

> restart

>

$$\frac{dy}{dt^2} - 6 \frac{dy}{dt} + 8y = 2e^{-2t} + 4\sin(3t)$$

$$y(0) = 9 \quad y'(0) = -6$$

> Ecuacion := diff(y(t), t\$2) - 6 diff(y(t), t) + 8 y(t) = 2·exp(-2 t) + 4 sin(3 t)

$$Ecuacion := \frac{d^2}{dt^2} y(t) - 6 \left(\frac{d}{dt} y(t) \right) + 8 y(t) = 2 e^{-2t} + 4 \sin(3 t) \quad (1)$$

> Condiciones := y(0) = 9, D(y)(0) = -6

$$Condiciones := y(0) = 9, D(y)(0) = -6 \quad (2)$$

> Solucion := dsolve({Ecuacion, Condiciones})

$$Solucion := y(t) = \frac{1}{12} e^{-2t} + \frac{72}{325} \cos(3 t) - \frac{4}{325} \sin(3 t) - \frac{1739}{150} e^{4t} + \frac{1055}{52} e^{2t} \quad (3)$$

> plot(rhs(Solucion), t=0..1)

