```
> with(inttrans) :
> de := diff(y(t), t$2) + 9·y(t) = 18·t;
```

$$de := \frac{d^2}{dt^2} y(t) + 9\,y(t) = 18\,t \tag{1}$$

```
> Lde := laplace(de, t, s);
```

$$Lde := s^2\,laplace(y(t), t, s) - D(y)(0) - s\,y(0) + 9\,laplace(y(t), t, s) = \frac{18}{s^2} \tag{2}$$

```
> rLde := subs({y(0) = 8, D(y)(0) = 6}, Lde);
```

$$rLde := s^2\,laplace(y(t), t, s) - 6 - 8\,s + 9\,laplace(y(t), t, s) = \frac{18}{s^2} \tag{3}$$

```
> Ys := solve(rLde, laplace(y(t), t, s));
```

$$Ys := \frac{2\left(4\,s^3 + 3\,s^2 + 9\right)}{s^2\left(s^2 + 9\right)} \tag{4}$$

```
> Yspfd := convert(Ys, parfrac, s);
```

$$Yspfd := \frac{8\,s + 4}{s^2 + 9} + \frac{2}{s^2} \tag{5}$$

```
> invlaplace(Yspfd, s, t);
```

$$8\cos(3\,t) + \frac{4\sin(3\,t)}{3} + 2\,t \tag{6}$$

```
>
```