

## 1 Homework Questions

1. Consider overbooking an aircraft with 240 seats. The price for the seat is \$250 and cost of service denial to a single customer is \$1200. Suppose that customer demand is Normal with mean 280 and standard deviation 40. Moreover the show up probability of a customer (independent of the other customers) is 0.95. Find the optimal overbooking level. You should download overbook.xlsx and modify it to obtain the optimal overbooking level.
2. In the standard overbooking problem setting, a passenger that books but does not show up pays no penalty. Now suppose that such a passenger pays a penalty of  $\alpha p$  where  $p$  is the price of a ticket. Modify the optimality equation for the standard overbooking problem for this case. Basically, your equation will have  $P(s(b) > C)$  on the left hand side, where  $s(b)$  is the number of showing up customers with overbooking level  $b$ . On the right hand side, you need an appropriate combination of  $p$ ,  $\alpha$ , and the cost  $D$  of service denial.