Introduction to Differential Equations
Assignment # 7

Date Given: May 23, 2022
Date Due: May 30, 2022

P1. (1 point) Find the general solution of the differential equation $y''' - 6y'' + 12y' - 8y = 0$.

P2. (1 point) Find the general solution of the differential equation $16y^{(4)} + 24y'' + 9y = 0$.

P3. (1 point) Find the general solution of the differential equation $y^{(6)} + y = 0$.

P4. (1 point) Find the general solution of the differential equation $y^{(4)} + 2y^{(2)} + y = 0$.

P5. (1 point) Find the solution of the initial value problem $y''' + 12'' + 36y' = 0$, $y(0) = 0$, $y'(0) = 1$, $y''(0) = 6$.

P6. (1 point) Find a differential equation whose general solution is $y = c_1 + c_2 e^{2t}\cos(5t) + c_3 e^{2t}\sin(5t)$.