5. [14 points] Consider the initial value problem $y'' + 4y' + 4y = 9e^{-2t}$, $y(0) = 1$, $y'(0) = 0$.

    a. [6 points] Solve the problem *without* using Laplace transforms.

    b. [8 points] Solve the problem *with* Laplace transforms.