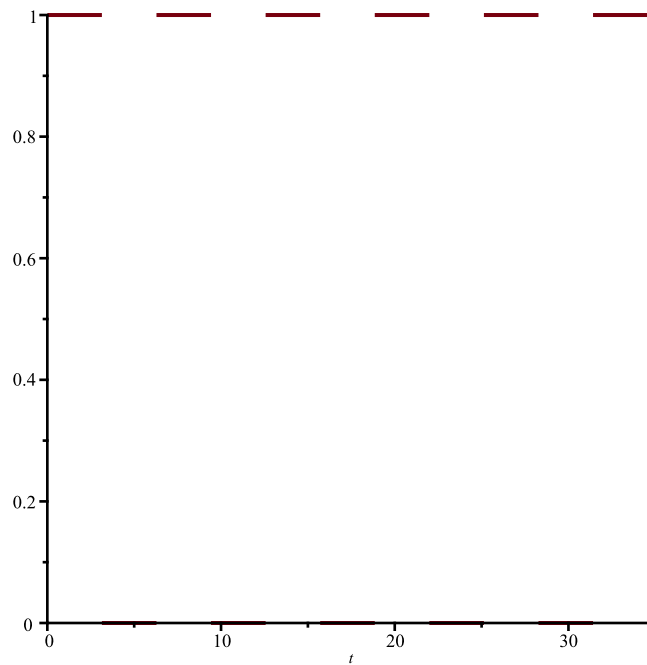


```
> with(inttrans);  
[adddtable, fourier, fouriercos, fouriersin, hankel, hilbert, invfourier, invhilbert, invlaplace, invmellin,  
laplace, mellin, savetable, setup]
```

```
> u := t -> sum((-1)^n*Heaviside(t - n*Pi), n=0..13);
```

$$u := t \mapsto \sum_{n=0}^{13} (-1)^n \cdot \text{Heaviside}(t - n \cdot \pi)$$

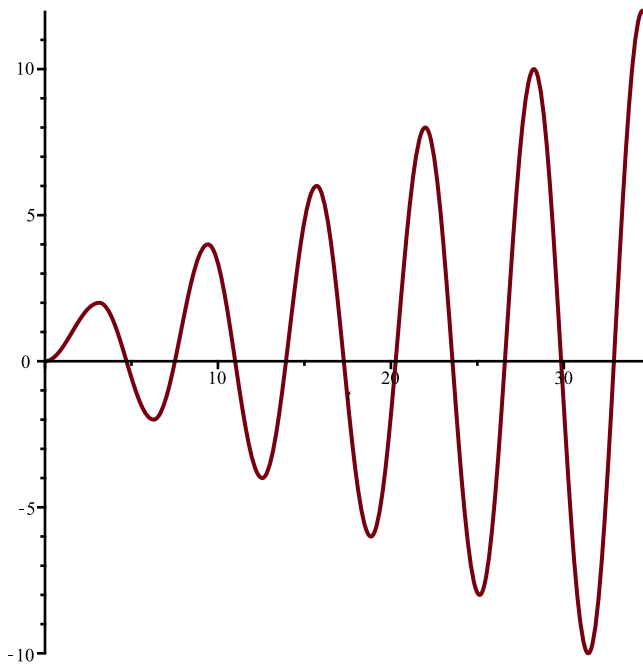
```
> plot(u(t), t=0..35, discont=true);
```



```
> v := t-> sum(Heaviside(t - n*Pi),n=0..13);
```

$$v := t \mapsto \sum_{n=0}^{13} \text{Heaviside}(t - n \cdot \pi)$$

```
> plot(u(t)-cos(t)*v(t), t=0..35);
```



```
> laplace( u(t), t, s);
```

$$\frac{1}{s} \left(1 - e^{-s\pi} + e^{-2s\pi} - e^{-3s\pi} + e^{-4s\pi} - e^{-5s\pi} + e^{-6s\pi} - e^{-7s\pi} + e^{-8s\pi} - e^{-9s\pi} + e^{-10s\pi} - e^{-11s\pi} + e^{-12s\pi} - e^{-13s\pi} \right)$$

```
> u := t -> sum((-1)^n*Heaviside(t - n*Pi), n=0..infinity);
```

$$u := t \mapsto \sum_{n=0}^{\infty} (-1)^n \cdot \text{Heaviside}(t - n \cdot \pi)$$

```
> laplace( u(t), t, s);
```

$$\frac{1}{s(1 + e^{-s\pi})}$$

```
> invlaplace(%,s,t);
```

$$\frac{1}{2} + \frac{(-1)^{\lfloor \frac{t}{\pi} \rfloor}}{2}$$

(1)

```
> convert( sin(t-Pi)*(Heaviside(t-Pi)-Heaviside(t-2*Pi)),  
piecewise);
```

$$\begin{cases} 0 & t < \pi \\ \text{undefined} & t = \pi \\ -\sin(t) & t < 2\pi \\ \text{undefined} & t = 2\pi \\ 0 & 2\pi < t \end{cases}$$

(2)