



## Item Navigation

# When the Inhomogeneous Term is a Solution of the Homogeneous Equation

Solve

$$\ddot{x} + 3\dot{x} + 2x = e^{-2t},$$

with  $x(0) = 0$  and  $\dot{x}(0) = 0$ .

Observe that the inhomogeneous term is a solution of the homogeneous equation. To find a particular solution, the usual exponential ansatz will need to be multiplied by  $t$ .

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