

```

> restart
> with(inttrans) :
> f := Heaviside(t - 4)

```

$$f := \text{Heaviside}(t - 4)$$

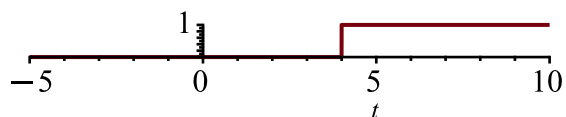
(1)

FUNCIÓN ESCALÓN UNITARIO

```

> plot(f, t = -5 .. 10, scaling = CONSTRAINED)

```



```

> F := laplace(f, t, s)

```

$$F := \frac{e^{-4s}}{s}$$

(2)

```

> g := Heaviside(t - 2) - Heaviside(t - 3) + Heaviside(t - 4) - Heaviside(t - 5)
    + Heaviside(t - 7) - Heaviside(t - 8)
g := Heaviside(t - 2) - Heaviside(t - 3) + Heaviside(t - 4) - Heaviside(t - 5) + Heaviside(t
    - 7) - Heaviside(t - 8)

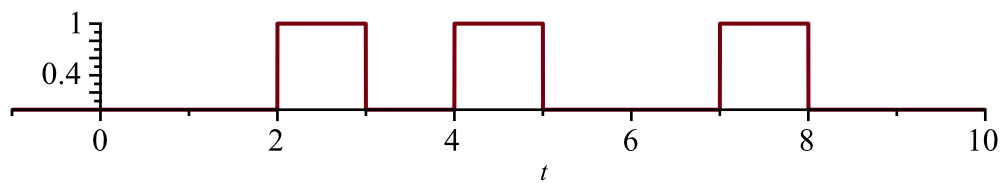
```

(3)

```

> plot(g, t = -1 .. 10, scaling = CONSTRAINED)

```



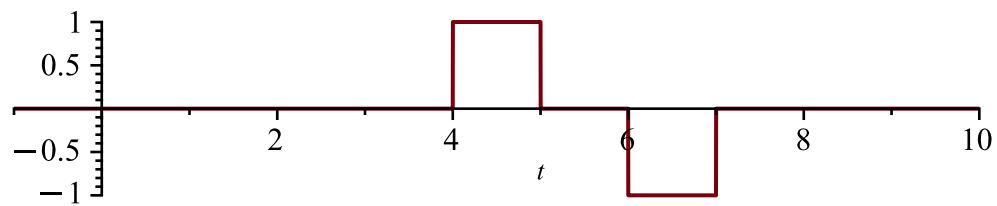
> $G := \text{laplace}(g, t, s)$

$$G := \frac{e^{-2s} - e^{-3s} + e^{-4s} - e^{-5s} + e^{-7s} - e^{-8s}}{s} \quad (4)$$

> $h := \text{Heaviside}(t - 4) - \text{Heaviside}(t - 5) - \text{Heaviside}(t - 6) + \text{Heaviside}(t - 7)$

$$h := \text{Heaviside}(t - 4) - \text{Heaviside}(t - 5) - \text{Heaviside}(t - 6) + \text{Heaviside}(t - 7) \quad (5)$$

> $\text{plot}(h, t = -1..10, \text{scaling} = \text{CONSTRAINED})$

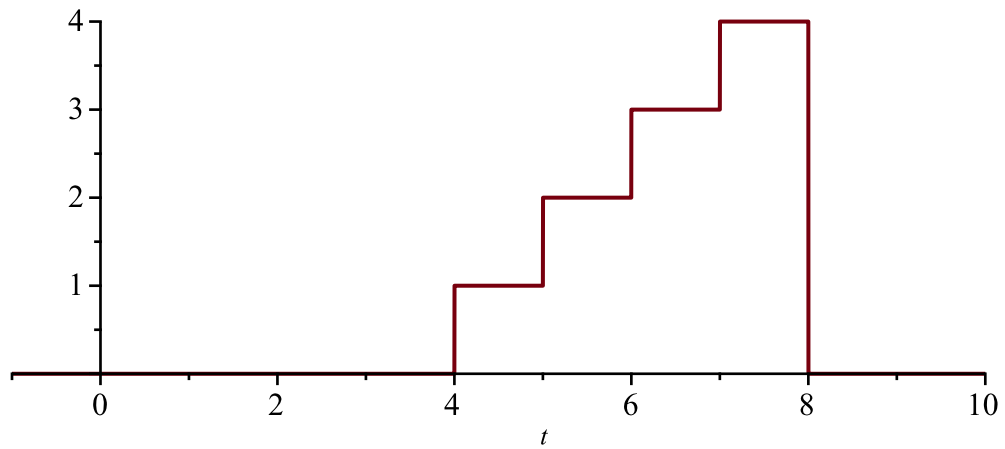


```
> j := Heaviside(t - 4) + Heaviside(t - 5) + Heaviside(t - 6) + Heaviside(t - 7) - 4
      ·Heaviside(t - 8)
```

```
j := Heaviside(t - 4) + Heaviside(t - 5) + Heaviside(t - 6) + Heaviside(t - 7)
      - 4 Heaviside(t - 8)
```

(6)

```
> plot(j, t = -1 .. 10, scaling = CONSTRAINED)
```



```
> J := laplace(j, t, s)
```

$$J := \frac{e^{-4s} + e^{-5s} + e^{-6s} + e^{-7s} - 4e^{-8s}}{s}$$

(7)

```
> restart
```

```
> with(inttrans) :
```

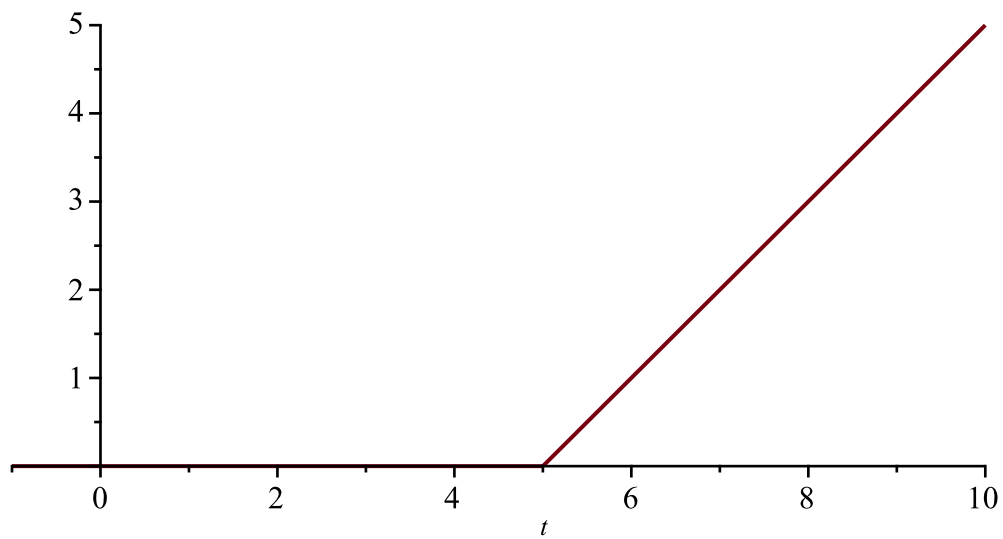
```
> r := Heaviside(t - 5) · (t - 5)
```

$$r := \text{Heaviside}(t - 5) (t - 5)$$

(8)

```
FUNCION RAMPA UNITARIA
```

```
> plot(r, t = -1 .. 10, scaling = CONSTRAINED)
```



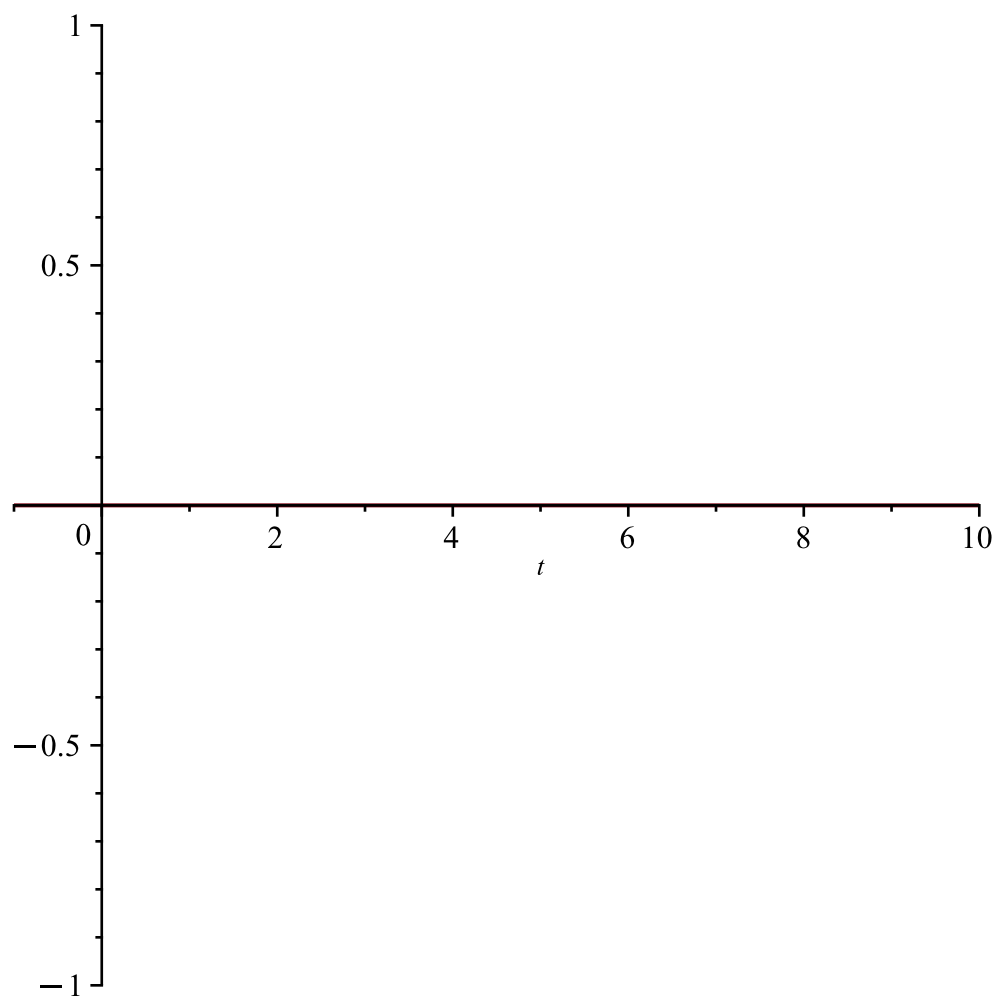
```
> R := laplace(r, t, s)
```

$$R := \frac{e^{-5s}}{s^2} \quad (9)$$

```
> d := Dirac(t - 4)
```

$$d := \text{Dirac}(t - 4) \quad (10)$$

```
> plot(d, t=-1..10)
```



```
> DD := laplace(d, t, s)
```

$$DD := e^{-4s} \quad (11)$$

```
> restart
```

```
> with(inttrans)
```

```
[addtable, fourier, fouriercos, fouriersin, hankel, hilbert, invfourier, invhilbert, invlaplace,
  invmellin, laplace, mellin, savetable, setup] \quad (12)
```

```
> laplace(cos(3·t), t, s)
```

$$\frac{s}{s^2 + 9} \quad (13)$$

```
> laplace(exp(2·t)·cos(3·t), t, s)
```

$$\frac{s - 2}{(s - 2)^2 + 9} \quad (14)$$

```
> laplace(t^3, t, s)
```

$$\frac{6}{s^4} \quad (15)$$

```
> laplace(t^3·exp(2·t), t, s)
```

(16)

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