

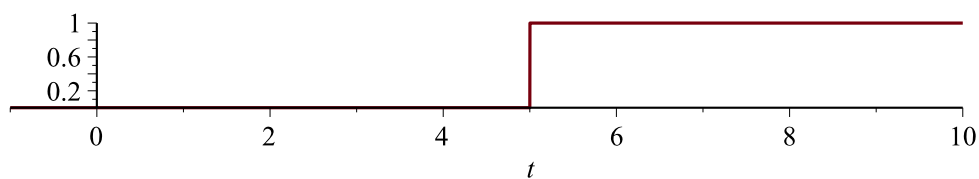
```
> restart
> with(inttrans)
[addtable, fourier, fouriercos, fouriersin, hankel, hilbert, invfourier, invhilbert, invlaplace,
  invmellin, laplace, mellin, savetable]
```

(1)

```
> f := Heaviside(t - 5)
f := Heaviside(t - 5)
```

(2)

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



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

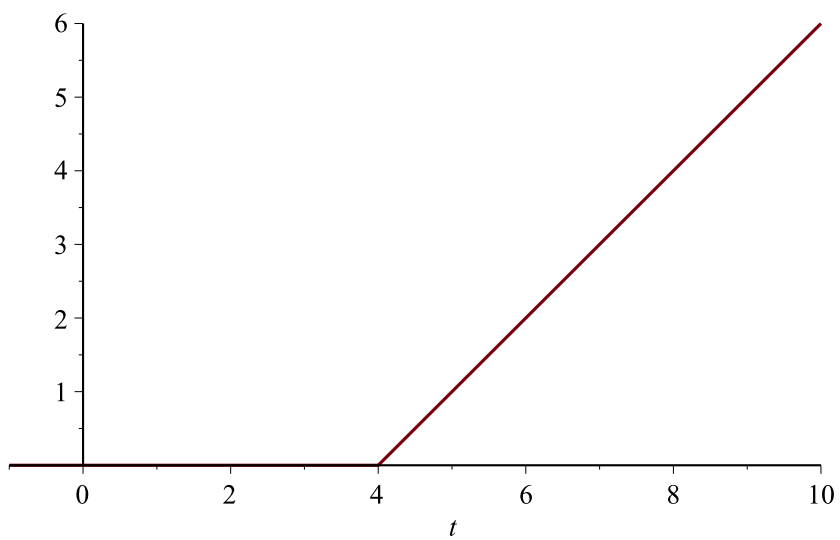
$$F := \frac{e^{-5s}}{s}$$

(3)

```
> g := (t - 4) * Heaviside(t - 4)
g := (t - 4) Heaviside(t - 4)
```

(4)

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



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

$$G := \frac{e^{-4s}}{s^2}$$

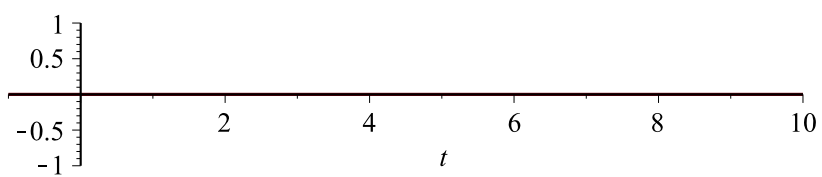
(5)

> $h := \text{Dirac}(t - 3)$

$$h := \text{Dirac}(t - 3)$$

(6)

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



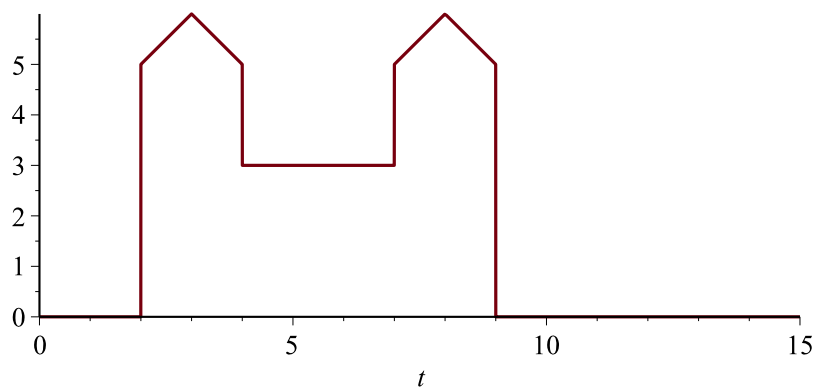
```
> H := laplace(h, t, s)
```

$$H := e^{-3s}$$

(7)

```
> restart
```

```
> x := 5·Heaviside(t - 2) + (t - 2)·Heaviside(t - 2) - 2·(t - 3)·Heaviside(t - 3) + (t - 4)
·Heaviside(t - 4) - 2·Heaviside(t - 4) + 2·Heaviside(t - 7) + (t - 7)·Heaviside(t - 7)
- 2·(t - 8)·Heaviside(t - 8) + (t - 9)·Heaviside(t - 9) - 5·Heaviside(t - 9) : plot(x, t
= 0 .. 15, scaling = CONSTRAINED)
```



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

```
> X := laplace(x, t, s)
```

$$X := \frac{e^{-2s} + e^{-9s} - 2e^{-8s} + e^{-7s} + e^{-4s} - 2e^{-3s}}{s^2} + \frac{5e^{-2s} - 5e^{-9s} + 2e^{-7s} - 2e^{-4s}}{s}$$

(8)

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>
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