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> fract:=(3*s+8*exp(-2*Pi*s))/(s^2+4)
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$$fract := \frac{3s + 8e^{-2\pi s}}{s^2 + 4} \quad (1)$$

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> with(inttrans):
> invlaplace(fract,s,t);
```

$$3 \cos(2t) + 4 \operatorname{Heaviside}(t - 2\pi) \sin(2t) \quad (2)$$

```
> de:=diff(x(t),t,t)+4*x(t)=8*Dirac(t-2*Pi);
```

$$de := \frac{d^2}{dt^2} x(t) + 4x(t) = 8 \operatorname{Dirac}(t - 2\pi) \quad (3)$$

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> ic:=x(0)=3,D(x)(0)=0;
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$$ic := x(0) = 3, D(x)(0) = 0 \quad (4)$$

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> dsolve([de,ic],x(t));
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$$x(t) = 3 \cos(2t) + 4 \operatorname{Heaviside}(t - 2\pi) \sin(2t) \quad (5)$$