

*Problem 1.* A large tank is half full with a mixture of salt dissolved in water. Pure water is pumped into the tank at the rate of 3 gallons per minute, and water is let out of the tank at the rate of 1 gallon per minute, thus overall the tank is filling up. Assuming the mixture in the tank is kept uniform by stirring, what percentage of the original salt will still be in the tank when it is full?

Simplify your answer as much as possible.