**Module B: The Transportation Models**

**Test Bank**

**Multiple Choice**

1. Which of the following is a special case of linear programming problems in which the objective is to minimize the total cost of transporting goods from the various supply origins to the different demand destinations?

a. transportation model

b. Simplex LP

c. iso-profit line method

d. corner point solution method

Ans: A

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Easy

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

2. To solve a transportation model, we should first set up the problem as a \_\_\_\_\_\_.

a. transportation objective

b. transportation matrix

c. transportation product mix

d. northwest corner rule

Ans: B

Cognitive Domain: Application (Apply)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

3. Once an initial solution is established in a transportation model problem, we will use the \_\_\_\_\_\_ method to progress from the initial feasible solution to an optimal solution.

a. matrix least cost

b. matrix maximum profit

c. northwest corner

d. stepping stone

Ans: D

Cognitive Domain: Application (Apply)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

4. Which of the following is one of the methods to establish an initial feasible solution in a transportation model problem?

a. matrix maximum profit method

b. stepping stone method

c. matrix least cost method

d. transportation matrix method

Ans: C

Cognitive Domain: Application (Apply)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

5. Which of the following methods involves first allocating shipping units to the northwest (top left-hand) corner of the transportation matrix and then proceeding systematically by making allocations of shipping units to cells along either a row or column until the bottom right-hand corner of the matrix is reached?

a. matrix least cost method

b. matrix maximum profit method

c. northwest corner rule

d. stepping stone method

Ans: C

Cognitive Domain: Application (Apply)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

6. With the \_\_\_\_\_\_ method, an initial feasible solution to the transportation problem is obtained by allocating shipments beginning with the route that has the lowest cost of transportation.

a. matrix least cost method

b. matrix maximum profit method

c. northwest corner rule

d. stepping stone method

Ans: A

Cognitive Domain: Application (Apply)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

7. Which of the following is an iterative process that will enable us to move from an initial feasible solution to finding an optimal solution to the transportation problem?

a. matrix least cost method

b. matrix maximum profit method

c. northwest corner rule

d. stepping stone method

Ans: D

Cognitive Domain: Application (Apply)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

8. \_\_\_\_\_\_ refer to the occupied cells in the initial solution of the transportation matrix, which are used in arriving at an improved solution.

a. Stepping stones

b. Reference cells

c. Variable cells

d. Improvement matrix methods

Ans: A

Cognitive Domain: Application (Apply)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Easy

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

9. Which of the following statements is FALSE about methods involved in solving a transportation problem?

a. Matrix least cost method reduces the number of computations and the time required to determine the optimal solution.

b. Northwest corner rule is intuitively more appealing and has better rationale than the matrix least cost method.

c. Northwest corner rule begins at the top left-hand corner of the matrix and allocates units until either the supply is exhausted or demand is met.

d. Matrix least cost method begins with the cell that has the lowest per unit cost and allocates units until either the supply is exhausted or demand is met.

Ans: B

Cognitive Domain: Application (Apply)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Easy

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

10. To find the optimal solution using the stepping stone method, first select a(n) \_\_\_\_\_\_ in the initial basic feasible solution to be evaluated.

a. occupied cell

b. empty cell

c. referenced cell

d. variable cell

Ans: B

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

11. Which of the following statements is FALSE about the stepping stone method?

a. A closed path is drawn, using only horizontal and vertical moves.

b. Turning corners should occur only on occupied cells.

c. Stepping over any occupied or unoccupied cell is not allowed.

d. If the improvement indices have values greater than or equal to zero, then the current solution is optimal.

Ans: C

Cognitive Domain: Application (Apply)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Hard

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

12. In the stepping stone method, when the value is obtained by summing up the unit costs in the cells with a plus sign, and then from the resulting total, subtracting the sum obtained by adding the unit costs in cells containing a minus sign, it is called \_\_\_\_\_\_.

a. improvement index

b. performance index

c. evaluation index

d. selection index

Ans: A

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Hard

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

13. In the stepping stone model, a nondegenerate optimum solution obtained should satisfy \_\_\_\_\_\_ conditions.

a. two

b. three

c. four

d. five

Ans: A

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Hard

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

14. Which of the following is one of the conditions that a nondegenerate optimum solution obtained in the stepping stone method should satisfy?

a. The number of cells with positive allocations should be less than the number of rows plus the number of columns in the transportation matrix.

b. The number of cells with positive allocations should be greater than the number of rows minus the number of columns in the transportation matrix.

c. The number of cells with positive allocations should be equal to the number of rows plus the number of columns in the transportation matrix minus one.

d. The number of cells with positive allocations should be equal to the number of rows plus the number of columns in the transportation matrix.

Ans: C

Cognitive Domain: Application (Apply)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

15. Which of the following is a FALSE assumption about the transportation model?

a. Capacity at each supply location or origin is limited.

b. Demand requirements at each destination are known.

c. Regardless of their origin or destination, the items shipped are homogenous.

d. Between each origin and destination, there are multiple routes used.

Ans: D

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

16. A transportation problem in which the number of units demanded is equal to the total number of supply units available is called \_\_\_\_\_\_.

a. balanced transportation problem

b. unbalanced transportation problem

c. improved transportation problem

d. feasible transportation problem

Ans: A

Cognitive Domain: Application (Apply)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

17. A transportation problem in which the total number of supply units available is greater than the demand requirements or vice versa is called \_\_\_\_\_\_.

a. balanced transportation problem

b. unbalanced transportation problem

c. improved transportation problem

d. feasible transportation problem

Ans: B

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

18. A fictitious demand destination created to arrive at a balanced transportation problem (i.e., total demand = total supply) is called \_\_\_\_\_\_.

a. dummy supply destination

b. dummy demand destination

c. dummy supply source

d. fictitious demand destination

Ans: B

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-2. Apply transportation modeling to other situations.

Answer Location: Additional Issues in Transportation Modeling

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

19. A fictitious supply source created to arrive at a balanced transportation problem (i.e., total demand = total supply) is called \_\_\_\_\_\_.

a. dummy supply destination

b. dummy demand destination

c. dummy supply source

d. fictitious supply source

Ans: C

Cognitive Domain: Application (Apply)

Learning Objective: B-2. Apply transportation modeling to other situations.

Answer Location: Additional Issues in Transportation Modeling

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

20. A condition that occurs when the solution to a transportation problem has occupied routes(cells) that are less than (number of origins + the number of destinations –1) is called \_\_\_\_\_\_.

a. degeneracy

b. nondegeneracy

c. optimality

d. feasibility

Ans: A

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-2. Apply transportation modeling to other situations.

Answer Location: Additional Issues in Transportation Modeling

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

21. To overcome the problem of degeneracy, it is required to create a(n) \_\_\_\_\_\_.

a. artificially occupied cell

b. occupied cell

c. unoccupied cell

d. empty cell

Ans: A

Cognitive Domain: Knowledge (Remember)

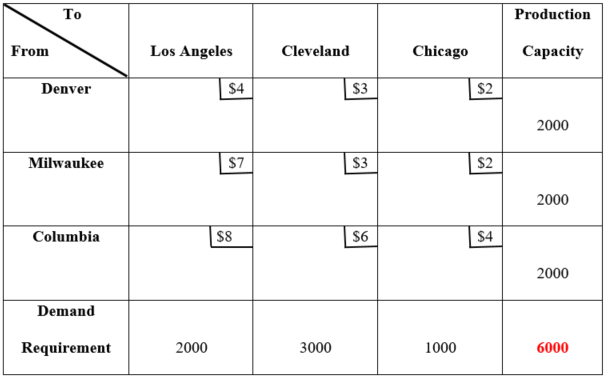
Learning Objective: B-2. Apply transportation modeling to other situations.

Answer Location: Additional Issues in Transportation Modeling

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

22. Consider the transportation matrix that follows. The transportation problem can be labeled as a(n) \_\_\_\_\_\_ transportation problem.



a. balanced

b. unbalanced

c. partly occupied

d. artificially occupied

Ans: A

Cognitive Domain: Comprehension (Understand)

Learning Objective: B-2. Apply transportation modeling to other situations.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Economic, political, regulatory, legal, technological, and social contexts of organizations in a global society

23. XYZ has three supply chain locations with respective production capacities of an electronic component (Denver, Milwaukee, and Columbia) and three demand locations with their respective demand requirements for that electronic component. The demand requirements, production capacities, and the per-unit transportation costs are tabled in the transportation matrix shown here. Determine the initial shipping cost using the northwest corner rule.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ***To*** | ***Los Angeles*** | | ***Cleveland*** | | ***Chicago*** | | ***Production Capacity*** |
| **From** |
| **Denver** |  | $4 |  | $3 |  | $2 | 2,000 |
|  |  |  |
| **Milwaukee** |  | $7 |  | $3 |  | $2 | 2,000 |
|  |  |  |
| **Columbia** |  | $8 |  | $6 |  | $4 | 2,000 |
|  |  |  |
| **Demand requirement** | 2,000 | | 3,000 | | 1,000 | | 6,000 |

a. $30,000

b. $40,000

c. $24,000

d. $34,000

Ans: C

Cognitive Domain: Application (Apply)

Learning Objective: B-2. Apply transportation modeling to other situations.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

24. XYZ has three supply chain locations with respective production capacities of an electronic component (Denver, Milwaukee, and Columbia) and three demand locations with their respective demand requirements for that electronic component. The demand requirements, production capacities, and the per-unit transportation costs are tabled in the transportation matrix shown here. Determine the initial shipping cost using the matrix least cost method.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ***To*** | ***Los Angeles*** | | ***Cleveland*** | | ***Chicago*** | | ***Production Capacity*** |
| **From** |
| **Denver** |  | $4 |  | $3 |  | $2 | 2,000 |
|  |  |  |
| **Milwaukee** |  | $7 |  | $3 |  | $2 | 3,000 |
|  |  |  |
| **Columbia** |  | $8 |  | $6 |  | $4 | 2,000 |
|  |  |  |
| **Demand requirement** | 3,000 | | 3,000 | | 1,000 | | 7,000 |

a. $30,000

b. $40,000

c. $24,000

d. $31,000

Ans: D

Cognitive Domain: Application (Apply)

Learning Objective: B-2. Apply transportation modeling to other situations.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

25. While using the stepping stone method, if the improvement indices for all unoccupied cells are positive, then the improved solution is \_\_\_\_\_\_.

a. optimal

b. feasible

c. erroneous

d. nondegenerate

Ans: A

Cognitive Domain: Application (Apply)

Learning Objective: B-2. Apply transportation modeling to other situations.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Application of knowledge (able to translate knowledge of business and management into practice)

26. Which of the following is true about the northwest corner rule?

a. It generates neither feasible solutions nor optimum least-cost solutions.

b. It generates both feasible solutions and optimum least-cost solutions.

c. It generates feasible solutions but not necessarily optimum least-cost solutions.

d. It generates optimum least-cost solutions but not necessarily feasible solutions.

Ans: C

Cognitive Domain: Comprehension (Understand)

Learning Objective: B-2. Apply transportation modeling to other situations.

Answer Location: Formulating and Solving the Transportation Problem

Difficulty Level: Medium

AACSB: Economic, political, regulatory, legal, technological, and social contexts of organizations in a global society

27. If, in a transportation problem, the total number of units demanded is equal to the total number of supply units available, the transportation problem is then described as \_\_\_\_\_\_.

a. balanced

b. degenerate

c. unbalanced

d. feasible

Ans: A

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Key Terms

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

28. \_\_\_\_\_\_ refers to a condition that occurs when the solution to a transportation problem has occupied routes (cells) that are less than the (number of origins + the number of destinations – 1).

a. Balanced transportation problem

b. Degeneracy

c. Dummy demand destinations

d. Dummy supply sources

Ans: B

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Key Terms

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

29. \_\_\_\_\_\_ refers to a fictitious demand destination created to arrive at a balanced transportation problem (i.e., total demand = total supply).

a. Balanced transportation problem

b. Degeneracy

c. Dummy demand destinations

d. Dummy supply sources

Ans: C

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Key Terms

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

30. \_\_\_\_\_\_ refers to a fictitious supply source created to arrive at a balanced transportation problem (i.e., total demand = total supply).

a. Balanced transportation problem

b. Degeneracy

c. Dummy demand destinations

d. Dummy supply sources

Ans: D

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Key Terms

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

31. The \_\_\_\_\_\_ is a special case of linear programming problems in which the objective is to minimize the total cost of transporting goods from the various supply origins to the different demand destinations.

a. transportation model

b. integer programming

c. warehousing problem

d. workforce scheduling model

Ans: A

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Key Terms

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

32. \_\_\_\_\_\_ refers to a problem in which the total number of supply units available is greater than the demand requirements, or vice versa.

a. An unbalanced transportation problem

b. An integer programming problem

c. A warehousing problem

d. A network problem

Ans: A

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Key Terms

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

33. We can use the matrix least cost method to solve transportation problems. In this method, an initial feasible solution to the transportation problem is obtained by \_\_\_\_\_\_.

a. allocating shipments ending with the route that has the lowest unit cost of transportation

b. allocating shipments beginning with the route that has the lowest unit cost of transportation

c. allocating shipments beginning with the route that has the highest unit cost of transportation

d. allocating shipments ending with the route that has the highest unit cost of transportation

Ans: B

Cognitive Domain: Knowledge (Remember)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Key Terms

Difficulty Level: Medium

AACSB: Systems and processes in organizations, including planning and design, production/operations, supply chains, marketing, and distribution

34. The matrix least cost method to solve transportation problems has several advantages. Which of the following is NOT one of them?

a. The matrix least cost method has better rationale than the northwest corner rule.

b. The matrix least cost method is less appealing than the northwest corner method.

c. The matrix least cost method reduces the number of computations required to determine the optimal solution.

d. The matrix least cost method reduces the time required to determine the optimal solution.

Ans: B

Cognitive Domain: Comprehension (Understand)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Key Terms

Difficulty Level: Medium

AACSB: Economic, political, regulatory, legal, technological, and social contexts of organizations in a global society

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | *Shipping Costs for ACME Widgets, Inc.* | | | | |
|  |  | *Markets* | | |  |
|  | To From | Huntsville | Visalia | Dayton | Production Capacity |
| Plants | Montgomery | $1 | $2 | $3 | 5,500 |
| Riverside | $4 | $5 | $6 | 6,500 |
| Bryan | $7 | $8 | $9 | 2,000 |
| Demand requirement | 5,000 | 6,000 | 3,000 |  |

35. Refer to the data given in the table for Acme Widgets, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal to (=) sign in the Excel Solver dialogue.) At the optimum solution, the total shipment of widgets from Bryan to Dayton is \_\_\_\_\_\_.

a. 2,000

b. 3,500

c. 4,500

d. 3,000

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

36. Refer to the data given in the table for Acme Widgets, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal to (=) sign in the Excel Solver dialogue.) At the optimum solution, the shipment of widgets from Riverside to Huntsville is \_\_\_\_\_\_.

a. 2,500

b. 4,200

c. 4,500

d. 5,000

Ans: D

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

37. Refer to the data given in the table for Acme Widgets, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal to (=) sign in the Excel Solver dialogue.) At the optimum solution, the total production at Montgomery is \_\_\_\_\_\_.

a. 2,500

b. 3,500

c. 4,500

d. 5,500

Ans: D

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

38. Refer to the data given in the table for Acme Widgets, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal to (=) sign in the Excel Solver dialogue.) At the optimum solution, the shipment from Montgomery to Huntsville is \_\_\_\_\_\_.

a. 0

b. 3,500

c. 4,500

d. 5,500

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

39. Refer to the data given in the table for Acme Widgets, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal to (=) sign in the Excel Solver dialogue.) At the optimum solution, the highest transportation costs are from \_\_\_\_\_\_.

a. Riverside to Visalia

b. Bryan to Dayton

c. Montgomery to Visalia

d. Riverside to Huntsville

Ans: D

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

40. Refer to the data given in the table for Acme Widgets, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal to (=) sign in the Excel Solver dialogue.) At the optimum solution, the total transportation costs are \_\_\_\_\_\_.

a. $57,500

b. $35,000

c. $48,900

d. $68,125

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

41. Refer to the data given in the table for Acme Widgets, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal to (=) sign in the Excel Solver dialogue.) At the optimum solution, the lowest non-zero quantity shipped is from \_\_\_\_\_\_.

a. Montgomery to Visalia

b. Riverside to Visalia

c. Montgomery to Dayton

d. Bryan to Huntsville

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

42. Refer to the data given in the table for Acme Widgets, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal to (=) sign in the Excel Solver dialogue.) At the optimum solution, the lowest non-zero transportation costs are from \_\_\_\_\_\_.

a. Montgomery to Visalia

b. Riverside to Visalia

c. Montgomery to Dayton

d. Bryan to Huntsville

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | *Production + Shipping Costs for Auto Parts, Inc.* | | | | |
|  |  | *Markets* | | |  |
|  | To From | Paris | Amsterdam | Naples | Production Capacity |
| Plants | Bangkok | $38.04 | $65.52 | $24.60 | 3,500 |
| Tokyo | $42.14 | $42.67 | $52.16 | 7,200 |
| Kolkata | $77.31 | $29.80 | $23.40 | 1,800 |
|  | Demand requirement | 3,800 | 2,900 | 5,800 | 12,500 |

43. Refer to the data given for production and shipping costs for Auto Parts, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the lowest non-zero costs are from \_\_\_\_\_\_.

a. Tokyo to Naples

b. Tokyo to Paris

c. Kolkata to Naples

d. Bangkok to Naples

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

44. Refer to the data given for production and shipping costs for Auto Parts, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the total costs are \_\_\_\_\_\_.

a. $283,475

b. $438,175

c. $356,787

d. $523,412

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

45. Refer to the data given for production and shipping costs for Auto Parts, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the costs for production and shipping from Kolkata to Naples is \_\_\_\_\_\_.

a. $42,120

b. $26,080

c. $123,743

d. $160,132

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

46. Refer to the data given for production and shipping costs for Auto Parts, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the costs for production and shipping from Tokyo to Naples is \_\_\_\_\_\_.

a. $42,120

b. $26,080

c. $123,743

d. $160,132

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

47. Refer to the data given for production and shipping costs for Auto Parts, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the costs for production and shipping from Tokyo to Amsterdam is \_\_\_\_\_\_.

a. $42,120

b. $26,080

c. $123,743

d. $160,132

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

48. Refer to the data given for production and shipping costs for Auto Parts, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the costs for production and shipping from Bangkok to Naples are \_\_\_\_\_\_.

a. $42,120

b. $86,100

c. $123,743

d. $160,132

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

49. Refer to the data given for production and shipping costs for Auto Parts, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, demand in which market can be met only by producing in all three production areas?

a. Naples

b. Paris

c. Amsterdam

d. both Naples and Paris

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

50. Refer to the data given for production and shipping costs for Auto Parts, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the production area is shipping to all three markets?

a. Bangkok

b. Kolkata

c. Tokyo

d. none of these

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

51. Refer to the data given for production and shipping costs for Auto Parts, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Tokyo to Naples is \_\_\_\_\_\_.

a. 500

b. 1,200

c. 3,500

d. 4,850

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

52. Refer to the data given for production and shipping costs for Auto Parts, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Tokyo to all three markets is \_\_\_\_\_\_.

a. 7,200

b. 4,850

c. 3,500

d. 2,475

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

53. Refer to the data given for production and shipping costs for Auto Parts, Inc. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The number of units shipped from Kolkata to Naples is one fourth of the total quantity produced by Tokyo.

b. The Naples market requires more than can be produced by Tokyo alone.

c. The quantity shipped from Tokyo to Naples is equal to the quantity shipped from Bangkok to Naples.

d. The cost of producing/shipping from Tokyo to Naples is more than the cost of producing/shipping from Kolkata to Naples.

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | *Shipping Costs for The Terra Cotta Company* | | | | | |  |  |
|  |  | *Markets* | | | | | |  | *Production Capacity* |
|  |  | Kalamazoo | Lakeland | Madison | Navarre | Sacramento | Winston |  |  |
| Plants | Aberdeen | $3.38 | $3.39 | $3.30 | $3.12 | $3.47 | $3.60 |  | 6,400 |
| Birmingham | $3.25 | $3.45 | $3.10 | $3.20 | $3.62 | $3.33 |  | 6,100 |
| Brighton | $3.37 | $3.92 | $3.19 | $3.01 | $3.36 | $3.78 |  | 7,200 |
| Cairo | $3.02 | $3.18 | $3.07 | $3.57 | $2.79 | $3.65 |  | 8,900 |
| Danbury | $3.11 | $2.91 | $3.42 | $3.34 | $3.12 | $3.04 |  | 8,000 |
| Escondido | $3.03 | $3.59 | $3.20 | $3.45 | $3.10 | $3.09 |  | 7,000 |
| Fairview | $3.32 | $3.15 | $3.27 | $2.90 | $2.93 | $2.87 |  | 6,400 |
|  |  |  |  |  |  |  |  |  |  |
|  | Demand | 8,300 | 8,500 | 9,100 | 7,700 | 6,600 | 9,800 |  |  |

54. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Aberdeen to Kalamazoo are $8,112.

b. The shipping costs from Aberdeen to Kalamazoo are $1,695.

c. The shipping costs from Danbury to Navarre are $6,946.

d. The shipping costs from Danbury to Navarre are $10,908.

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

55. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Aberdeen to Kalamazoo are $10,920.

b. The shipping costs from Aberdeen to Kalamazoo are $1,695.

c. The shipping costs from Escondido to Winston are $10,506.

d. The shipping costs from Danbury to Navarre are $10,908.

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

56. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Aberdeen to Kalamazoo are $10,920.

b. The shipping costs from Cairo to Kalamazoo are $6,946.

c. The shipping costs from Escondido to Winston are $10,606.

d. The shipping costs from Danbury to Navarre are $10,908.

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

57. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Aberdeen to Kalamazoo are $5,920.

b. The shipping costs from Cairo to Kalamazoo are $5,920.

c. The shipping costs from Aberdeen to Navarre are $1,560.

d. The shipping costs from Danbury to Navarre are $1,560.

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

58. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Danbury to Lakeland are $10,908.

b. The shipping costs from Aberdeen to Lakeland are $1,695.

c. The shipping costs from Aberdeen to Madison are $18,414.

d. The shipping costs from Fairview to Madison are $18,414.

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

59. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Escondido to Kalamazoo are $10,908.

b. The shipping costs from Aberdeen to Lakeland are $1,685.

c. The shipping costs from Aberdeen to Madison are $18,414.

d. The shipping costs from Fairview to Madison are $18,414.

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

60. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Danbury to Lakeland are $23,280.

b. The shipping costs from Aberdeen to Lakeland are $1,795.

c. The shipping costs from Aberdeen to Madison are $18,414.

d. The shipping costs from Fairview to Madison are $18,414.

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

61. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Danbury to Lakeland are $2,418.

b. The shipping costs from Aberdeen to Lakeland are $1,795.

c. The shipping costs from Birmingham to Madison are $18,910.

d. The shipping costs from Fairview to Madison are $18,414.

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

62. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Danbury to Lakeland are $2,418.

b. The shipping costs from Aberdeen to Lakeland are $1,795.

c. The shipping costs from Brighton to Madison are $0.

d. The shipping costs from Fairview to Madison are $18,414.

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013.)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

63. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Brighton to Navarre are $21,672.

b. The shipping costs from Cairo to Navarre are $5,580.

c. The shipping costs from Cairo to Sacramento are $9,570.

d. The shipping costs from Fairview to Madison are $18,414.

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

64. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Brighton to Navarre are $12,462.

b. The shipping costs from Cairo to Navarre are $5,580.

c. The shipping costs from Cairo to Sacramento are $18,414.

d. The shipping costs from Fairview to Madison are $18,414.

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

65. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping costs from Brighton to Navarre are $12,462.

b. The shipping costs from Fairview to Winston are $18,368.

c. The shipping costs from Cairo to Sacramento are $2,244.

d. The shipping costs from Fairview to Madison are $18,414.

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

66. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping cost from all plants to Kalamazoo is $25,966.

b. The shipping cost from all plants to Lakeland is $17,000.

c. The shipping cost from all plants to Madison is $23,225.

d. The shipping cost from all plants to Winston is $21,123.

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

67. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping cost from all plants to Kalamazoo is $15,656.

b. The shipping cost from all plants to Lakeland is $24,975.

c. The shipping cost from all plants to Madison is $23,225.

d. The shipping cost from all plants to Winston is $21,123.

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

68. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping cost from all plants to Kalamazoo is $15,656.

b. The shipping cost from all plants to Lakeland is $14,280.

c. The shipping cost from all plants to Madison is $28,810.

d. The shipping cost from all plants to Winston is $21,123.

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

69. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The shipping cost from all plants to Kalamazoo is $15,656.

b. The shipping cost from all plants to Lakeland is $14,280.

c. The shipping cost from all plants to Madison is $18,345.

d. The shipping cost from all plants to Winston is $28,874.

Ans: D

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

70. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The lowest non-zero shipment is from Aberdeen to Lakeland.

b. The lowest non-zero shipment is from Birmingham to Kalamazoo.

c. The lowest non-zero shipment is from Cairo to Winston.

d. The lowest non-zero shipment is from Fairview to Navarre.

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

71. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The quantity shipped from Danbury to Navarre is more than the quantity shipped from Cairo to Kalamazoo.

b. The quantity shipped from Escondido to Kalamazoo is more than the quantity shipped from Cairo to Kalamazoo.

c. The quantity shipped from Birmingham to Madison is less than the quantity shipped from Brighton to Madison.

d. The quantity shipped from Escondido to Winston is less than the quantity shipped from Danbury to Sacramento.

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

72. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, which of the following statements is true?

a. The quantity shipped from Birmingham to Madison is more than double the quantity shipped from Brighton to Madison.

b. The quantity shipped from Danbury to Navarre is more than the quantity shipped from Cairo to Kalamazoo.

c. The quantity shipped from Birmingham to Madison is less than the quantity shipped from Brighton to Madison.

d. The quantity shipped from Escondido to Winston is less than the quantity shipped from Danbury to Sacramento.

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

73. Refer to the shipping costs for The Terra Cotta Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the total shipping costs are approximately \_\_\_\_\_\_.

a. $150,000

b. $950,000

c. $215,000

d. $425,000

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | *Shipping Costs (per unit) for The Allied Motors Company* | | | | | |  |  |
|  |  | *Markets* | | | | | |  | *Production Capacity (units)* |
|  |  | Mobile | Newark | Norfolk | Richmond | Saginaw | Shreveport |  |  |
| Plants | Bloomington | $2.45 | $5.59 | $5.21 | $3.93 | $0.35 | $0.33 |  | 627 |
| Chattanooga | $5.05 | $2.88 | $2.69 | $2.62 | $2.82 | $1.05 |  | 462 |
| Downey | $3.05 | $2.47 | $1.54 | $1.82 | $1.45 | $0.49 |  | 787 |
| Green Bay | $3.99 | $3.09 | $4.76 | $0.46 | $1.26 | $0.22 |  | 586 |
| Hampton | $3.60 | $0.19 | $0.11 | $0.10 | $1.42 | $2.66 |  | 591 |
| Knoxville | $1.02 | $1.31 | $2.64 | $0.86 | $4.15 | $0.92 |  | 592 |
| Lowell | $2.86 | $4.62 | $1.62 | $1.48 | $5.44 | $2.13 |  | 855 |
|  |  |  |  |  |  |  |  |  |  |
|  | Demand | 870 | 791 | 337 | 895 | 818 | 789 |  |  |

74. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the total shipping costs are approximately:

a. $2,321

b. $4,384

c. $3,310

d. $5,921

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

75. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the highest shipping costs are from \_\_\_\_\_\_.

a. Lowell to Shreveport

b. Lowell to Norfolk

c. Lowell to Mobile

d. Lowell to Richmond

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

76. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the lowest non-zero shipping costs are from \_\_\_\_\_\_.

a. Downey to Norfolk

b. Knoxville to Mobile

c. Bloomington to Norfolk

d. Chattanooga to Saginaw

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

77. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Knoxville to Mobile is \_\_\_\_\_\_.

a. 592

b. 617

c. 243

d. 433

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

78. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Downey to Norfolk is \_\_\_\_\_\_.

a. 69

b. 617

c. 243

d. 433

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

79. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Downey to Saginaw is \_\_\_\_\_\_.

a. 191

b. 617

c. 243

d. 433

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

80. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Downey to Shreveport is \_\_\_\_\_\_.

a. 527

b. 617

c. 243

d. 433

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

81. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Hampton to Newark is \_\_\_\_\_\_.

a. 527

b. 591

c. 243

d. 433

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

82. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Chattanooga to Newark is \_\_\_\_\_\_.

a. 527

b. 200

c. 243

d. 433

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

83. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Green Bay to Richmond is \_\_\_\_\_\_.

a. 527

b. 586

c. 243

d. 433

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

84. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Lowell to Mobile is \_\_\_\_\_\_.

a. 527

b. 278

c. 243

d. 433

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

85. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Lowell to Norfolk is \_\_\_\_\_\_.

a. 527

b. 268

c. 243

d. 433

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

86. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Lowell to Richmond is \_\_\_\_\_\_.

a. 527

b. 309

c. 243

d. 433

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

87. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Chattanooga to Shreveport is \_\_\_\_\_\_.

a. 527

b. 262

c. 243

d. 433

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

88. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the number of units shipped from Bloomington to Saginaw is \_\_\_\_\_\_.

a. 527

b. 627

c. 243

d. 433

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

89. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the cost of shipping from Lowell to all markets is approximately \_\_\_\_\_\_.

a. $1,399

b. $1,687

c. $969

d. $1,833

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

90. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the cost of shipping from Knoxville to all markets is approximately \_\_\_\_\_\_.

a. $604

b. $687

c. $969

d. $833

Ans: A

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

91. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the cost of shipping from Lowell to Mobile is approximately \_\_\_\_\_\_.

a. $604

b. $795

c. $969

d. $833

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

92. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the cost of shipping from Hampton to Newark is approximately \_\_\_\_\_\_.

a. $604

b. $795

c. $112

d. $833

Ans: C

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

93. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the cost of shipping from Chattanooga to Newark is approximately \_\_\_\_\_\_.

a. $893

b. $432

c. $672

d. $576

Ans: D

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

94. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the total cost of shipping from all plants to Newark is \_\_\_\_\_\_.

a. $893

b. $688

c. $672

d. $576

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

95. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the cost of shipping from Green Bay to Richmond is \_\_\_\_\_\_.

a. $893

b. $270

c. $672

d. $576

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

96. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the cost of shipping from Lowell to Norfolk is \_\_\_\_\_\_.

a. $893

b. $434

c. $672

d. $576

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

97. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the cost of shipping from Lowell to Richmond is \_\_\_\_\_\_.

a. $893

b. $457

c. $672

d. $576

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

98. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the total cost of shipping from all plants to Saginaw is \_\_\_\_\_\_.

a. $893

b. $496

c. $672

d. $576

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

99. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the total cost of shipping from all plants to Shreveport is \_\_\_\_\_\_.

a. $893

b. $533

c. $672

d. $576

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)

100. Refer to the Shipping Costs for The Allied Motors Company. Solve the transportation problem using Excel Solver. (Remember that in balanced transportation problems all constraints—except the non-negativity constraints of the decision variables—should be set as an equal-to (=) sign in the Excel Solver dialogue.) At the optimum solution, the total cost of shipping from Chattanooga to all markets is \_\_\_\_\_\_.

a. $893

b. $851

c. $672

d. $576

Ans: B

Cognitive Domain: Analysis (Analyze)

Learning Objective: B-1. Formulate and solve the transportation problems using both manual methods and the Excel Solver, and interpret the solutions.

Answer Location: Solving Transportation Problems Using Excel (Version 2013)

Difficulty Level: Medium

AACSB: Analytical thinking (able to analyze and frame problems)