

MAGIC SQUARES

Matt Parker

matt@standupmaths.com

	1	12	7
11	8		2
5	10	3	
4		6	9

$n-20$	1	12	7
11	8	$n-21$	2
5	10	3	$n-18$
4	$n-19$	6	9

1 2 6 8 2 4 4 2

7 6 2 1 6 2 2 3 2

2 8 2 4 1 2 6 4 2

multimagie.com

	<u>Magic squares of squares</u>	<u>Bimagic squares</u>	<u>Semi-magic squares of cubes</u>	<u>Magic squares of cubes</u>	<u>Add-mult magic squares</u>
2x2	Impossible				
3x3	Main enigma #1 (€1000)*	Impossible. Proved by E. Lucas, 1891	Main enigma #3 (€1000)	Impossible	Impossible. Proved by L. Morgenstern, 2007
4x4	L. Euler, 1770	Impossible. Proved by L. Pebody / J.-C. Rosa, 2004**	L. Morgenstern, 2006	Main enigma #4 (€1000)	
5x5	C. Boyer, 2004	Main enigma #2 (€1000)	C. Boyer, 2004	Small enigma #4a (€500)	Main enigma #6 (€1000)
6x6	C. Boyer, 2005	J. Wroblewski, 2006	L. Morgenstern, 2006	Small enigma #4b (€500)	Small enigma #6a (€500)
7x7	C. Boyer***, 2005	L. Morgenstern, 2006	Small enigma #3a T. Shirakawa, 2010	Small enigma #4c S. Miquel, 2015	Small enigma #6b (€200)
8x8	G. Pfeffermann***, 1890		L. Morgenstern, 2006	W. Trump, 2008	W. Horner, 1955
9x9	G. Pfeffermann***, 1891		L. Morgenstern - C. Boyer, 2006	C. Boyer***, 2006	W. Horner, 1952

multimagie.com

MAGIC SQUARES

Matt Parker

matt@standupmaths.com