

1.1

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$$\begin{aligned}x'' &= 4y + e^t \\y'' &= 4x - e^t\end{aligned}$$

$$\begin{aligned}x &= \cos(2t) + \sin(2t) + \frac{1}{5}e^t \\y &= -x\end{aligned}$$

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$$\begin{aligned}x' &= -2\sin(2t) + 2\cos(2t) + \frac{1}{5}e^t \\x'' &= -4\cos(2t) - 4\sin(2t) + \frac{1}{5}e^t\end{aligned}$$

$$\begin{array}{r}x'' \\ 4y + e^t\end{array} \quad \begin{array}{l} -4\cos(2t) - 4\sin(2t) + \frac{1}{5}e^t \\ -4\cos(2t) - 4\sin(2t) - \frac{4}{5}e^t \\ + e^t\end{array}$$

They match.

~~XXX~~ (other EQ is very similar)