

Non-Transitive Bingo

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Gathering 4 Gardner 14

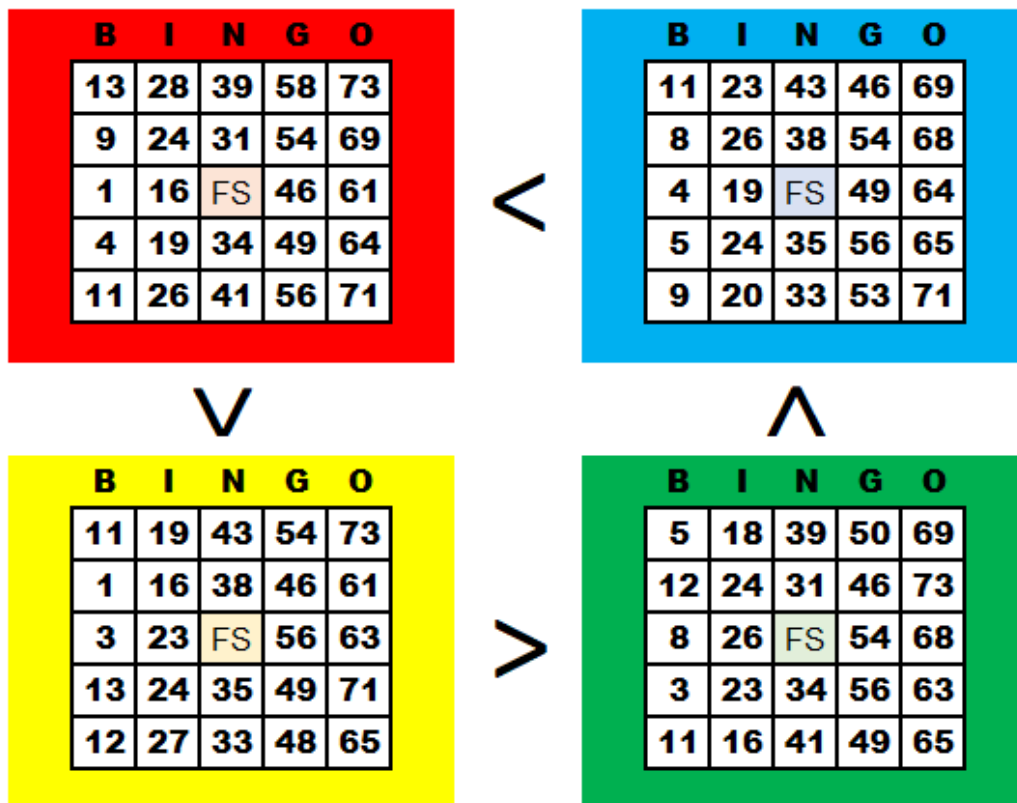
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In *Time Travel and Other Mathematical Bewilderments*, Martin Gardner introduced me to the amazing non-transitive mini bingo cards designed by Don Knuth. I was incredibly impressed, but always wished that the same trick could be applied to standard bingo.

So my G4G gift is a set of four non-transitive cards for standard bingo. The first player to get a straight line of five in any direction wins. The yellow card beats the green, green beats blue, blue beats red, and red beats yellow. As a mnemonic, always choose the card whose color has one more letter in its name than the card your opponent chooses, wrapping around when you reach yellow.

In each pairing, the dominant card wins **43.47%** of the time, loses **42.02%**, and ties **14.49%** of the time. Is a higher advantage possible?



B I N G O

13	28	39	58	73
9	24	31	54	69
1	16	Free Space	46	61
4	19	34	49	64
11	26	41	56	71

B I N G O

11	23	43	46	69
8	26	38	54	68
4	19	Free Space	49	64
5	24	35	56	65
9	20	33	53	71

B I N G O

5	18	39	50	69
12	24	31	46	73
8	26	Free Space	54	68
3	23	34	56	63
11	16	41	49	65

B I N G O

11	19	43	54	73
1	16	38	46	61
3	23	Free Space	56	63
13	24	35	49	71
12	27	33	48	65