Math 341 Quiz #4 In-Class Part Name_____

Show all work. Your answers must be fully justified.

1. A tank holds 200 liters of pure water. The water is accidentally contaminated with 15 grams of a chemical. You may assume the chemical adds a negligible amount of volume (i.e., the volume of liquid in the tank is still 200 liters). To remove the chemical, fresh water is pumped in at a rate of 5 liters/min and the contaminated water is pumped out at the same rate. Set up an initial value problem to model this situation.

2. A person invests \$5000 in a savings account that has an annual interest rate of 3.5% compounded continuously. Each year at the same time, the person withdraws \$50 from the account. Set up an initial value problem to model this situation.