

Name:

1. (4pts) Solve the initial-value problem $y' + (\cos x)y = \cos x$, $y(0) = 0$.

2. (3pts) Solve the differential equation $(1 + x)y' + y = 1 + x$, $x > 0$.

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

$$y' = \frac{-2y^3 + x^2y}{x^3}$$

$$y(1) = 1$$