

Quiz 7  
August 4

Name:

1. Solve the differential equation:

$$y' = xe^{-\sin x} - y \cos x$$

2. Solve the differential equation:

$$xyy' = \ln x \quad , \quad y(1) = 2$$

3. A tank contains 100 L of pure water. Brine that contains 0.1 kg of salt per liter enters the tank at a rate of 10 L/min. The solution is kept thoroughly mixed, and drains from the tank at the same rate. How much salt is in the tank after 6 minutes?

4. Answer question 3 if the tank only drains at the rate of 5 L/min.