

IE 460 Comments on Homework #2

Homework 2 statistics:

Average: 1.87, Standard Deviation: 0.46

Grade	3	2	1	0
# of people	1	33	4	1

Question 1

This is a standard question. Please make sure that you know to derive the objective function every time you encounter such a problem. Also, make sure that you know how to look-up normal tables.

Comments regarding your performance:

- This question was relatively easy and you did a great job, thanks!
- A lot of you used the formulas in the book directly while calculating optimal quantity and profit. Although I did not deduct any points for this approach, I recommend you go over the derivations in detail while doing your homework. By doing so, you can understand the solution technique and solve more complicated problems (for instance, how do you find optimal order quantity if there is a price discount?)
- One person derived the formulas in the book and received 3 points.

Grade	3	2	1.5	1	0
# of people	1	30	3	3	2

Question 2

This is a typical problem where you actually determine optimal “product mix” to maximize your expected profit. So, the best thing would be to formulate the problem from scratch, even in part a). Part a) does not consider the constraint, and hence the optimal solution can be obtained by decomposing the problem with respect to items. Part b), on the other hand, asks you to evaluate a certain solution which is feasible. Part c) wants you to formulate the constrained problem. Recall the solution approach:

- Solve the unconstrained problem. If independent solutions do not violate the constraint, optimal solution is obtained.
- Otherwise, you need to formulate the Lagrangian problem. This is where you need to consult your IE375 text book.

Comments regarding your performance:

- In *part a*, some could not formulate the cost of understocking and overstocking, I believe they should read course material more carefully.
- In *part c*, a lot of you either did not solve this part or used excel solver. However, you were expected to use a Lagrange formulation for the solution.
- In *part c*, some of you used the formula in Nahmias's book directly ($m = \frac{c}{\sum EOQ_i c_i}$). However, the objective function in our question does not match with the question in Nahmias's book.
- The ones who did not solve *part c* using Lagrange approach received either 1.5 or 1 points. You received full points if you started to solve the problem in *part c* using Lagrange approach but could not finish the solution.

Grade	2	1.5	1	0.5	0
# of people	2	10	25	1	1