



QUESTION WORKBOOK

Transportation problems

Decision Mathematics 2 · Year FM

6 questions · 24 marks

PRINT EDITION

SECTION A · Warm-up

- A1** A transportation problem has supplies of 40, 30 and 50, and demands of 35, 45 and 25. State what must be done before any method is applied, giving the figure involved. [3]

- A2** State how many cells a solution to a 4 by 5 transportation problem should use, and what it means if it uses fewer. [3]

SECTION B · Standard

- B1** Supplies are A 40, B 30, C 50 and demands are X 35, Y 45, Z 40. Costs per unit are AX 8, AY 5, AZ 6, BX 4, BY 9, BZ 7, CX 3, CY 6, CZ 5. Find the north-west corner solution and its cost. [5]

B2 For that solution, confirm the cell count is right and comment on the quality of the answer. [2]

B3 A source in a different problem cannot supply one particular destination at all. Explain how this is handled, and why a cost of zero would be wrong. [3]

SECTION C · Stretch

C1 Supplies are A 30, B 40 and C 20; demands are X 30, Y 25 and Z 20. Costs per unit are AX 5, AY 8, AZ 6, BX 7, BY 4, BZ 9, CX 6, CY 5 and CZ 3. Prepare the problem for solution, find the north-west corner solution and its cost, and comment on the number of cells used. [8]