```
> restart;
> t0 := 1; T := 6;
```

$$t0 := 1$$
$$T := 6 \quad (1)$$

```
> f1 := exp( -t·t);
```

$$f1 := e^{-t^2} \quad (2)$$

```
> f2 := 0.01;
```

$$f2 := 0.01 \quad (3)$$

```
> g := 2·(t − 2)
```

$$g := 2\,t - 4 \quad (4)$$

```
> zdr := {diff(y(t), t) − f1·f2 + g·y(t) = 0};
```

$$zdr := \left\{ \frac{d}{dt} y(t) - 0.01\, e^{-t^2} + (2\,t - 4)\, y(t) = 0 \right\} \quad (5)$$

```
> pu := {y(t0) = 10};
```

$$pu := \{y(1) = 10\} \quad (6)$$

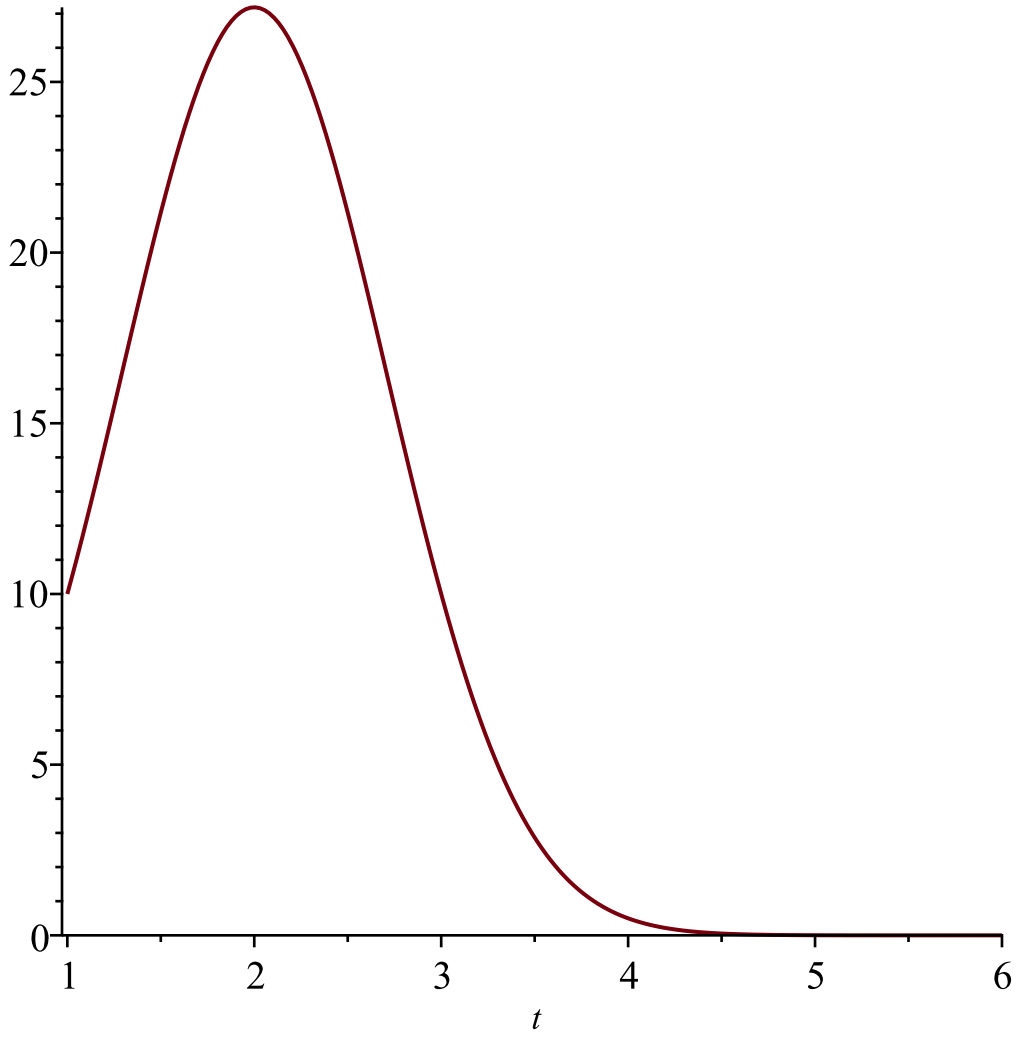
```
> s := dsolve(zdr union pu, {y(t)});
```

$$s := y(t) = \left(-\frac{1}{400}\, e^{-4t} + \frac{1}{400}\, \frac{e^3 e^{-4} + 4000}{e^3} \right) e^{-t(t-4)} \quad (7)$$

```
> eval(y(t), s);
```

$$\left(-\frac{1}{400}\, e^{-4t} + \frac{1}{400}\, \frac{e^3 e^{-4} + 4000}{e^3} \right) e^{-t(t-4)} \quad (8)$$

```
> plot(%, t = t0..T);
```




```
> y1 := unapply(%%, t);
```

$$y1 := t \rightarrow \left(-\frac{1}{400}\, e^{-4t} + \frac{1}{400}\, \frac{e^{3} e^{-4} + 4000}{e^{3}} \right) e^{-t(t-4)} \tag{9}$$

```
> evalf(y1(t0));
```

$$9.999999999 \tag{10}$$

```
> evalf(y1(T));
```

$$0.000003059304543 \tag{11}$$

```
>
```