**Assignment 3 of 3**

Complete Case Study -- "Low Nail Company", originally in our text.  Provide a brief  discussion of your results for each question.

**UPDATE**:  Low Nail Co. now reports the following data:

* Annual demand increased to **2,100 kegs per year**
* Annual inventory carrying costs has increased to **$1.08 per keg**

Revised Case Study is provided here for your use: [**Week 3 - Case study - Low Nail Co.pdf**](https://nu.blackboard.com/bbcswebdav/pid-11782348-dt-content-rid-57794565_1/xid-57794565_1)[**Week 3 - Case study - Low Nail Co.pdf - Alternative Formats**](https://nu.blackboard.com/webapps/blackboard/content/listContent.jsp?course_id=_152154_1&content_id=_11729807_1&mode=reset)

*- Provide your answers in a well-formatted EXCEL file, using this template --*[**Low Nail Company.xlsx**](https://nu.blackboard.com/bbcswebdav/pid-11782348-dt-content-rid-21241456_1/xid-21241456_1)

*- Limit the width of the workbook to 1 page using Portrait layout (to allow for printing and grading in Blackboard).  Multiple pages "tall" are OK.*

*- Label each question with titles and all answers with proper units (e.g. $, cases per order, $ per year, etc.).*

*- Effective spreadsheet design must be used.  For example, all input data must be shown in separate cells and all answers must be formulas that reference the input cells.  In this way, any input can be quickly changed for immediate recalculation of your answers!  This happens all the time on-the-job.*

Questions

1. Using the EOQ methods outlined in the text, how many kegs of nails should Low order at one time?
2. Assume all conditions in question 1 hold, except that Low’s supplier now offers a quantity discount in the form of absorbing all or part of Low’s order-processing costs. For orders of 750 or more kegs of nails, the supplier will absorb all the order-processing costs; for orders between 249 and 749 kegs, the supplier will absorb half. What is Low’s new EOQ? (It might be useful to lay out all costs in tabular form for this and later questions.)
3. Temporarily, ignore your work on question 2. Assume that Low’s warehouse offers to rent Low space on the basis of the *average* number of kegs Low will have in stock, rather than on the maximum number of kegs Low would need room for whenever a new shipment arrived. The storage charge per keg remains the same. Does this change the answer to question 1? If so, what is the new answer?
4. Take into account the answer to question 1 *and* the supplier’s new policy outlined in question 2 *and* the warehouse’s new policy in question 3. Then determine Low’s new EOQ.
5. Temporarily, ignore your work on questions 2, 3, and 4. Low’s luck at the race track is over; he now must borrow money to finance his inventory of nails. Looking at the situation outlined in question 1, assume that the wholesale cost of nails is $40 per keg and that Low must pay interest at the rate of 1.5 percent per month on unsold inventory. What is his new EOQ?
6. Taking into account all the factors listed in questions 1, 2, 3, and 5, calculate Low’s EOQ for kegs of nails.