

Exam 2 – OMGT3223 Online

Please state all assumptions, formulae, and definitions. Also, show all your work and explain your answers.

Read all instructions carefully and answer each question asked. Calculations are important but so are explanations and dialogue.

1. You are required to submit this exam by the due date via Canvas. **MAKE SURE TO USE THE NAMING CONVENTION SET DOWN IN THE SYLLABUS WHEN SUBMITTING YOUR EXAM/FILES IN CANVAS.** Late papers will not be accepted.
2. Your work should consist of:
 - a. A cover sheet with your name and the date.
 - b. A **1-PAGE**, one-side only, Executive Summary of your work including explanations, calculations, diagrams, etc. Please feel free to include as much detail as you think necessary but remember you have limited space.
 - c. Executive summaries are expected to be typewritten (i.e., MS-Word, WordPerfect). However, calculations can be handwritten. Clarity and neatness are expected.
 - d. Please refer to the **website for further information regarding writing executive summaries**. You may use any font and spacing that is reasonable. i.e., 0.25-inch margins and font size 10 are at the low end of reasonable. Remember you are presenting this to your boss.
 - e. Please attach all calculations, spreadsheets, diagrams, graphs, etc., to the back of the executive summary and label the section Appendix A. If you are running short on space in your executive summary, you may reference pages in the Appendix. (This may come in handy for certain diagrams, graphs, etc.) It is vitally important that you link your work to the executive summary, i.e., **I will NOT go searching for answers, spell them out in your executive summary and show your work in the Appendix!!**
3. You will be graded on both your calculations and your presentation. Calculations will be weighted approximately 75% and your presentation (i.e., the executive summary) will be weighted 25%. Just a reminder, if I can't read it or find it, I can't grade it.

A typical exam will have the following parts:

- a cover page with your name and date,
- your executive summary,
- an appendix cover page, and
- your appendix pages.

You may turn in both a Word file and an Excel file (the Excel file would most likely contain your Appendix material).

NOTE: I WANT ONLY 1 (ONE) EXECUTIVE SUMMARY THAT INCLUDES ALL EXAM PROBLEMS. DO NOT CREATE MORE THAN 1 (ONE) EXECUTIVE SUMMARY!! PLEASE EMAIL ME IF THIS IS NOT CLEAR.

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Jane has been presented with the following problem. She has been asked to provide an analysis and explanation. Help Jane solve the following questions:

Shipping Shenanigans

Jane’s shipping company, Pirate Logistics, has three supply locations, Wilmington, New Bern, & Lynchburg. Jane then needs goods shipped to three demand locations, Grand Island, Omaha, & Sioux Falls. Jane needs a shipping schedule that minimizes cost but yet meets the following:

- a unique shipping cost is associated with each supply locale
- limited supply amounts are provided at any supply locale
- each demand locale must meet a required demand amount
- amount supplied must equal amount demanded

Jane has given Pirate Logistics the following transshipment diagram that contains the pertinent supply and demand. The associated cost information between supply and demand locales is listed in Table 1.3.

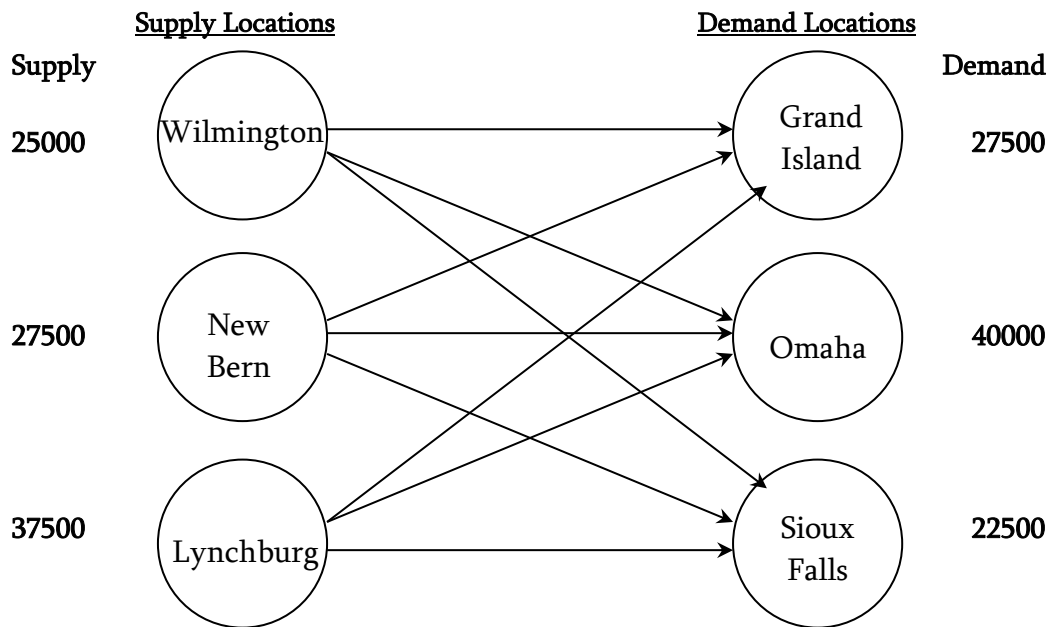


Table 1.3 Cost Structure for Pirate Logistics

	Grand Island	Omaha	Sioux Falls
Wilmington	\$17.75	\$30.50	\$22.00
New Bern	\$30.50	\$27.55	\$30.50
Lynchburg	\$31.95	\$29.00	\$17.75

(Note: for example, it costs \$17.75 to ship a unit from Wilmington to Grand Island)

Jane wonders if there is just one “best” solution. Help Jane develop a shipping schedule that minimizes total cost, meets required demand and supply constraints, comments on the idea of a “best” solution, and provides a comparison to current operations. Currently Pirate Logistics ships 12000 from Wilmington to Omaha, 13000 from Wilmington to Sioux Falls, 27500 from New Bern to Omaha, 28000 from Lynchburg to Grand Island, and 9500 from Lynchburg to Sioux Falls. Include a model (preferably in XL) showing your LP setup, a comparison of the current shipping schedule to your model’s schedule, and a brief discussion of sensitivity analysis (i.e., Shadow Prices).

HINT: You can do this by hand but most likely you will set up a transportation LP in a spreadsheet and use Solver to generate a solution. Also, take a look at pages 516-528 and 536-537 in the textbook.