Dartmouth College
Mathematics 23 - Assignment 9

1. For each of the following differential equations, indicate the form of the particular solution. You do not have to solve for the coefficients. (This is a short answer problem. Example: If the differential equation were $y'' + y = t^2$, your answer would be $Y(t) = At^2 + Bt + C$.)

   (a) $y'' + 3y' + 2y = te^{-t}$

   (b) $y'' + 4y = t\sin(t)$

   (c) $y'' + 4y = e^t \sin(2t)$

   (d) $y'' + 4y = \sin(2t)$

2. (Lebl 2.5.2 modified) Find the general solution of $y" - y' - 6y = e^{2x}$

3. (Lebl 2.5.3 modified) Find the general solution of $y" - 4y' + 4y = e^{2x}$

4. Boyce and DiPrima, Sec. 3.5: 4

5. Boyce and DiPrima, Sec. 3.4: 38

6. Boyce and DiPrima, Sec. 3.4: 39