1. (a) What is the equilibrium solution of the differential equation \( \frac{dy}{dx} = 2y - 8? \)

(b) Solve the differential equation in part (a) if \( y = 6 \) when \( x = 0 \). Here and in problem 2, write your final answer in the form \( y = \) some function of \( x \) if possible.

2. Solve the differential equation \( \frac{dy}{dx} = ye^x e^x \) if \( y = e^x \) when \( x = 0 \).