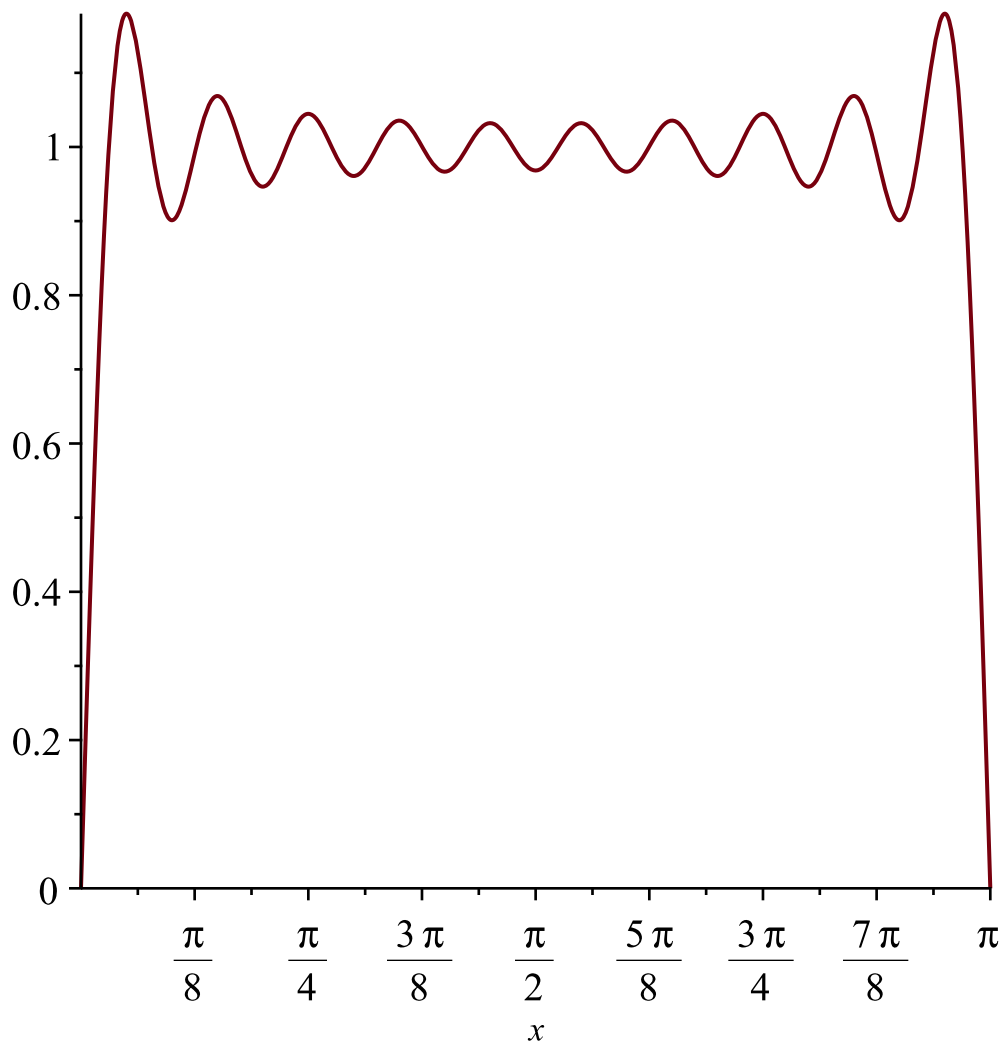


```
> u := (x,t) -> (4/Pi)*sum((1/(2*n-1))*exp(-(2*n-1)^2*t)*sin((2*n-1)*x),n=1..10);
```

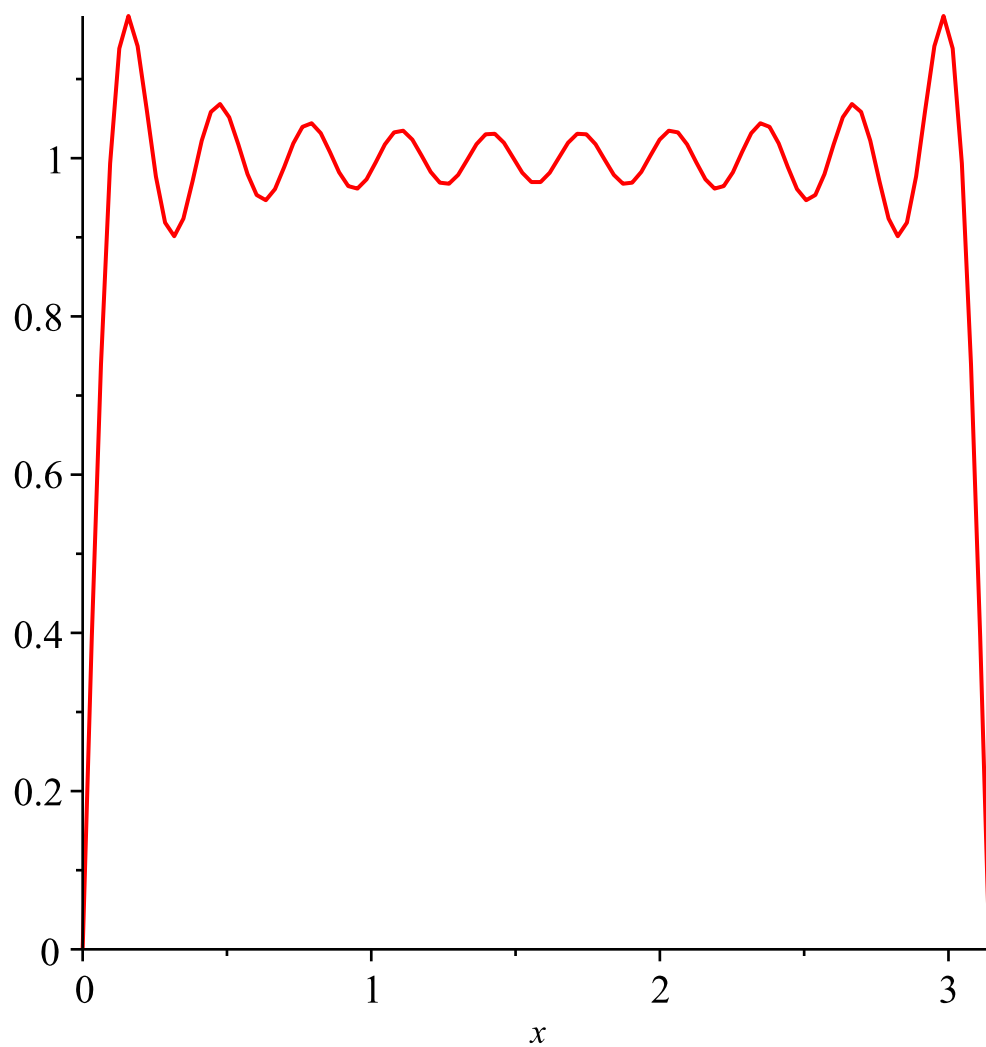
$$u := (x, t) \mapsto \frac{4 \left(\sum_{n=1}^{10} \frac{e^{-(2n-1)^2 t} \sin((2n-1)x)}{2n-1} \right)}{\pi}$$

(1)

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



```
> animate(u(x,t),x=0..Pi,t=0..5,numpoints=100,frames=50);
```



```
> with(plots):
> S := (x,N) -> (4/Pi)*sum((1/(2*n-1))*sin((2*n-1)*x),n=1..N);
```

$$S := (x, N) \mapsto \frac{4 \left(\sum_{n=1}^N \frac{\sin((2n-1)x)}{2n-1} \right)}{\pi}$$

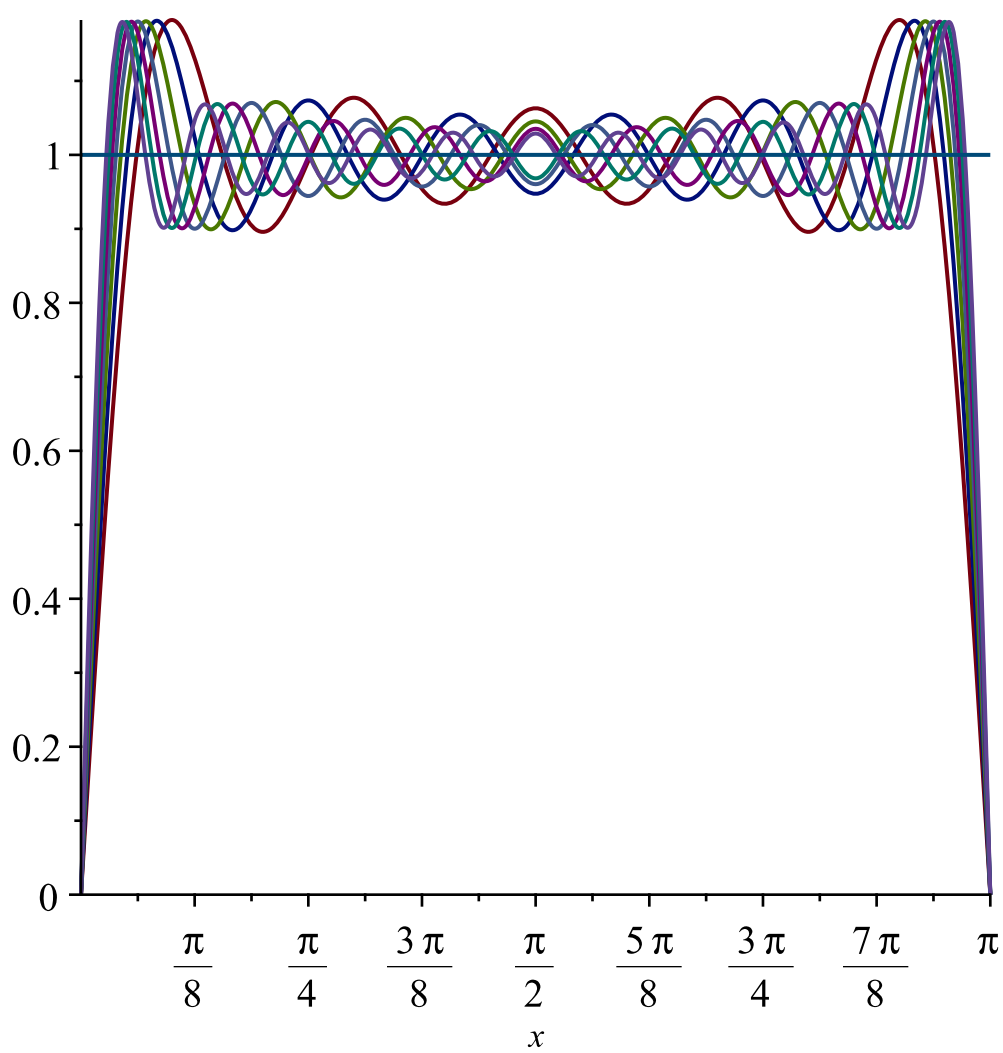
(2)

```
> L := x -> 2*Heaviside(x)-1;
```

$$L := x \mapsto 2 \operatorname{Heaviside}(x) - 1$$

(3)

```
> plot( {seq(S(x,N),N=5..11),L(x)}, x=0..Pi);
```



```

> ?animate
> ?seq

```