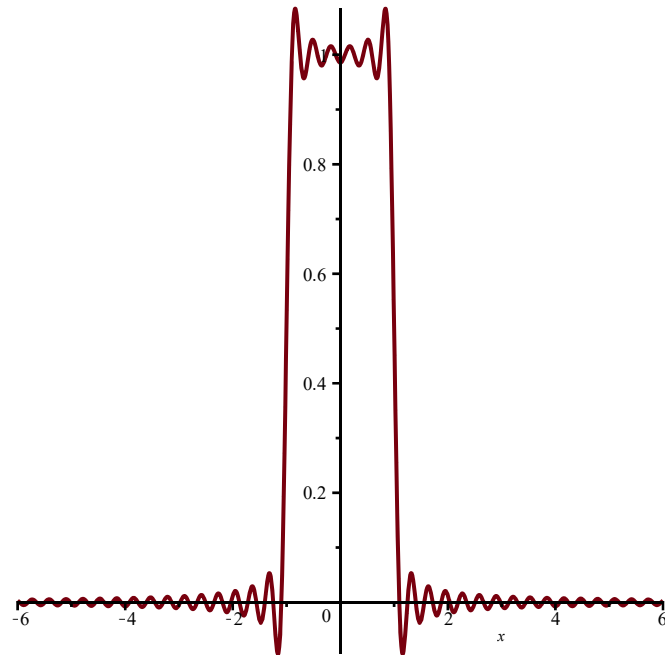


```
> u := (x,B) -> (2/Pi)*int( sin(w)*cos(w*x)/w,w=0..B) ;
```

$$u := (x, B) \mapsto \frac{2 \cdot \left(\int_0^B \frac{\sin(w) \cdot \cos(w \cdot x)}{w} dw \right)}{\pi}$$

(1)

```
> plot(u(x,20),x=-6..6) ;
```



```
> int( sin(w)/w,w=0..infinity) ;
```

$$\frac{\pi}{2}$$

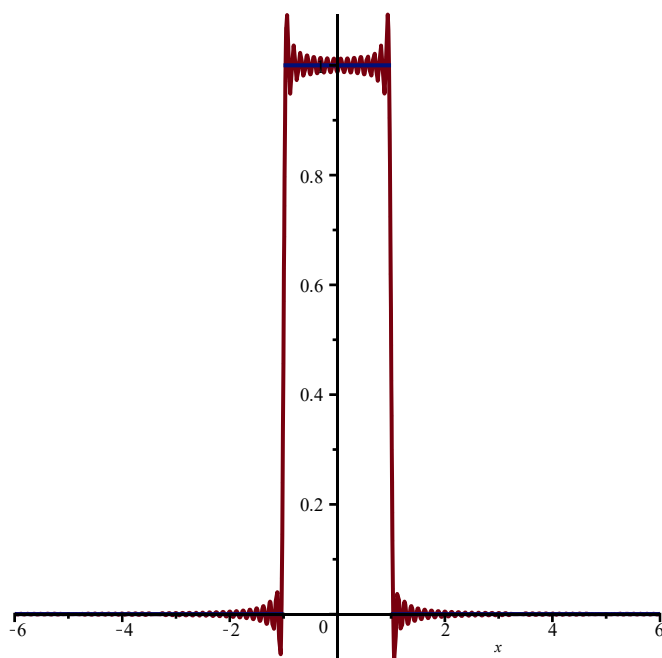
(2)

```
> v := x -> Heaviside(x+1)-Heaviside(x-1) ;
```

$$v := x \mapsto \text{Heaviside}(x + 1) - \text{Heaviside}(x - 1)$$

(3)

```
> plot({u(x,50),v(x)},x=-6..6,discont=true) ;
```



```
> evalf(Int( sin(w^2)*cos(w)/w,w=0..10));
```

$$0.5403164074$$

(4)

```
> int( exp(I*s*x),x=-1..1);
```

$$\frac{-I(e^{Is} - e^{-Is})}{s}$$

(5)

```
> simplify(%);
```

$$\frac{2 \sin(s)}{s}$$

(6)

```
> I^2;
```

$$-1$$

(7)