New York Math Circle April 27, 2015

Math and Dinner: A Potpourri of Delightful Mathematical Curiosities

Game of 24 (http://www.24game.com)

#	Digits	#	Digits
1	6491	14	7509
2	7628	15	2400
3	7581	16	1722
4	1977	17	5849
5	8486	18	6338
6	1369	19	3150
7	7322	20	2151
8	3867	21	4059
9	5857	22	6310
10	4866		
11	3818	HW	3338
12	2605	HW	1346
13	5037	HW	1555

License plate games:

1. Game of 24
   - Use +, -, *, /
   - Use exponents, roots, floor and ceiling functions
   - Zero is a wild card: it can represent 0 or any other digit on the license plate
2. Bus Stop 24 Game
3. Addition and subtraction
4. Divisibility tests

Set Game at http://setgame.com

"99" Card Game

(Similar to UNO) Each player draws four cards and the rest of the cards are stacked the middle of the table. Players take turns putting down one card and drawing the next card from the deck. A sum is tracked and by putting down a card, this sum will increase or decrease according to the rules below. The player that cannot put down a card without going over 99 loses the game. The remaining players will continue to play until one winner is determined. When the center stack of cards runs low, the discarded cards can be reshuffled and added to the bottom of the stack. For a larger number of players, multiple decks of cards may be used.

Every card adds the positive value on its face with Ace = 1 and the following exceptions:

Special cards:

K: 99 10: +20 or – 10

Q: +20 or – 20 4: reverse

J: pass

"Arrange with 7s" Card Game

•Distribute all cards in a deck to the players

•Place the 7 of spade on the table (option: for an easier game, place all four 7s on the table)

•Start by taking turns and placing cards of the same suit in consecutive order, one card per player, or say, "pass" if no card can be used (variation: or "cover" a card)

•The first player to put down all cards wins (if cards are covered, then the player with the least covered card *sum* wins)

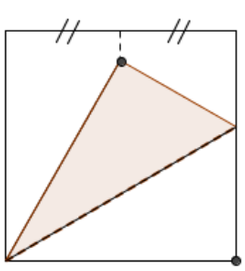
OrigamiUSA Convention 2015

https://origamiusa.org/news/convention-2015-june-19-22-manhattan-college

Two origami problems

Prove that each of the following folds produces the desired result.

Problem 1:
Trisecting a right angle



Problem 2:
Trisecting a side of a square