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> restart
> with(intrinsics)
[addtable, fourier, fouriercos, fouriersin, hankel, hilbert, invfourier, invhilbert, invlaplace,
  invmellin, laplace, mellin, savetable]
> Funcion := f(t) = 1
Funcion := f(t) = 1
> FuncionTrans := laplace(Funcion, t, s)
FuncionTrans := laplace(f(t), t, s) = 1/s
> F2 := f(t) = t
F2 := f(t) = t
> F2Trans := laplace(rhs(F2), t, s)
F2Trans := 1/s^2
> F3 := f(t) = t^4
F3 := f(t) = t^4
> F3Trans := laplace(rhs(F3), t, s)
F3Trans := 24/s^5
> F4 := f(t) = exp(5*t)
F4 := f(t) = e^{5t}
> F4Trans := laplace(rhs(F4), t, s)
F4Trans := 1/(s - 5)
> F5 := f(t) = t*exp(5*t)
F5 := f(t) = t e^{5t}
> F5Trans := laplace(rhs(F5), t, s)
F5Trans := 1/(s - 5)^2
> F6 := f(t) = cos(4*t)
F6 := f(t) = cos(4 t)
> F6Trans := laplace(rhs(F6), t, s)
F6Trans := s/(s^2 + 16)
> F7 := f(t) = exp(5*t)*cos(4*t)
F7 := f(t) = e^{5t} cos(4 t)
> F7Trans := (laplace(rhs(F7), t, s))
F7Trans := (s - 5)/((s - 5 - 4 I) (s - 5 + 4 I))

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$$\begin{aligned} &> F9Trans := F(s) = \frac{1}{(s-8) \cdot 2} \\ &F9Trans := F(s) = \frac{1}{(s-8)^2} \end{aligned} \quad (16)$$

$$\begin{aligned} &> F9 := \text{invlaplace}(\text{rhs}(F9Trans), s, t) \\ &F9 := t e^{8t} \end{aligned} \quad (17)$$

> restart

> with(inttrans) :

$$\begin{aligned} &> SolPartTrans := Y(s) = \frac{(2 \cdot s \cdot 2 - 11 \cdot s + 19)}{(s-3) \cdot 2 \cdot (s-2)} \\ &SolPartTrans := Y(s) = \frac{2s^2 - 11s + 19}{(s-3)^2 (s-2)} \end{aligned} \quad (18)$$

$$\begin{aligned} &> SolucionParticular := y(t) = \text{invlaplace}(\text{rhs}(SolPartTrans), s, t) \\ &SolucionParticular := y(t) = 5 e^{2t} + (4t - 3) e^{3t} \end{aligned} \quad (19)$$

> with(linalg) :

$$\begin{aligned} &> Para := \text{solve}(\{B + C = 2, A - 5 \cdot B - 6 \cdot C = -11, -2 \cdot A + 6 \cdot B + 9 \cdot C = 19\}, \{A, B, C\}) \\ &Para := \{A = 4, B = -3, C = 5\} \end{aligned} \quad (20)$$

$$\begin{aligned} &> SolPart := y(t) = A \cdot t \cdot \exp(3 \cdot t) + B \cdot \exp(3 \cdot t) + C \cdot \exp(2 \cdot t) \\ &SolPart := y(t) = A t e^{3t} + B e^{3t} + C e^{2t} \end{aligned} \quad (21)$$

$$\begin{aligned} &> SolucionPart := \text{subs}(A = \text{rhs}(Para[1]), B = \text{rhs}(Para[2]), C = \text{rhs}(Para[3]), SolPart) \\ &SolucionPart := y(t) = 4 t e^{3t} - 3 e^{3t} + 5 e^{2t} \end{aligned} \quad (22)$$

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