Anderson, Sweeney, Williams, Wisniewksi: An Introduction to Management Science Chapters 1-3



Across

- **3** '____ price' is the change in the value of the objective function per unit increase in the right-hand side of a constraint. (4)
- **5** A set of observations of a variable measured at successive points in time or over successive periods of time. (4,6)
- 8 A '_____ solution' is one that satisfies all the constraints. (8)
- **9** An abstract representation of a real object or situation. (5)
- 12 In mathematical programming a ______constraint is one that does pass through the optimal solution and therefore

does not bind, or restrict, the solution from improving further. (3-7)

14 '_____ constraints': are a set of constraints that requires all variables to be nonnegative. (3-10)

Down

- 1 Numerical values that appear in the mathematical relationships of a model. (10)
- 2 The _____ point is the volume at which total revenue equals total cost. (9)

- 4 A '_____ variable' is a controllable value for a linear programming model. (8)
- 6 The situation in which no solution to the problem satisfies all the constraints. (13)
- 7 A'_____variable' is added to the left-hand side of a less-than-orequal-to constraint to convert the constraint into an equality. The value of this variable can usually be interpreted as the amount of unused resource. (5)
- **10** A restriction or limitation imposed on a problem. In a mathematical programming model a mathematical

relationship that imposes a restriction on possible solutions to the problem. (10)

- 11 If the value of the solution may be made infinitely large in a maximization linear programming problem or infinitely small in a minimization problem without violating any of the constraints, the problem is said to be _____. (9)
- 13 A _____ cost is one that is not affected by the decision made. It will be incurred no matter what values the decision variables assume. (4)