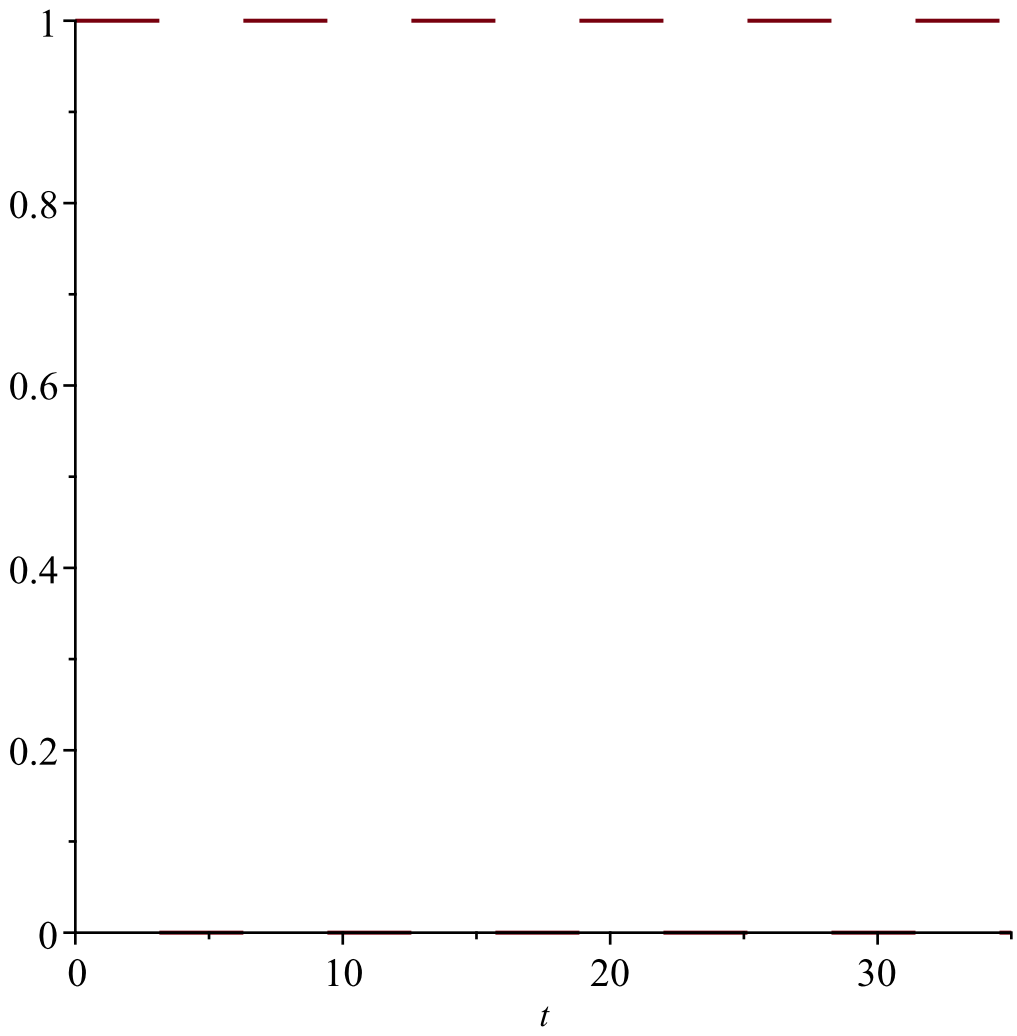
```
> with(inttrans);
```

[*addtable*, *fourier*, *fouriercos*, *fouriersin*, *hankel*, *hilbert*, *invfourier*, *invhilbert*, *invlaplace*, *invmellin*, *laplace*, *mellin*, *savetable*] **(1)**

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

$$u := t \mapsto \sum_{n=0}^{13} (-1)^n \,\mathrm{Heaviside}(-n\,\pi + t) \quad \textbf{(2)}$$

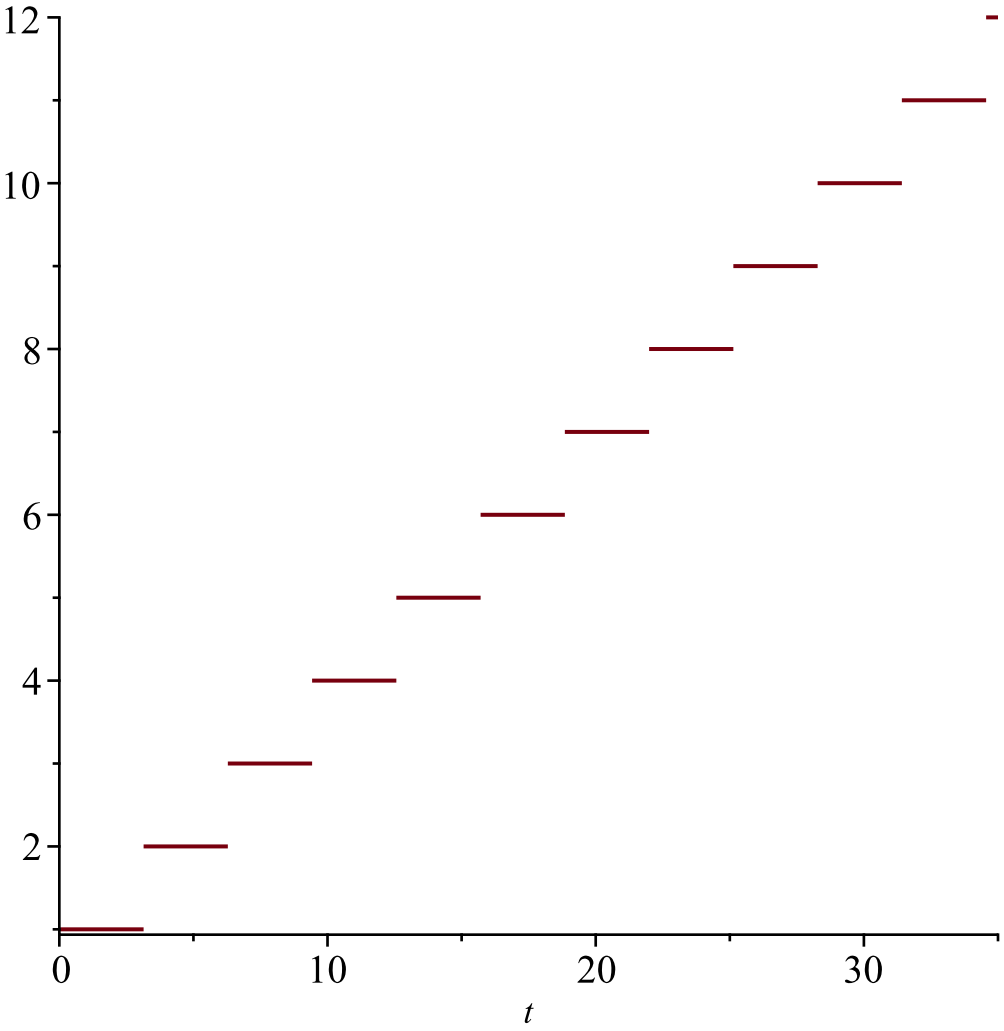
```
> plot( u(t), t=0..35, discont=true);
```



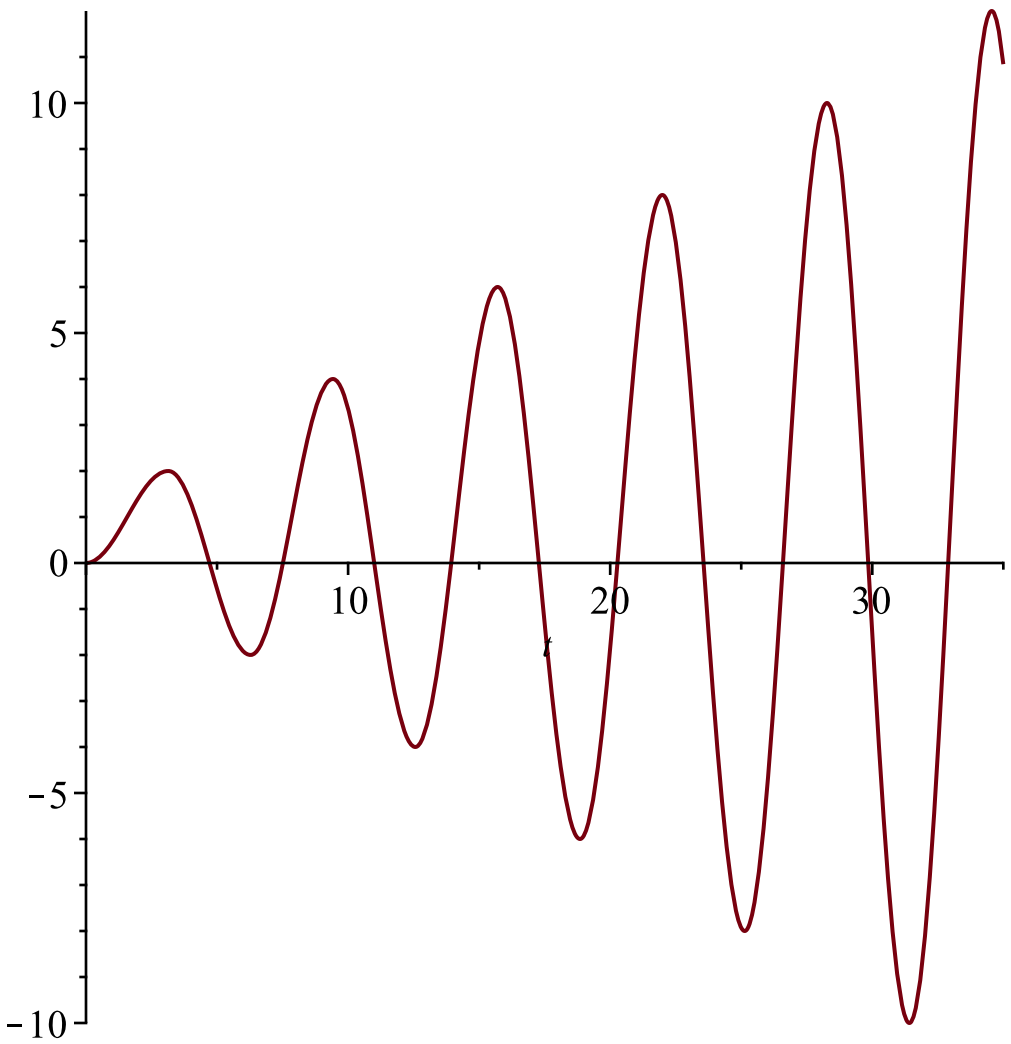

```
> v := t-> sum(Heaviside(t - n*Pi),n=0..13);
```

$$v := t \mapsto \sum_{n=0}^{13} \mathrm{Heaviside}(-n\,\pi + t) \quad \textbf{(3)}$$

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




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




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

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

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

$$u := t \mapsto \sum_{n=0}^{\infty} (-1)^n \,\mathrm{Heaviside}(-n\pi + t) \quad (5)$$

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

$$\frac{1}{s\left(1+e^{-s\pi}\right)} \quad (6)$$

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

$$\frac{1}{2}+\frac{(-1)^{\left\lfloor \frac{t}{\pi} \right\rfloor}}{2} \quad (7)$$

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

$$\begin{cases} 0 & t < \pi \\ \textit{undefined} & t = \pi \\ -\sin(t) & t < 2\,\pi \\ \textit{undefined} & t = 2\,\pi \\ 0 & 2\,\pi < t \end{cases} \tag{8}$$