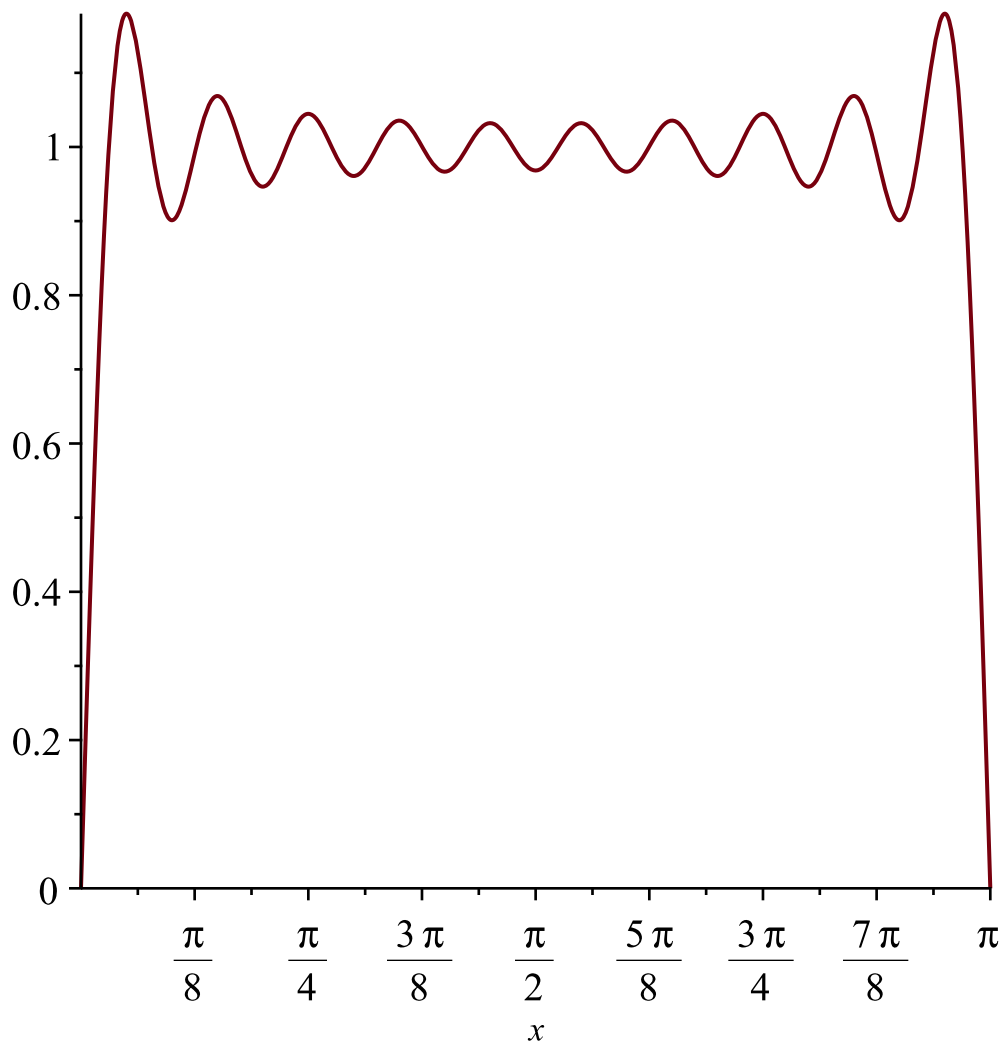


```
> u := (x,t) -> (4/Pi)*sum((1/(2*n-1))*exp(-(2*n-1)^2*t)*sin((2*n-1)*x),n=1..10);
```

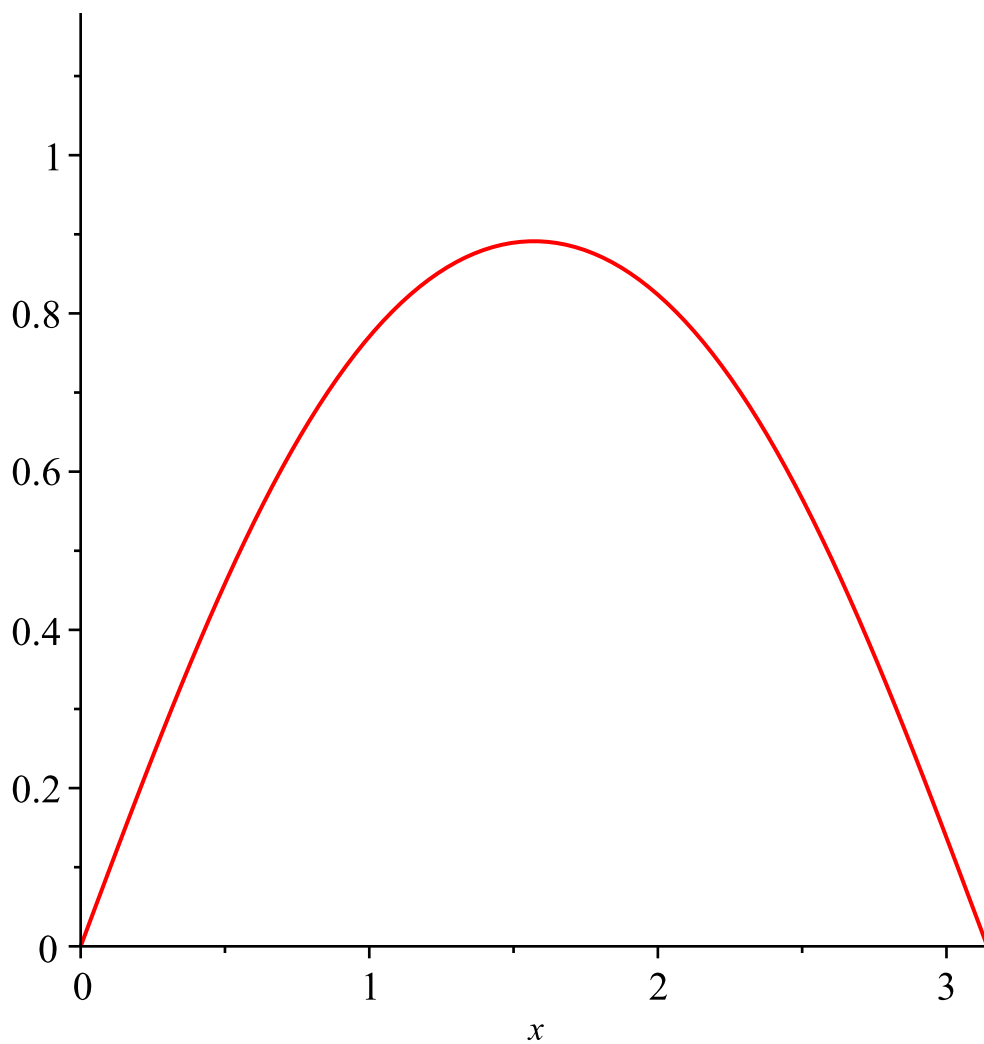
$$u := (x, t) \mapsto \frac{4 \left(\sum_{n=1}^{10} \frac{e^{-(2n-1)^2 t} \sin((2n-1)x)}{2n-1} \right)}{\pi}$$

(1)

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



```
> animate(u(x,t),x=0..Pi,t=0..0.5,numpoints=100);
```



```
> with(plots):
```

```
> S := x -> (4/Pi)*sum((1/(2*n-1))*sin((2*n-1)*x), n=1..15);
```

$$S := x \mapsto \frac{4 \left(\sum_{n=1}^{15} \frac{\sin((2n-1)x)}{2n-1} \right)}{\pi}$$

(2)

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

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

(3)

```
> plot( {L(x), S(x)}, x=-Pi..Pi);
```

