

6. [15 points] For each of the following find explicit, real-valued solutions as indicated. For this problem do **not** use Laplace transforms. Note that you do not need to simplify numeric expressions.

a. [8 points] Find the solution to $3y'' + 4y' + y = 5e^{-t}$, $y(0) = y'(0) = 0$

b. [7 points] Find the general solution to $y'' + 2y' + 10y = 5t$.