

Name:

1. (3pts) Give the general solution for the differential equation $y' + e^x y = e^x$.

2. (4pts) Solve the initial-value problem $y' - (\cot x)y = 1$, $y(\frac{\pi}{2}) = 1$.

3. (3pts) Solve the following initial-value problem.

$$y' = \frac{x^2 + y^2}{2xy}$$

$$y(1) = 0$$