

Name : \_\_\_\_\_

**242 - Differential Equations: Test 2 Extra Credit**

**DIRECTIONS: Show all work!** There is a total of 5 points which will be added to Test 2.

1. (5 points) pg. 104 #4 - A brine solution of salt flows at a constant rate of **4 L/min** into a large tank that initially held 100L of pure water. The solution inside the tank is perfectly mixed at all times and flows out of the tank at a rate of **3 L/min**. If the concentration of salt in the brine entering the tank is 0.2 kg/L, determine the mass of salt in the tank after  $t$  minutes. When will the concentration of salt in the tank reach 0.1 kg/L?