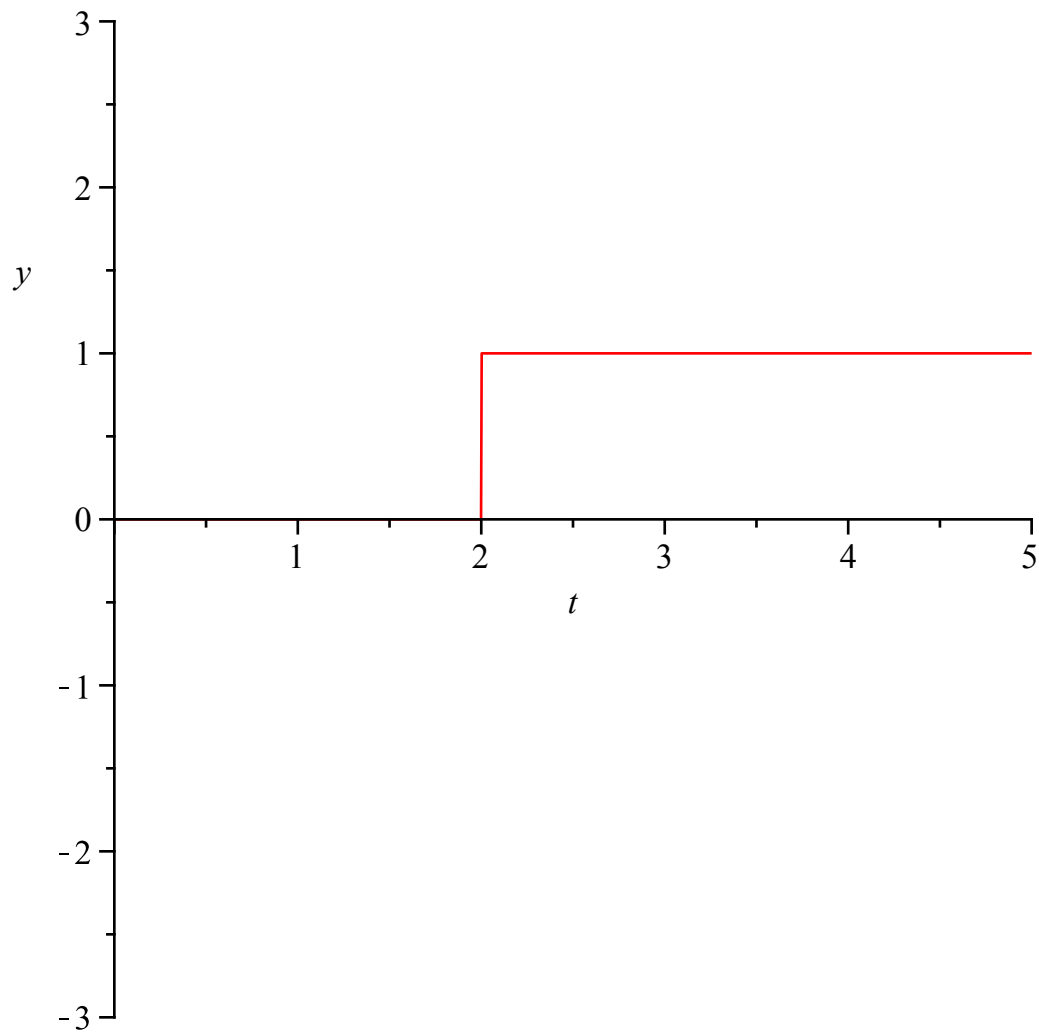


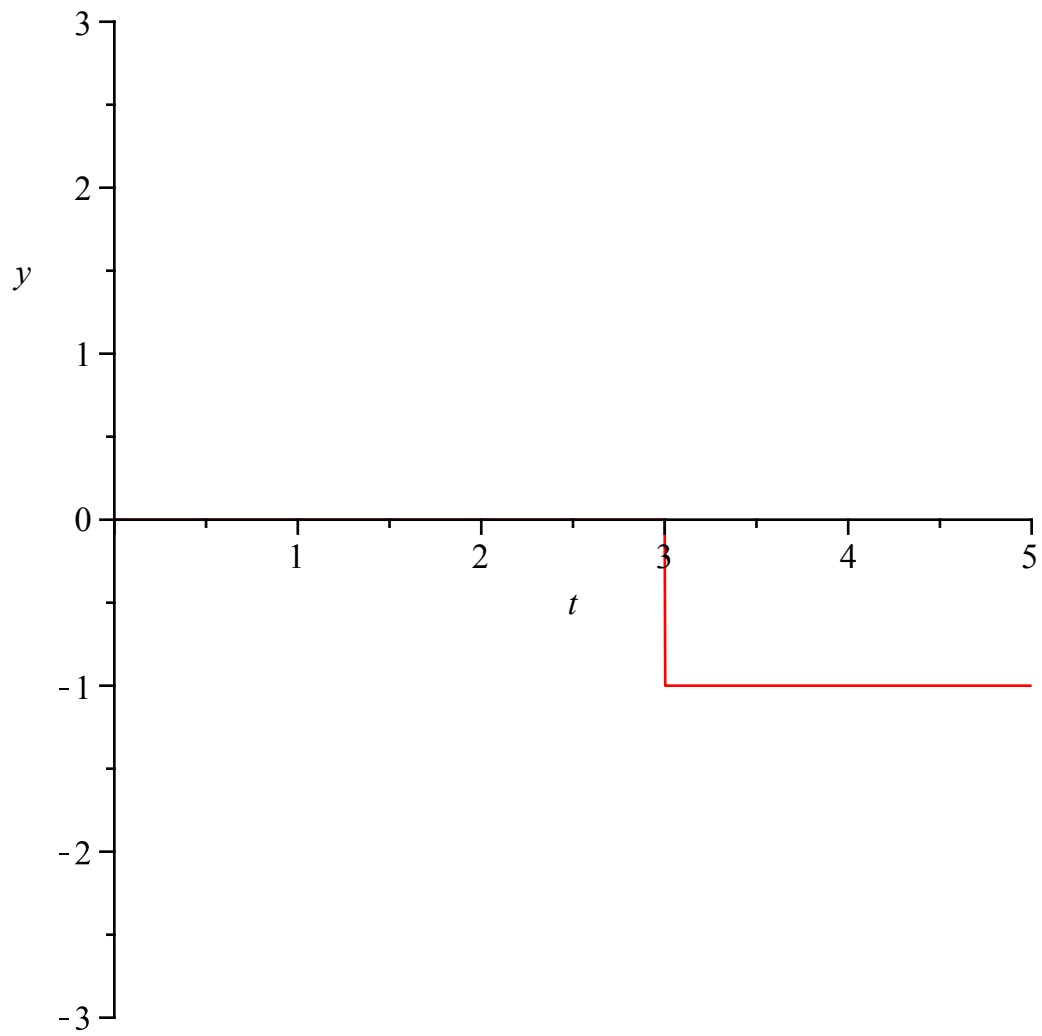
```
> restart  
> f(t) := Heaviside(t - 2)  
f(t) := Heaviside(t - 2)  
> plot(f(t), t = 0 .. 5, y = -3 .. 3)
```



(1)

```
> g(t) := -Heaviside(t - 3)  
g(t) := -Heaviside(t - 3)  
> plot(g(t), t = 0 .. 5, y = -3 .. 3)
```

(2)

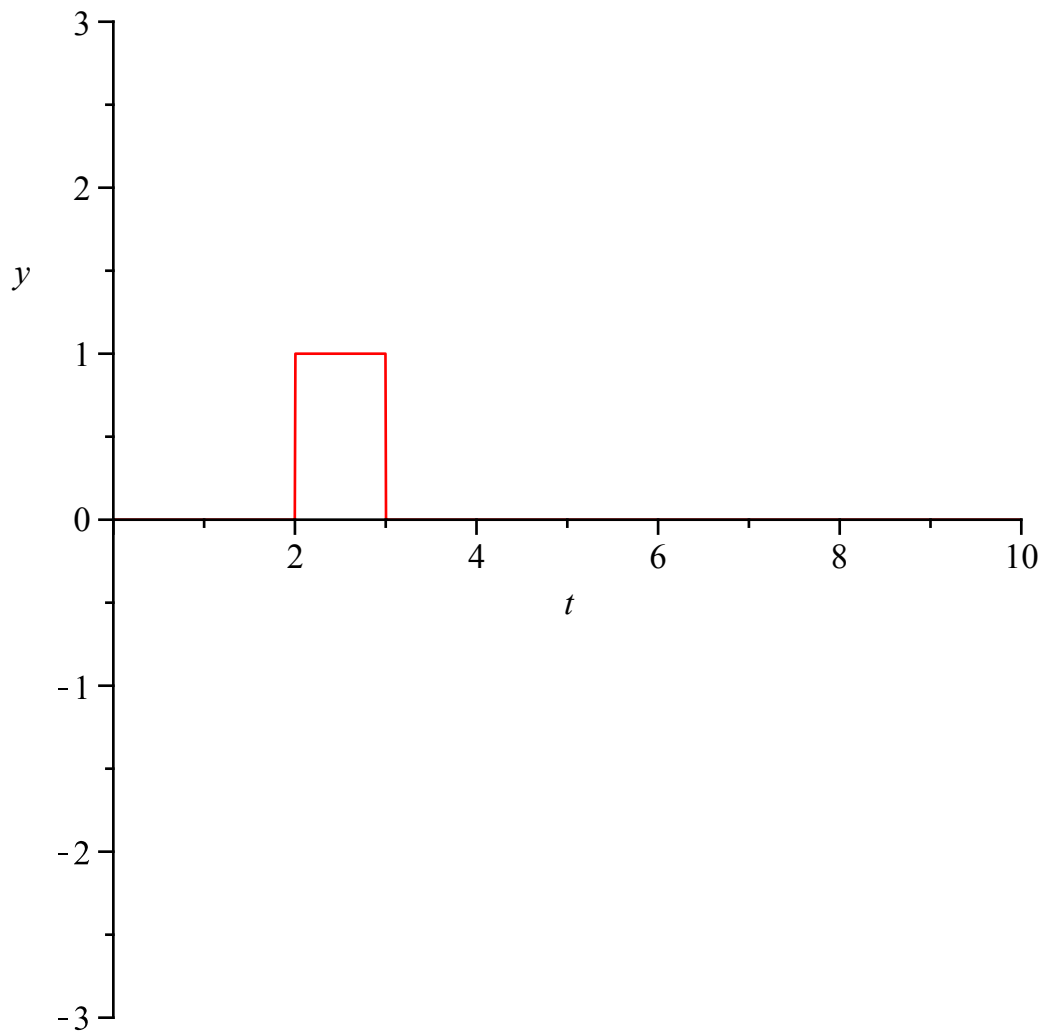


```
> h(t) := f(t) + g(t)
```

```
h(t) := Heaviside(t - 2) - Heaviside(t - 3)
```

(3)

```
> plot(h(t), t = 0 .. 10, y = -3 .. 3)
```



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

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

$$F(s) := \frac{e^{-2s}}{s} \quad (4)$$

```
> G(s) := laplace(g(t), t, s)
```

$$G(s) := -\frac{e^{-3s}}{s} \quad (5)$$

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

$$H(s) := \frac{e^{-2s} - e^{-3s}}{s} \quad (6)$$

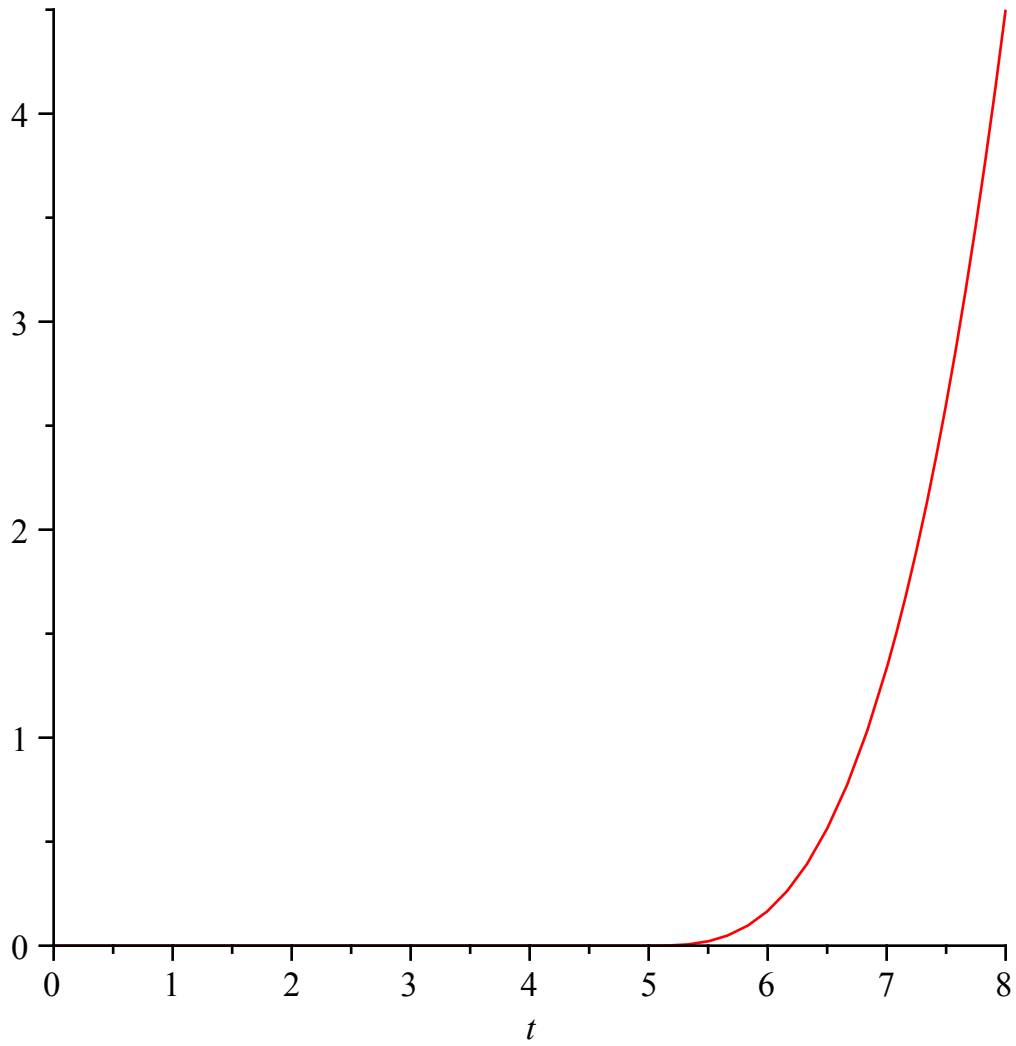
```
> RR(s) := \frac{\exp(-5 \cdot s)}{s \cdot 4};
```

$$RR(s) := \frac{e^{-5s}}{s^4} \quad (7)$$

```
> rr(t) := invlaplace(RR(s), s, t)
```

$$rr(t) := \frac{1}{6} \text{Heaviside}(t-5) (t-5)^3 \quad (8)$$

```
> plot(rr(t), t=0..8)
```

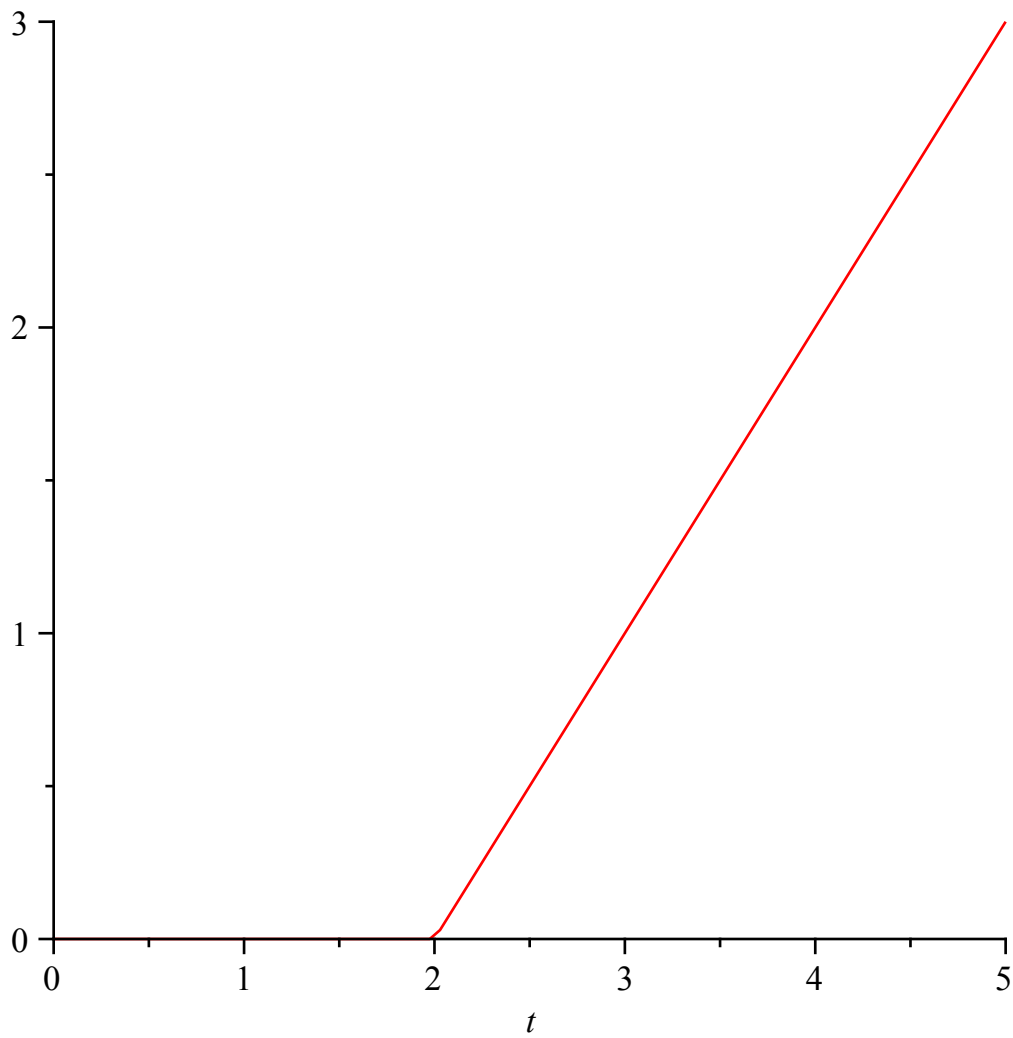


```
> r(t-2) := (t-2)·Heaviside(t-2)
```

$r(t-2) := (t-2) \text{ Heaviside}(t-2)$

```
> plot(r(t-2), t=0..5)
```

(9)

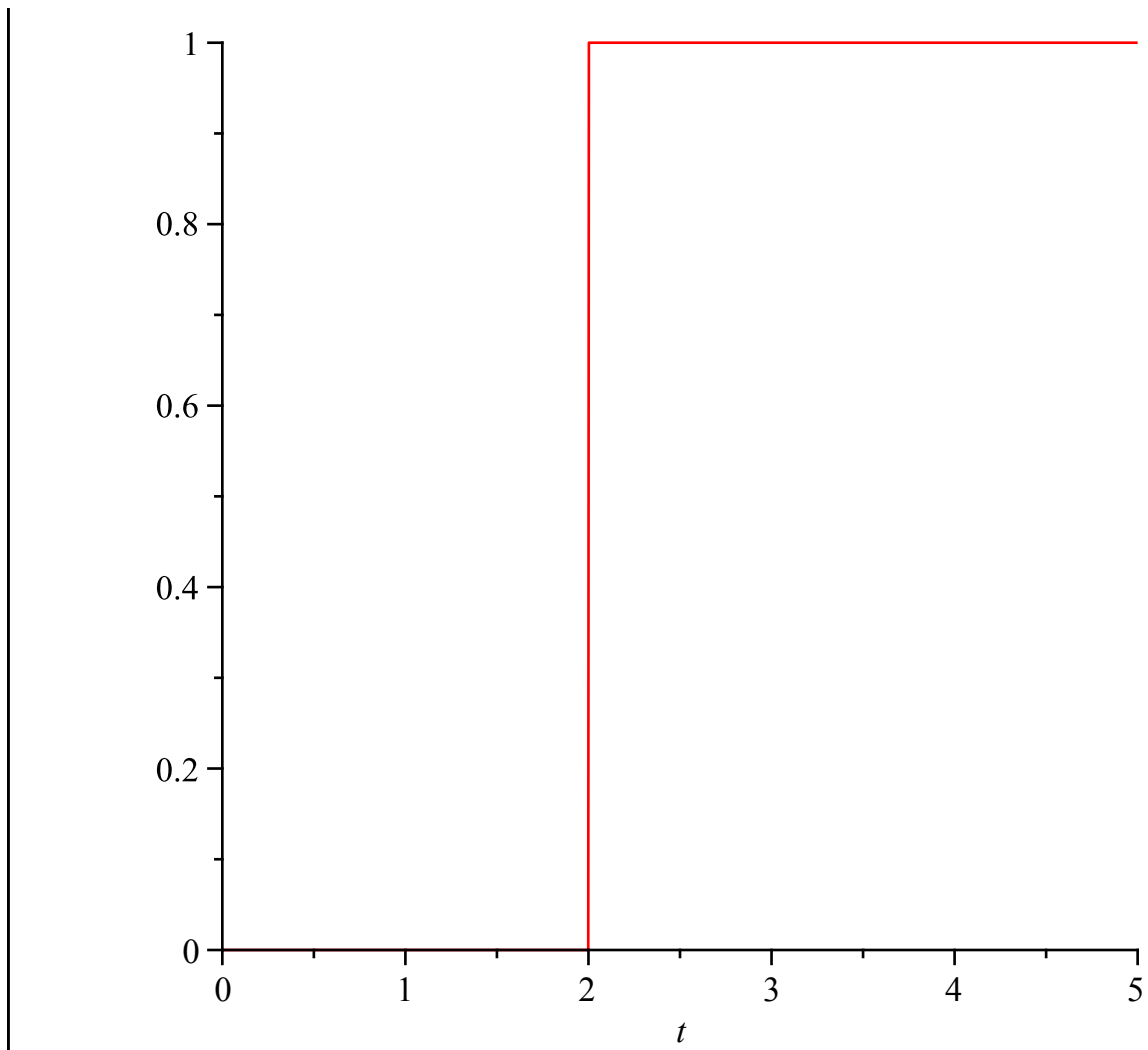


```

> step(t-2) := diff(r(t-2), t)
               step(t-2) := Heaviside(t-2) + (t-2) Dirac(t-2)
> plot(step(t-2), t=0..5)

```

(10)



[>
[>
[>
[>