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$$x'' = 4y + e^t$$
$$y'' = 4x - e^t$$

$$x = \cos(2t) + \sin(2t) + \tfrac{1}{5}e^t$$
$$y = -x$$

~~Mh~~ ~~HHHHHHHHH~~

$$x' = -2\sin(2t) + 2\cos(2t) + \tfrac{1}{5}e^t$$
$$x'' = -4\cos(2t) - 4\sin(2t) + \tfrac{1}{5}e^t$$

x''	$-4\cos(2t) - 4\sin(2t) + \tfrac{1}{5}e^t$
$4y + e^t$	$-4\cos(2t) - 4\sin(2t) - \tfrac{4}{5}e^t$
	$+ e^t$

They match.

~~#~~ (other Eq is <u>very</u> similar)