

G4G8 Exchange Book - Vol 1

Physical Exchanges

A visual listing of the gift bag exchanges

Math Art	2
Magic	4
Math	5
Novelty	5
Puzzles	6
Special Interest	9

Exchange Papers

Mathematics and Art 12

One Hundred Seventy-Eight Cuts And Some Glue	12
<i>Wayne Daniel</i>	
John H. Conway	13
<i>John dePillis</i>	
Polystring Transformahedron	14
<i>Dick Esterle</i>	
Screw-Together Cube	18
<i>George W. Hart</i>	
Hybrid Unit	19
<i>Thomas Hull</i>	
The 7 Curve	21
<i>Douglas McKenna</i>	
Conformal Mappings and Photography	23
<i>Sébastien Pérez-Duarte</i>	
The Ribbed Sculptures	26
<i>Charles Perry</i>	
“We Have Died and Gone to Möbius Heaven”	34
<i>Cliff Pickover and Teja Krašek</i>	
A Photo-Mosaic Using the Covers of Martin Gardner’s Books	35
<i>Dana Richards</i>	

Harmonic Cre-8-ivity	36
<i>Hal Robinson</i>	
Art and Math Behind and Beyond the 8-fold Way	41
<i>Carlo H. Séquin</i>	
Games	47
A g4-g8 chess conundrum	47
<i>George Bell</i>	
Tours with Specified Stopping Points	49
<i>Harold Cataquet</i>	
Sudokuniqueness	52
<i>Barry Cipra</i>	
Octahedral Dice	56
<i>Todd Estroff</i>	
If two were three, what would Hex be?	58
<i>Alex Fink</i>	
The Four Deuces Problem	68
<i>Gary Foshee</i>	
Higher-Dimensional Word Squares	70
<i>Ronnie Kon</i>	
Beehive	87
<i>John Rausch</i>	
Inductive Logic Games	92
<i>Jay Schindler</i>	
7 ³ Tic-Tac-Toe is a Draw	94
<i>Rich Schroepel</i>	
Board Game Studies Colloquium XI	106
<i>Jorge Nuno Silva</i>	
Eight Chessboard Tales	108
<i>John J. Watkins</i>	
Magic	112
Double Birthday Magic Square	112
<i>Arthur Benjamin</i>	
Coin-Flipping Magic	114
<i>Erik D. Demaine and Martin L. Demaine</i>	

The Magic Ocahedron	126
<i>Jeremiah Farrell</i>	
Magic as a Major	129
<i>Jordini</i>	
A Magic Trick with Eight Coins	131
<i>Andy Liu</i>	
Magic with a Matrix	134
<i>Judith Morrel</i>	
His Genetic Evolution - One to Eight Inclusive (The g4g8 Bracelet)	136
<i>"Card Colm" Mulcahy</i>	
An Amazing Mathematical Trick with Cards	140
<i>Tanya Thompson</i>	
Noah's ARK (TWO BY TWO)	141
<i>Ronald A Wohl (aka Ravelli)</i>	
A Magic Trick with Eight Wizards	143
<i>Jonathan Zung</i>	
Mathematics	146
Sam Loyd's Courier Problem: Diophantus and Pythagoras, Martin Gardner and Owen O'Shea	146
<i>Lowell Beineke</i>	
Multiply Intransitive Dice	151
<i>Elwyn Berlekamp, Joe Buhler and Ron Graham</i>	
Some New, Some Old: Calendar Tricks and Equillibria	154
<i>Fernando Blasco</i>	
Polygons and Powers of 2: A Pathway to Some Curious Trigonometric Identities	157
<i>Richard D. Dunlap</i>	
The Self-Proclaimed "King of Logarithms"	161
<i>Lacey Echols</i>	
The Adventure of the Square	165
<i>Michele Emmer</i>	
The Set of Magnecurves and Their Progeney, in Unimode, Multimode, etc.	174
<i>Douglas A. Engel</i>	
Hyperseeing and Hypersculptures: Giant Steps by Charles Ginnever	180
<i>Nat Friedman</i>	
The Cartographer's Nightmare	188
<i>Andrea Gilbert</i>	

Some Simple Tests for Divisibility	191
<i>Solomon W. Golomb</i>	
A Problem and a Recipe	197
<i>Jim Henle</i>	
G4G8 Tiling Problem	201
<i>Dan Hirschberg</i>	
Discovery of Interesting Properties of 4000-Year Old Pythagorean Triples. Systematic Classification and Construction	202
<i>Haruo Hosoya</i>	
Cellular Automata and Plane Tilings	206
<i>Lyman Hurd</i>	
Tricky Solutions for Integrals with Crazy Lazy Eight	210
<i>Hirokazu Iwasawa</i>	
Number Gossip	215
<i>Tanya Khovanova</i>	
Exercises (gedanken and otherwise) with Dominoes	221
<i>Ken Knowlton</i>	
PHYSICAL MATHEMATICS?	225
<i>Mogens Esrom Larsen</i>	
What should Mathematicians Learn from Magicians?	239
<i>Doron Levy</i>	
Soap Bubbles and Local Hidden Variables?	243
<i>Shannon G. Lieb</i>	
‘Spelling’-Like Trick Generator	246
<i>Erez Lieberman</i>	
Cube Mentalism	247
<i>Ivan Moscovich</i>	
The Eight Monarchs	252
<i>Eric Nelson</i>	
A New Type of Transformation from 4D to 3D and some 3D Designs	254
<i>Tohru Ogawa</i>	
Stop Sign Theorems	258
<i>Jean Pedersen</i>	
The Eight Rotors Puzzle	260
<i>Jim Propp</i>	
Favorite Math Related “Bar Bets” (or How to Win Free Drinks Using Geometry)	271

<i>John S. Railing</i>	
THE ELEMENTS OF EUCLID: Book One designed by Bruce Rogers	275
<i>Peter Renz</i>	
Iso-Areametrics in the Classroom	276
<i>Gwen Roberts</i>	
Charles Babbage's Early Machine Flow Notation, 1847	280
<i>Dave Rossetti</i>	
Non-convex polyhedron with congruent triangle faces	284
<i>Alan Schoen</i>	
Eight Hateful Sequences	285
<i>N. J. A. Sloane</i>	
D4D8 for G4G8	290
<i>Al Stanger</i>	
The Strange Case of the Seven-color Torus	294
<i>Julie Sussman</i>	
The STENOGRAPHIC Affine Plane	295
<i>Oscar Thumpbindle</i>	
Gray-code Expansion of Real Numbers and Continuously-Changing Infinite Sequences	297
<i>Hideki Tsuiki</i>	
Eight Surprising Mathematical Facts	301
<i>Ravi Vakil</i>	
Digital Challenges	305
<i>Robert Wainwright</i>	

G4G8 Exchange Book - Vol 2

Novelties	1
A Two-State Flipping Magnetic Toy	1
<i>Chris Morgan</i>	
Puzzles	2
Consecomino Checkerboard Puzzle	2
<i>Les Barton</i>	
Name: Almost 8	3
<i>Saul Bobroff</i>	
Cube 8 Puzzle	5
<i>John Bottoms</i>	
A Pot Pourri	8
<i>Laurie Brokenshire</i>	
An 8-Cylinder Full House	13
<i>John Cowles</i>	
Martin Gardner Octagon	15
<i>Bill Cutler</i>	
Eight Puzzles vaguely related to Eight	16
<i>James Dalgety</i>	
Six Pieces of Eight	20
<i>Tom Davis and Greg Whitehead</i>	
Doc's locks, some trick-locks from Dr. Hiren Shah's collection	21
<i>Frans de Vreugd</i>	
Fool's Eights	25
<i>David Dillon</i>	
Graeco-Latin Search	28
<i>Yossi Elran</i>	
The Asteroid Puzzle	31
<i>Karen Farrell</i>	
STEWART COFFIN'S CRYSTAL BLOCKS	34
<i>Bob Finn</i>	
Four Folding Puzzles	42
<i>Greg N. Frederickson</i>	

Deviating Ball Puzzles	46
<i>Markus Götz</i>	
Brainpleasers an educational project from Arabesk	49
<i>Jan Grashuis</i>	
Eight Problems	53
<i>Emrehan Halici</i>	
Crazy Eights	55
<i>Francis Heaney</i>	
Bob Henderson's Virtual G4G8 Exchange Puzzles	56
<i>Bob Henderson</i>	
MathDice Puzzles	57
<i>Dick Hess</i>	
The Locked House of Dr. Matrix	62
<i>Wei-Hwa Huang</i>	
Hamiltonian Cycle Puzzles	89
<i>Glenn A. Iba</i>	
MIMPSY - Mathematically Interesting Mechanical Puzzles Selected for Youth	93
<i>Stan Isaacs</i>	
Some Puzzles in Probability	98
<i>Hirokazu Iwasawa</i>	
The nosechat game: further adventures of the logicians	100
<i>Timo Jokitalo</i>	
Philosophy revisited: 8 Great Memes	106
<i>Kate Jones</i>	
The same puzzles which are seemingly different	110
<i>Yoshiyuki Kotani</i>	
Pentomino Battleships	116
<i>Mogens Esrom Larsen</i>	
8 Things to Consider When Making a Wooden Trick Box	122
<i>Kathleen Malcolmson</i>	
TEN TANTALISING TEASERS	125
<i>Chris Maslanka</i>	
Crossword Puzzle	129
<i>David Petrie Moulton</i>	
A TWO-FOR-ONE CROSSWORD	130
<i>Derrick Niederman</i>	

“AH-HA!” FOR G4G8	132
<i>Simon Nightingale</i>	
The Magic Octagon	135
<i>Thomas Rodgers</i>	
Oriels’s Cover-a-Cube	138
<i>Robert Sandfield</i>	
Thought-Provoking Sketchpad Puzzle Challenges For Young Learners	140
<i>Daniel Scher</i>	
Bandaged Circle Puzzles	145
<i>Jaap Scherphuis</i>	
Insanity? Absolutely!	147
<i>Les Shader</i>	
Bailey’s Hexameters	150
<i>Jeremiah Farrell and Al Shapiro presented by Al Shapiro</i>	
Notes on Fear of Thinking: Approaching a Multidimensional Puzzle	155
<i>Michael Sklaar</i>	
A Newly Found Booklet of Old Japanese Silhouette Puzzle Title	161
<i>Naoaki Takashima</i>	
Puzzle Food; Food for Thought?	168
<i>Rik van Grol</i>	
Puzzles with Holes	177
<i>William Waite</i>	
Sharing Eight Treasure Chests	181
<i>Hsin-Po (Bill) Wang</i>	
Special Interest	191
The Limits of Quantum	191
<i>Scott Aaronson</i>	
Applications of Vampires in law enforcement, health and elsewhere Title	199
<i>Adam Atkinson</i>	
An Ancient Eye Test-Using the 8 Stars of the Big Dipper	203
<i>George Bohigian MD</i>	
Paradoxes: Logical, Verbal, Mathematical, Magical, Scientific, Humorous	205
<i>Dr. Michael W. Ecker</i>	
HowToons	208
<i>Saul Griffith</i>	

Ballroom Dance and Mathematics	219
<i>Mayumi Miyake</i>	
My Talk at G4G8	221
<i>Raymond Smullyan</i>	
Juggling: Theory and Practice	226
<i>Colin Wright</i>	

G4G8 Appendix

A Window in Time - Thoughts from the 1st Gathering for Gardner	232
<i>Jeremiah Farrell</i>	
The science of fun	242
<i>Alex Bellos</i>	
Critical Point A gathering for Gardner	247
<i>Robert P. Crease</i>	
G4G8 Participants	248
<i>G4G8 Registrations</i>	
G4G8 Presentations	251
<i>Listing of presentations and speakers at G4G8</i>	
G4G8 Events and Entertainment	259
<i>Events at the Gathering</i>	
Exhibit Tables	260
<i>G4G Attendees who participated in the Exhibit Room.</i>	
Sales Tables	261

Forward

The following logos were designed for G4G8:



A participants pin was designed and will be given to all future attendees as well.

The submissions have been loosely grouped by category (sorry if I got it wrong), and are listed in order of the gift contributor's name - which is not necessarily the same as the author's name. The articles are in different formats which precluded room to add titles and contributor's name, so please use the Table of Contents.

