

# A RANDOM SAMPLE OF PAPERS

[2012 Dirty Dozen Contest Puzzles \(pdf file\)](#)

[2011 Dirty Dozen Contest Puzzles \(pdf file\)](#)

[2010 Dirty Dozen Contest Puzzles \(pdf file\)](#)

[2009 Dirty Dozen Contest Puzzles \(pdf file\)](#)

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[The Cosine Simplex Algorithm \(pdf file\)](#)

[Mathematical Programming Models For Some Smallest-World Problems \(pdf file\)](#)

[Optimality Conditions for Maximations of Set-Valued Functions \(pdf file\)](#)

[A Fuzzy Decision Model for Color Reproduction \(pdf file\)](#)

[Most Vital Links and Nodes in Weighted Networks \(pdf file\)](#)

[Optimization of n-Set Functions \(pdf file\)](#)

[A New Family of Recursive Power-Series Distributions \(pdf file\)](#)

[A Fuzzy Neural Architecture for Customer Satisfaction Assessment \(pdf file\)](#)

[Some Hybrid Fixed Point Theorems Related to Optimization \(pdf file\)](#)

[Games with Vector Payoffs \(pdf file\)](#)

[Some Multiple Objective Dynamic Programs \(pdf file\)](#)

[A Generalized Bottleneck Assignment Problem \(pdf file\)](#)

[Multivariate Order Statistics \(pdf file\)](#)

[Minimax Trees, Paths, and Cut Sets \(pdf file\)](#)

[Shortest Paths in Networks with Vector Payoffs \(pdf file\)](#)

[On Optimality Conditions for Maximations with Respect to Cones \(pdf file\)](#)

[The Convolved Fibonacci Equation \(pdf file\)](#)

[Duality Theory for the Matrix Linear Programming Problem \(pdf file\)](#)

[Efficient Spanning Trees \(pdf file\)](#)

[Existence and Lagrangian Duality for Maximizations of Set-Valued Functions \(pdf file\)](#)

[Finding the n Most Vital Nodes in a Flow Network \(pdf file\)](#)

[Duality Theory for Maximations with Respect to Cones \(pdf file\)](#)

[A Partitioning Problem in Regional Design \(pdf file\)](#)

[Duality Relationships for a Partitioning Problem \(pdf file\)](#)

[A Mathematical Programming Approach to the Design of Composite Aircraft Wing Design \(pdf file\)](#)

[Some Zen Error Messages \(pdf file\)](#) ☺

**Optimal k-Cuts in Graphs (abstract only)** : A polynomial algorithm is developed for partitioning a weighted planar graph into k components containing specified vertices such that the total weight between components is minimized.

**A Generalization of the Max Flow - Min Cut Theorem (abstract only)**: A generalization of the max flow - min cut is proved for a network partitioned into k components instead of two.

**A Markov Birth-Death Model of Early Breast Cancer (abstract only):** The progression of early breast cancer is modeled as a Markov birth-death process with Gompertzian kinetics. A computer program is then developed for selecting an optimal treatment maximizing expected patient survival time.

**Capital Budgeting Games (abstract only):** The capital budgeting problem is modeled as a game that is shown to have a nonempty core. Game theory is then used to determine a fair distribution of the yield.

**The Wandering Salesman Problem (abstract only):** A network combinatorial optimization problem called The Wandering Salesman Problem (WASP) is formulated. The problem involves selecting a path through a network that has known probabilities of failure associated with the nodes. The objective is to minimize the overall probability of failure subject to a distance constraint. The problem is shown to be NP-Complete and then solved by branch and bound, as well as a "greedy" heuristic.

**An Axiomatic Approach to a New Family of Game-Theoretic Values (abstract only):** A family of values for n-person cooperative games is developed from a bargaining viewpoint. These values generalize standard values such as the Shapley and Banzhaf values.

**Generalized Optimization Criteria (abstract only):** The notion of a general optimization criterion is defined axiomatically and some properties established. Some new criteria satisfying the definition are then developed and applications given.

**Constrained Optimal Selection Techniques (COSTS) for Nonnegative Linear Programming Problems:** A new technique for solving linear programming problems is described that utilizes only those constraints likely to be satisfied at optimality. Computational results for a set of large-scale linear programs are presented in which both the number of computations and the processing times are less than for existing algorithms.

**New Non-Nash Equilibria for Noncooperative Games:** A new equilibrium embodying an intrinsic cooperative aspect is developed for noncooperative games. It addresses some well-known issues in game theory. For example, in contrast to the Nash equilibrium, it provides one-time sensible solutions for Prisoner's Dilemma and the Chicken Game agreeing with experimental results. Existence of the new equilibrium is established, its implications are discussed, and applications are presented.