

MAP 2302 WRITTEN HOMEWORK #7

Due Monday October 14th, in Canvas

Question 1. Find a particular solution of the differential equation.

$$y'' - 2y' + y = t^{-1}e^t$$

Question 2. Verify that $y = t^{-2}$ is a solution of the differential equation.

$$t^2y'' + 5ty' + 4y = 0$$

Then, find another (independent) solution of the form $y = t^{-2}v(t)$. (Hint: Substitute $y = t^{-2}v(t)$ and get a separable differential equation in $w = v'$.)