(Class) assignment # 12

Part 1

You are in charge of managing overbooking for an airline company.

Since 30% of your booked customers do not show up when an airplane is leaving, your policy is to accept 28 bookings for a plane with 24 seats.

1. What is the expected number of passengers on a plane?
2. What is the expected number of empty seats?
3. What is the probability that at least one booked passenger is not able to leave?
4. If the penalty for each booked passenger that is not able to leave is 1000€, what is the expected penalty per flight?

Part 2

Customers arrive at a certain store according to a Poisson process of rate =4 per hour.

Given that the store opens at 9:00 AM, what is the probability that exactly one customer has arrived by 9:30 AM and a total of five has arrived by 11:30 AM ?

Part 3

