```
> restart
```

$$y(t) = \frac{1}{2}e^{t} + 14e^{2t} - \frac{21}{2}e^{3t}$$

$$\frac{d^2y}{dt^2} - 5\frac{dy}{dt} + 6y = e^{t} \qquad y(0) = 4 \qquad y'(0) = -3$$

```
> Ecuacion := y''-5*y'+6*y = exp(x)
```

$$Ecuacion := \frac{d^2}{dx^2}y(x) - 5\left(\frac{d}{dx}y(x)\right) + 6\,y(x) = e^{x} \tag{1}$$

```
> Condicion := y(0) = 4, D(y)(0) = -3
```

$$Condicion := y(0) = 4,\ D(y)(0) = -3 \tag{2}$$

```
> with(inttrans):
> TLEcuacion := subs(Condicion, laplace(Ecuacion, x, s))
```

$$TLEcuacion := s^2\,laplace(y(x), x, s) + 23 - 4s - 5s\,laplace(y(x), x, s) + 6\,laplace(y(x), x, s) \tag{3}$$

$$= \frac{1}{s-1}$$

```
> TLSolucion := isolate(TLEcuacion, laplace(y(x), x, s))
```

$$TLSolucion := laplace(y(x), x, s) = \frac{\frac{1}{s-1} - 23 + 4s}{s^2 - 5s + 6} \tag{4}$$

```
> Solucion := invlaplace(TLSolucion, s, x)
```

$$Solucion := y(x) = 14\,e^{2x} - \frac{21}{2}\,e^{3x} + \frac{1}{2}\,e^{x} \tag{5}$$

```
>
```