

# Delightful Puzzles

Easy	Moderate	Difficult
Chameleons	Four Ships	Red Card
Pebble Piles	Cap Colors	My Cap Color
Rope Escape	$f(f(x)) = -x$	Twelve Coins
Cake Cutting	Card Shuffling	Grid Infection
Fox in a Hole	Average Salary	Find the Angle
Cube Cutting	Forks in a Road	Five Card Trick
Ant Collisions	Duplicate Integer	Sum and Product
Ant in a Room	Bigger or Smaller	Fast Bit Counting
Coins in a Row	Measuring Weights	Empty the Bucket
Cube Problems	Working Computer	Balanced Coloring
Truchet Tilings	Tiling With Calissons	Horses on Auction
Treasure Island	Loop in a Linked List	Polya's Urn Process
Six Colored Balls	Perplexing Polynomial	Flipping Bits in a Matrix
Josephus Problem	Poisoned Wine Barrels	Rectangle with Integral Side
Forty-Five Minutes	Two Eggs and a Building	100 Prisoners and 100 Boxes
Thousand Prisoners	Number Guessing Game	Firing Squad Synchronization
Non-Transitive Dice	Cutting a Cake with Icing	Tumblers on a Rotating Table
Blind Man and Cards	Number Guessing Game II	Geometry With Only a Compass
Breaking a Chocolate	Cube Cutting with Stacking	Dijkstra's Self-Stabilization Protocol
Three Boxes and a Ruby	100 Prisoners and a Light Bulb	Three NOT Gates from Two NOT Gates
Absent-Minded Professor	What's the Number on My Hat?	
Color of My Probabilistic Hat	Tiling a Chessboard with Dominoes	
Kirkman's Schoolgirl Problem	Fuel Dumps on a Circular Racetrack	
Three Boxes with Two Balls Each	Four Points, Two Distinct Distances	
Divide 100 Marbles into Two Piles	Tiling a Chessboard with Trominoes	
Three Heavy and Three Light Balls		
Tossing with One-Third Probability		

## Links to Puzzle Sites

The [Puzzle Toad](#) at CMU has challenging puzzles. [William Wu's Puzzles Page](#) at Berkeley has myriad puzzles with a discussion board. [Cut the Knot](#) has dozens of high quality articles on mathematics, puzzles and games. [Puzzles](#) by Erich Friedman has cute puzzles; he also maintains [Math Magic](#), [Erich's Packing Center](#) and [Ambigrams](#). Archives of [Ed Pegg Jr's Math Games](#) in MAA make interesting reading. [Age of Puzzles](#) is a nicely done website with classic puzzles, diagrams and references. [Sam Lloyd website](#): A few of his puzzles have tastefully been compiled at this website. [SOMA cube](#) has dozens of SOMA cube configurations. List of [books by Martin Gardner](#). Select puzzles for high school students: [SNAP Math Fair](#). Another small [collection](#). A nice collection of problems at [mathproblems.info](#). Another [collection of puzzles](#). Yet another collection by [Tanya Khovanova](#). Some problems by [Mihai Pătraşcu](#). Several ingenious puzzles at [MathOverflow.Net](#). [Prisoner and Hat Puzzles](#). Surprises! Surprises! Surprises!. [MSRI Archives](#) (puzzles in each newsletter). Nice [C Puzzles](#) by Gowri Kumar. [Interesting articles on various problems](#).