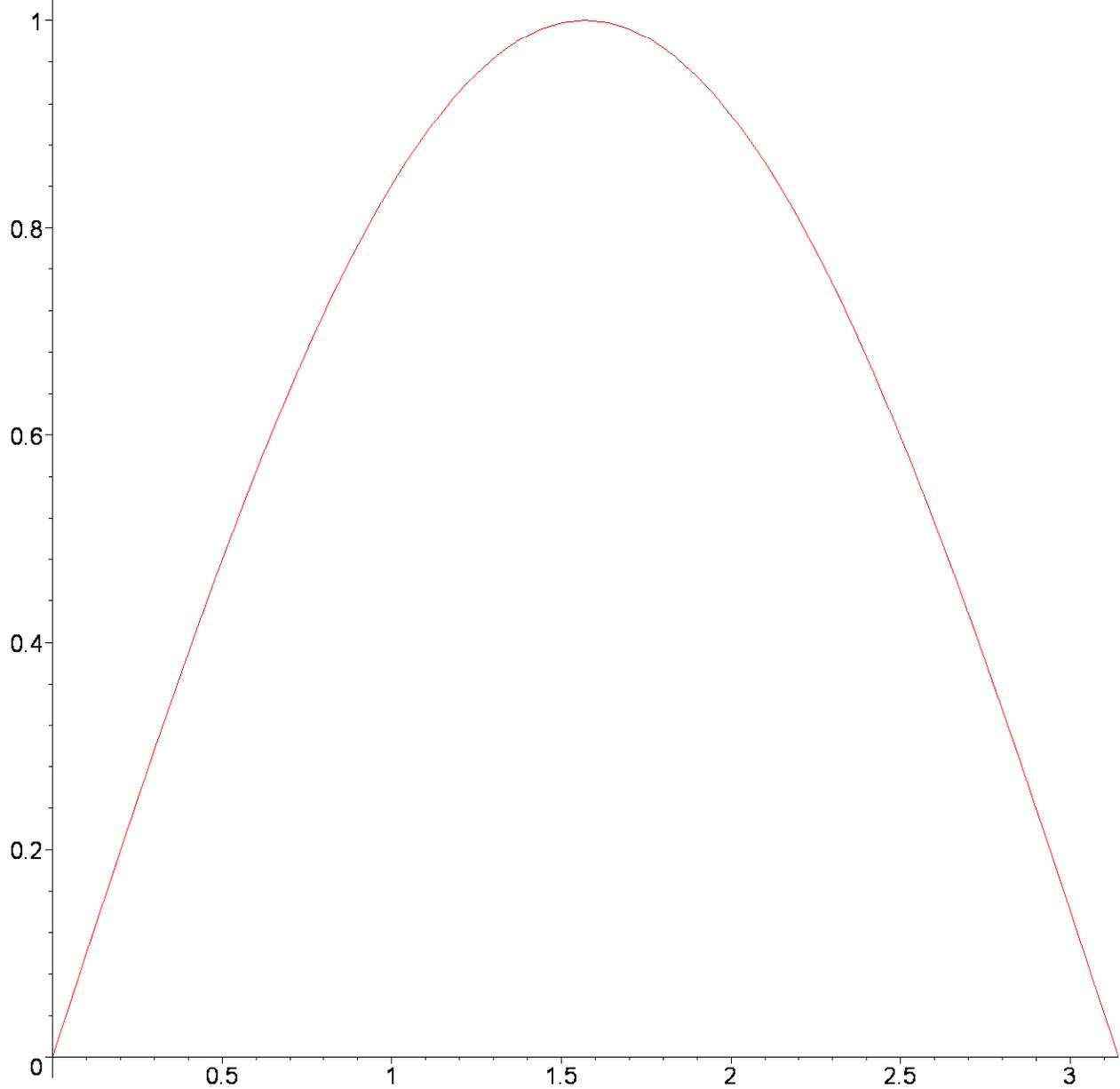


```
> f:=sin(x);
```

$f := \sin(x)$

```
> plot(f, x=0..Pi);
```



```
> T[1]:=1; T[2]:=1-(x-Pi/2)^2/2; T[4]:=1-(x-Pi/2)^2/2+(x-Pi/2)^4/4!;  
T[6]:=1-(x-Pi/2)^2/2+(x-Pi/2)^4/4!-(x-Pi/2)^6/6!;
```

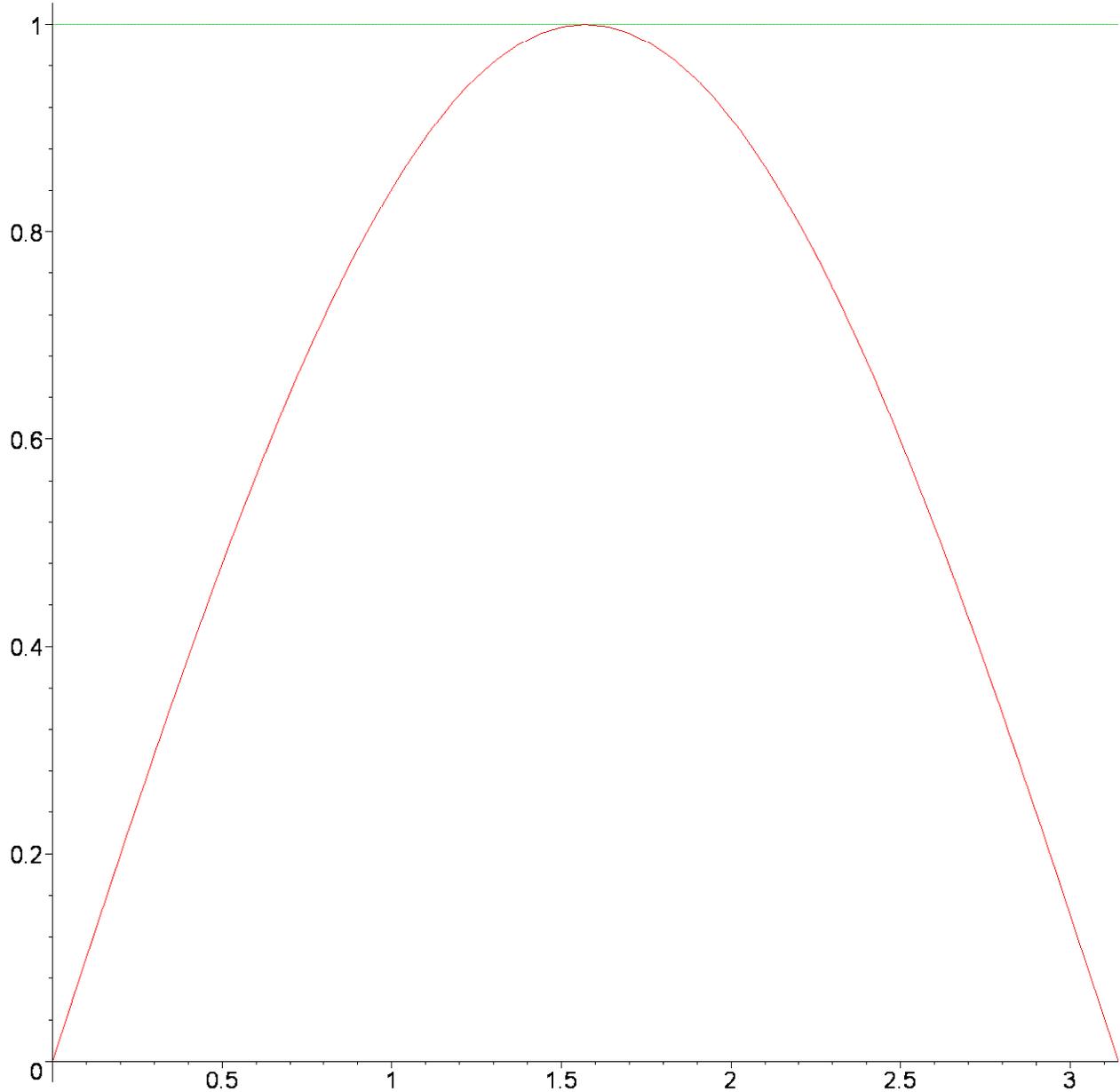
$$T_1 := 1$$

$$T_2 := 1 - \frac{\left(x - \frac{\pi}{2}\right)^2}{2}$$

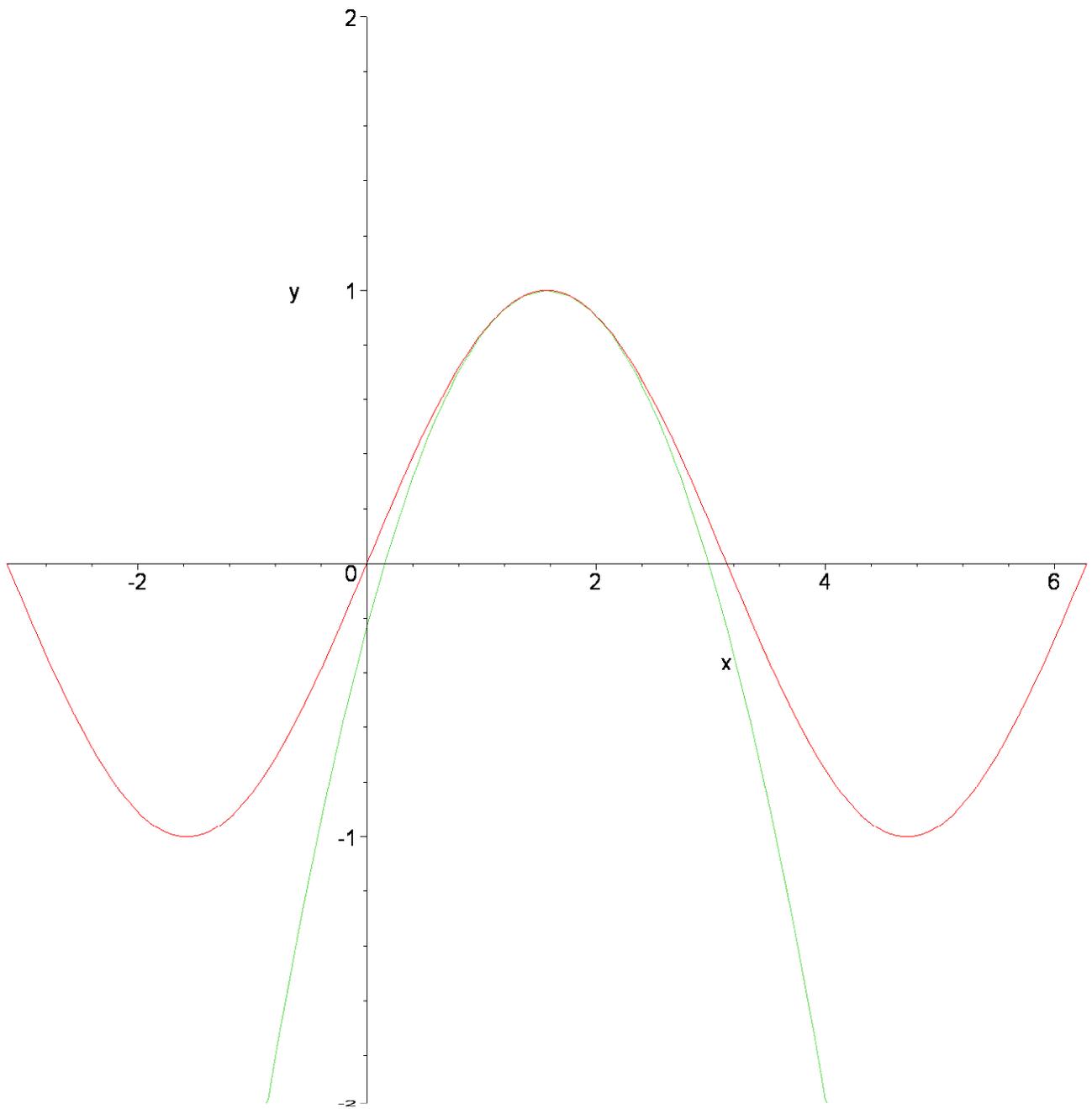
$$T_4 := 1 - \frac{\left(x - \frac{\pi}{2}\right)^2}{2} + \frac{\left(x - \frac{\pi}{2}\right)^4}{24}$$

$$T_6 := 1 - \frac{\left(x - \frac{\pi}{2}\right)^2}{2} + \frac{\left(x - \frac{\pi}{2}\right)^4}{24} - \frac{\left(x - \frac{\pi}{2}\right)^6}{720}$$

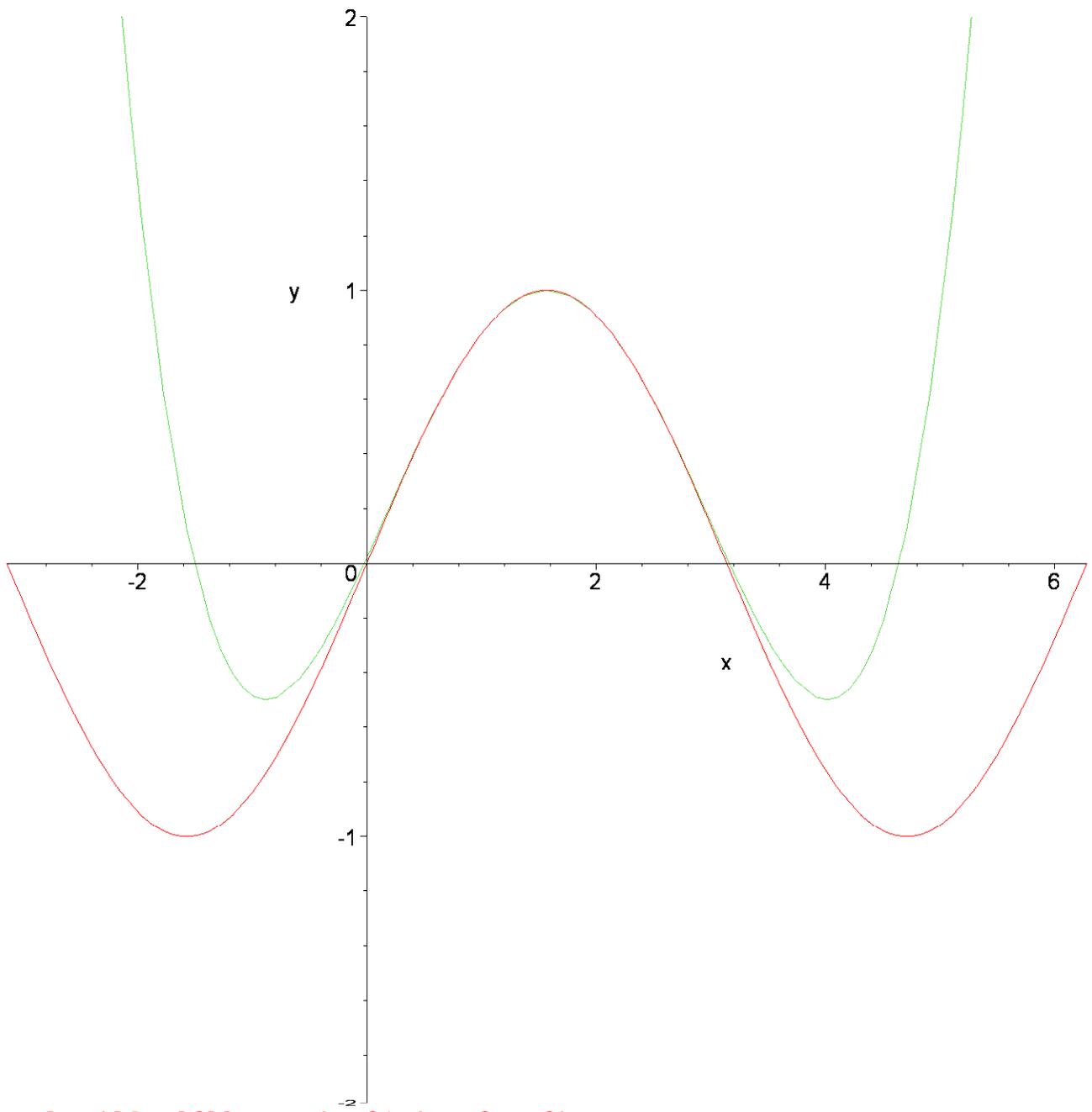
```
> plot([f, T[1]], x=0..Pi);
```



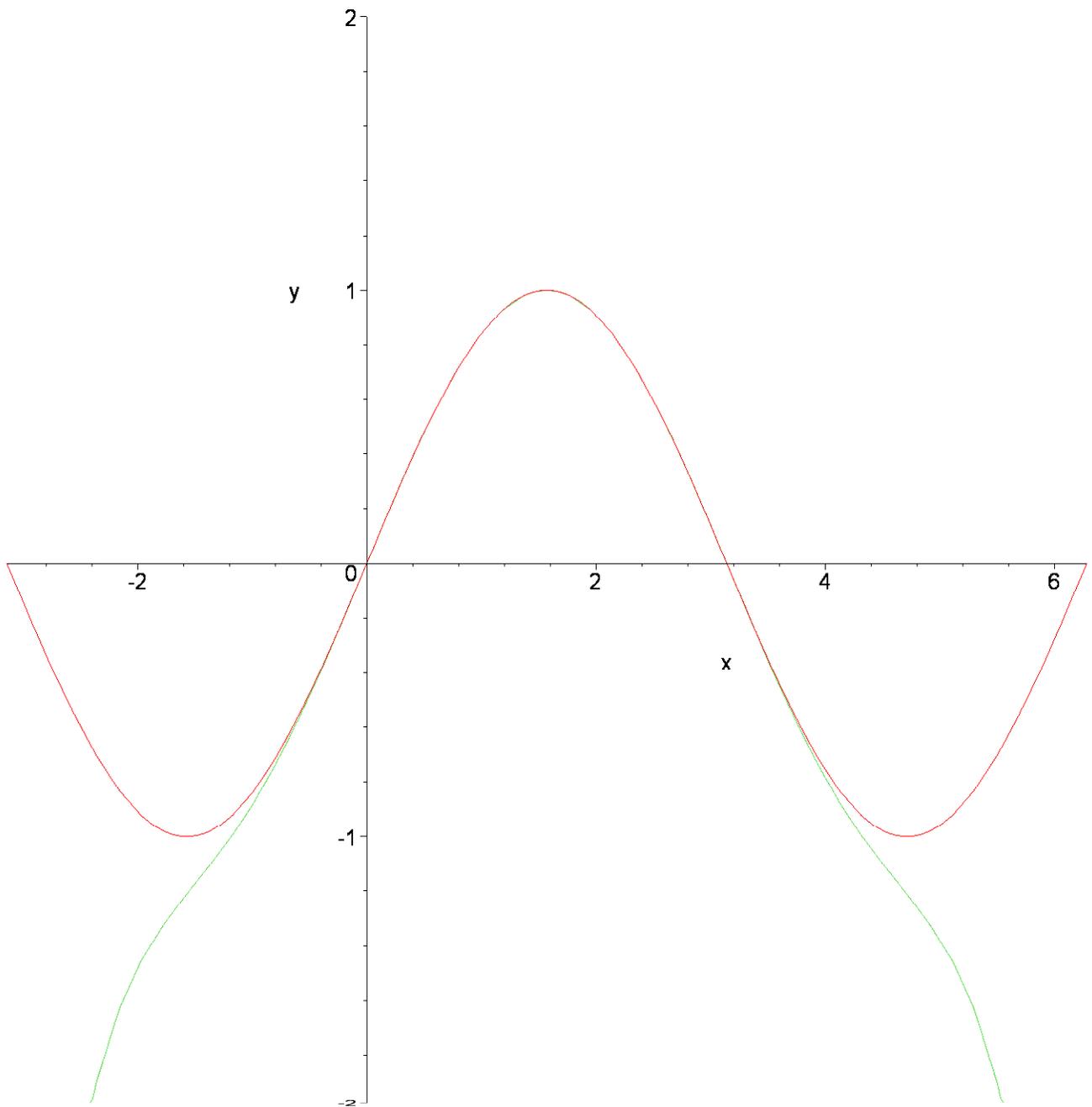
```
> plot([f, T[2]], x=-Pi..2*Pi, y=2..-2);
```



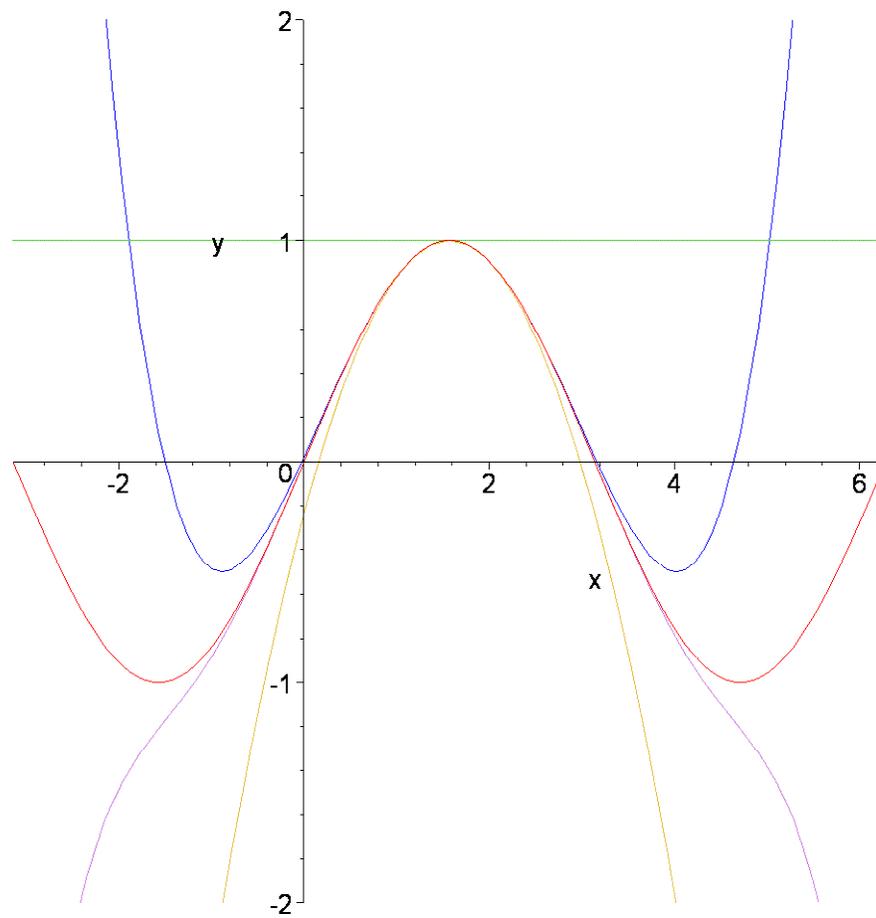
```
> plot([f,T[4]],x=-Pi..2*Pi,y=2..-2);
```



```
> plot([f,T[6]],x=-Pi..2*Pi,y=2..-2);
```



```
> plot([f,T[1],T[2],T[4],T[6]],x=-Pi..2*Pi,y=2..-2,legend=[f,T[1],T[2],T[4],T[6]]);
```



- $\sin(x)$
- 1
- $1 - \frac{1}{2} \left(x - \frac{1}{2}\pi\right)^2$
- $1 - \frac{1}{2} \left(x - \frac{1}{2}\pi\right)^2 + \frac{1}{24} \left(x - \frac{1}{2}\pi\right)^4$
- $1 - \frac{1}{2} \left(x - \frac{1}{2}\pi\right)^2 + \frac{1}{24} \left(x - \frac{1}{2}\pi\right)^4 - \frac{1}{720} \left(x - \frac{1}{2}\pi\right)^6$

[>