MATh 1B
Quiz 10

Answers lacking justification will not receive full credit.
1. Identify the traits of the following differential equations (their order, homogeneous or inhomogeneous, constant coefficient or not).
   a) \( 4y'' + 2x^2y' = 3y \)

   b) \( e^x y'' = x^5 + e^{1+x}y \)

   c) \( 3y' - 2y = 5y'' \)

2. Find the general solution \( y(x) \) of the differential equation \( y'' - 4y' + 4y = xe^x \) using the method of undetermined constants/coefficients.
3. Find the general solution $y(x)$ of the differential equation $y'' - 4y' + 4y = xe^x$ using the method of variation of parameters.