Math 2080: Differential Equations
Worksheet 2.4: Solving 1st order inhomogeneous ODEs

NAME:

1. Carry out the first few steps (i.e., until you have to integrate) of the integrating factor method with the following ODEs:

   (a) $y' - 2y = 1$

   (b) $2y' = 4y + 2$.

   (c) $y' + \frac{1}{t}y = 1$

   (d) $y' - \frac{1}{t}y = 1$

   (e) $y' - 5t^4 y = t^3$

2. Find the *general solution* of the differential equation $y' = y + e^t$, by the *integrating factor* method.

3. Find the *general solution* of the differential equation $y' = y + e^t$, by the *variation of parameters* method.