Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
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Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums 21, 21^2 and 2021

W E L C O M E - 2021
Mathematical Style

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Abstract

*We know that we can always write **block-wise magic squares** of any order except for the orders of type p and $2p$, where p is a prime number. On the other hand we can always write **bordered magic squares** of any order. The aims of this work is to bring both **bordered** and **block-wise** magic squares. These **block-wise** and **block-bordered** magic squares are of orders 8 to 26. All these magic squares are with magic sums as 21, 21^2 and 2021. In some cases, such as of orders 8,9, 16 and 25 are also **bimagic** squares. In case of order 24 with the blocks of orders 3 and 8 the magics squares also turns **semi-bimagic** squares. This work is based on authors three paper [49, 50, 51]*

Contents

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1 Block-Wise and Block-Bordered Magic Squares

The author [38] wrote **bordered magic squares** for the general sum as a natural number n. Also in 2020, the author [39] wrote **bordered magic squares** of orders 3 to 25 with magic sum 2020. Based on this idea, recently author worked on **bordered magic squares** where magic sum is always 2021. The entries of magic squares are either fractional numbers or decimal numbers. These entries are positive and/or negative values to giving sum 2021. Some of the sub-magic squres sums lead us to **Pythagorean triples**. These are given for the **bordered magic squares** of even orders. This work brings **block-wise** and **block-bordered** magic squares of order 8 to 26 giving final sums of magic squares as 21, 21^2 and 2021. The magic squares of orders 8, 9, 12, 15, 16, 18, 20, 21, 24 and 25 are written as **block-wise**. In case of magic squares of orders 8, 9, 16 and 25 the magic squares are **bimagic**. The magic square of order for the blocks of orders 3 and 8 are also **semi-bimagic**. The magic squares of orders 10, 11, 13, 17, 19, 22 and 26 are written as **block-bordred** magic squares. These are based on **block-wise** magic squares written before. For example, the **block-bordered** magic squares of orders 10 is based on **block-wise** magic squares of orders 8. The **block-bordred** magic squares of orders 11 and 13 are based on **block-wise** magic square of order 9. The similar kind of processes goes on for the others orders magic squares. The subsections below give **block-wise** and **block-bordered** magic squares of orders 8 to 26. The whole work is based authors previous three works [49, 50, 51]

1.1 Block-Wise Magic Squares of Order 8

Below are **block-wise magic squares** of order 8 in two different ways giving magic sums as 21, 21^2 and 2021. The blocks are of orders 4. In first case, the blocks of order 4 are **pandiagonal** with equal magic sums. In the second case the block of order 2 as specified in the figure are of equal sums resulting in a **bimagic square** of order 8.

1.1.1 First Type

Below are block-wise construction of magic square of order 8 resulting in magic sums 21, 21^2 and 2021. The blocks of order 4 are **pandiagonal** magic squares with equal magic sums.

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pan	21	21	21	21	21	21	21	21
21	-0.875	10.125	-28.875	30.125	-8.875	18.125	-20.875	22.125	21
21	-25.875	27.125	2.125	7.125	-17.875	19.125	-5.875	15.125	21
21	34.125	-24.875	6.125	-4.875	26.125	-16.875	14.125	-12.875	21
21	3.125	-1.875	31.125	-21.875	11.125	-9.875	23.125	-13.875	21
21	0.125	9.125	-27.875	29.125	-7.875	17.125	-19.875	21.125	21
21	-26.875	28.125	1.125	8.125	-18.875	20.125	-6.875	16.125	21
21	33.125	-23.875	5.125	-3.875	25.125	-15.875	13.125	-11.875	21
	4.125	-2.875	32.125	-22.875	12.125	-10.875	24.125	-14.875	21
	21	21	21	21	21	21	21	21	21

pan	441	441	441	441	441	441	441	441
441	51.625	62.625	23.625	82.625	43.625	70.625	31.625	74.625	441
441	26.625	79.625	54.625	59.625	34.625	71.625	46.625	67.625	441
441	86.625	27.625	58.625	47.625	78.625	35.625	66.625	39.625	441
441	55.625	50.625	83.625	30.625	63.625	42.625	75.625	38.625	441
441	52.625	61.625	24.625	81.625	44.625	69.625	32.625	73.625	441
441	25.625	80.625	53.625	60.625	33.625	72.625	45.625	68.625	441
441	85.625	28.625	57.625	48.625	77.625	36.625	65.625	40.625	441
	56.625	49.625	84.625	29.625	64.625	41.625	76.625	37.625	441
	441	441	441	441	441	441	441	441	441

pan	2021	2021	2021	2021	2021	2021	2021	2021
2021	249.125	260.125	221.125	280.125	241.125	268.125	229.125	272.125	2021
2021	224.125	277.125	252.125	257.125	232.125	269.125	244.125	265.125	2021
2021	284.125	225.125	256.125	245.125	276.125	233.125	264.125	237.125	2021
2021	253.125	248.125	281.125	228.125	261.125	240.125	273.125	236.125	2021
2021	250.125	259.125	222.125	279.125	242.125	267.125	230.125	271.125	2021
2021	223.125	278.125	251.125	258.125	231.125	270.125	243.125	266.125	2021
2021	283.125	226.125	255.125	246.125	275.125	234.125	263.125	238.125	2021
	254.125	247.125	282.125	227.125	262.125	239.125	274.125	235.125	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the magic sums are given by

$$[S_{4\times 4} : S_{8\times 8} := 21] := 10.5$$

$$[S_{4\times 4} : S_{8\times 8} := 441] := 220.5$$

$$[S_{4\times 4} : S_{8\times 8} := 2021] := 1010.5.$$

1.1.2 Second Type

Below are block-wise construction of magic square of order 8 resulting in magic sums 21, 21^2 and 2021. The sum of blocks of 2×4 with equal sums same as of magic square resulting in **bimagic squares** of order 8.

pan	21	21	21	21	21	21	21	21
21	-13.875	11.125	6.125	-24.875	-2.875	32.125	25.125	-11.875	21
21	-3.875	33.125	24.125	-10.875	-16.875	14.125	3.125	-21.875	21
21	-28.875	10.125	15.125	-17.875	-7.875	21.125	28.125	1.125	21
21	-6.875	20.125	29.125	0.125	-25.875	7.125	18.125	-20.875	21
21	8.125	-26.875	-19.875	17.125	19.125	-5.875	-0.875	30.125	21
21	22.125	-8.875	2.125	27.125	9.125	-27.875	-18.875	16.125	21
21	13.125	-15.875	-22.875	4.125	34.125	-4.875	-9.875	23.125	21
	31.125	-1.875	-12.875	26.125	12.125	-14.875	-23.875	5.125	21
	21	21	21	21	21	21	21	21	21

pan	441	441	441	441	441	441	441	441
441	38.625	63.625	58.625	27.625	49.625	84.625	77.625	40.625	441
441	48.625	85.625	76.625	41.625	35.625	66.625	55.625	30.625	441
441	23.625	62.625	67.625	34.625	44.625	73.625	80.625	53.625	441
441	45.625	72.625	81.625	52.625	26.625	59.625	70.625	31.625	441
441	60.625	25.625	32.625	69.625	71.625	46.625	51.625	82.625	441
441	74.625	43.625	54.625	79.625	61.625	24.625	33.625	68.625	441
441	65.625	36.625	29.625	56.625	86.625	47.625	42.625	75.625	441
	83.625	50.625	39.625	78.625	64.625	37.625	28.625	57.625	441
	441	441	441	441	441	441	441	441	441

pan	2021	2021	2021	2021	2021	2021	2021	2021
2021	236.125	261.125	256.125	225.125	247.125	282.125	275.125	238.125	2021
2021	246.125	283.125	274.125	239.125	233.125	264.125	253.125	228.125	2021
2021	221.125	260.125	265.125	232.125	242.125	271.125	278.125	251.125	2021
2021	243.125	270.125	279.125	250.125	224.125	257.125	268.125	229.125	2021
2021	258.125	223.125	230.125	267.125	269.125	244.125	249.125	280.125	2021
2021	272.125	241.125	252.125	277.125	259.125	222.125	231.125	266.125	2021
2021	263.125	234.125	227.125	254.125	284.125	245.125	240.125	273.125	2021
	281.125	248.125	237.125	276.125	262.125	235.125	226.125	255.125	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, magic squares of order 8 are **bimagic** with **bimagic** sums given by

$$[Sb_{8\times 8} : S_{8\times 8} := 21] := 2785.125$$

$$[Sb_{8\times 8} : S_{8\times 8} := 441] = 27040.125$$

$$[Sb_{8\times 8} : S_{8\times 8} := 2021] = 513285.125$$

1.2 Block-Wise Magic Squares of Order 9

Below are **block-wise magic squares** of order 9 in two different ways giving magic sums as 21, 21^2 and 2021. The blocks are of orders 3. In first case, the blocks of order 3 are semi-magic squares with equal semi-magic sums. In this case, the magic square of order 9 is **pandiagonal** In the second case, the sum of the nine entries are the same as of magic square. In this case, the magic square is **bimagic** square.

1.2.1 First Type

Below are block-wise construction of magic square of order 9 resulting in magic sums 21, 21^2 and 2021. The blocks of order 3 are **semi-magic** squares of equal sem-magic sums.

pan	21	21	21	21	21	21	21	21	21
21	-16 2/3	32 1/3	-8 2/3	-11 2/3	25 1/3	-6 2/3	-18 2/3	30 1/3	-4 2/3	21
21	-3 2/3	-17 2/3	28 1/3	-10 2/3	-15 2/3	33 1/3	-5 2/3	-13 2/3	26 1/3	21
21	27 1/3	-7 2/3	-12 2/3	29 1/3	-2 2/3	-19 2/3	31 1/3	-9 2/3	-14 2/3	21
21	1 1/3	-30 2/3	36 1/3	6 1/3	-37 2/3	38 1/3	- 2/3	-32 2/3	40 1/3	21
21	41 1/3	1/3	-34 2/3	34 1/3	2 1/3	-29 2/3	39 1/3	4 1/3	-36 2/3	21
21	-35 2/3	37 1/3	5 1/3	-33 2/3	42 1/3	-1 2/3	-31 2/3	35 1/3	3 1/3	21
21	19 1/3	14 1/3	-26 2/3	24 1/3	7 1/3	-24 2/3	17 1/3	12 1/3	-22 2/3	21
21	-21 2/3	18 1/3	10 1/3	-28 2/3	20 1/3	15 1/3	-23 2/3	22 1/3	8 1/3	21
	9 1/3	-25 2/3	23 1/3	11 1/3	-20 2/3	16 1/3	13 1/3	-27 2/3	21 1/3	21
	21	21	21	21	21	21	21	21	21	21

pan	441	441	441	441	441	441	441	441	441
441	30	79	38	35	72	40	28	77	42	441
441	43	29	75	36	31	80	41	33	73	441
441	74	39	34	76	44	27	78	37	32	441
441	48	16	83	53	9	85	46	14	87	441
441	88	47	12	81	49	17	86	51	10	441
441	11	84	52	13	89	45	15	82	50	441
441	66	61	20	71	54	22	64	59	24	441
441	25	65	57	18	67	62	23	69	55	441
	56	21	70	58	26	63	60	19	68	441
	441	441	441	441	441	441	441	441	441	441

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	205 5/9	254 5/9	213 5/9	210 5/9	247 5/9	215 5/9	203 5/9	252 5/9	217 5/9	2021
2021	218 5/9	204 5/9	250 5/9	211 5/9	206 5/9	255 5/9	216 5/9	208 5/9	248 5/9	2021
2021	249 5/9	214 5/9	209 5/9	251 5/9	219 5/9	202 5/9	253 5/9	212 5/9	207 5/9	2021
2021	223 5/9	191 5/9	258 5/9	228 5/9	184 5/9	260 5/9	221 5/9	189 5/9	262 5/9	2021
2021	263 5/9	222 5/9	187 5/9	256 5/9	224 5/9	192 5/9	261 5/9	226 5/9	185 5/9	2021
2021	186 5/9	259 5/9	227 5/9	188 5/9	264 5/9	220 5/9	190 5/9	257 5/9	225 5/9	2021
2021	241 5/9	236 5/9	195 5/9	246 5/9	229 5/9	197 5/9	239 5/9	234 5/9	199 5/9	2021
2021	200 5/9	240 5/9	232 5/9	193 5/9	242 5/9	237 5/9	198 5/9	244 5/9	230 5/9	2021
	231 5/9	196 5/9	245 5/9	233 5/9	201 5/9	238 5/9	235 5/9	194 5/9	243 5/9	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the **semi-magic sums** of order 3 are given by

$$[Sm_{3\times 3} : S_{9\times 9} := 21] := 7$$

$$[Sm_{3\times 3} : S_{9\times 9} := 441] := 147$$

$$[Sm_{3\times 3} : S_{9\times 9} := 2021] := \frac{2021}{3}.$$

1.2.2 Second Type

Below are block-wise construction of magic square of order 9 resulting in magic sums 21, 21^2 and 2021. The sums of nine entries in each block of order 3 is equal to as of magic square of order 9. The magic square is **bimagic square**

mgc									21
-29 2/3	32 1/3	13 1/3	36 1/3	-9 2/3	-28 2/3	3 1/3	-15 2/3	19 1/3	21
39 1/3	-6 2/3	-25 2/3	6 1/3	-12 2/3	22 1/3	-35 2/3	26 1/3	7 1/3	21
1/3	-18 2/3	16 1/3	-32 2/3	29 1/3	10 1/3	42 1/3	-3 2/3	-22 2/3	21
14 1/3	-31 2/3	33 1/3	-27 2/3	34 1/3	-8 2/3	20 1/3	1 1/3	-14 2/3	21
-24 2/3	37 1/3	-5 2/3	23 1/3	4 1/3	-11 2/3	8 1/3	-37 2/3	27 1/3	21
17 1/3	-1 2/3	-17 2/3	11 1/3	-34 2/3	30 1/3	-21 2/3	40 1/3	-2 2/3	21
31 1/3	15 1/3	-30 2/3	-10 2/3	-26 2/3	35 1/3	-16 2/3	21 1/3	2 1/3	21
-7 2/3	-23 2/3	38 1/3	-13 2/3	24 1/3	5 1/3	25 1/3	9 1/3	-36 2/3	21
-19 2/3	18 1/3	- 2/3	28 1/3	12 1/3	-33 2/3	-4 2/3	-20 2/3	41 1/3	21
21	21	21	21	21	21	21	21	21	21

mgc									441
17	79	60	83	37	18	50	31	66	441
86	40	21	53	34	69	11	73	54	441
47	28	63	14	76	57	89	43	24	441
61	15	80	19	81	38	67	48	32	441
22	84	41	70	51	35	55	9	74	441
64	45	29	58	12	77	25	87	44	441
78	62	16	36	20	82	30	68	49	441
39	23	85	33	71	52	72	56	10	441
27	65	46	75	59	13	42	26	88	441
441	441	441	441	441	441	441	441	441	441

mgc									2021
192 5/9	254 5/9	235 5/9	258 5/9	212 5/9	193 5/9	225 5/9	206 5/9	241 5/9	2021
261 5/9	215 5/9	196 5/9	228 5/9	209 5/9	244 5/9	186 5/9	248 5/9	229 5/9	2021
222 5/9	203 5/9	238 5/9	189 5/9	251 5/9	232 5/9	264 5/9	218 5/9	199 5/9	2021
236 5/9	190 5/9	255 5/9	194 5/9	256 5/9	213 5/9	242 5/9	223 5/9	207 5/9	2021
197 5/9	259 5/9	216 5/9	245 5/9	226 5/9	210 5/9	230 5/9	184 5/9	249 5/9	2021
239 5/9	220 5/9	204 5/9	233 5/9	187 5/9	252 5/9	200 5/9	262 5/9	219 5/9	2021
253 5/9	237 5/9	191 5/9	211 5/9	195 5/9	257 5/9	205 5/9	243 5/9	224 5/9	2021
214 5/9	198 5/9	260 5/9	208 5/9	246 5/9	227 5/9	247 5/9	231 5/9	185 5/9	2021
202 5/9	240 5/9	221 5/9	250 5/9	234 5/9	188 5/9	217 5/9	201 5/9	263 5/9	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, magic squares of order 9 are **bimagic** with **bimagic** sums given by

$$[Sb_{9\times 9} : S_{9\times 9} := 21] := 4969$$

$$[Sb_{9\times 9} : S_{9\times 9} := 441] := 26529$$

$$[Sb_{9\times 9} : S_{9\times 9} := 2021] := \frac{4128721}{9}$$

In this case, the sum of nine entries of blocks of order 3 is the as of magic square of order 9.

1.3 Block-Bordered Magic Square of Order 10

Below are **block-bordered magic squares** of order 10 in two different ways giving magic sums 21, 21^2 and 2021. One is with **pandiagonal** blocks of order 4 with equal sum magic squares. The second is **bimagic squares** of order 8, where sum of eight entries of each block of order 2×4 are of equal sum as of magic square of order 8. The magic squares of order 8 are of following sums:

$$[S_{8\times 8} : S_{10\times 10} := 21] := 16.8$$
$$[S_{8\times 8} : S_{10\times 10} := 441] := 352.8$$
$$[S_{8\times 8} : S_{10\times 10} := 2021] := 1616.8.$$

1.3.1 First Type

Below are block-bordered of magic squares of order 10 resulting in magic sums 21, 21^2 and 2021. The blocks of order 4 are **pandiagonal** magic squares with equal magic sums.

										21
42.6	37.6	-32.4	35.6	-30.4	-34.4	-44.4	49.6	-46.4	43.6	21
-35.4	-1.4	9.6	-29.4	29.6	-9.4	17.6	-21.4	21.6	39.6	21
40.6	-26.4	26.6	1.6	6.6	-18.4	18.6	-6.4	14.6	-36.4	21
-37.4	33.6	-25.4	5.6	-5.4	25.6	-17.4	13.6	-13.4	41.6	21
47.6	2.6	-2.4	30.6	-22.4	10.6	-10.4	22.6	-14.4	-43.4	21
-47.4	-0.4	8.6	-28.4	28.6	-8.4	16.6	-20.4	20.6	51.6	21
44.6	-27.4	27.6	0.6	7.6	-19.4	19.6	-7.4	15.6	-40.4	21
-41.4	32.6	-24.4	4.6	-4.4	24.6	-16.4	12.6	-12.4	45.6	21
46.6	3.6	-3.4	31.6	-23.4	11.6	-11.4	23.6	-15.4	-42.4	21
-39.4	-33.4	36.6	-31.4	34.6	38.6	48.6	-45.4	50.6	-38.4	21
21	21	21	21	21	21	21	21	21	21	21

										441
84.6	79.6	9.6	77.6	11.6	7.6	-2.4	91.6	-4.4	85.6	441
6.6	40.6	51.6	12.6	71.6	32.6	59.6	20.6	63.6	81.6	441
82.6	15.6	68.6	43.6	48.6	23.6	60.6	35.6	56.6	5.6	441
4.6	75.6	16.6	47.6	36.6	67.6	24.6	55.6	28.6	83.6	441
89.6	44.6	39.6	72.6	19.6	52.6	31.6	64.6	27.6	-1.4	441
-5.4	41.6	50.6	13.6	70.6	33.6	58.6	21.6	62.6	93.6	441
86.6	14.6	69.6	42.6	49.6	22.6	61.6	34.6	57.6	1.6	441
0.6	74.6	17.6	46.6	37.6	66.6	25.6	54.6	29.6	87.6	441
88.6	45.6	38.6	73.6	18.6	53.6	30.6	65.6	26.6	-0.4	441
2.6	8.6	78.6	10.6	76.6	80.6	90.6	-3.4	92.6	3.6	441
441	441	441	441	441	441	441	441	441	441	441

										2021
242.6	237.6	167.6	235.6	169.6	165.6	155.6	249.6	153.6	243.6	2021
164.6	198.6	209.6	170.6	229.6	190.6	217.6	178.6	221.6	239.6	2021
240.6	173.6	226.6	201.6	206.6	181.6	218.6	193.6	214.6	163.6	2021
162.6	233.6	174.6	205.6	194.6	225.6	182.6	213.6	186.6	241.6	2021
247.6	202.6	197.6	230.6	177.6	210.6	189.6	222.6	185.6	156.6	2021
152.6	199.6	208.6	171.6	228.6	191.6	216.6	179.6	220.6	251.6	2021
244.6	172.6	227.6	200.6	207.6	180.6	219.6	192.6	215.6	159.6	2021
158.6	232.6	175.6	204.6	195.6	224.6	183.6	212.6	187.6	245.6	2021
246.6	203.6	196.6	231.6	176.6	211.6	188.6	223.6	184.6	157.6	2021
160.6	166.6	236.6	168.6	234.6	238.6	248.6	154.6	250.6	161.6	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 4 are **pandiagonal** magic squares with magic sums:

$$[S_{4\times 4} : S_{10\times 10} := 21] := 8.4$$

$$[S_{4\times 4} : S_{10\times 10} := 441] := 176.4$$

$$[S_{4\times 4} : S_{10\times 10} := 2021] := 808.4.$$

1.3.2 Second Type

Below are **block-bordered** of magic squares of order 10 resulting in magic sums 21, 21^2 and 2021. The magic square of order 8 is **bimagic square**.

										21
42.6	37.6	-32.4	35.6	-30.4	-34.4	-44.4	49.6	-46.4	43.6	21
-35.4	-14.4	10.6	5.6	-25.4	-3.4	31.6	24.6	-12.4	39.6	21
40.6	-4.4	32.6	23.6	-11.4	-17.4	13.6	2.6	-22.4	-36.4	21
-37.4	-29.4	9.6	14.6	-18.4	-8.4	20.6	27.6	0.6	41.6	21
47.6	-7.4	19.6	28.6	-0.4	-26.4	6.6	17.6	-21.4	-43.4	21
-47.4	7.6	-27.4	-20.4	16.6	18.6	-6.4	-1.4	29.6	51.6	21
44.6	21.6	-9.4	1.6	26.6	8.6	-28.4	-19.4	15.6	-40.4	21
-41.4	12.6	-16.4	-23.4	3.6	33.6	-5.4	-10.4	22.6	45.6	21
46.6	30.6	-2.4	-13.4	25.6	11.6	-15.4	-24.4	4.6	-42.4	21
-39.4	-33.4	36.6	-31.4	34.6	38.6	48.6	-45.4	50.6	-38.4	21
21	21	21	21	21	21	21	21	21	21	21

										441
84.6	79.6	9.6	77.6	11.6	7.6	-2.4	91.6	-4.4	85.6	441
6.6	27.6	52.6	47.6	16.6	38.6	73.6	66.6	29.6	81.6	441
82.6	37.6	74.6	65.6	30.6	24.6	55.6	44.6	19.6	5.6	441
4.6	12.6	51.6	56.6	23.6	33.6	62.6	69.6	42.6	83.6	441
89.6	34.6	61.6	70.6	41.6	15.6	48.6	59.6	20.6	-1.4	441
-5.4	49.6	14.6	21.6	58.6	60.6	35.6	40.6	71.6	93.6	441
86.6	63.6	32.6	43.6	68.6	50.6	13.6	22.6	57.6	1.6	441
0.6	54.6	25.6	18.6	45.6	75.6	36.6	31.6	64.6	87.6	441
88.6	72.6	39.6	28.6	67.6	53.6	26.6	17.6	46.6	-0.4	441
2.6	8.6	78.6	10.6	76.6	80.6	90.6	-3.4	92.6	3.6	441
441	441	441	441	441	441	441	441	441	441	441

										2021
242.6	237.6	167.6	235.6	169.6	165.6	155.6	249.6	153.6	243.6	2021
164.6	185.6	210.6	205.6	174.6	196.6	231.6	224.6	187.6	239.6	2021
240.6	195.6	232.6	223.6	188.6	182.6	213.6	202.6	177.6	163.6	2021
162.6	170.6	209.6	214.6	181.6	191.6	220.6	227.6	200.6	241.6	2021
247.6	192.6	219.6	228.6	199.6	173.6	206.6	217.6	178.6	156.6	2021
152.6	207.6	172.6	179.6	216.6	218.6	193.6	198.6	229.6	251.6	2021
244.6	221.6	190.6	201.6	226.6	208.6	171.6	180.6	215.6	159.6	2021
158.6	212.6	183.6	176.6	203.6	233.6	194.6	189.6	222.6	245.6	2021
246.6	230.6	197.6	186.6	225.6	211.6	184.6	175.6	204.6	157.6	2021
160.6	166.6	236.6	168.6	234.6	238.6	248.6	154.6	250.6	161.6	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the sum of eight entries in each block of order 2×4 is the same as of magic square. Moreover, the magic square of order 8 is **bimagic**.

1.4 Block-Bordered Magic Squares of Order 11

Below are **block-bordered magic squares** of order 11 in two different ways giving magic sums 21, 21^2 and 2021. The blocks are of orders 3. In the first case, the blocks of order 3 are **semi-magic** squares with equal **semi-magic** sums. In this case,

the magic square of order 9 is **pandiagonal**. In the second case, the sum of the nine entries are the same as of magic square of order 9. In this case, the magic square is **bimagic** square. The magic sums of magic squares of order 9 are given by

$$[S_{9\times 9} : S_{11\times 11} := 21] := 21 \times \frac{9}{11} = \frac{189}{11}$$
$$[S_{9\times 9} : S_{11\times 11} := 441] := 441 \times \frac{9}{11} = \frac{3969}{11}$$
$$[S_{9\times 9} : S_{11\times 11} := 2021] := 2021 \times \frac{9}{11} = \frac{18189}{11}$$

1.4.1 First Type

-47 1/11	-39 1/11	-41 1/11	-43 1/11	-45 1/11	53 10/11	54 10/11	56 10/11	58 10/11	60 10/11	-49 1/11	21
61 10/11	-17 1/11	31 10/11	-9 1/11	-12 1/11	24 10/11	-7 1/11	-19 1/11	29 10/11	-5 1/11	-58 1/11	21
59 10/11	-4 1/11	-18 1/11	27 10/11	-11 1/11	-16 1/11	32 10/11	-6 1/11	-14 1/11	25 10/11	-56 1/11	21
57 10/11	26 10/11	-8 1/11	-13 1/11	28 10/11	-3 1/11	-20 1/11	30 10/11	-10 1/11	-15 1/11	-54 1/11	21
55 10/11	10/11	-31 1/11	35 10/11	5 10/11	-38 1/11	37 10/11	-1 1/11	-33 1/11	39 10/11	-52 1/11	21
-48 1/11	40 10/11	- 1/11	-35 1/11	33 10/11	1 10/11	-30 1/11	38 10/11	3 10/11	-37 1/11	51 10/11	21
-46 1/11	-36 1/11	36 10/11	4 10/11	-34 1/11	41 10/11	-2 1/11	-32 1/11	34 10/11	2 10/11	49 10/11	21
-44 1/11	18 10/11	13 10/11	-27 1/11	23 10/11	6 10/11	-25 1/11	16 10/11	11 10/11	-23 1/11	47 10/11	21
-42 1/11	-22 1/11	17 10/11	9 10/11	-29 1/11	19 10/11	14 10/11	-24 1/11	21 10/11	7 10/11	45 10/11	21
-40 1/11	8 10/11	-26 1/11	22 10/11	10 10/11	-21 1/11	15 10/11	12 10/11	-28 1/11	20 10/11	43 10/11	21
52 10/11	42 10/11	44 10/11	46 10/11	48 10/11	-50 1/11	-51 1/11	-53 1/11	-55 1/11	-57 1/11	50 10/11	21
21	21	21	21	21	21	21	21	21	21	21	21

-8 10/11	- 10/11	-2 10/11	-4 10/11	-6 10/11	92 1/11	93 1/11	95 1/11	97 1/11	99 1/11	-10 10/11	441
100 1/11	21 1/11	70 1/11	29 1/11	26 1/11	63 1/11	31 1/11	19 1/11	68 1/11	33 1/11	-19 10/11	441
98 1/11	34 1/11	20 1/11	66 1/11	27 1/11	22 1/11	71 1/11	32 1/11	24 1/11	64 1/11	-17 10/11	441
96 1/11	65 1/11	30 1/11	25 1/11	67 1/11	35 1/11	18 1/11	69 1/11	28 1/11	23 1/11	-15 10/11	441
94 1/11	39 1/11	7 1/11	74 1/11	44 1/11	1/11	76 1/11	37 1/11	5 1/11	78 1/11	-13 10/11	441
-9 10/11	79 1/11	38 1/11	3 1/11	72 1/11	40 1/11	8 1/11	77 1/11	42 1/11	1 1/11	90 1/11	441
-7 10/11	2 1/11	75 1/11	43 1/11	4 1/11	80 1/11	36 1/11	6 1/11	73 1/11	41 1/11	88 1/11	441
-5 10/11	57 1/11	52 1/11	11 1/11	62 1/11	45 1/11	13 1/11	55 1/11	50 1/11	15 1/11	86 1/11	441
-3 10/11	16 1/11	56 1/11	48 1/11	9 1/11	58 1/11	53 1/11	14 1/11	60 1/11	46 1/11	84 1/11	441
-1 10/11	47 1/11	12 1/11	61 1/11	49 1/11	17 1/11	54 1/11	51 1/11	10 1/11	59 1/11	82 1/11	441
91 1/11	81 1/11	83 1/11	85 1/11	87 1/11	-11 10/11	-12 10/11	-14 10/11	-16 10/11	-18 10/11	89 1/11	441
441	441	441	441	441	441	441	441	441	441	441	441

											2021
134 8/11	142 8/11	140 8/11	138 8/11	136 8/11	235 8/11	236 8/11	238 8/11	240 8/11	242 8/11	132 8/11	2021
243 8/11	164 8/11	213 8/11	172 8/11	169 8/11	206 8/11	174 8/11	162 8/11	211 8/11	176 8/11	123 8/11	2021
241 8/11	177 8/11	163 8/11	209 8/11	170 8/11	165 8/11	214 8/11	175 8/11	167 8/11	207 8/11	125 8/11	2021
239 8/11	208 8/11	173 8/11	168 8/11	210 8/11	178 8/11	161 8/11	212 8/11	171 8/11	166 8/11	127 8/11	2021
237 8/11	182 8/11	150 8/11	217 8/11	187 8/11	143 8/11	219 8/11	180 8/11	148 8/11	221 8/11	129 8/11	2021
133 8/11	222 8/11	181 8/11	146 8/11	215 8/11	183 8/11	151 8/11	220 8/11	185 8/11	144 8/11	233 8/11	2021
135 8/11	145 8/11	218 8/11	186 8/11	147 8/11	223 8/11	179 8/11	149 8/11	216 8/11	184 8/11	231 8/11	2021
137 8/11	200 8/11	195 8/11	154 8/11	205 8/11	188 8/11	156 8/11	198 8/11	193 8/11	158 8/11	229 8/11	2021
139 8/11	159 8/11	199 8/11	191 8/11	152 8/11	201 8/11	196 8/11	157 8/11	203 8/11	189 8/11	227 8/11	2021
141 8/11	190 8/11	155 8/11	204 8/11	192 8/11	160 8/11	197 8/11	194 8/11	153 8/11	202 8/11	225 8/11	2021
234 8/11	224 8/11	226 8/11	228 8/11	230 8/11	131 8/11	130 8/11	128 8/11	126 8/11	124 8/11	232 8/11	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 3 are **semi-magic** squares with sums given by

$$[Sm_{3\times 3} : S_{11\times 11} := 21] := \frac{63}{11}$$

$$[Sm_{3\times 3} : S_{11\times 11} := 441] := \frac{1323}{11}$$

$$[Sm_{3\times 3} : S_{11\times 11} := 2021] := \frac{6063}{11}$$

1.4.2 Second Type

											21
-47 1/11	-39 1/11	-41 1/11	-43 1/11	-45 1/11	53 10/11	54 10/11	56 10/11	58 10/11	60 10/11	-49 1/11	21
61 10/11	-30 1/11	31 10/11	12 10/11	35 10/11	-10 1/11	-29 1/11	2 10/11	-16 1/11	18 10/11	-58 1/11	21
59 10/11	38 10/11	-7 1/11	-26 1/11	5 10/11	-13 1/11	21 10/11	-36 1/11	25 10/11	6 10/11	-56 1/11	21
57 10/11	- 1/11	-19 1/11	15 10/11	-33 1/11	28 10/11	9 10/11	41 10/11	-4 1/11	-23 1/11	-54 1/11	21
55 10/11	13 10/11	-32 1/11	32 10/11	-28 1/11	33 10/11	-9 1/11	19 10/11	10/11	-15 1/11	-52 1/11	21
-48 1/11	-25 1/11	36 10/11	-6 1/11	22 10/11	3 10/11	-12 1/11	7 10/11	-38 1/11	26 10/11	51 10/11	21
-46 1/11	16 10/11	-2 1/11	-18 1/11	10 10/11	-35 1/11	29 10/11	-22 1/11	39 10/11	-3 1/11	49 10/11	21
-44 1/11	30 10/11	14 10/11	-31 1/11	-11 1/11	-27 1/11	34 10/11	-17 1/11	20 10/11	1 10/11	47 10/11	21
-42 1/11	-8 1/11	-24 1/11	37 10/11	-14 1/11	23 10/11	4 10/11	24 10/11	8 10/11	-37 1/11	45 10/11	21
-40 1/11	-20 1/11	17 10/11	-1 1/11	27 10/11	11 10/11	-34 1/11	-5 1/11	-21 1/11	40 10/11	43 10/11	21
52 10/11	42 10/11	44 10/11	46 10/11	48 10/11	-50 1/11	-51 1/11	-53 1/11	-55 1/11	-57 1/11	50 10/11	21
21	21	21	21	21	21	21	21	21	21	21	21

											441
-8 10/11	- 10/11	-2 10/11	-4 10/11	-6 10/11	92 1/11	93 1/11	95 1/11	97 1/11	99 1/11	-10 10/11	441
100 1/11	8 1/11	70 1/11	51 1/11	74 1/11	28 1/11	9 1/11	41 1/11	22 1/11	57 1/11	-19 10/11	441
98 1/11	77 1/11	31 1/11	12 1/11	44 1/11	25 1/11	60 1/11	2 1/11	64 1/11	45 1/11	-17 10/11	441
96 1/11	38 1/11	19 1/11	54 1/11	5 1/11	67 1/11	48 1/11	80 1/11	34 1/11	15 1/11	-15 10/11	441
94 1/11	52 1/11	6 1/11	71 1/11	10 1/11	72 1/11	29 1/11	58 1/11	39 1/11	23 1/11	-13 10/11	441
-9 10/11	13 1/11	75 1/11	32 1/11	61 1/11	42 1/11	26 1/11	46 1/11	1/11	65 1/11	90 1/11	441
-7 10/11	55 1/11	36 1/11	20 1/11	49 1/11	3 1/11	68 1/11	16 1/11	78 1/11	35 1/11	88 1/11	441
-5 10/11	69 1/11	53 1/11	7 1/11	27 1/11	11 1/11	73 1/11	21 1/11	59 1/11	40 1/11	86 1/11	441
-3 10/11	30 1/11	14 1/11	76 1/11	24 1/11	62 1/11	43 1/11	63 1/11	47 1/11	1 1/11	84 1/11	441
-1 10/11	18 1/11	56 1/11	37 1/11	66 1/11	50 1/11	4 1/11	33 1/11	17 1/11	79 1/11	82 1/11	441
91 1/11	81 1/11	83 1/11	85 1/11	87 1/11	-11 10/11	-12 10/11	-14 10/11	-16 10/11	-18 10/11	89 1/11	441
441	441	441	441	441	441	441	441	441	441	441	441

											2021
134 8/11	142 8/11	140 8/11	138 8/11	136 8/11	235 8/11	236 8/11	238 8/11	240 8/11	242 8/11	132 8/11	2021
243 8/11	151 8/11	213 8/11	194 8/11	217 8/11	171 8/11	152 8/11	184 8/11	165 8/11	200 8/11	123 8/11	2021
241 8/11	220 8/11	174 8/11	155 8/11	187 8/11	168 8/11	203 8/11	145 8/11	207 8/11	188 8/11	125 8/11	2021
239 8/11	181 8/11	162 8/11	197 8/11	148 8/11	210 8/11	191 8/11	223 8/11	177 8/11	158 8/11	127 8/11	2021
237 8/11	195 8/11	149 8/11	214 8/11	153 8/11	215 8/11	172 8/11	201 8/11	182 8/11	166 8/11	129 8/11	2021
133 8/11	156 8/11	218 8/11	175 8/11	204 8/11	185 8/11	169 8/11	189 8/11	143 8/11	208 8/11	233 8/11	2021
135 8/11	198 8/11	179 8/11	163 8/11	192 8/11	146 8/11	211 8/11	159 8/11	221 8/11	178 8/11	231 8/11	2021
137 8/11	212 8/11	196 8/11	150 8/11	170 8/11	154 8/11	216 8/11	164 8/11	202 8/11	183 8/11	229 8/11	2021
139 8/11	173 8/11	157 8/11	219 8/11	167 8/11	205 8/11	186 8/11	206 8/11	190 8/11	144 8/11	227 8/11	2021
141 8/11	161 8/11	199 8/11	180 8/11	209 8/11	193 8/11	147 8/11	176 8/11	160 8/11	222 8/11	225 8/11	2021
234 8/11	224 8/11	226 8/11	228 8/11	230 8/11	131 8/11	130 8/11	128 8/11	126 8/11	124 8/11	232 8/11	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the sum of nine entries of blocks of order 3 is the as of magic square of order 9.

1.5 Block-Wise Magic Squares of Order 12

Below are **block-wise magic squares** of order 12 in three different ways giving magic sums as 21, 21^2 and 2021. The blocks are of orders 3, 4 and 6. The blocks of order are magic squares of order 3 with different magic sums. The blocks of order 4 are **pandiagonal** magic squares with equal magic sums. The blocks of order 6 are magic squares with equal magic sums.

1.5.1 First Type

	pan	21	21	21	21	21	21	21	21	21	21	21	21
21	27.25	-69.75	-19.75	1.25	-48.75	48.25	7.25	-42.75	54.25	69.25	-27.75	22.25	21
21	-67.75	-20.75	26.25	47.25	0.25	-46.75	53.25	6.25	-40.75	-25.75	21.25	68.25	21
21	-21.75	28.25	-68.75	-47.75	49.25	-0.75	-41.75	55.25	5.25	20.25	70.25	-26.75	21
21	60.25	-36.75	13.25	16.25	-33.75	63.25	-13.75	-63.75	33.25	42.25	-54.75	-4.75	21
21	-34.75	12.25	59.25	62.25	15.25	-31.75	32.25	-14.75	-61.75	-52.75	-5.75	41.25	21
21	11.25	61.25	-35.75	-32.75	64.25	14.25	-62.75	34.25	-15.75	-6.75	43.25	-53.75	21
21	-3.75	46.25	-50.75	-65.75	31.25	-18.75	-23.75	73.25	23.25	2.25	52.25	-44.75	21
21	-49.75	-2.75	44.25	29.25	-17.75	-64.75	71.25	24.25	-22.75	-43.75	3.25	50.25	21
21	45.25	-51.75	-1.75	-16.75	-66.75	30.25	25.25	-24.75	72.25	51.25	-45.75	4.25	21
21	17.25	67.25	-29.75	-38.75	58.25	8.25	-56.75	40.25	-9.75	-12.75	37.25	-59.75	21
21	-28.75	18.25	65.25	56.25	9.25	-37.75	38.25	-8.75	-55.75	-58.75	-11.75	35.25	21
	66.25	-30.75	19.25	10.25	-39.75	57.25	-7.75	-57.75	39.25	36.25	-60.75	-10.75	21
	21	21	21	21	21	21	21	21	21	21	21	21	21

	pan	441	441	441	441	441	441	441	441	441	441	441	441
441	62.25	-34.75	15.25	36.25	-13.75	83.25	42.25	-7.75	89.25	104.25	7.25	57.25	441
441	-32.75	14.25	61.25	82.25	35.25	-11.75	88.25	41.25	-5.75	9.25	56.25	103.25	441
441	13.25	63.25	-33.75	-12.75	84.25	34.25	-6.75	90.25	40.25	55.25	105.25	8.25	441
441	95.25	-1.75	48.25	51.25	1.25	98.25	21.25	-28.75	68.25	77.25	-19.75	30.25	441
441	0.25	47.25	94.25	97.25	50.25	3.25	67.25	20.25	-26.75	-17.75	29.25	76.25	441
441	46.25	96.25	-0.75	2.25	99.25	49.25	-27.75	69.25	19.25	28.25	78.25	-18.75	441
441	31.25	81.25	-15.75	-30.75	66.25	16.25	11.25	108.25	58.25	37.25	87.25	-9.75	441
441	-14.75	32.25	79.25	64.25	17.25	-29.75	106.25	59.25	12.25	-8.75	38.25	85.25	441
441	80.25	-16.75	33.25	18.25	-31.75	65.25	60.25	10.25	107.25	86.25	-10.75	39.25	441
441	52.25	102.25	5.25	-3.75	93.25	43.25	-21.75	75.25	25.25	22.25	72.25	-24.75	441
441	6.25	53.25	100.25	91.25	44.25	-2.75	73.25	26.25	-20.75	-23.75	23.25	70.25	441
	101.25	4.25	54.25	45.25	-4.75	92.25	27.25	-22.75	74.25	71.25	-25.75	24.25	441
	441	441	441	441	441	441	441	441	441	441	441	441	441

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	193 11/12	96 11/12	146 11/12	167 11/12	117 11/12	214 11/12	173 11/12	123 11/12	220 11/12	235 11/12	138 11/12	188 11/12	2021
2021	98 11/12	145 11/12	192 11/12	213 11/12	166 11/12	119 11/12	219 11/12	172 11/12	125 11/12	140 11/12	187 11/12	234 11/12	2021
2021	144 11/12	194 11/12	97 11/12	118 11/12	215 11/12	165 11/12	124 11/12	221 11/12	171 11/12	186 11/12	236 11/12	139 11/12	2021
2021	226 11/12	129 11/12	179 11/12	182 11/12	132 11/12	229 11/12	152 11/12	102 11/12	199 11/12	208 11/12	111 11/12	161 11/12	2021
2021	131 11/12	178 11/12	225 11/12	228 11/12	181 11/12	134 11/12	198 11/12	151 11/12	104 11/12	113 11/12	160 11/12	207 11/12	2021
2021	177 11/12	227 11/12	130 11/12	133 11/12	230 11/12	180 11/12	103 11/12	200 11/12	150 11/12	159 11/12	209 11/12	112 11/12	2021
2021	162 11/12	212 11/12	115 11/12	100 11/12	197 11/12	147 11/12	142 11/12	239 11/12	189 11/12	168 11/12	218 11/12	121 11/12	2021
2021	116 11/12	163 11/12	210 11/12	195 11/12	148 11/12	101 11/12	237 11/12	190 11/12	143 11/12	122 11/12	169 11/12	216 11/12	2021
2021	211 11/12	114 11/12	164 11/12	149 11/12	99 11/12	196 11/12	191 11/12	141 11/12	238 11/12	217 11/12	120 11/12	170 11/12	2021
2021	183 11/12	233 11/12	136 11/12	127 11/12	224 11/12	174 11/12	109 11/12	206 11/12	156 11/12	153 11/12	203 11/12	106 11/12	2021
2021	137 11/12	184 11/12	231 11/12	222 11/12	175 11/12	128 11/12	204 11/12	157 11/12	110 11/12	107 11/12	154 11/12	201 11/12	2021
	232 11/12	135 11/12	185 11/12	176 11/12	126 11/12	223 11/12	158 11/12	108 11/12	205 11/12	202 11/12	105 11/12	155 11/12	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, all the blocks of order 3 are magic squares with different magic sums.

1.5.2 Second Type

	pan	21	21	21	21	21	21	21	21	21	21	21	21
21	-15.75	37.25	-69.75	55.25	-14.75	36.25	-68.75	54.25	-13.75	35.25	-67.75	53.25	21
21	-52.75	38.25	1.25	20.25	-53.75	39.25	0.25	21.25	-54.75	40.25	-0.75	22.25	21
21	73.25	-51.75	19.25	-33.75	72.25	-50.75	18.25	-32.75	71.25	-49.75	17.25	-31.75	21
21	2.25	-16.75	56.25	-34.75	3.25	-17.75	57.25	-35.75	4.25	-18.75	58.25	-36.75	21
21	-12.75	34.25	-66.75	52.25	-11.75	33.25	-65.75	51.25	-10.75	32.25	-64.75	50.25	21
21	-55.75	41.25	-1.75	23.25	-56.75	42.25	-2.75	24.25	-57.75	43.25	-3.75	25.25	21
21	70.25	-48.75	16.25	-30.75	69.25	-47.75	15.25	-29.75	68.25	-46.75	14.25	-28.75	21
21	5.25	-19.75	59.25	-37.75	6.25	-20.75	60.25	-38.75	7.25	-21.75	61.25	-39.75	21
21	-9.75	31.25	-63.75	49.25	-8.75	30.25	-62.75	48.25	-7.75	29.25	-61.75	47.25	21
21	-58.75	44.25	-4.75	26.25	-59.75	45.25	-5.75	27.25	-60.75	46.25	-6.75	28.25	21
21	67.25	-45.75	13.25	-27.75	66.25	-44.75	12.25	-26.75	65.25	-43.75	11.25	-25.75	21
	8.25	-22.75	62.25	-40.75	9.25	-23.75	63.25	-41.75	10.25	-24.75	64.25	-42.75	21
	21	21	21	21	21	21	21	21	21	21	21	21	21

	pan	441	441	441	441	441	441	441	441	441	441	441	441
441	19.25	72.25	-34.75	90.25	20.25	71.25	-33.75	89.25	21.25	70.25	-32.75	88.25	441
441	-17.75	73.25	36.25	55.25	-18.75	74.25	35.25	56.25	-19.75	75.25	34.25	57.25	441
441	108.25	-16.75	54.25	1.25	107.25	-15.75	53.25	2.25	106.25	-14.75	52.25	3.25	441
441	37.25	18.25	91.25	0.25	38.25	17.25	92.25	-0.75	39.25	16.25	93.25	-1.75	441
441	22.25	69.25	-31.75	87.25	23.25	68.25	-30.75	86.25	24.25	67.25	-29.75	85.25	441
441	-20.75	76.25	33.25	58.25	-21.75	77.25	32.25	59.25	-22.75	78.25	31.25	60.25	441
441	105.25	-13.75	51.25	4.25	104.25	-12.75	50.25	5.25	103.25	-11.75	49.25	6.25	441
441	40.25	15.25	94.25	-2.75	41.25	14.25	95.25	-3.75	42.25	13.25	96.25	-4.75	441
441	25.25	66.25	-28.75	84.25	26.25	65.25	-27.75	83.25	27.25	64.25	-26.75	82.25	441
441	-23.75	79.25	30.25	61.25	-24.75	80.25	29.25	62.25	-25.75	81.25	28.25	63.25	441
441	102.25	-10.75	48.25	7.25	101.25	-9.75	47.25	8.25	100.25	-8.75	46.25	9.25	441
	43.25	12.25	97.25	-5.75	44.25	11.25	98.25	-6.75	45.25	10.25	99.25	-7.75	441
	441	441	441	441	441	441	441	441	441	441	441	441	441

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	150 11/12	203 11/12	96 11/12	221 11/12	151 11/12	202 11/12	97 11/12	220 11/12	152 11/12	201 11/12	98 11/12	219 11/12	2021
2021	113 11/12	204 11/12	167 11/12	186 11/12	112 11/12	205 11/12	166 11/12	187 11/12	111 11/12	206 11/12	165 11/12	188 11/12	2021
2021	239 11/12	114 11/12	185 11/12	132 11/12	238 11/12	115 11/12	184 11/12	133 11/12	237 11/12	116 11/12	183 11/12	134 11/12	2021
2021	168 11/12	149 11/12	222 11/12	131 11/12	169 11/12	148 11/12	223 11/12	130 11/12	170 11/12	147 11/12	224 11/12	129 11/12	2021
2021	153 11/12	200 11/12	99 11/12	218 11/12	154 11/12	199 11/12	100 11/12	217 11/12	155 11/12	198 11/12	101 11/12	216 11/12	2021
2021	110 11/12	207 11/12	164 11/12	189 11/12	109 11/12	208 11/12	163 11/12	190 11/12	108 11/12	209 11/12	162 11/12	191 11/12	2021
2021	236 11/12	117 11/12	182 11/12	135 11/12	235 11/12	118 11/12	181 11/12	136 11/12	234 11/12	119 11/12	180 11/12	137 11/12	2021
2021	171 11/12	146 11/12	225 11/12	128 11/12	172 11/12	145 11/12	226 11/12	127 11/12	173 11/12	144 11/12	227 11/12	126 11/12	2021
2021	156 11/12	197 11/12	102 11/12	215 11/12	157 11/12	196 11/12	103 11/12	214 11/12	158 11/12	195 11/12	104 11/12	213 11/12	2021
2021	107 11/12	210 11/12	161 11/12	192 11/12	106 11/12	211 11/12	160 11/12	193 11/12	105 11/12	212 11/12	159 11/12	194 11/12	2021
2021	233 11/12	120 11/12	179 11/12	138 11/12	232 11/12	121 11/12	178 11/12	139 11/12	231 11/12	122 11/12	177 11/12	140 11/12	2021
	174 11/12	143 11/12	228 11/12	125 11/12	175 11/12	142 11/12	229 11/12	124 11/12	176 11/12	141 11/12	230 11/12	123 11/12	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case all the blocks of order 4 are **pandiagonal** magic squares with equal magic sums given by

$$[S_{4\times 4} : S_{12\times 12} := 21] := 7$$

$$[S_{4\times 4} : S_{12\times 12} := 441] := 147$$

$$[S_{4\times 4} : S_{12\times 12} := 2021] := \frac{2021}{3}.$$

1.5.3 Third Type

	mgc												21
	-69.75	66.25	65.25	58.25	-62.75	-46.75	-68.75	67.25	64.25	59.25	-63.75	-47.75	21
	49.25	-38.75	41.25	-37.75	-29.75	26.25	48.25	-39.75	40.25	-36.75	-28.75	27.25	21
	25.25	18.25	-13.75	-6.75	9.25	-21.75	24.25	19.25	-12.75	-7.75	8.25	-20.75	21
	1.25	-14.75	10.25	17.25	-5.75	2.25	0.25	-15.75	11.25	16.25	-4.75	3.25	21
	-45.75	33.25	-30.75	34.25	42.25	-22.75	-44.75	32.25	-31.75	35.25	43.25	-23.75	21
	50.25	-53.75	-61.75	-54.75	57.25	73.25	51.25	-52.75	-60.75	-55.75	56.25	72.25	21
	-67.75	68.25	63.25	60.25	-64.75	-48.75	-66.75	69.25	62.25	61.25	-65.75	-49.75	21
	47.25	-40.75	39.25	-35.75	-27.75	28.25	46.25	-41.75	38.25	-34.75	-26.75	29.25	21
	23.25	20.25	-11.75	-8.75	7.25	-19.75	22.25	21.25	-10.75	-9.75	6.25	-18.75	21
	-0.75	-16.75	12.25	15.25	-3.75	4.25	-1.75	-17.75	13.25	14.25	-2.75	5.25	21
	-43.75	31.25	-32.75	36.25	44.25	-24.75	-42.75	30.25	-33.75	37.25	45.25	-25.75	21
	52.25	-51.75	-59.75	-56.75	55.25	71.25	53.25	-50.75	-58.75	-57.75	54.25	70.25	21
	21	21	21	21	21	21	21	21	21	21	21	21	21

	mgc												441
	-34.75	101.25	100.25	93.25	-27.75	-11.75	-33.75	102.25	99.25	94.25	-28.75	-12.75	441
	84.25	-3.75	76.25	-2.75	5.25	61.25	83.25	-4.75	75.25	-1.75	6.25	62.25	441
	60.25	53.25	21.25	28.25	44.25	13.25	59.25	54.25	22.25	27.25	43.25	14.25	441
	36.25	20.25	45.25	52.25	29.25	37.25	35.25	19.25	46.25	51.25	30.25	38.25	441
	-10.75	68.25	4.25	69.25	77.25	12.25	-9.75	67.25	3.25	70.25	78.25	11.25	441
	85.25	-18.75	-26.75	-19.75	92.25	108.25	86.25	-17.75	-25.75	-20.75	91.25	107.25	441
	-32.75	103.25	98.25	95.25	-29.75	-13.75	-31.75	104.25	97.25	96.25	-30.75	-14.75	441
	82.25	-5.75	74.25	-0.75	7.25	63.25	81.25	-6.75	73.25	0.25	8.25	64.25	441
	58.25	55.25	23.25	26.25	42.25	15.25	57.25	56.25	24.25	25.25	41.25	16.25	441
	34.25	18.25	47.25	50.25	31.25	39.25	33.25	17.25	48.25	49.25	32.25	40.25	441
	-8.75	66.25	2.25	71.25	79.25	10.25	-7.75	65.25	1.25	72.25	80.25	9.25	441
	87.25	-16.75	-24.75	-21.75	90.25	106.25	88.25	-15.75	-23.75	-22.75	89.25	105.25	441
	441	441	441	441	441	441	441	441	441	441	441	441	441

	mgc												2021
	96 11/12	232 11/12	231 11/12	224 11/12	103 11/12	119 11/12	97 11/12	233 11/12	230 11/12	225 11/12	102 11/12	118 11/12	2021
	215 11/12	127 11/12	207 11/12	128 11/12	136 11/12	192 11/12	214 11/12	126 11/12	206 11/12	129 11/12	137 11/12	193 11/12	2021
	191 11/12	184 11/12	152 11/12	159 11/12	175 11/12	144 11/12	190 11/12	185 11/12	153 11/12	158 11/12	174 11/12	145 11/12	2021
	167 11/12	151 11/12	176 11/12	183 11/12	160 11/12	168 11/12	166 11/12	150 11/12	177 11/12	182 11/12	161 11/12	169 11/12	2021
	120 11/12	199 11/12	135 11/12	200 11/12	208 11/12	143 11/12	121 11/12	198 11/12	134 11/12	201 11/12	209 11/12	142 11/12	2021
	216 11/12	112 11/12	104 11/12	111 11/12	223 11/12	239 11/12	217 11/12	113 11/12	105 11/12	110 11/12	222 11/12	238 11/12	2021
	98 11/12	234 11/12	229 11/12	226 11/12	101 11/12	117 11/12	99 11/12	235 11/12	228 11/12	227 11/12	100 11/12	116 11/12	2021
	213 11/12	125 11/12	205 11/12	130 11/12	138 11/12	194 11/12	212 11/12	124 11/12	204 11/12	131 11/12	139 11/12	195 11/12	2021
	189 11/12	186 11/12	154 11/12	157 11/12	173 11/12	146 11/12	188 11/12	187 11/12	155 11/12	156 11/12	172 11/12	147 11/12	2021
	165 11/12	149 11/12	178 11/12	181 11/12	162 11/12	170 11/12	164 11/12	148 11/12	179 11/12	180 11/12	163 11/12	171 11/12	2021
	122 11/12	197 11/12	133 11/12	202 11/12	210 11/12	141 11/12	123 11/12	196 11/12	132 11/12	203 11/12	211 11/12	140 11/12	2021
	218 11/12	114 11/12	106 11/12	109 11/12	221 11/12	237 11/12	219 11/12	115 11/12	107 11/12	108 11/12	220 11/12	236 11/12	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case all the blocks of order 6 are magic squares with equal magic sums given by

$$[S_{6\times 6} : S_{12\times 12} := 21] := 10.5$$
$$[S_{6\times 6} : S_{12\times 12} := 441] := 220.5$$
$$[S_{6\times 6} : S_{12\times 12} := 2021] := 1010.5.$$

1.6 Block-Bordered Magic Squares of Order 13

Below are **block-bordered magic squares** of order 13 in two different ways giving magic sums 21, 21^2 and 2021. The blocks are of orders 3. In the first case, the blocks of order 3 are **semi-magic** squares with equal **semi-magic** sums. In this case, the magic square of order 9 is **pandiagonal**. In the second case, the sum of the nine entries are the same as of magic square of order 9. In this case, the magic square is **bimagic** square. The magic sums of magic squares of order 9 are given by

$$[S_{9\times 9} : S_{13\times 13} := 21] := 21 \times \frac{9}{13} = \frac{189}{13}$$
$$[S_{9\times 9} : S_{13\times 13} := 441] := 441 \times \frac{9}{13} = \frac{3969}{13}$$
$$[S_{9\times 9} : S_{13\times 13} := 2021] := 2021 \times \frac{9}{13} = \frac{18189}{13}$$

1.6.1 First Type

													21
72 8/13	63 8/13	65 8/13	67 8/13	69 8/13	71 8/13	73 8/13	-74 5/13	-76 5/13	-78 5/13	-80 5/13	-82 5/13	-71 5/13	21
-81 5/13	-47 5/13	-39 5/13	-41 5/13	-43 5/13	-45 5/13	53 8/13	54 8/13	56 8/13	58 8/13	60 8/13	-49 5/13	84 8/13	21
-79 5/13	61 8/13	-17 5/13	31 8/13	-9 5/13	-12 5/13	24 8/13	-7 5/13	-19 5/13	29 8/13	-5 5/13	-58 5/13	82 8/13	21
-77 5/13	59 8/13	-4 5/13	-18 5/13	27 8/13	-11 5/13	-16 5/13	32 8/13	-6 5/13	-14 5/13	25 8/13	-56 5/13	80 8/13	21
-75 5/13	57 8/13	26 8/13	-8 5/13	-13 5/13	28 8/13	-3 5/13	-20 5/13	30 8/13	-10 5/13	-15 5/13	-54 5/13	78 8/13	21
-73 5/13	55 8/13	8/13	-31 5/13	35 8/13	5 8/13	-38 5/13	37 8/13	-1 5/13	-33 5/13	39 8/13	-52 5/13	76 8/13	21
-72 5/13	-48 5/13	40 8/13	- 5/13	-35 5/13	33 8/13	1 8/13	-30 5/13	38 8/13	3 8/13	-37 5/13	51 8/13	75 8/13	21
70 8/13	-46 5/13	-36 5/13	36 8/13	4 8/13	-34 5/13	41 8/13	-2 5/13	-32 5/13	34 8/13	2 8/13	49 8/13	-67 5/13	21
68 8/13	-44 5/13	18 8/13	13 8/13	-27 5/13	23 8/13	6 8/13	-25 5/13	16 8/13	11 8/13	-23 5/13	47 8/13	-65 5/13	21
66 8/13	-42 5/13	-22 5/13	17 8/13	9 8/13	-29 5/13	19 8/13	14 8/13	-24 5/13	21 8/13	7 8/13	45 8/13	-63 5/13	21
64 8/13	-40 5/13	8 8/13	-26 5/13	22 8/13	10 8/13	-21 5/13	15 8/13	12 8/13	-28 5/13	20 8/13	43 8/13	-61 5/13	21
62 8/13	52 8/13	42 8/13	44 8/13	46 8/13	48 8/13	-50 5/13	-51 5/13	-53 5/13	-55 5/13	-57 5/13	50 8/13	-59 5/13	21
74 8/13	-60 5/13	-62 5/13	-64 5/13	-66 5/13	-68 5/13	-70 5/13	77 8/13	79 8/13	81 8/13	83 8/13	85 8/13	-69 5/13	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

													441
104 12/13	95 12/13	97 12/13	99 12/13	101 12/13	103 12/13	105 12/13	-42 1/13	-44 1/13	-46 1/13	-48 1/13	-50 1/13	-39 1/13	441
-49 1/13	-15 1/13	-7 1/13	-9 1/13	-11 1/13	-13 1/13	85 12/13	86 12/13	88 12/13	90 12/13	92 12/13	-17 1/13	116 12/13	441
-47 1/13	93 12/13	14 12/13	63 12/13	22 12/13	19 12/13	56 12/13	24 12/13	12 12/13	61 12/13	26 12/13	-26 1/13	114 12/13	441
-45 1/13	91 12/13	27 12/13	13 12/13	59 12/13	20 12/13	15 12/13	64 12/13	25 12/13	17 12/13	57 12/13	-24 1/13	112 12/13	441
-43 1/13	89 12/13	58 12/13	23 12/13	18 12/13	60 12/13	28 12/13	11 12/13	62 12/13	21 12/13	16 12/13	-22 1/13	110 12/13	441
-41 1/13	87 12/13	32 12/13	12/13	67 12/13	37 12/13	-6 1/13	69 12/13	30 12/13	-1 1/13	71 12/13	-20 1/13	108 12/13	441
-40 1/13	-16 1/13	72 12/13	31 12/13	-3 1/13	65 12/13	33 12/13	1 12/13	70 12/13	35 12/13	-5 1/13	83 12/13	107 12/13	441
102 12/13	-14 1/13	-4 1/13	68 12/13	36 12/13	-2 1/13	73 12/13	29 12/13	- 1/13	66 12/13	34 12/13	81 12/13	-35 1/13	441
100 12/13	-12 1/13	50 12/13	45 12/13	4 12/13	55 12/13	38 12/13	6 12/13	48 12/13	43 12/13	8 12/13	79 12/13	-33 1/13	441
98 12/13	-10 1/13	9 12/13	49 12/13	41 12/13	2 12/13	51 12/13	46 12/13	7 12/13	53 12/13	39 12/13	77 12/13	-31 1/13	441
96 12/13	-8 1/13	40 12/13	5 12/13	54 12/13	42 12/13	10 12/13	47 12/13	44 12/13	3 12/13	52 12/13	75 12/13	-29 1/13	441
94 12/13	84 12/13	74 12/13	76 12/13	78 12/13	80 12/13	-18 1/13	-19 1/13	-21 1/13	-23 1/13	-25 1/13	82 12/13	-27 1/13	441
106 12/13	-28 1/13	-30 1/13	-32 1/13	-34 1/13	-36 1/13	-38 1/13	109 12/13	111 12/13	113 12/13	115 12/13	117 12/13	-37 1/13	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441

													2021
226 6/13	217 6/13	219 6/13	221 6/13	223 6/13	225 6/13	227 6/13	79 6/13	77 6/13	75 6/13	73 6/13	71 6/13	82 6/13	2021
72 6/13	106 6/13	114 6/13	112 6/13	110 6/13	108 6/13	207 6/13	208 6/13	210 6/13	212 6/13	214 6/13	104 6/13	238 6/13	2021
74 6/13	215 6/13	136 6/13	185 6/13	144 6/13	141 6/13	178 6/13	146 6/13	134 6/13	183 6/13	148 6/13	95 6/13	236 6/13	2021
76 6/13	213 6/13	149 6/13	135 6/13	181 6/13	142 6/13	137 6/13	186 6/13	147 6/13	139 6/13	179 6/13	97 6/13	234 6/13	2021
78 6/13	211 6/13	180 6/13	145 6/13	140 6/13	182 6/13	150 6/13	133 6/13	184 6/13	143 6/13	138 6/13	99 6/13	232 6/13	2021
80 6/13	209 6/13	154 6/13	122 6/13	189 6/13	159 6/13	115 6/13	191 6/13	152 6/13	120 6/13	193 6/13	101 6/13	230 6/13	2021
81 6/13	105 6/13	194 6/13	153 6/13	118 6/13	187 6/13	155 6/13	123 6/13	192 6/13	157 6/13	116 6/13	205 6/13	229 6/13	2021
224 6/13	107 6/13	117 6/13	190 6/13	158 6/13	119 6/13	195 6/13	151 6/13	121 6/13	188 6/13	156 6/13	203 6/13	86 6/13	2021
222 6/13	109 6/13	172 6/13	167 6/13	126 6/13	177 6/13	160 6/13	128 6/13	170 6/13	165 6/13	130 6/13	201 6/13	88 6/13	2021
220 6/13	111 6/13	131 6/13	171 6/13	163 6/13	124 6/13	173 6/13	168 6/13	129 6/13	175 6/13	161 6/13	199 6/13	90 6/13	2021
218 6/13	113 6/13	162 6/13	127 6/13	176 6/13	164 6/13	132 6/13	169 6/13	166 6/13	125 6/13	174 6/13	197 6/13	92 6/13	2021
216 6/13	206 6/13	196 6/13	198 6/13	200 6/13	202 6/13	103 6/13	102 6/13	100 6/13	98 6/13	96 6/13	204 6/13	94 6/13	2021
228 6/13	93 6/13	91 6/13	89 6/13	87 6/13	85 6/13	83 6/13	231 6/13	233 6/13	235 6/13	237 6/13	239 6/13	84 6/13	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 3 are **semi-magic** squares with sums given by

$$[Sm_{3\times3} : S_{13\times13} := 21] := \frac{63}{13}$$

$$[Sm_{3\times3} : S_{13\times13} := 441] := \frac{1323}{13}$$

$$[Sm_{3\times3} : S_{13\times13} := 2021] := \frac{6063}{13}$$

1.6.2 Second Type

													21
72 8/13	63 8/13	65 8/13	67 8/13	69 8/13	71 8/13	73 8/13	-74 5/13	-76 5/13	-78 5/13	-80 5/13	-82 5/13	-71 5/13	21
-81 5/13	-47 5/13	-39 5/13	-41 5/13	-43 5/13	-45 5/13	53 8/13	54 8/13	56 8/13	58 8/13	60 8/13	-49 5/13	84 8/13	21
-79 5/13	61 8/13	-30 5/13	31 8/13	12 8/13	35 8/13	-10 5/13	-29 5/13	2 8/13	-16 5/13	18 8/13	-58 5/13	82 8/13	21
-77 5/13	59 8/13	38 8/13	-7 5/13	-26 5/13	5 8/13	-13 5/13	21 8/13	-36 5/13	25 8/13	6 8/13	-56 5/13	80 8/13	21
-75 5/13	57 8/13	- 5/13	-19 5/13	15 8/13	-33 5/13	28 8/13	9 8/13	41 8/13	-4 5/13	-23 5/13	-54 5/13	78 8/13	21
-73 5/13	55 8/13	13 8/13	-32 5/13	32 8/13	-28 5/13	33 8/13	-9 5/13	19 8/13	8/13	-15 5/13	-52 5/13	76 8/13	21
-72 5/13	-48 5/13	-25 5/13	36 8/13	-6 5/13	22 8/13	3 8/13	-12 5/13	7 8/13	-38 5/13	26 8/13	51 8/13	75 8/13	21
70 8/13	-46 5/13	16 8/13	-2 5/13	-18 5/13	10 8/13	-35 5/13	29 8/13	-22 5/13	39 8/13	-3 5/13	49 8/13	-67 5/13	21
68 8/13	-44 5/13	30 8/13	14 8/13	-31 5/13	-11 5/13	-27 5/13	34 8/13	-17 5/13	20 8/13	1 8/13	47 8/13	-65 5/13	21
66 8/13	-42 5/13	-8 5/13	-24 5/13	37 8/13	-14 5/13	23 8/13	4 8/13	24 8/13	8 8/13	-37 5/13	45 8/13	-63 5/13	21
64 8/13	-40 5/13	-20 5/13	17 8/13	-1 5/13	27 8/13	11 8/13	-34 5/13	-5 5/13	-21 5/13	40 8/13	43 8/13	-61 5/13	21
62 8/13	52 8/13	42 8/13	44 8/13	46 8/13	48 8/13	-50 5/13	-51 5/13	-53 5/13	-55 5/13	-57 5/13	50 8/13	-59 5/13	21
74 8/13	-60 5/13	-62 5/13	-64 5/13	-66 5/13	-68 5/13	-70 5/13	77 8/13	79 8/13	81 8/13	83 8/13	85 8/13	-69 5/13	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21

104 12/13	95 12/13	97 12/13	99 12/13	101 12/13	103 12/13	105 12/13	-42 1/13	-44 1/13	-46 1/13	-48 1/13	-50 1/13	-39 1/13	441
-49 1/13	-15 1/13	-7 1/13	-9 1/13	-11 1/13	-13 1/13	85 12/13	86 12/13	88 12/13	90 12/13	92 12/13	-17 1/13	116 12/13	441
-47 1/13	93 12/13	1 12/13	63 12/13	44 12/13	67 12/13	21 12/13	2 12/13	34 12/13	15 12/13	50 12/13	-26 1/13	114 12/13	441
-45 1/13	91 12/13	70 12/13	24 12/13	5 12/13	37 12/13	18 12/13	53 12/13	-4 1/13	57 12/13	38 12/13	-24 1/13	112 12/13	441
-43 1/13	89 12/13	31 12/13	12 12/13	47 12/13	-1 1/13	60 12/13	41 12/13	73 12/13	27 12/13	8 12/13	-22 1/13	110 12/13	441
-41 1/13	87 12/13	45 12/13	- 1/13	64 12/13	3 12/13	65 12/13	22 12/13	51 12/13	32 12/13	16 12/13	-20 1/13	108 12/13	441
-40 1/13	-16 1/13	6 12/13	68 12/13	25 12/13	54 12/13	35 12/13	19 12/13	39 12/13	-6 1/13	58 12/13	83 12/13	107 12/13	441
102 12/13	-14 1/13	48 12/13	29 12/13	13 12/13	42 12/13	-3 1/13	61 12/13	9 12/13	71 12/13	28 12/13	81 12/13	-35 1/13	441
100 12/13	-12 1/13	62 12/13	46 12/13	12/13	20 12/13	4 12/13	66 12/13	14 12/13	52 12/13	33 12/13	79 12/13	-33 1/13	441
98 12/13	-10 1/13	23 12/13	7 12/13	69 12/13	17 12/13	55 12/13	36 12/13	56 12/13	40 12/13	-5 1/13	77 12/13	-31 1/13	441
96 12/13	-8 1/13	11 12/13	49 12/13	30 12/13	59 12/13	43 12/13	-2 1/13	26 12/13	10 12/13	72 12/13	75 12/13	-29 1/13	441
94 12/13	84 12/13	74 12/13	76 12/13	78 12/13	80 12/13	-18 1/13	-19 1/13	-21 1/13	-23 1/13	-25 1/13	82 12/13	-27 1/13	441
106 12/13	-28 1/13	-30 1/13	-32 1/13	-34 1/13	-36 1/13	-38 1/13	109 12/13	111 12/13	113 12/13	115 12/13	117 12/13	-37 1/13	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441

226 6/13	217 6/13	219 6/13	221 6/13	223 6/13	225 6/13	227 6/13	79 6/13	77 6/13	75 6/13	73 6/13	71 6/13	82 6/13	2021
72 6/13	106 6/13	114 6/13	112 6/13	110 6/13	108 6/13	207 6/13	208 6/13	210 6/13	212 6/13	214 6/13	104 6/13	238 6/13	2021
74 6/13	215 6/13	123 6/13	185 6/13	166 6/13	189 6/13	143 6/13	124 6/13	156 6/13	137 6/13	172 6/13	95 6/13	236 6/13	2021
76 6/13	213 6/13	192 6/13	146 6/13	127 6/13	159 6/13	140 6/13	175 6/13	117 6/13	179 6/13	160 6/13	97 6/13	234 6/13	2021
78 6/13	211 6/13	153 6/13	134 6/13	169 6/13	120 6/13	182 6/13	163 6/13	195 6/13	149 6/13	130 6/13	99 6/13	232 6/13	2021
80 6/13	209 6/13	167 6/13	121 6/13	186 6/13	125 6/13	187 6/13	144 6/13	173 6/13	154 6/13	138 6/13	101 6/13	230 6/13	2021
81 6/13	105 6/13	128 6/13	190 6/13	147 6/13	176 6/13	157 6/13	141 6/13	161 6/13	115 6/13	180 6/13	205 6/13	229 6/13	2021
224 6/13	107 6/13	170 6/13	151 6/13	135 6/13	164 6/13	118 6/13	183 6/13	131 6/13	193 6/13	150 6/13	203 6/13	86 6/13	2021
222 6/13	109 6/13	184 6/13	168 6/13	122 6/13	142 6/13	126 6/13	188 6/13	136 6/13	174 6/13	155 6/13	201 6/13	88 6/13	2021
220 6/13	111 6/13	145 6/13	129 6/13	191 6/13	139 6/13	177 6/13	158 6/13	178 6/13	162 6/13	116 6/13	199 6/13	90 6/13	2021
218 6/13	113 6/13	133 6/13	171 6/13	152 6/13	181 6/13	165 6/13	119 6/13	148 6/13	132 6/13	194 6/13	197 6/13	92 6/13	2021
216 6/13	206 6/13	196 6/13	198 6/13	200 6/13	202 6/13	103 6/13	102 6/13	100 6/13	98 6/13	96 6/13	204 6/13	94 6/13	2021
228 6/13	93 6/13	91 6/13	89 6/13	87 6/13	85 6/13	83 6/13	231 6/13	233 6/13	235 6/13	237 6/13	239 6/13	84 6/13	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the sum of nine entries of blocks of order 3 is the as of magic square of order 9.

1.7 Block-Bordered Magic Squares of Order 14

Below are **block-bordered magic squares** of order 14 in three different ways giving magic sums 21, 21^2 and 2021. The **block-wise** magic square considered is of order 12. The block are of orders 3, 4 and 6. In each case, the sum of magic squares of order 12 are given by

$$[S_{12\times 12} : S_{14\times 14} := 21] := 18$$
$$[S_{12\times 12} : S_{14\times 14} := 441] := 378$$
$$[S_{12\times 12} : S_{14\times 14} := 2021] := \frac{12126}{7}.$$

1.7.1 First Type

-83	-89	91	-87	89	-85	99	-90	85	-81	83	-79	81	87	21
98	27	-70	-20	1	-49	48	7	-43	54	69	-28	22	-95	21
-94	-68	-21	26	47	0	-47	53	6	-41	-26	21	68	97	21
96	-22	28	-69	-48	49	-1	-42	55	5	20	70	-27	-93	21
-92	60	-37	13	16	-34	63	-14	-64	33	42	-55	-5	95	21
94	-35	12	59	62	15	-32	32	-15	-62	-53	-6	41	-91	21
80	11	61	-36	-33	64	14	-63	34	-16	-7	43	-54	-77	21
74	-4	46	-51	-66	31	-19	-24	73	23	2	52	-45	-71	21
-72	-50	-3	44	29	-18	-65	71	24	-23	-44	3	50	75	21
76	45	-52	-2	-17	-67	30	25	-25	72	51	-46	4	-73	21
-74	17	67	-30	-39	58	8	-57	40	-10	-13	37	-60	77	21
78	-29	18	65	56	9	-38	38	-9	-56	-59	-12	35	-75	21
-76	66	-31	19	10	-40	57	-8	-58	39	36	-61	-11	79	21
-84	92	-88	90	-86	88	-96	93	-82	84	-80	82	-78	86	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

														441
-53	-59	121	-57	119	-55	129	-60	115	-51	113	-49	111	117	441
128	57	-40	10	31	-19	78	37	-13	84	99	2	52	-65	441
-64	-38	9	56	77	30	-17	83	36	-11	4	51	98	127	441
126	8	58	-39	-18	79	29	-12	85	35	50	100	3	-63	441
-62	90	-7	43	46	-4	93	16	-34	63	72	-25	25	125	441
124	-5	42	89	92	45	-2	62	15	-32	-23	24	71	-61	441
110	41	91	-6	-3	94	44	-33	64	14	23	73	-24	-47	441
104	26	76	-21	-36	61	11	6	103	53	32	82	-15	-41	441
-42	-20	27	74	59	12	-35	101	54	7	-14	33	80	105	441
106	75	-22	28	13	-37	60	55	5	102	81	-16	34	-43	441
-44	47	97	0	-9	88	38	-27	70	20	17	67	-30	107	441
108	1	48	95	86	39	-8	68	21	-26	-29	18	65	-45	441
-46	96	-1	49	40	-10	87	22	-28	69	66	-31	19	109	441
-54	122	-58	120	-56	118	-66	123	-52	114	-50	112	-48	116	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

														2021
59 6/7	53 6/7	233 6/7	55 6/7	231 6/7	57 6/7	241 6/7	52 6/7	227 6/7	61 6/7	225 6/7	63 6/7	223 6/7	229 6/7	2021
240 6/7	169 6/7	72 6/7	122 6/7	143 6/7	93 6/7	190 6/7	149 6/7	99 6/7	196 6/7	211 6/7	114 6/7	164 6/7	47 6/7	2021
48 6/7	74 6/7	121 6/7	168 6/7	189 6/7	142 6/7	95 6/7	195 6/7	148 6/7	101 6/7	116 6/7	163 6/7	210 6/7	239 6/7	2021
238 6/7	120 6/7	170 6/7	73 6/7	94 6/7	191 6/7	141 6/7	100 6/7	197 6/7	147 6/7	162 6/7	212 6/7	115 6/7	49 6/7	2021
50 6/7	202 6/7	105 6/7	155 6/7	158 6/7	108 6/7	205 6/7	128 6/7	78 6/7	175 6/7	184 6/7	87 6/7	137 6/7	237 6/7	2021
236 6/7	107 6/7	154 6/7	201 6/7	204 6/7	157 6/7	110 6/7	174 6/7	127 6/7	80 6/7	89 6/7	136 6/7	183 6/7	51 6/7	2021
222 6/7	153 6/7	203 6/7	106 6/7	109 6/7	206 6/7	156 6/7	79 6/7	176 6/7	126 6/7	135 6/7	185 6/7	88 6/7	65 6/7	2021
216 6/7	138 6/7	188 6/7	91 6/7	76 6/7	173 6/7	123 6/7	118 6/7	215 6/7	165 6/7	144 6/7	194 6/7	97 6/7	71 6/7	2021
70 6/7	92 6/7	139 6/7	186 6/7	171 6/7	124 6/7	77 6/7	213 6/7	166 6/7	119 6/7	98 6/7	145 6/7	192 6/7	217 6/7	2021
218 6/7	187 6/7	90 6/7	140 6/7	125 6/7	75 6/7	172 6/7	167 6/7	117 6/7	214 6/7	193 6/7	96 6/7	146 6/7	69 6/7	2021
68 6/7	159 6/7	209 6/7	112 6/7	103 6/7	200 6/7	150 6/7	85 6/7	182 6/7	132 6/7	129 6/7	179 6/7	82 6/7	219 6/7	2021
220 6/7	113 6/7	160 6/7	207 6/7	198 6/7	151 6/7	104 6/7	180 6/7	133 6/7	86 6/7	83 6/7	130 6/7	177 6/7	67 6/7	2021
66 6/7	208 6/7	111 6/7	161 6/7	152 6/7	102 6/7	199 6/7	134 6/7	84 6/7	181 6/7	178 6/7	81 6/7	131 6/7	221 6/7	2021
58 6/7	234 6/7	54 6/7	232 6/7	56 6/7	230 6/7	46 6/7	235 6/7	60 6/7	226 6/7	62 6/7	224 6/7	64 6/7	228 6/7	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, all the blocks of order 3 are magic squares with different magic sums.

1.7.2 Second Type

														21
-83	-89	91	-87	89	-85	99	-90	85	-81	83	-79	81	87	21
98	-16	37	-70	55	-15	36	-69	54	-14	35	-68	53	-95	21
-94	-53	38	1	20	-54	39	0	21	-55	40	-1	22	97	21
96	73	-52	19	-34	72	-51	18	-33	71	-50	17	-32	-93	21
-92	2	-17	56	-35	3	-18	57	-36	4	-19	58	-37	95	21
94	-13	34	-67	52	-12	33	-66	51	-11	32	-65	50	-91	21
80	-56	41	-2	23	-57	42	-3	24	-58	43	-4	25	-77	21
74	70	-49	16	-31	69	-48	15	-30	68	-47	14	-29	-71	21
-72	5	-20	59	-38	6	-21	60	-39	7	-22	61	-40	75	21
76	-10	31	-64	49	-9	30	-63	48	-8	29	-62	47	-73	21
-74	-59	44	-5	26	-60	45	-6	27	-61	46	-7	28	77	21
78	67	-46	13	-28	66	-45	12	-27	65	-44	11	-26	-75	21
-76	8	-23	62	-41	9	-24	63	-42	10	-25	64	-43	79	21
-84	92	-88	90	-86	88	-96	93	-82	84	-80	82	-78	86	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

														441
-53	-59	121	-57	119	-55	129	-60	115	-51	113	-49	111	117	441
128	14	67	-40	85	15	66	-39	84	16	65	-38	83	-65	441
-64	-23	68	31	50	-24	69	30	51	-25	70	29	52	127	441
126	103	-22	49	-4	102	-21	48	-3	101	-20	47	-2	-63	441
-62	32	13	86	-5	33	12	87	-6	34	11	88	-7	125	441
124	17	64	-37	82	18	63	-36	81	19	62	-35	80	-61	441
110	-26	71	28	53	-27	72	27	54	-28	73	26	55	-47	441
104	100	-19	46	-1	99	-18	45	0	98	-17	44	1	-41	441
-42	35	10	89	-8	36	9	90	-9	37	8	91	-10	105	441
106	20	61	-34	79	21	60	-33	78	22	59	-32	77	-43	441
-44	-29	74	25	56	-30	75	24	57	-31	76	23	58	107	441
108	97	-16	43	2	96	-15	42	3	95	-14	41	4	-45	441
-46	38	7	92	-11	39	6	93	-12	40	5	94	-13	109	441
-54	122	-58	120	-56	118	-66	123	-52	114	-50	112	-48	116	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

														2021
59 6/7	53 6/7	233 6/7	55 6/7	231 6/7	57 6/7	241 6/7	52 6/7	227 6/7	61 6/7	225 6/7	63 6/7	223 6/7	229 6/7	2021
240 6/7	126 6/7	179 6/7	72 6/7	197 6/7	127 6/7	178 6/7	73 6/7	196 6/7	128 6/7	177 6/7	74 6/7	195 6/7	47 6/7	2021
48 6/7	89 6/7	180 6/7	143 6/7	162 6/7	88 6/7	181 6/7	142 6/7	163 6/7	87 6/7	182 6/7	141 6/7	164 6/7	239 6/7	2021
238 6/7	215 6/7	90 6/7	161 6/7	108 6/7	214 6/7	91 6/7	160 6/7	109 6/7	213 6/7	92 6/7	159 6/7	110 6/7	49 6/7	2021
50 6/7	144 6/7	125 6/7	198 6/7	107 6/7	145 6/7	124 6/7	199 6/7	106 6/7	146 6/7	123 6/7	200 6/7	105 6/7	237 6/7	2021
236 6/7	129 6/7	176 6/7	75 6/7	194 6/7	130 6/7	175 6/7	76 6/7	193 6/7	131 6/7	174 6/7	77 6/7	192 6/7	51 6/7	2021
222 6/7	86 6/7	183 6/7	140 6/7	165 6/7	85 6/7	184 6/7	139 6/7	166 6/7	84 6/7	185 6/7	138 6/7	167 6/7	65 6/7	2021
216 6/7	212 6/7	93 6/7	158 6/7	111 6/7	211 6/7	94 6/7	157 6/7	112 6/7	210 6/7	95 6/7	156 6/7	113 6/7	71 6/7	2021
70 6/7	147 6/7	122 6/7	201 6/7	104 6/7	148 6/7	121 6/7	202 6/7	103 6/7	149 6/7	120 6/7	203 6/7	102 6/7	217 6/7	2021
218 6/7	132 6/7	173 6/7	78 6/7	191 6/7	133 6/7	172 6/7	79 6/7	190 6/7	134 6/7	171 6/7	80 6/7	189 6/7	69 6/7	2021
68 6/7	83 6/7	186 6/7	137 6/7	168 6/7	82 6/7	187 6/7	136 6/7	169 6/7	81 6/7	188 6/7	135 6/7	170 6/7	219 6/7	2021
220 6/7	209 6/7	96 6/7	155 6/7	114 6/7	208 6/7	97 6/7	154 6/7	115 6/7	207 6/7	98 6/7	153 6/7	116 6/7	67 6/7	2021
66 6/7	150 6/7	119 6/7	204 6/7	101 6/7	151 6/7	118 6/7	205 6/7	100 6/7	152 6/7	117 6/7	206 6/7	99 6/7	221 6/7	2021
58 6/7	234 6/7	54 6/7	232 6/7	56 6/7	230 6/7	46 6/7	235 6/7	60 6/7	226 6/7	62 6/7	224 6/7	64 6/7	228 6/7	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case all the blocks of order 4 are **pandiagonal** magic squares with equal magic sums are:

$$[S_{4\times 4} : S_{14\times 14} := 21] := 6$$

$$[S_{4\times 4} : S_{14\times 14} := 441] := 126$$

$$[S_{4\times 4} : S_{14\times 14} := 2021] := \frac{4042}{7}.$$

1.7.3 Third Type

														21
-83	-89	91	-87	89	-85	99	-90	85	-81	83	-79	81	87	21
98	-70	66	65	58	-63	-47	-69	67	64	59	-64	-48	-95	21
-94	49	-39	41	-38	-30	26	48	-40	40	-37	-29	27	97	21
96	25	18	-14	-7	9	-22	24	19	-13	-8	8	-21	-93	21
-92	1	-15	10	17	-6	2	0	-16	11	16	-5	3	95	21
94	-46	33	-31	34	42	-23	-45	32	-32	35	43	-24	-91	21
80	50	-54	-62	-55	57	73	51	-53	-61	-56	56	72	-77	21
74	-68	68	63	60	-65	-49	-67	69	62	61	-66	-50	-71	21
-72	47	-41	39	-36	-28	28	46	-42	38	-35	-27	29	75	21
76	23	20	-12	-9	7	-20	22	21	-11	-10	6	-19	-73	21
-74	-1	-17	12	15	-4	4	-2	-18	13	14	-3	5	77	21
78	-44	31	-33	36	44	-25	-43	30	-34	37	45	-26	-75	21
-76	52	-52	-60	-57	55	71	53	-51	-59	-58	54	70	79	21
-84	92	-88	90	-86	88	-96	93	-82	84	-80	82	-78	86	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

														441
-53	-59	121	-57	119	-55	129	-60	115	-51	113	-49	111	117	441
128	-40	96	95	88	-33	-17	-39	97	94	89	-34	-18	-65	441
-64	79	-9	71	-8	0	56	78	-10	70	-7	1	57	127	441
126	55	48	16	23	39	8	54	49	17	22	38	9	-63	441
-62	31	15	40	47	24	32	30	14	41	46	25	33	125	441
124	-16	63	-1	64	72	7	-15	62	-2	65	73	6	-61	441
110	80	-24	-32	-25	87	103	81	-23	-31	-26	86	102	-47	441
104	-38	98	93	90	-35	-19	-37	99	92	91	-36	-20	-41	441
-42	77	-11	69	-6	2	58	76	-12	68	-5	3	59	105	441
106	53	50	18	21	37	10	52	51	19	20	36	11	-43	441
-44	29	13	42	45	26	34	28	12	43	44	27	35	107	441
108	-14	61	-3	66	74	5	-13	60	-4	67	75	4	-45	441
-46	82	-22	-30	-27	85	101	83	-21	-29	-28	84	100	109	441
-54	122	-58	120	-56	118	-66	123	-52	114	-50	112	-48	116	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

														2021
59 6/7	53 6/7	233 6/7	55 6/7	231 6/7	57 6/7	241 6/7	52 6/7	227 6/7	61 6/7	225 6/7	63 6/7	223 6/7	229 6/7	2021
240 6/7	72 6/7	208 6/7	207 6/7	200 6/7	79 6/7	95 6/7	73 6/7	209 6/7	206 6/7	201 6/7	78 6/7	94 6/7	47 6/7	2021
48 6/7	191 6/7	103 6/7	183 6/7	104 6/7	112 6/7	168 6/7	190 6/7	102 6/7	182 6/7	105 6/7	113 6/7	169 6/7	239 6/7	2021
238 6/7	167 6/7	160 6/7	128 6/7	135 6/7	151 6/7	120 6/7	166 6/7	161 6/7	129 6/7	134 6/7	150 6/7	121 6/7	49 6/7	2021
50 6/7	143 6/7	127 6/7	152 6/7	159 6/7	136 6/7	144 6/7	142 6/7	126 6/7	153 6/7	158 6/7	137 6/7	145 6/7	237 6/7	2021
236 6/7	96 6/7	175 6/7	111 6/7	176 6/7	184 6/7	119 6/7	97 6/7	174 6/7	110 6/7	177 6/7	185 6/7	118 6/7	51 6/7	2021
222 6/7	192 6/7	88 6/7	80 6/7	87 6/7	199 6/7	215 6/7	193 6/7	89 6/7	81 6/7	86 6/7	198 6/7	214 6/7	65 6/7	2021
216 6/7	74 6/7	210 6/7	205 6/7	202 6/7	77 6/7	93 6/7	75 6/7	211 6/7	204 6/7	203 6/7	76 6/7	92 6/7	71 6/7	2021
70 6/7	189 6/7	101 6/7	181 6/7	106 6/7	114 6/7	170 6/7	188 6/7	100 6/7	180 6/7	107 6/7	115 6/7	171 6/7	217 6/7	2021
218 6/7	165 6/7	162 6/7	130 6/7	133 6/7	149 6/7	122 6/7	164 6/7	163 6/7	131 6/7	132 6/7	148 6/7	123 6/7	69 6/7	2021
68 6/7	141 6/7	125 6/7	154 6/7	157 6/7	138 6/7	146 6/7	140 6/7	124 6/7	155 6/7	156 6/7	139 6/7	147 6/7	219 6/7	2021
220 6/7	98 6/7	173 6/7	109 6/7	178 6/7	186 6/7	117 6/7	99 6/7	172 6/7	108 6/7	179 6/7	187 6/7	116 6/7	67 6/7	2021
66 6/7	194 6/7	90 6/7	82 6/7	85 6/7	197 6/7	213 6/7	195 6/7	91 6/7	83 6/7	84 6/7	196 6/7	212 6/7	221 6/7	2021
58 6/7	234 6/7	54 6/7	232 6/7	56 6/7	230 6/7	46 6/7	235 6/7	60 6/7	226 6/7	62 6/7	224 6/7	64 6/7	228 6/7	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, all the blocks of order 6 are magic squares with equal magic sums are:

$$[S_{6\times 6} : S_{14\times 14} := 21] := 9$$
$$[S_{6\times 6} : S_{14\times 14} := 441] := 189$$
$$[S_{6\times 6} : S_{14\times 14} := 2021] := \frac{6063}{7}.$$

1.8 Block-Wise Magic Squares of Order 15

Below are **block-wise magic squares** of order 15 in two different ways giving magic sums 21, 21^2 and 2021. One is where blocks of order 3 are semi-magic with equal semi-magic sums. The second, where blocks of order 5 are **pandiagonal** magic squares with equal magic sums.

1.8.1 First Type

	pan	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
21	74.4	-46.6	-23.6	75.4	-37.6	-33.6	76.4	-36.6	-35.6	77.4	-47.6	-25.6	78.4	-49.6	-24.6	21
21	-31.6	81.4	-45.6	-22.6	71.4	-44.6	-21.6	69.4	-43.6	-32.6	79.4	-42.6	-34.6	80.4	-41.6	21
21	-38.6	-30.6	73.4	-48.6	-29.6	82.4	-50.6	-28.6	83.4	-40.6	-27.6	72.4	-39.6	-26.6	70.4	21
21	-75.6	88.4	-8.6	-74.6	97.4	-18.6	-73.6	98.4	-20.6	-72.6	87.4	-10.6	-71.6	85.4	-9.6	21
21	-16.6	-68.6	89.4	-7.6	-78.6	90.4	-6.6	-80.6	91.4	-17.6	-70.6	92.4	-19.6	-69.6	93.4	21
21	96.4	-15.6	-76.6	86.4	-14.6	-67.6	84.4	-13.6	-66.6	94.4	-12.6	-77.6	95.4	-11.6	-79.6	21
21	-105.6	103.4	6.4	-104.6	112.4	-3.6	-103.6	113.4	-5.6	-102.6	102.4	4.4	-101.6	100.4	5.4	21
21	-1.6	-98.6	104.4	7.4	-108.6	105.4	8.4	-110.6	106.4	-2.6	-100.6	107.4	-4.6	-99.6	108.4	21
21	111.4	-0.6	-106.6	101.4	0.4	-97.6	99.4	1.4	-96.6	109.4	2.4	-107.6	110.4	3.4	-109.6	21
21	44.4	-61.6	21.4	45.4	-52.6	11.4	46.4	-51.6	9.4	47.4	-62.6	19.4	48.4	-64.6	20.4	21
21	13.4	51.4	-60.6	22.4	41.4	-59.6	23.4	39.4	-58.6	12.4	49.4	-57.6	10.4	50.4	-56.6	21
21	-53.6	14.4	43.4	-63.6	15.4	52.4	-65.6	16.4	53.4	-55.6	17.4	42.4	-54.6	18.4	40.4	21
21	59.4	-91.6	36.4	60.4	-82.6	26.4	61.4	-81.6	24.4	62.4	-92.6	34.4	63.4	-94.6	35.4	21
21	28.4	66.4	-90.6	37.4	56.4	-89.6	38.4	54.4	-88.6	27.4	64.4	-87.6	25.4	65.4	-86.6	21
	-83.6	29.4	58.4	-93.6	30.4	67.4	-95.6	31.4	68.4	-85.6	32.4	57.4	-84.6	33.4	55.4	21
	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

	pan	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
441	102.4	-18.6	4.4	103.4	-9.6	-5.6	104.4	-8.6	-7.6	105.4	-19.6	2.4	106.4	-21.6	3.4	441
441	-3.6	109.4	-17.6	5.4	99.4	-16.6	6.4	97.4	-15.6	-4.6	107.4	-14.6	-6.6	108.4	-13.6	441
441	-10.6	-2.6	101.4	-20.6	-1.6	110.4	-22.6	-0.6	111.4	-12.6	0.4	100.4	-11.6	1.4	98.4	441
441	-47.6	116.4	19.4	-46.6	125.4	9.4	-45.6	126.4	7.4	-44.6	115.4	17.4	-43.6	113.4	18.4	441
441	11.4	-40.6	117.4	20.4	-50.6	118.4	21.4	-52.6	119.4	10.4	-42.6	120.4	8.4	-41.6	121.4	441
441	124.4	12.4	-48.6	114.4	13.4	-39.6	112.4	14.4	-38.6	122.4	15.4	-49.6	123.4	16.4	-51.6	441
441	-77.6	131.4	34.4	-76.6	140.4	24.4	-75.6	141.4	22.4	-74.6	130.4	32.4	-73.6	128.4	33.4	441
441	26.4	-70.6	132.4	35.4	-80.6	133.4	36.4	-82.6	134.4	25.4	-72.6	135.4	23.4	-71.6	136.4	441
441	139.4	27.4	-78.6	129.4	28.4	-69.6	127.4	29.4	-68.6	137.4	30.4	-79.6	138.4	31.4	-81.6	441
441	72.4	-33.6	49.4	73.4	-24.6	39.4	74.4	-23.6	37.4	75.4	-34.6	47.4	76.4	-36.6	48.4	441
441	41.4	79.4	-32.6	50.4	69.4	-31.6	51.4	67.4	-30.6	40.4	77.4	-29.6	38.4	78.4	-28.6	441
441	-25.6	42.4	71.4	-35.6	43.4	80.4	-37.6	44.4	81.4	-27.6	45.4	70.4	-26.6	46.4	68.4	441
441	87.4	-63.6	64.4	88.4	-54.6	54.4	89.4	-53.6	52.4	90.4	-64.6	62.4	91.4	-66.6	63.4	441
441	56.4	94.4	-62.6	65.4	84.4	-61.6	66.4	82.4	-60.6	55.4	92.4	-59.6	53.4	93.4	-58.6	441
	-55.6	57.4	86.4	-65.6	58.4	95.4	-67.6	59.4	96.4	-57.6	60.4	85.4	-56.6	61.4	83.4	441
	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	207 11/15	86 11/15	109 11/15	208 11/15	95 11/15	99 11/15	209 11/15	96 11/15	97 11/15	210 11/15	85 11/15	107 11/15	211 11/15	83 11/15	108 11/15	2021
2021	101 11/15	214 11/15	87 11/15	110 11/15	204 11/15	88 11/15	111 11/15	202 11/15	89 11/15	100 11/15	212 11/15	90 11/15	98 11/15	213 11/15	91 11/15	2021
2021	94 11/15	102 11/15	206 11/15	84 11/15	103 11/15	215 11/15	82 11/15	104 11/15	216 11/15	92 11/15	105 11/15	205 11/15	93 11/15	106 11/15	203 11/15	2021
2021	57 11/15	221 11/15	124 11/15	58 11/15	230 11/15	114 11/15	59 11/15	231 11/15	112 11/15	60 11/15	220 11/15	122 11/15	61 11/15	218 11/15	123 11/15	2021
2021	116 11/15	64 11/15	222 11/15	125 11/15	54 11/15	223 11/15	126 11/15	52 11/15	224 11/15	115 11/15	62 11/15	225 11/15	113 11/15	63 11/15	226 11/15	2021
2021	229 11/15	117 11/15	56 11/15	219 11/15	118 11/15	65 11/15	217 11/15	119 11/15	66 11/15	227 11/15	120 11/15	55 11/15	228 11/15	121 11/15	53 11/15	2021
2021	27 11/15	236 11/15	139 11/15	28 11/15	245 11/15	129 11/15	29 11/15	246 11/15	127 11/15	30 11/15	235 11/15	137 11/15	31 11/15	233 11/15	138 11/15	2021
2021	131 11/15	34 11/15	237 11/15	140 11/15	24 11/15	238 11/15	141 11/15	22 11/15	239 11/15	130 11/15	32 11/15	240 11/15	128 11/15	33 11/15	241 11/15	2021
2021	244 11/15	132 11/15	26 11/15	234 11/15	133 11/15	35 11/15	232 11/15	134 11/15	36 11/15	242 11/15	135 11/15	25 11/15	243 11/15	136 11/15	23 11/15	2021
2021	177 11/15	71 11/15	154 11/15	178 11/15	80 11/15	144 11/15	179 11/15	81 11/15	142 11/15	180 11/15	70 11/15	152 11/15	181 11/15	68 11/15	153 11/15	2021
2021	146 11/15	184 11/15	72 11/15	155 11/15	174 11/15	73 11/15	156 11/15	172 11/15	74 11/15	145 11/15	182 11/15	75 11/15	143 11/15	183 11/15	76 11/15	2021
2021	79 11/15	147 11/15	176 11/15	69 11/15	148 11/15	185 11/15	67 11/15	149 11/15	186 11/15	77 11/15	150 11/15	175 11/15	78 11/15	151 11/15	173 11/15	2021
2021	192 11/15	41 11/15	169 11/15	193 11/15	50 11/15	159 11/15	194 11/15	51 11/15	157 11/15	195 11/15	40 11/15	167 11/15	196 11/15	38 11/15	168 11/15	2021
2021	161 11/15	199 11/15	42 11/15	170 11/15	189 11/15	43 11/15	171 11/15	187 11/15	44 11/15	160 11/15	197 11/15	45 11/15	158 11/15	198 11/15	46 11/15	2021
	49 11/15	162 11/15	191 11/15	39 11/15	163 11/15	200 11/15	37 11/15	164 11/15	201 11/15	47 11/15	165 11/15	190 11/15	48 11/15	166 11/15	188 11/15	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 3 are **semi-magic squares**, with following **semi-magic sums**:

$$[Sm_{3\times 3} : S_{15\times 15} := 21] := 4.2$$

$$[Sm_{3\times 3} : S_{15\times 15} := 441] := 88.2$$

$$[Sm_{3\times 3} : S_{15\times 15} := 2021] := 404.2$$

1.8.2 Second Type

	pan	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
21	-110.6	106.4	-81.6	7.4	85.4	-80.6	76.4	-36.6	-7.6	55.4	-65.6	46.4	-21.6	22.4	25.4	21
21	8.4	97.4	-109.6	99.4	-88.6	-6.6	67.4	-79.6	69.4	-43.6	23.4	37.4	-64.6	39.4	-28.6	21
21	100.4	-95.6	1.4	98.4	-97.6	70.4	-50.6	-13.6	68.4	-67.6	40.4	-35.6	16.4	38.4	-52.6	21
21	91.4	-96.6	112.4	-94.6	-5.6	61.4	-66.6	82.4	-49.6	-20.6	31.4	-51.6	52.4	-34.6	9.4	21
21	-82.6	-4.6	84.4	-103.6	113.4	-37.6	-19.6	54.4	-73.6	83.4	-22.6	10.4	24.4	-58.6	53.4	21
21	-108.6	105.4	-83.6	5.4	88.4	-78.6	75.4	-38.6	-9.6	58.4	-63.6	45.4	-23.6	20.4	28.4	21
21	6.4	95.4	-106.6	101.4	-89.6	-8.6	65.4	-76.6	71.4	-44.6	21.4	35.4	-61.6	41.4	-29.6	21
21	103.4	-93.6	0.4	96.4	-99.6	73.4	-48.6	-14.6	66.4	-69.6	43.4	-33.6	15.4	36.4	-54.6	21
21	90.4	-98.6	110.4	-91.6	-3.6	60.4	-68.6	80.4	-46.6	-18.6	30.4	-53.6	50.4	-31.6	11.4	21
21	-84.6	-1.6	86.4	-104.6	111.4	-39.6	-16.6	56.4	-74.6	81.4	-24.6	13.4	26.4	-59.6	51.4	21
21	-107.6	107.4	-85.6	3.4	89.4	-77.6	77.4	-40.6	-11.6	59.4	-62.6	47.4	-25.6	18.4	29.4	21
21	4.4	93.4	-105.6	102.4	-87.6	-10.6	63.4	-75.6	72.4	-42.6	19.4	33.4	-60.6	42.4	-27.6	21
21	104.4	-92.6	2.4	94.4	-101.6	74.4	-47.6	-12.6	64.4	-71.6	44.4	-32.6	17.4	34.4	-56.6	21
21	92.4	-100.6	108.4	-90.6	-2.6	62.4	-70.6	78.4	-45.6	-17.6	32.4	-55.6	48.4	-30.6	12.4	21
	-86.6	-0.6	87.4	-102.6	109.4	-41.6	-15.6	57.4	-72.6	79.4	-26.6	14.4	27.4	-57.6	49.4	21
	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

	pan	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
441	-82.6	134.4	-53.6	35.4	113.4	-52.6	104.4	-8.6	20.4	83.4	-37.6	74.4	6.4	50.4	53.4	441
441	36.4	125.4	-81.6	127.4	-60.6	21.4	95.4	-51.6	97.4	-15.6	51.4	65.4	-36.6	67.4	-0.6	441
441	128.4	-67.6	29.4	126.4	-69.6	98.4	-22.6	14.4	96.4	-39.6	68.4	-7.6	44.4	66.4	-24.6	441
441	119.4	-68.6	140.4	-66.6	22.4	89.4	-38.6	110.4	-21.6	7.4	59.4	-23.6	80.4	-6.6	37.4	441
441	-54.6	23.4	112.4	-75.6	141.4	-9.6	8.4	82.4	-45.6	111.4	5.4	38.4	52.4	-30.6	81.4	441
441	-80.6	133.4	-55.6	33.4	116.4	-50.6	103.4	-10.6	18.4	86.4	-35.6	73.4	4.4	48.4	56.4	441
441	34.4	123.4	-78.6	129.4	-61.6	19.4	93.4	-48.6	99.4	-16.6	49.4	63.4	-33.6	69.4	-1.6	441
441	131.4	-65.6	28.4	124.4	-71.6	101.4	-20.6	13.4	94.4	-41.6	71.4	-5.6	43.4	64.4	-26.6	441
441	118.4	-70.6	138.4	-63.6	24.4	88.4	-40.6	108.4	-18.6	9.4	58.4	-25.6	78.4	-3.6	39.4	441
441	-56.6	26.4	114.4	-76.6	139.4	-11.6	11.4	84.4	-46.6	109.4	3.4	41.4	54.4	-31.6	79.4	441
441	-79.6	135.4	-57.6	31.4	117.4	-49.6	105.4	-12.6	16.4	87.4	-34.6	75.4	2.4	46.4	57.4	441
441	32.4	121.4	-77.6	130.4	-59.6	17.4	91.4	-47.6	100.4	-14.6	47.4	61.4	-32.6	70.4	0.4	441
441	132.4	-64.6	30.4	122.4	-73.6	102.4	-19.6	15.4	92.4	-43.6	72.4	-4.6	45.4	62.4	-28.6	441
441	120.4	-72.6	136.4	-62.6	25.4	90.4	-42.6	106.4	-17.6	10.4	60.4	-27.6	76.4	-2.6	40.4	441
	-58.6	27.4	115.4	-74.6	137.4	-13.6	12.4	85.4	-44.6	107.4	1.4	42.4	55.4	-29.6	77.4	441
	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	22 11/15	239 11/15	51 11/15	140 11/15	218 11/15	52 11/15	209 11/15	96 11/15	125 11/15	188 11/15	67 11/15	179 11/15	111 11/15	155 11/15	158 11/15	2021
2021	141 11/15	230 11/15	23 11/15	232 11/15	44 11/15	126 11/15	200 11/15	53 11/15	202 11/15	89 11/15	156 11/15	170 11/15	68 11/15	172 11/15	104 11/15	2021
2021	233 11/15	37 11/15	134 11/15	231 11/15	35 11/15	203 11/15	82 11/15	119 11/15	201 11/15	65 11/15	173 11/15	97 11/15	149 11/15	171 11/15	80 11/15	2021
2021	224 11/15	36 11/15	245 11/15	38 11/15	127 11/15	194 11/15	66 11/15	215 11/15	83 11/15	112 11/15	164 11/15	81 11/15	185 11/15	98 11/15	142 11/15	2021
2021	50 11/15	128 11/15	217 11/15	29 11/15	246 11/15	95 11/15	113 11/15	187 11/15	59 11/15	216 11/15	110 11/15	143 11/15	157 11/15	74 11/15	186 11/15	2021
2021	24 11/15	238 11/15	49 11/15	138 11/15	221 11/15	54 11/15	208 11/15	94 11/15	123 11/15	191 11/15	69 11/15	178 11/15	109 11/15	153 11/15	161 11/15	2021
2021	139 11/15	228 11/15	26 11/15	234 11/15	43 11/15	124 11/15	198 11/15	56 11/15	204 11/15	88 11/15	154 11/15	168 11/15	71 11/15	174 11/15	103 11/15	2021
2021	236 11/15	39 11/15	133 11/15	229 11/15	33 11/15	206 11/15	84 11/15	118 11/15	199 11/15	63 11/15	176 11/15	99 11/15	148 11/15	169 11/15	78 11/15	2021
2021	223 11/15	34 11/15	243 11/15	41 11/15	129 11/15	193 11/15	64 11/15	213 11/15	86 11/15	114 11/15	163 11/15	79 11/15	183 11/15	101 11/15	144 11/15	2021
2021	48 11/15	131 11/15	219 11/15	28 11/15	244 11/15	93 11/15	116 11/15	189 11/15	58 11/15	214 11/15	108 11/15	146 11/15	159 11/15	73 11/15	184 11/15	2021
2021	25 11/15	240 11/15	47 11/15	136 11/15	222 11/15	55 11/15	210 11/15	92 11/15	121 11/15	192 11/15	70 11/15	180 11/15	107 11/15	151 11/15	162 11/15	2021
2021	137 11/15	226 11/15	27 11/15	235 11/15	45 11/15	122 11/15	196 11/15	57 11/15	205 11/15	90 11/15	152 11/15	166 11/15	72 11/15	175 11/15	105 11/15	2021
2021	237 11/15	40 11/15	135 11/15	227 11/15	31 11/15	207 11/15	85 11/15	120 11/15	197 11/15	61 11/15	177 11/15	100 11/15	150 11/15	167 11/15	76 11/15	2021
2021	225 11/15	32 11/15	241 11/15	42 11/15	130 11/15	195 11/15	62 11/15	211 11/15	87 11/15	115 11/15	165 11/15	77 11/15	181 11/15	102 11/15	145 11/15	2021
	46 11/15	132 11/15	220 11/15	30 11/15	242 11/15	91 11/15	117 11/15	190 11/15	60 11/15	212 11/15	106 11/15	147 11/15	160 11/15	75 11/15	182 11/15	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, blocks of order 5 are **pandiagonal** with equal magic square sums. These sums are given by

$$[S_{5\times 5} : S_{15\times 15} := 21] := 7$$
$$[S_{5\times 5} : S_{15\times 15} := 441] := 147$$
$$[S_{5\times 5} : S_{15\times 15} := 2021] := \frac{2021}{3}.$$

1.9 Block-Wise Magic Squares of Order 16

Below are **block-wise magic squares** of order 16 in two different ways giving magic sums 21, 21^2 and 2021. One is where blocks of order 4 are **pandiagonal** magic squares of equal magic sums. The second, where blocks of order 4 are magic squares resulting in **bimagic square** of order 16.

1.9.1 First Type

	pan	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
21	-30.1875	64.8125	-126.1875	96.8125	-29.1875	63.8125	-125.1875	95.8125	-28.1875	62.8125	-124.1875	94.8125	-27.1875	61.8125	-123.1875	93.8125	21
21	-95.1875	65.8125	0.8125	33.8125	-96.1875	66.8125	-0.1875	34.8125	-97.1875	67.8125	-1.1875	35.8125	-98.1875	68.8125	-2.1875	36.8125	21
21	128.8125	-94.1875	32.8125	-62.1875	127.8125	-93.1875	31.8125	-61.1875	126.8125	-92.1875	30.8125	-60.1875	125.8125	-91.1875	29.8125	-59.1875	21
21	1.8125	-31.1875	97.8125	-63.1875	2.8125	-32.1875	98.8125	-64.1875	3.8125	-33.1875	99.8125	-65.1875	4.8125	-34.1875	100.8125	-66.1875	21
21	-26.1875	60.8125	-122.1875	92.8125	-25.1875	59.8125	-121.1875	91.8125	-24.1875	58.8125	-120.1875	90.8125	-23.1875	57.8125	-119.1875	89.8125	21
21	-99.1875	69.8125	-3.1875	37.8125	-100.1875	70.8125	-4.1875	38.8125	-101.1875	71.8125	-5.1875	39.8125	-102.1875	72.8125	-6.1875	40.8125	21
21	124.8125	-90.1875	28.8125	-58.1875	123.8125	-89.1875	27.8125	-57.1875	122.8125	-88.1875	26.8125	-56.1875	121.8125	-87.1875	25.8125	-55.1875	21
21	5.8125	-35.1875	101.8125	-67.1875	6.8125	-36.1875	102.8125	-68.1875	7.8125	-37.1875	103.8125	-69.1875	8.8125	-38.1875	104.8125	-70.1875	21
21	-22.1875	56.8125	-118.1875	88.8125	-21.1875	55.8125	-117.1875	87.8125	-20.1875	54.8125	-116.1875	86.8125	-19.1875	53.8125	-115.1875	85.8125	21
21	-103.1875	73.8125	-7.1875	41.8125	-104.1875	74.8125	-8.1875	42.8125	-105.1875	75.8125	-9.1875	43.8125	-106.1875	76.8125	-10.1875	44.8125	21
21	120.8125	-86.1875	24.8125	-54.1875	119.8125	-85.1875	23.8125	-53.1875	118.8125	-84.1875	22.8125	-52.1875	117.8125	-83.1875	21.8125	-51.1875	21
21	9.8125	-39.1875	105.8125	-71.1875	10.8125	-40.1875	106.8125	-72.1875	11.8125	-41.1875	107.8125	-73.1875	12.8125	-42.1875	108.8125	-74.1875	21
21	-18.1875	52.8125	-114.1875	84.8125	-17.1875	51.8125	-113.1875	83.8125	-16.1875	50.8125	-112.1875	82.8125	-15.1875	49.8125	-111.1875	81.8125	21
21	-107.1875	77.8125	-11.1875	45.8125	-108.1875	78.8125	-12.1875	46.8125	-109.1875	79.8125	-13.1875	47.8125	-110.1875	80.8125	-14.1875	48.8125	21
21	116.8125	-82.1875	20.8125	-50.1875	115.8125	-81.1875	19.8125	-49.1875	114.8125	-80.1875	18.8125	-48.1875	113.8125	-79.1875	17.8125	-47.1875	21
	13.8125	-43.1875	109.8125	-75.1875	14.8125	-44.1875	110.8125	-76.1875	15.8125	-45.1875	111.8125	-77.1875	16.8125	-46.1875	112.8125	-78.1875	21
	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

	pan	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
441	-3.9375	91.0625	-99.9375	123.0625	-2.9375	90.0625	-98.9375	122.0625	-1.9375	89.0625	-97.9375	121.0625	-0.9375	88.0625	-96.9375	120.0625	441
441	-68.9375	92.0625	27.0625	60.0625	-69.9375	93.0625	26.0625	61.0625	-70.9375	94.0625	25.0625	62.0625	-71.9375	95.0625	24.0625	63.0625	441
441	155.0625	-67.9375	59.0625	-35.9375	154.0625	-66.9375	58.0625	-34.9375	153.0625	-65.9375	57.0625	-33.9375	152.0625	-64.9375	56.0625	-32.9375	441
441	28.0625	-4.9375	124.0625	-36.9375	29.0625	-5.9375	125.0625	-37.9375	30.0625	-6.9375	126.0625	-38.9375	31.0625	-7.9375	127.0625	-39.9375	441
441	0.0625	87.0625	-95.9375	119.0625	1.0625	86.0625	-94.9375	118.0625	2.0625	85.0625	-93.9375	117.0625	3.0625	84.0625	-92.9375	116.0625	441
441	-72.9375	96.0625	23.0625	64.0625	-73.9375	97.0625	22.0625	65.0625	-74.9375	98.0625	21.0625	66.0625	-75.9375	99.0625	20.0625	67.0625	441
441	151.0625	-63.9375	55.0625	-31.9375	150.0625	-62.9375	54.0625	-30.9375	149.0625	-61.9375	53.0625	-29.9375	148.0625	-60.9375	52.0625	-28.9375	441
441	32.0625	-8.9375	128.0625	-40.9375	33.0625	-9.9375	129.0625	-41.9375	34.0625	-10.9375	130.0625	-42.9375	35.0625	-11.9375	131.0625	-43.9375	441
441	4.0625	83.0625	-91.9375	115.0625	5.0625	82.0625	-90.9375	114.0625	6.0625	81.0625	-89.9375	113.0625	7.0625	80.0625	-88.9375	112.0625	441
441	-76.9375	100.0625	19.0625	68.0625	-77.9375	101.0625	18.0625	69.0625	-78.9375	102.0625	17.0625	70.0625	-79.9375	103.0625	16.0625	71.0625	441
441	147.0625	-59.9375	51.0625	-27.9375	146.0625	-58.9375	50.0625	-26.9375	145.0625	-57.9375	49.0625	-25.9375	144.0625	-56.9375	48.0625	-24.9375	441
441	36.0625	-12.9375	132.0625	-44.9375	37.0625	-13.9375	133.0625	-45.9375	38.0625	-14.9375	134.0625	-46.9375	39.0625	-15.9375	135.0625	-47.9375	441
441	8.0625	79.0625	-87.9375	111.0625	9.0625	78.0625	-86.9375	110.0625	10.0625	77.0625	-85.9375	109.0625	11.0625	76.0625	-84.9375	108.0625	441
441	-80.9375	104.0625	15.0625	72.0625	-81.9375	105.0625	14.0625	73.0625	-82.9375	106.0625	13.0625	74.0625	-83.9375	107.0625	12.0625	75.0625	441
441	143.0625	-55.9375	47.0625	-23.9375	142.0625	-54.9375	46.0625	-22.9375	141.0625	-53.9375	45.0625	-21.9375	140.0625	-52.9375	44.0625	-20.9375	441
	40.0625	-16.9375	136.0625	-48.9375	41.0625	-17.9375	137.0625	-49.9375	42.0625	-18.9375	138.0625	-50.9375	43.0625	-19.9375	139.0625	-51.9375	441
	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	94.8125	189.8125	-1.1875	221.8125	95.8125	188.8125	-0.1875	220.8125	96.8125	187.8125	0.8125	219.8125	97.8125	186.8125	1.8125	218.8125	2021
2021	29.8125	190.8125	125.8125	158.8125	28.8125	191.8125	124.8125	159.8125	27.8125	192.8125	123.8125	160.8125	26.8125	193.8125	122.8125	161.8125	2021
2021	253.8125	30.8125	157.8125	62.8125	252.8125	31.8125	156.8125	63.8125	251.8125	32.8125	155.8125	64.8125	250.8125	33.8125	154.8125	65.8125	2021
2021	126.8125	93.8125	222.8125	61.8125	127.8125	92.8125	223.8125	60.8125	128.8125	91.8125	224.8125	59.8125	129.8125	90.8125	225.8125	58.8125	2021
2021	98.8125	185.8125	2.8125	217.8125	99.8125	184.8125	3.8125	216.8125	100.8125	183.8125	4.8125	215.8125	101.8125	182.8125	5.8125	214.8125	2021
2021	25.8125	194.8125	121.8125	162.8125	24.8125	195.8125	120.8125	163.8125	23.8125	196.8125	119.8125	164.8125	22.8125	197.8125	118.8125	165.8125	2021
2021	249.8125	34.8125	153.8125	66.8125	248.8125	35.8125	152.8125	67.8125	247.8125	36.8125	151.8125	68.8125	246.8125	37.8125	150.8125	69.8125	2021
2021	130.8125	89.8125	226.8125	57.8125	131.8125	88.8125	227.8125	56.8125	132.8125	87.8125	228.8125	55.8125	133.8125	86.8125	229.8125	54.8125	2021
2021	102.8125	181.8125	6.8125	213.8125	103.8125	180.8125	7.8125	212.8125	104.8125	179.8125	8.8125	211.8125	105.8125	178.8125	9.8125	210.8125	2021
2021	21.8125	198.8125	117.8125	166.8125	20.8125	199.8125	116.8125	167.8125	19.8125	200.8125	115.8125	168.8125	18.8125	201.8125	114.8125	169.8125	2021
2021	245.8125	38.8125	149.8125	70.8125	244.8125	39.8125	148.8125	71.8125	243.8125	40.8125	147.8125	72.8125	242.8125	41.8125	146.8125	73.8125	2021
2021	134.8125	85.8125	230.8125	53.8125	135.8125	84.8125	231.8125	52.8125	136.8125	83.8125	232.8125	51.8125	137.8125	82.8125	233.8125	50.8125	2021
2021	106.8125	177.8125	10.8125	209.8125	107.8125	176.8125	11.8125	208.8125	108.8125	175.8125	12.8125	207.8125	109.8125	174.8125	13.8125	206.8125	2021
2021	17.8125	202.8125	113.8125	170.8125	16.8125	203.8125	112.8125	171.8125	15.8125	204.8125	111.8125	172.8125	14.8125	205.8125	110.8125	173.8125	2021
2021	241.8125	42.8125	145.8125	74.8125	240.8125	43.8125	144.8125	75.8125	239.8125	44.8125	143.8125	76.8125	238.8125	45.8125	142.8125	77.8125	2021
	138.8125	81.8125	234.8125	49.8125	139.8125	80.8125	235.8125	48.8125	140.8125	79.8125	236.8125	47.8125	141.8125	78.8125	237.8125	46.8125	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the block of order 4 are **pandiagonal** magic squares with equal magic sums given by

$$[S_{4\times 4} : S_{16\times 16} := 21] := \frac{21}{4} = 5.25$$

$$[S_{4\times 4} : S_{16\times 16} := 441] := \frac{441}{4} = 110.25$$

$$[S_{4\times 4} : S_{16\times 16} := 2021] := \frac{2021}{4} = 505.25$$

1.9.2 Second Type

mgc																21
-126.1875	26.8125	111.8125	-7.1875	-104.1875	16.8125	121.8125	-29.1875	-83.1875	51.8125	70.8125	-34.1875	-65.1875	37.8125	84.8125	-52.1875	21
104.8125	-0.1875	-117.1875	17.8125	114.8125	-22.1875	-95.1875	7.8125	77.8125	-41.1875	-92.1875	60.8125	91.8125	-59.1875	-74.1875	46.8125	21
-5.1875	97.8125	24.8125	-112.1875	-15.1875	119.8125	2.8125	-102.1875	-44.1875	76.8125	61.8125	-89.1875	-58.1875	94.8125	43.8125	-75.1875	21
31.8125	-119.1875	-14.1875	106.8125	9.8125	-109.1875	-24.1875	128.8125	54.8125	-82.1875	-35.1875	67.8125	36.8125	-68.1875	-49.1875	85.8125	21
-81.1875	53.8125	68.8125	-36.1875	-67.1875	35.8125	86.8125	-50.1875	-120.1875	32.8125	105.8125	-13.1875	-110.1875	10.8125	127.8125	-23.1875	21
75.8125	-43.1875	-90.1875	62.8125	93.8125	-57.1875	-76.1875	44.8125	98.8125	-6.1875	-111.1875	23.8125	120.8125	-16.1875	-101.1875	1.8125	21
-42.1875	78.8125	59.8125	-91.1875	-60.1875	92.8125	45.8125	-73.1875	0.8125	103.8125	18.8125	-118.1875	-21.1875	113.8125	8.8125	-96.1875	21
52.8125	-84.1875	-33.1875	69.8125	38.8125	-66.1875	-51.1875	83.8125	25.8125	-125.1875	-8.1875	112.8125	15.8125	-103.1875	-30.1875	122.8125	21
-72.1875	48.8125	89.8125	-61.1875	-94.1875	58.8125	79.8125	-39.1875	-97.1875	5.8125	116.8125	-20.1875	-115.1875	19.8125	102.8125	-2.1875	21
82.8125	-54.1875	-63.1875	39.8125	72.8125	-32.1875	-85.1875	49.8125	123.8125	-27.1875	-106.1875	14.8125	109.8125	-9.1875	-124.1875	28.8125	21
-47.1875	87.8125	34.8125	-70.1875	-37.1875	65.8125	56.8125	-80.1875	-26.1875	126.8125	11.8125	-107.1875	-12.1875	108.8125	29.8125	-121.1875	21
41.8125	-77.1875	-56.1875	96.8125	63.8125	-87.1875	-46.1875	74.8125	4.8125	-100.1875	-17.1875	117.8125	22.8125	-114.1875	-3.1875	99.8125	21
-99.1875	3.8125	118.8125	-18.1875	-113.1875	21.8125	100.8125	-4.1875	-78.1875	42.8125	95.8125	-55.1875	-88.1875	64.8125	73.8125	-45.1875	21
125.8125	-25.1875	-108.1875	12.8125	107.8125	-11.1875	-122.1875	30.8125	88.8125	-48.1875	-69.1875	33.8125	66.8125	-38.1875	-79.1875	55.8125	21
-28.1875	124.8125	13.8125	-105.1875	-10.1875	110.8125	27.8125	-123.1875	-53.1875	81.8125	40.8125	-64.1875	-31.1875	71.8125	50.8125	-86.1875	21
6.8125	-98.1875	-19.1875	115.8125	20.8125	-116.1875	-1.1875	101.8125	47.8125	-71.1875	-62.1875	90.8125	57.8125	-93.1875	-40.1875	80.8125	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

mgc																441
-99.9375	53.0625	138.0625	19.0625	-77.9375	43.0625	148.0625	-2.9375	-56.9375	78.0625	97.0625	-7.9375	-38.9375	64.0625	111.0625	-25.9375	441
131.0625	26.0625	-90.9375	44.0625	141.0625	4.0625	-68.9375	34.0625	104.0625	-14.9375	-65.9375	87.0625	118.0625	-32.9375	-47.9375	73.0625	441
21.0625	124.0625	51.0625	-85.9375	11.0625	146.0625	29.0625	-75.9375	-17.9375	103.0625	88.0625	-62.9375	-31.9375	121.0625	70.0625	-48.9375	441
58.0625	-92.9375	12.0625	133.0625	36.0625	-82.9375	2.0625	155.0625	81.0625	-55.9375	-8.9375	94.0625	63.0625	-41.9375	-22.9375	112.0625	441
-54.9375	80.0625	95.0625	-9.9375	-40.9375	62.0625	113.0625	-23.9375	-93.9375	59.0625	132.0625	13.0625	-83.9375	37.0625	154.0625	3.0625	441
102.0625	-16.9375	-63.9375	89.0625	120.0625	-30.9375	-49.9375	71.0625	125.0625	20.0625	-84.9375	50.0625	147.0625	10.0625	-74.9375	28.0625	441
-15.9375	105.0625	86.0625	-64.9375	-33.9375	119.0625	72.0625	-46.9375	27.0625	130.0625	45.0625	-91.9375	5.0625	140.0625	35.0625	-69.9375	441
79.0625	-57.9375	-6.9375	96.0625	65.0625	-39.9375	-24.9375	110.0625	52.0625	-98.9375	18.0625	139.0625	42.0625	-76.9375	-3.9375	149.0625	441
-45.9375	75.0625	116.0625	-34.9375	-67.9375	85.0625	106.0625	-12.9375	-70.9375	32.0625	143.0625	6.0625	-88.9375	46.0625	129.0625	24.0625	441
109.0625	-27.9375	-36.9375	66.0625	99.0625	-5.9375	-58.9375	76.0625	150.0625	-0.9375	-79.9375	41.0625	136.0625	17.0625	-97.9375	55.0625	441
-20.9375	114.0625	61.0625	-43.9375	-10.9375	92.0625	83.0625	-53.9375	0.0625	153.0625	38.0625	-80.9375	14.0625	135.0625	56.0625	-94.9375	441
68.0625	-50.9375	-29.9375	123.0625	90.0625	-60.9375	-19.9375	101.0625	31.0625	-73.9375	9.0625	144.0625	49.0625	-87.9375	23.0625	126.0625	441
-72.9375	30.0625	145.0625	8.0625	-86.9375	48.0625	127.0625	22.0625	-51.9375	69.0625	122.0625	-28.9375	-61.9375	91.0625	100.0625	-18.9375	441
152.0625	1.0625	-81.9375	39.0625	134.0625	15.0625	-95.9375	57.0625	115.0625	-21.9375	-42.9375	60.0625	93.0625	-11.9375	-52.9375	82.0625	441
-1.9375	151.0625	40.0625	-78.9375	16.0625	137.0625	54.0625	-96.9375	-26.9375	108.0625	67.0625	-37.9375	-4.9375	98.0625	77.0625	-59.9375	441
33.0625	-71.9375	7.0625	142.0625	47.0625	-89.9375	25.0625	128.0625	74.0625	-44.9375	-35.9375	117.0625	84.0625	-66.9375	-13.9375	107.0625	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

mgc															2021
-1.1875	151.8125	236.8125	117.8125	20.8125	141.8125	246.8125	95.8125	41.8125	176.8125	195.8125	90.8125	59.8125	162.8125	209.8125	72.8125	2021
229.8125	124.8125	7.8125	142.8125	239.8125	102.8125	29.8125	132.8125	202.8125	83.8125	32.8125	185.8125	216.8125	65.8125	50.8125	171.8125	2021
119.8125	222.8125	149.8125	12.8125	109.8125	244.8125	127.8125	22.8125	80.8125	201.8125	186.8125	35.8125	66.8125	219.8125	168.8125	49.8125	2021
156.8125	5.8125	110.8125	231.8125	134.8125	15.8125	100.8125	253.8125	179.8125	42.8125	89.8125	192.8125	161.8125	56.8125	75.8125	210.8125	2021
43.8125	178.8125	193.8125	88.8125	57.8125	160.8125	211.8125	74.8125	4.8125	157.8125	230.8125	111.8125	14.8125	135.8125	252.8125	101.8125	2021
200.8125	81.8125	34.8125	187.8125	218.8125	67.8125	48.8125	169.8125	223.8125	118.8125	13.8125	148.8125	245.8125	108.8125	23.8125	126.8125	2021
82.8125	203.8125	184.8125	33.8125	64.8125	217.8125	170.8125	51.8125	125.8125	228.8125	143.8125	6.8125	103.8125	238.8125	133.8125	28.8125	2021
177.8125	40.8125	91.8125	194.8125	163.8125	58.8125	73.8125	208.8125	150.8125	-0.1875	116.8125	237.8125	140.8125	21.8125	94.8125	247.8125	2021
52.8125	173.8125	214.8125	63.8125	30.8125	183.8125	204.8125	85.8125	27.8125	130.8125	241.8125	104.8125	9.8125	144.8125	227.8125	122.8125	2021
207.8125	70.8125	61.8125	164.8125	197.8125	92.8125	39.8125	174.8125	248.8125	97.8125	18.8125	139.8125	234.8125	115.8125	0.8125	153.8125	2021
77.8125	212.8125	159.8125	54.8125	87.8125	190.8125	181.8125	44.8125	98.8125	251.8125	136.8125	17.8125	112.8125	233.8125	154.8125	3.8125	2021
166.8125	47.8125	68.8125	221.8125	188.8125	37.8125	78.8125	199.8125	129.8125	24.8125	107.8125	242.8125	147.8125	10.8125	121.8125	224.8125	2021
25.8125	128.8125	243.8125	106.8125	11.8125	146.8125	225.8125	120.8125	46.8125	167.8125	220.8125	69.8125	36.8125	189.8125	198.8125	79.8125	2021
250.8125	99.8125	16.8125	137.8125	232.8125	113.8125	2.8125	155.8125	213.8125	76.8125	55.8125	158.8125	191.8125	86.8125	45.8125	180.8125	2021
96.8125	249.8125	138.8125	19.8125	114.8125	235.8125	152.8125	1.8125	71.8125	206.8125	165.8125	60.8125	93.8125	196.8125	175.8125	38.8125	2021
131.8125	26.8125	105.8125	240.8125	145.8125	8.8125	123.8125	226.8125	172.8125	53.8125	62.8125	215.8125	182.8125	31.8125	84.8125	205.8125	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the block of order 4 are magic squares with equal magic sums. The sums are same given above. Moreover, the magic square of order 16 is **bimagic** square with **bimagic** sums given by

$$[Sb_{16\times16} : S_{16\times16} := 21] := 87407.5625$$
$$[Sb_{16\times16} : S_{16\times16} := 441] := 99535.0625$$
$$[Sb_{16\times16} : S_{16\times16} := 2021] := 342657.5625$$

1.10 Block-Bordered Magic Squares of Order 17

Below are **block-bordered magic squares** of order 17 in two different ways giving magic sums 21, 21^2 and 2021. The block-wise magic square considered is of order 15 with blocks of order 3 and 5. The blocks of order 3 are semi-magic with equal semi-magic sums. The blocks of order 5 are **pandiagonal** with equal magic sums. In both the cases the magic square of

order 15 is **pandiagonal** as given in Subsection 1.8. The magic sums of order 15 are given by

$$[S_{15\times 15} : S_{17\times 17} := 21] := \frac{315}{17}$$

$$[S_{15\times 15} : S_{17\times 17} := 441] := \frac{6615}{17}$$

$$[S_{15\times 15} : S_{17\times 17} := 2021] := \frac{30315}{17}.$$

1.10.1 First Type

																	21
-127 13/17	144 4/17	142 4/17	140 4/17	138 4/17	136 4/17	134 4/17	132 4/17	131 4/17	-123 13/17	-121 13/17	-119 13/17	-117 13/17	-115 13/17	-113 13/17	-111 13/17	-125 13/17	21
-142 13/17	74 4/17	-46 13/17	-23 13/17	75 4/17	-37 13/17	-33 13/17	76 4/17	-36 13/17	-35 13/17	77 4/17	-47 13/17	-25 13/17	78 4/17	-49 13/17	-24 13/17	145 4/17	21
-140 13/17	-31 13/17	81 4/17	-45 13/17	-22 13/17	71 4/17	-44 13/17	-21 13/17	69 4/17	-43 13/17	-32 13/17	79 4/17	-42 13/17	-34 13/17	80 4/17	-41 13/17	143 4/17	21
-138 13/17	-38 13/17	-30 13/17	73 4/17	-48 13/17	-29 13/17	82 4/17	-50 13/17	-28 13/17	83 4/17	-40 13/17	-27 13/17	72 4/17	-39 13/17	-26 13/17	70 4/17	141 4/17	21
-136 13/17	-75 13/17	88 4/17	-8 13/17	-74 13/17	97 4/17	-18 13/17	-73 13/17	98 4/17	-20 13/17	-72 13/17	87 4/17	-10 13/17	-71 13/17	85 4/17	-9 13/17	139 4/17	21
-134 13/17	-16 13/17	-68 13/17	89 4/17	-7 13/17	-78 13/17	90 4/17	-6 13/17	-80 13/17	91 4/17	-17 13/17	-70 13/17	92 4/17	-19 13/17	-69 13/17	93 4/17	137 4/17	21
-132 13/17	96 4/17	-15 13/17	-76 13/17	86 4/17	-14 13/17	-67 13/17	84 4/17	-13 13/17	-66 13/17	94 4/17	-12 13/17	-77 13/17	95 4/17	-11 13/17	-79 13/17	135 4/17	21
-130 13/17	-105 13/17	103 4/17	6 4/17	-104 13/17	112 4/17	-3 13/17	-103 13/17	113 4/17	-5 13/17	-102 13/17	102 4/17	4 4/17	-101 13/17	100 4/17	5 4/17	133 4/17	21
129 4/17	-1 13/17	-98 13/17	104 4/17	7 4/17	-108 13/17	105 4/17	8 4/17	-110 13/17	106 4/17	-2 13/17	-100 13/17	107 4/17	-4 13/17	-99 13/17	108 4/17	-126 13/17	21
127 4/17	111 4/17	- 13/17	-106 13/17	101 4/17	4/17	-97 13/17	99 4/17	1 4/17	-96 13/17	109 4/17	2 4/17	-107 13/17	110 4/17	3 4/17	-109 13/17	-124 13/17	21
125 4/17	44 4/17	-61 13/17	21 4/17	45 4/17	-52 13/17	11 4/17	46 4/17	-51 13/17	9 4/17	47 4/17	-62 13/17	19 4/17	48 4/17	-64 13/17	20 4/17	-122 13/17	21
123 4/17	13 4/17	51 4/17	-60 13/17	22 4/17	41 4/17	-59 13/17	23 4/17	39 4/17	-58 13/17	12 4/17	49 4/17	-57 13/17	10 4/17	50 4/17	-56 13/17	-120 13/17	21
121 4/17	-53 13/17	14 4/17	43 4/17	-63 13/17	15 4/17	52 4/17	-65 13/17	16 4/17	53 4/17	-55 13/17	17 4/17	42 4/17	-54 13/17	18 4/17	40 4/17	-118 13/17	21
119 4/17	59 4/17	-91 13/17	36 4/17	60 4/17	-82 13/17	26 4/17	61 4/17	-81 13/17	24 4/17	62 4/17	-92 13/17	34 4/17	63 4/17	-94 13/17	35 4/17	-116 13/17	21
117 4/17	28 4/17	66 4/17	-90 13/17	37 4/17	56 4/17	-89 13/17	38 4/17	54 4/17	-88 13/17	27 4/17	64 4/17	-87 13/17	25 4/17	65 4/17	-86 13/17	-114 13/17	21
115 4/17	-83 13/17	29 4/17	58 4/17	-93 13/17	30 4/17	67 4/17	-95 13/17	31 4/17	68 4/17	-85 13/17	32 4/17	57 4/17	-84 13/17	33 4/17	55 4/17	-112 13/17	21
128 4/17	-141 13/17	-139 13/17	-137 13/17	-135 13/17	-133 13/17	-131 13/17	-129 13/17	-128 13/17	126 4/17	124 4/17	122 4/17	120 4/17	118 4/17	116 4/17	114 4/17	130 4/17	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

																	441
-103 1/17	168 16/17	166 16/17	164 16/17	162 16/17	160 16/17	158 16/17	156 16/17	155 16/17	-99 1/17	-97 1/17	-95 1/17	-93 1/17	-91 1/17	-89 1/17	-87 1/17	-101 1/17	441
-118 1/17	98 16/17	-22 1/17	16/17	99 16/17	-13 1/17	-9 1/17	100 16/17	-12 1/17	-11 1/17	101 16/17	-23 1/17	-1 1/17	102 16/17	-25 1/17	- 1/17	169 16/17	441
-116 1/17	-7 1/17	105 16/17	-21 1/17	1 16/17	95 16/17	-20 1/17	2 16/17	93 16/17	-19 1/17	-8 1/17	103 16/17	-18 1/17	-10 1/17	104 16/17	-17 1/17	167 16/17	441
-114 1/17	-14 1/17	-6 1/17	97 16/17	-24 1/17	-5 1/17	106 16/17	-26 1/17	-4 1/17	107 16/17	-16 1/17	-3 1/17	96 16/17	-15 1/17	-2 1/17	94 16/17	165 16/17	441
-112 1/17	-51 1/17	112 16/17	15 16/17	-50 1/17	121 16/17	5 16/17	-49 1/17	122 16/17	3 16/17	-48 1/17	111 16/17	13 16/17	-47 1/17	109 16/17	14 16/17	163 16/17	441
-110 1/17	7 16/17	-44 1/17	113 16/17	16 16/17	-54 1/17	114 16/17	17 16/17	-56 1/17	115 16/17	6 16/17	-46 1/17	116 16/17	4 16/17	-45 1/17	117 16/17	161 16/17	441
-108 1/17	120 16/17	8 16/17	52 1/17	110 16/17	9 16/17	-43 1/17	108 16/17	10 16/17	-42 1/17	118 16/17	11 16/17	-53 1/17	119 16/17	12 16/17	-55 1/17	159 16/17	441
-106 1/17	-81 1/17	127 16/17	30 16/17	-80 1/17	136 16/17	20 16/17	-79 1/17	137 16/17	18 16/17	-78 1/17	126 16/17	28 16/17	-77 1/17	124 16/17	29 16/17	157 16/17	441
153 16/17	22 16/17	-74 1/17	28 16/17	31 16/17	-84 1/17	129 16/17	32 16/17	-86 1/17	130 16/17	21 16/17	-76 1/17	131 16/17	19 16/17	-75 1/17	132 16/17	-102 1/17	441
151 16/17	135 16/17	23 16/17	82 1/17	125 16/17	24 16/17	-73 1/17	123 16/17	25 16/17	-72 1/17	133 16/17	26 16/17	-83 1/17	134 16/17	27 16/17	-85 1/17	-100 1/17	441
149 16/17	68 16/17	-37 1/17	45 16/17	69 16/17	-28 1/17	35 16/17	70 16/17	-27 1/17	33 16/17	71 16/17	-38 1/17	43 16/17	72 16/17	-40 1/17	44 16/17	-98 1/17	441
147 16/17	37 16/17	75 16/17	36 1/17	46 16/17	65 16/17	-35 1/17	47 16/17	63 16/17	-34 1/17	36 16/17	73 16/17	-33 1/17	34 16/17	74 16/17	-32 1/17	-96 1/17	441
145 16/17	-29 1/17	38 16/17	67 16/17	-39 1/17	39 16/17	76 16/17	-41 1/17	40 16/17	77 16/17	-31 1/17	41 16/17	66 16/17	-30 1/17	42 16/17	64 16/17	-94 1/17	441
143 16/17	83 16/17	-67 1/17	60 16/17	84 16/17	-58 1/17	50 16/17	85 16/17	-57 1/17	48 16/17	86 16/17	-68 1/17	58 16/17	87 16/17	-70 1/17	59 16/17	-92 1/17	441
141 16/17	52 16/17	90 16/17	66 1/17	61 16/17	80 16/17	-65 1/17	62 16/17	78 16/17	-64 1/17	51 16/17	88 16/17	-63 1/17	49 16/17	89 16/17	-62 1/17	-90 1/17	441
139 16/17	-59 1/17	53 16/17	82 16/17	-69 1/17	54 16/17	91 16/17	-71 1/17	55 16/17	92 16/17	-61 1/17	56 16/17	81 16/17	-60 1/17	57 16/17	79 16/17	-88 1/17	441
152 16/17	-117 1/17	-115 1/17	-113 1/17	-111 1/17	-109 1/17	-107 1/17	-105 1/17	-104 1/17	150 16/17	148 16/17	146 16/17	144 16/17	142 16/17	140 16/17	138 16/17	154 16/17	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

																2021
-10 2/17	261 15/17	259 15/17	257 15/17	255 15/17	253 15/17	251 15/17	249 15/17	248 15/17	-6 2/17	-4 2/17	-2 2/17	- 2/17	1 15/17	3 15/17	5 15/17	-8 2/17	2021
-25 2/17	191 15/17	70 15/17	93 15/17	192 15/17	79 15/17	83 15/17	193 15/17	80 15/17	81 15/17	194 15/17	69 15/17	91 15/17	195 15/17	67 15/17	92 15/17	262 15/17	2021
-23 2/17	85 15/17	198 15/17	71 15/17	94 15/17	188 15/17	72 15/17	95 15/17	186 15/17	73 15/17	84 15/17	196 15/17	74 15/17	82 15/17	197 15/17	75 15/17	260 15/17	2021
-21 2/17	78 15/17	86 15/17	190 15/17	68 15/17	87 15/17	199 15/17	66 15/17	88 15/17	200 15/17	76 15/17	89 15/17	189 15/17	77 15/17	90 15/17	187 15/17	258 15/17	2021
-19 2/17	41 15/17	205 15/17	108 15/17	42 15/17	214 15/17	98 15/17	43 15/17	215 15/17	96 15/17	44 15/17	204 15/17	106 15/17	45 15/17	202 15/17	107 15/17	256 15/17	2021
-17 2/17	100 15/17	48 15/17	206 15/17	109 15/17	38 15/17	207 15/17	110 15/17	36 15/17	208 15/17	99 15/17	46 15/17	209 15/17	97 15/17	47 15/17	210 15/17	254 15/17	2021
-15 2/17	213 15/17	101 15/17	40 15/17	203 15/17	102 15/17	49 15/17	201 15/17	103 15/17	50 15/17	211 15/17	104 15/17	39 15/17	212 15/17	105 15/17	37 15/17	252 15/17	2021
-13 2/17	11 15/17	220 15/17	123 15/17	12 15/17	229 15/17	113 15/17	13 15/17	230 15/17	111 15/17	14 15/17	219 15/17	121 15/17	15 15/17	217 15/17	122 15/17	250 15/17	2021
246 15/17	115 15/17	18 15/17	221 15/17	124 15/17	8 15/17	222 15/17	125 15/17	6 15/17	223 15/17	114 15/17	16 15/17	224 15/17	112 15/17	17 15/17	225 15/17	-9 2/17	2021
244 15/17	228 15/17	116 15/17	10 15/17	218 15/17	117 15/17	19 15/17	216 15/17	118 15/17	20 15/17	226 15/17	119 15/17	9 15/17	227 15/17	120 15/17	7 15/17	-7 2/17	2021
242 15/17	161 15/17	55 15/17	138 15/17	162 15/17	64 15/17	128 15/17	163 15/17	65 15/17	126 15/17	164 15/17	54 15/17	136 15/17	165 15/17	52 15/17	137 15/17	-5 2/17	2021
240 15/17	130 15/17	168 15/17	56 15/17	139 15/17	158 15/17	57 15/17	140 15/17	156 15/17	58 15/17	129 15/17	166 15/17	59 15/17	127 15/17	167 15/17	60 15/17	-3 2/17	2021
238 15/17	63 15/17	131 15/17	160 15/17	53 15/17	132 15/17	169 15/17	51 15/17	133 15/17	170 15/17	61 15/17	134 15/17	159 15/17	62 15/17	135 15/17	157 15/17	-1 2/17	2021
236 15/17	176 15/17	25 15/17	153 15/17	177 15/17	34 15/17	143 15/17	178 15/17	35 15/17	141 15/17	179 15/17	24 15/17	151 15/17	180 15/17	22 15/17	152 15/17	15/17	2021
234 15/17	145 15/17	183 15/17	26 15/17	154 15/17	173 15/17	27 15/17	155 15/17	171 15/17	28 15/17	144 15/17	181 15/17	29 15/17	142 15/17	182 15/17	30 15/17	2 15/17	2021
232 15/17	33 15/17	146 15/17	175 15/17	23 15/17	147 15/17	184 15/17	21 15/17	148 15/17	185 15/17	31 15/17	149 15/17	174 15/17	32 15/17	150 15/17	172 15/17	4 15/17	2021
245 15/17	-24 2/17	-22 2/17	-20 2/17	-18 2/17	-16 2/17	-14 2/17	-12 2/17	-11 2/17	243 15/17	241 15/17	239 15/17	237 15/17	235 15/17	233 15/17	231 15/17	247 15/17	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 3 are **semi-magic squares** with equal magic sums. In each case the **semi-magic sums** are given by

$$[Sm_{3\times 3} : S_{17\times 17} := 21] := \frac{63}{17}$$

$$[Sm_{3\times 3} : S_{17\times 17} := 441] := \frac{1323}{17}$$

$$[Sm_{3\times 3} : S_{17\times 17} := 2021] := \frac{6063}{17}$$

1.10.2 Second Type

																	21
-127 13/17	144 4/17	142 4/17	140 4/17	138 4/17	136 4/17	134 4/17	132 4/17	131 4/17	-123 13/17	-121 13/17	-119 13/17	-117 13/17	-115 13/17	-113 13/17	-111 13/17	-125 13/17	21
-142 13/17	-110 13/17	106 4/17	-81 13/17	7 4/17	85 4/17	-80 13/17	76 4/17	-36 13/17	-7 13/17	55 4/17	-65 13/17	46 4/17	-21 13/17	22 4/17	25 4/17	145 4/17	21
-140 13/17	8 4/17	97 4/17	-109 13/17	99 4/17	-88 13/17	-6 13/17	67 4/17	-79 13/17	69 4/17	-43 13/17	23 4/17	37 4/17	-64 13/17	39 4/17	-28 13/17	143 4/17	21
-138 13/17	100 4/17	-95 13/17	1 4/17	98 4/17	-97 13/17	70 4/17	-50 13/17	-13 13/17	68 4/17	-67 13/17	40 4/17	-35 13/17	16 4/17	38 4/17	-52 13/17	141 4/17	21
-136 13/17	91 4/17	-96 13/17	112 4/17	-94 13/17	-5 13/17	61 4/17	-66 13/17	82 4/17	-49 13/17	-20 13/17	31 4/17	-51 13/17	52 4/17	-34 13/17	9 4/17	139 4/17	21
-134 13/17	-82 13/17	-4 13/17	84 4/17	-103 13/17	113 4/17	-37 13/17	-19 13/17	54 4/17	-73 13/17	83 4/17	-22 13/17	10 4/17	24 4/17	-58 13/17	53 4/17	137 4/17	21
-132 13/17	-108 13/17	105 4/17	-83 13/17	5 4/17	88 4/17	-78 13/17	75 4/17	-38 13/17	-9 13/17	58 4/17	-63 13/17	45 4/17	-23 13/17	20 4/17	28 4/17	135 4/17	21
-130 13/17	6 4/17	95 4/17	-106 13/17	101 4/17	-89 13/17	-8 13/17	65 4/17	-76 13/17	71 4/17	-44 13/17	21 4/17	35 4/17	-61 13/17	41 4/17	-29 13/17	133 4/17	21
129 4/17	103 4/17	-93 13/17	4/17	96 4/17	-99 13/17	73 4/17	-48 13/17	-14 13/17	66 4/17	-69 13/17	43 4/17	-33 13/17	15 4/17	36 4/17	-54 13/17	-126 13/17	21
127 4/17	90 4/17	-98 13/17	110 4/17	-91 13/17	-3 13/17	60 4/17	-68 13/17	80 4/17	-46 13/17	-18 13/17	30 4/17	-53 13/17	50 4/17	-31 13/17	11 4/17	-124 13/17	21
125 4/17	-84 13/17	-1 13/17	86 4/17	-104 13/17	111 4/17	-39 13/17	-16 13/17	56 4/17	-74 13/17	81 4/17	-24 13/17	13 4/17	26 4/17	-59 13/17	51 4/17	-122 13/17	21
123 4/17	-107 13/17	107 4/17	-85 13/17	3 4/17	89 4/17	-77 13/17	77 4/17	-40 13/17	-11 13/17	59 4/17	-62 13/17	47 4/17	-25 13/17	18 4/17	29 4/17	-120 13/17	21
121 4/17	4 4/17	93 4/17	-105 13/17	102 4/17	-87 13/17	-10 13/17	63 4/17	-75 13/17	72 4/17	-42 13/17	19 4/17	33 4/17	-60 13/17	42 4/17	-27 13/17	-118 13/17	21
119 4/17	104 4/17	-92 13/17	2 4/17	94 4/17	-101 13/17	74 4/17	-47 13/17	-12 13/17	64 4/17	-71 13/17	44 4/17	-32 13/17	17 4/17	34 4/17	-56 13/17	-116 13/17	21
117 4/17	92 4/17	-100 13/17	108 4/17	-90 13/17	-2 13/17	62 4/17	-70 13/17	78 4/17	-45 13/17	-17 13/17	32 4/17	-55 13/17	48 4/17	-30 13/17	12 4/17	-114 13/17	21
115 4/17	-86 13/17	- 13/17	87 4/17	-102 13/17	109 4/17	-41 13/17	-15 13/17	57 4/17	-72 13/17	79 4/17	-26 13/17	14 4/17	27 4/17	-57 13/17	49 4/17	-112 13/17	21
128 4/17	-141 13/17	-139 13/17	-137 13/17	-135 13/17	-133 13/17	-131 13/17	-129 13/17	-128 13/17	126 4/17	124 4/17	122 4/17	120 4/17	118 4/17	116 4/17	114 4/17	130 4/17	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

																	441
-103 1/17	168 16/17	166 16/17	164 16/17	162 16/17	160 16/17	158 16/17	156 16/17	155 16/17	-99 1/17	-97 1/17	-95 1/17	-93 1/17	-91 1/17	-89 1/17	-87 1/17	-101 1/17	441
-118 1/17	-86 1/17	130 16/17	-57 1/17	31 16/17	109 16/17	-56 1/17	100 16/17	-12 1/17	16 16/17	79 16/17	-41 1/17	70 16/17	2 16/17	46 16/17	49 16/17	169 16/17	441
-116 1/17	32 16/17	121 16/17	-85 1/17	123 16/17	-64 1/17	17 16/17	91 16/17	-55 1/17	93 16/17	-19 1/17	47 16/17	61 16/17	-40 1/17	63 16/17	-4 1/17	167 16/17	441
-114 1/17	124 16/17	-71 1/17	25 16/17	122 16/17	-73 1/17	94 16/17	-26 1/17	10 16/17	92 16/17	-43 1/17	64 16/17	-11 1/17	40 16/17	62 16/17	-28 1/17	165 16/17	441
-112 1/17	115 16/17	-72 1/17	136 16/17	-70 1/17	18 16/17	85 16/17	-42 1/17	106 16/17	-25 1/17	3 16/17	55 16/17	-27 1/17	76 16/17	-10 1/17	33 16/17	163 16/17	441
-110 1/17	-58 1/17	19 16/17	108 16/17	-79 1/17	137 16/17	-13 1/17	4 16/17	78 16/17	-49 1/17	107 16/17	1 16/17	34 16/17	48 16/17	-34 1/17	77 16/17	161 16/17	441
-108 1/17	-84 1/17	129 16/17	-59 1/17	29 16/17	112 16/17	-54 1/17	99 16/17	-14 1/17	14 16/17	82 16/17	-39 1/17	69 16/17	16/17	44 16/17	52 16/17	159 16/17	441
-106 1/17	30 16/17	119 16/17	-82 1/17	125 16/17	-65 1/17	15 16/17	89 16/17	-52 1/17	95 16/17	-20 1/17	45 16/17	59 16/17	-37 1/17	65 16/17	-5 1/17	157 16/17	441
153 16/17	127 16/17	-69 1/17	24 16/17	120 16/17	-75 1/17	97 16/17	-24 1/17	9 16/17	90 16/17	-45 1/17	67 16/17	-9 1/17	39 16/17	60 16/17	-30 1/17	-102 1/17	441
151 16/17	114 16/17	-74 1/17	134 16/17	-67 1/17	20 16/17	84 16/17	-44 1/17	104 16/17	-22 1/17	5 16/17	54 16/17	-29 1/17	74 16/17	-7 1/17	35 16/17	-100 1/17	441
149 16/17	-60 1/17	22 16/17	110 16/17	-80 1/17	135 16/17	-15 1/17	7 16/17	80 16/17	-50 1/17	105 16/17	- 1/17	37 16/17	50 16/17	-35 1/17	75 16/17	-98 1/17	441
147 16/17	-83 1/17	131 16/17	-61 1/17	27 16/17	113 16/17	-53 1/17	101 16/17	-16 1/17	12 16/17	83 16/17	-38 1/17	71 16/17	-1 1/17	42 16/17	53 16/17	-96 1/17	441
145 16/17	28 16/17	117 16/17	-81 1/17	126 16/17	-63 1/17	13 16/17	87 16/17	-51 1/17	96 16/17	-18 1/17	43 16/17	57 16/17	-36 1/17	66 16/17	-3 1/17	-94 1/17	441
143 16/17	128 16/17	-68 1/17	26 16/17	118 16/17	-77 1/17	98 16/17	-23 1/17	11 16/17	88 16/17	-47 1/17	68 16/17	-8 1/17	41 16/17	58 16/17	-32 1/17	-92 1/17	441
141 16/17	116 16/17	-76 1/17	132 16/17	-66 1/17	21 16/17	86 16/17	-46 1/17	102 16/17	-21 1/17	6 16/17	56 16/17	-31 1/17	72 16/17	-6 1/17	36 16/17	-90 1/17	441
139 16/17	-62 1/17	23 16/17	111 16/17	-78 1/17	133 16/17	-17 1/17	8 16/17	81 16/17	-48 1/17	103 16/17	-2 1/17	38 16/17	51 16/17	-33 1/17	73 16/17	-88 1/17	441
152 16/17	-117 1/17	-115 1/17	-113 1/17	-111 1/17	-109 1/17	-107 1/17	-105 1/17	-104 1/17	150 16/17	148 16/17	146 16/17	144 16/17	142 16/17	140 16/17	138 16/17	154 16/17	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

																	2021
-10 2/17	261 15/17	259 15/17	257 15/17	255 15/17	253 15/17	251 15/17	249 15/17	248 15/17	-6 2/17	-4 2/17	-2 2/17	- 2/17	1 15/17	3 15/17	5 15/17	-8 2/17	2021
-25 2/17	6 15/17	223 15/17	35 15/17	124 15/17	202 15/17	36 15/17	193 15/17	80 15/17	109 15/17	172 15/17	51 15/17	163 15/17	95 15/17	139 15/17	142 15/17	262 15/17	2021
-23 2/17	125 15/17	214 15/17	7 15/17	216 15/17	28 15/17	110 15/17	184 15/17	37 15/17	186 15/17	73 15/17	140 15/17	154 15/17	52 15/17	156 15/17	88 15/17	260 15/17	2021
-21 2/17	217 15/17	21 15/17	118 15/17	215 15/17	19 15/17	187 15/17	66 15/17	103 15/17	185 15/17	49 15/17	157 15/17	81 15/17	133 15/17	155 15/17	64 15/17	258 15/17	2021
-19 2/17	208 15/17	20 15/17	229 15/17	22 15/17	111 15/17	178 15/17	50 15/17	199 15/17	67 15/17	96 15/17	148 15/17	65 15/17	169 15/17	82 15/17	126 15/17	256 15/17	2021
-17 2/17	34 15/17	112 15/17	201 15/17	13 15/17	230 15/17	79 15/17	97 15/17	171 15/17	43 15/17	200 15/17	94 15/17	127 15/17	141 15/17	58 15/17	170 15/17	254 15/17	2021
-15 2/17	8 15/17	222 15/17	33 15/17	122 15/17	205 15/17	38 15/17	192 15/17	78 15/17	107 15/17	175 15/17	53 15/17	162 15/17	93 15/17	137 15/17	145 15/17	252 15/17	2021
-13 2/17	123 15/17	212 15/17	10 15/17	218 15/17	27 15/17	108 15/17	182 15/17	40 15/17	188 15/17	72 15/17	138 15/17	152 15/17	55 15/17	158 15/17	87 15/17	250 15/17	2021
246 15/17	220 15/17	23 15/17	117 15/17	213 15/17	17 15/17	190 15/17	68 15/17	102 15/17	183 15/17	47 15/17	160 15/17	83 15/17	132 15/17	153 15/17	62 15/17	-9 2/17	2021
244 15/17	207 15/17	18 15/17	227 15/17	25 15/17	113 15/17	177 15/17	48 15/17	197 15/17	70 15/17	98 15/17	147 15/17	63 15/17	167 15/17	85 15/17	128 15/17	-7 2/17	2021
242 15/17	32 15/17	115 15/17	203 15/17	12 15/17	228 15/17	77 15/17	100 15/17	173 15/17	42 15/17	198 15/17	92 15/17	130 15/17	143 15/17	57 15/17	168 15/17	-5 2/17	2021
240 15/17	9 15/17	224 15/17	31 15/17	120 15/17	206 15/17	39 15/17	194 15/17	76 15/17	105 15/17	176 15/17	54 15/17	164 15/17	91 15/17	135 15/17	146 15/17	-3 2/17	2021
238 15/17	121 15/17	210 15/17	11 15/17	219 15/17	29 15/17	106 15/17	180 15/17	41 15/17	189 15/17	74 15/17	136 15/17	150 15/17	56 15/17	159 15/17	89 15/17	-1 2/17	2021
236 15/17	221 15/17	24 15/17	119 15/17	211 15/17	15 15/17	191 15/17	69 15/17	104 15/17	181 15/17	45 15/17	161 15/17	84 15/17	134 15/17	151 15/17	60 15/17	15/17	2021
234 15/17	209 15/17	16 15/17	225 15/17	26 15/17	114 15/17	179 15/17	46 15/17	195 15/17	71 15/17	99 15/17	149 15/17	61 15/17	165 15/17	86 15/17	129 15/17	2 15/17	2021
232 15/17	30 15/17	116 15/17	204 15/17	14 15/17	226 15/17	75 15/17	101 15/17	174 15/17	44 15/17	196 15/17	90 15/17	131 15/17	144 15/17	59 15/17	166 15/17	4 15/17	2021
245 15/17	-24 2/17	-22 2/17	-20 2/17	-18 2/17	-16 2/17	-14 2/17	-12 2/17	-11 2/17	243 15/17	241 15/17	239 15/17	237 15/17	235 15/17	233 15/17	231 15/17	247 15/17	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 5 are **pandiagonal** with equal magic sums. In each case the **magic sums** order 5 are given by

$$[S_{5\times5} : S_{17\times17} := 21] := \frac{105}{17}$$
$$[S_{5\times5} : S_{17\times17} := 441] := \frac{2205}{17}$$
$$[S_{5\times5} : S_{17\times17} := 2021] := \frac{10105}{17}.$$

1.11 Block-Wise Magic Squares of Order 18

Below are **block-wise magic squares** of order 18 in two different ways giving magic sums 21, 21^2 and 2021. One is where blocks of order 3 are magic squares with different magic sums. The second, where blocks of order 6 are magic squares with equal magic sums.

1.11.1 First Type

																		21
-142 1/3	-122 1/3	-159 1/3	31 2/3	15 2/3	50 2/3	84 2/3	100 2/3	65 2/3	138 2/3	118 2/3	155 2/3	-22 1/3	-2 1/3	-39 1/3	-83 1/3	-103 1/3	-66 1/3	21
-158 1/3	-141 1/3	-124 1/3	51 2/3	32 2/3	13 2/3	64 2/3	83 2/3	102 2/3	154 2/3	137 2/3	120 2/3	-38 1/3	-21 1/3	-4 1/3	-67 1/3	-84 1/3	-101 1/3	21
-123 1/3	-160 1/3	-140 1/3	14 2/3	49 2/3	33 2/3	101 2/3	66 2/3	82 2/3	119 2/3	156 2/3	136 2/3	-3 1/3	-40 1/3	-20 1/3	-102 1/3	-65 1/3	-85 1/3	21
85 2/3	105 2/3	68 2/3	-88 1/3	-104 1/3	-69 1/3	139 2/3	123 2/3	158 2/3	-29 1/3	-13 1/3	-48 1/3	25 2/3	9 2/3	44 2/3	-130 1/3	-110 1/3	-147 1/3	21
69 2/3	86 2/3	103 2/3	-68 1/3	-87 1/3	-106 1/3	159 2/3	140 2/3	121 2/3	-49 1/3	-30 1/3	-11 1/3	45 2/3	26 2/3	7 2/3	-146 1/3	-129 1/3	-112 1/3	21
104 2/3	67 2/3	87 2/3	-105 1/3	-70 1/3	-86 1/3	122 2/3	157 2/3	141 2/3	-12 1/3	-47 1/3	-31 1/3	8 2/3	43 2/3	27 2/3	-111 1/3	-148 1/3	-128 1/3	21
-71 1/3	-91 1/3	-54 1/3	-125 1/3	-109 1/3	-144 1/3	-34 1/3	-14 1/3	-51 1/3	79 2/3	99 2/3	62 2/3	127 2/3	111 2/3	146 2/3	30 2/3	10 2/3	47 2/3	21
-55 1/3	-72 1/3	-89 1/3	-145 1/3	-126 1/3	-107 1/3	-50 1/3	-33 1/3	-16 1/3	63 2/3	80 2/3	97 2/3	147 2/3	128 2/3	109 2/3	46 2/3	29 2/3	12 2/3	21
-90 1/3	-53 1/3	-73 1/3	-108 1/3	-143 1/3	-127 1/3	-15 1/3	-52 1/3	-32 1/3	98 2/3	61 2/3	81 2/3	110 2/3	145 2/3	129 2/3	11 2/3	48 2/3	28 2/3	21
132 2/3	112 2/3	149 2/3	-23 1/3	-7 1/3	-42 1/3	-131 1/3	-115 1/3	-150 1/3	36 2/3	16 2/3	53 2/3	-77 1/3	-97 1/3	-60 1/3	73 2/3	93 2/3	56 2/3	21
148 2/3	131 2/3	114 2/3	-43 1/3	-24 1/3	-5 1/3	-151 1/3	-132 1/3	-113 1/3	52 2/3	35 2/3	18 2/3	-61 1/3	-78 1/3	-95 1/3	57 2/3	74 2/3	91 2/3	21
113 2/3	150 2/3	130 2/3	-6 1/3	-41 1/3	-25 1/3	-114 1/3	-149 1/3	-133 1/3	17 2/3	54 2/3	34 2/3	-96 1/3	-59 1/3	-79 1/3	92 2/3	55 2/3	75 2/3	21
19 2/3	3 2/3	38 2/3	133 2/3	117 2/3	152 2/3	-76 1/3	-92 1/3	-57 1/3	-136 1/3	-116 1/3	-153 1/3	90 2/3	106 2/3	71 2/3	-28 1/3	-8 1/3	-45 1/3	21
39 2/3	20 2/3	1 2/3	153 2/3	134 2/3	115 2/3	-56 1/3	-75 1/3	-94 1/3	-152 1/3	-135 1/3	-118 1/3	70 2/3	89 2/3	108 2/3	-44 1/3	-27 1/3	-10 1/3	21
2 2/3	37 2/3	21 2/3	116 2/3	151 2/3	135 2/3	-93 1/3	-58 1/3	-74 1/3	-117 1/3	-154 1/3	-134 1/3	107 2/3	72 2/3	88 2/3	-9 1/3	-46 1/3	-26 1/3	21
-17 1/3	-1 1/3	-36 1/3	78 2/3	94 2/3	59 2/3	24 2/3	4 2/3	41 2/3	-82 1/3	-98 1/3	-63 1/3	-137 1/3	-121 1/3	-156 1/3	144 2/3	124 2/3	161 2/3	21
-37 1/3	-18 1/3	2/3	58 2/3	77 2/3	96 2/3	40 2/3	23 2/3	6 2/3	-62 1/3	-81 1/3	-100 1/3	-157 1/3	-138 1/3	-119 1/3	160 2/3	143 2/3	126 2/3	21
- 1/3	-35 1/3	-19 1/3	95 2/3	60 2/3	76 2/3	5 2/3	42 2/3	22 2/3	-99 1/3	-64 1/3	-80 1/3	-120 1/3	-155 1/3	-139 1/3	125 2/3	162 2/3	142 2/3	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

																		441
-119	-99	-136	55	39	74	108	124	89	162	142	179	1	21	-16	-60	-80	-43	441
-135	-118	-101	75	56	37	88	107	126	178	161	144	-15	2	19	-44	-61	-78	441
-100	-137	-117	38	73	57	125	90	106	143	180	160	20	-17	3	-79	-42	-62	441
109	129	92	-65	-81	-46	163	147	182	-6	10	-25	49	33	68	-107	-87	-124	441
93	110	127	-45	-64	-83	183	164	145	-26	-7	12	69	50	31	-123	-106	-89	441
128	91	111	-82	-47	-63	146	181	165	11	-24	-8	32	67	51	-88	-125	-105	441
-48	-68	-31	-102	-86	-121	-11	9	-28	103	123	86	151	135	170	54	34	71	441
-32	-49	-66	-122	-103	-84	-27	-10	7	87	104	121	171	152	133	70	53	36	441
-67	-30	-50	-85	-120	-104	8	-29	-9	122	85	105	134	169	153	35	72	52	441
156	136	173	0	16	-19	-108	-92	-127	60	40	77	-54	-74	-37	97	117	80	441
172	155	138	-20	-1	18	-128	-109	-90	76	59	42	-38	-55	-72	81	98	115	441
137	174	154	17	-18	-2	-91	-126	-110	41	78	58	-73	-36	-56	116	79	99	441
43	27	62	157	141	176	-53	-69	-34	-113	-93	-130	114	130	95	-5	15	-22	441
63	44	25	177	158	139	-33	-52	-71	-129	-112	-95	94	113	132	-21	-4	13	441
26	61	45	140	175	159	-70	-35	-51	-94	-131	-111	131	96	112	14	-23	-3	441
6	22	-13	102	118	83	48	28	65	-59	-75	-40	-114	-98	-133	168	148	185	441
-14	5	24	82	101	120	64	47	30	-39	-58	-77	-134	-115	-96	184	167	150	441
23	-12	4	119	84	100	29	66	46	-76	-41	-57	-97	-132	-116	149	186	166	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

																	2021
-31 2/9	-11 2/9	-48 2/9	142 7/9	126 7/9	161 7/9	195 7/9	211 7/9	176 7/9	249 7/9	229 7/9	266 7/9	88 7/9	108 7/9	71 7/9	27 7/9	7 7/9	44 7/9	2021
-47 2/9	-30 2/9	-13 2/9	162 7/9	143 7/9	124 7/9	175 7/9	194 7/9	213 7/9	265 7/9	248 7/9	231 7/9	72 7/9	89 7/9	106 7/9	43 7/9	26 7/9	9 7/9	2021
-12 2/9	-49 2/9	-29 2/9	125 7/9	160 7/9	144 7/9	212 7/9	177 7/9	193 7/9	230 7/9	267 7/9	247 7/9	107 7/9	70 7/9	90 7/9	8 7/9	45 7/9	25 7/9	2021
196 7/9	216 7/9	179 7/9	22 7/9	6 7/9	41 7/9	250 7/9	234 7/9	269 7/9	81 7/9	97 7/9	62 7/9	136 7/9	120 7/9	155 7/9	-19 2/9	7/9	-36 2/9	2021
180 7/9	197 7/9	214 7/9	42 7/9	23 7/9	4 7/9	270 7/9	251 7/9	232 7/9	61 7/9	80 7/9	99 7/9	156 7/9	137 7/9	118 7/9	-35 2/9	-18 2/9	-1 2/9	2021
215 7/9	178 7/9	198 7/9	5 7/9	40 7/9	24 7/9	233 7/9	268 7/9	252 7/9	98 7/9	63 7/9	79 7/9	119 7/9	154 7/9	138 7/9	- 2/9	-37 2/9	-17 2/9	2021
39 7/9	19 7/9	56 7/9	-14 2/9	1 7/9	-33 2/9	76 7/9	96 7/9	59 7/9	190 7/9	210 7/9	173 7/9	238 7/9	222 7/9	257 7/9	141 7/9	121 7/9	158 7/9	2021
55 7/9	38 7/9	21 7/9	-34 2/9	-15 2/9	3 7/9	60 7/9	77 7/9	94 7/9	174 7/9	191 7/9	208 7/9	258 7/9	239 7/9	220 7/9	157 7/9	140 7/9	123 7/9	2021
20 7/9	57 7/9	37 7/9	2 7/9	-32 2/9	-16 2/9	95 7/9	58 7/9	78 7/9	209 7/9	172 7/9	192 7/9	221 7/9	256 7/9	240 7/9	122 7/9	159 7/9	139 7/9	2021
243 7/9	223 7/9	260 7/9	87 7/9	103 7/9	68 7/9	-20 2/9	-4 2/9	-39 2/9	147 7/9	127 7/9	164 7/9	33 7/9	13 7/9	50 7/9	184 7/9	204 7/9	167 7/9	2021
259 7/9	242 7/9	225 7/9	67 7/9	86 7/9	105 7/9	-40 2/9	-21 2/9	-2 2/9	163 7/9	146 7/9	129 7/9	49 7/9	32 7/9	15 7/9	168 7/9	185 7/9	202 7/9	2021
224 7/9	261 7/9	241 7/9	104 7/9	69 7/9	85 7/9	-3 2/9	-38 2/9	-22 2/9	128 7/9	165 7/9	145 7/9	14 7/9	51 7/9	31 7/9	203 7/9	166 7/9	186 7/9	2021
130 7/9	114 7/9	149 7/9	244 7/9	228 7/9	263 7/9	34 7/9	18 7/9	53 7/9	-25 2/9	-5 2/9	-42 2/9	201 7/9	217 7/9	182 7/9	82 7/9	102 7/9	65 7/9	2021
150 7/9	131 7/9	112 7/9	264 7/9	245 7/9	226 7/9	54 7/9	35 7/9	16 7/9	-41 2/9	-24 2/9	-7 2/9	181 7/9	200 7/9	219 7/9	66 7/9	83 7/9	100 7/9	2021
113 7/9	148 7/9	132 7/9	227 7/9	262 7/9	246 7/9	17 7/9	52 7/9	36 7/9	-6 2/9	-43 2/9	-23 2/9	218 7/9	183 7/9	199 7/9	101 7/9	64 7/9	84 7/9	2021
93 7/9	109 7/9	74 7/9	189 7/9	205 7/9	170 7/9	135 7/9	115 7/9	152 7/9	28 7/9	12 7/9	47 7/9	-26 2/9	-10 2/9	-45 2/9	255 7/9	235 7/9	272 7/9	2021
73 7/9	92 7/9	111 7/9	169 7/9	188 7/9	207 7/9	151 7/9	134 7/9	117 7/9	48 7/9	29 7/9	10 7/9	-46 2/9	-27 2/9	-8 2/9	271 7/9	254 7/9	237 7/9	2021
110 7/9	75 7/9	91 7/9	206 7/9	171 7/9	187 7/9	116 7/9	153 7/9	133 7/9	11 7/9	46 7/9	30 7/9	-9 2/9	-44 2/9	-28 2/9	236 7/9	273 7/9	253 7/9	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 3 are magic squares with different magic sums.

1.11.2 Second Type

-157 1/3	148 2/3	141 2/3	130 2/3	-146 1/3	-110 1/3	-152 1/3	153 2/3	136 2/3	135 2/3	-151 1/3	-115 1/3	-159 1/3	146 2/3	143 2/3	128 2/3	-144 1/3	-108 1/3	21
105 2/3	-92 1/3	87 2/3	-85 1/3	-67 1/3	58 2/3	100 2/3	-97 1/3	82 2/3	-80 1/3	-62 1/3	63 2/3	107 2/3	-90 1/3	89 2/3	-87 1/3	-69 1/3	56 2/3	21
51 2/3	40 2/3	-31 1/3	-20 1/3	15 2/3	-49 1/3	46 2/3	45 2/3	-26 1/3	-25 1/3	10 2/3	-44 1/3	53 2/3	38 2/3	-33 1/3	-18 1/3	17 2/3	-51 1/3	21
-2 1/3	-38 1/3	22 2/3	33 2/3	-13 1/3	4 2/3	-7 1/3	-43 1/3	27 2/3	28 2/3	-8 1/3	9 2/3	- 1/3	-36 1/3	20 2/3	35 2/3	-15 1/3	2 2/3	21
-103 1/3	69 2/3	-74 1/3	76 2/3	94 2/3	-56 1/3	-98 1/3	64 2/3	-79 1/3	81 2/3	99 2/3	-61 1/3	-105 1/3	71 2/3	-72 1/3	74 2/3	92 2/3	-54 1/3	21
112 2/3	-121 1/3	-139 1/3	-128 1/3	123 2/3	159 2/3	117 2/3	-116 1/3	-134 1/3	-133 1/3	118 2/3	154 2/3	110 2/3	-123 1/3	-141 1/3	-126 1/3	125 2/3	161 2/3	21
-158 1/3	147 2/3	142 2/3	129 2/3	-145 1/3	-109 1/3	-156 1/3	149 2/3	140 2/3	131 2/3	-147 1/3	-111 1/3	-154 1/3	151 2/3	138 2/3	133 2/3	-149 1/3	-113 1/3	21
106 2/3	-91 1/3	88 2/3	-86 1/3	-68 1/3	57 2/3	104 2/3	-93 1/3	86 2/3	-84 1/3	-66 1/3	59 2/3	102 2/3	-95 1/3	84 2/3	-82 1/3	-64 1/3	61 2/3	21
52 2/3	39 2/3	-32 1/3	-19 1/3	16 2/3	-50 1/3	50 2/3	41 2/3	-30 1/3	-21 1/3	14 2/3	-48 1/3	48 2/3	43 2/3	-28 1/3	-23 1/3	12 2/3	-46 1/3	21
-1 1/3	-37 1/3	21 2/3	34 2/3	-14 1/3	3 2/3	-3 1/3	-39 1/3	23 2/3	32 2/3	-12 1/3	5 2/3	-5 1/3	-41 1/3	25 2/3	30 2/3	-10 1/3	7 2/3	21
-104 1/3	70 2/3	-73 1/3	75 2/3	93 2/3	-55 1/3	-102 1/3	68 2/3	-75 1/3	77 2/3	95 2/3	-57 1/3	-100 1/3	66 2/3	-77 1/3	79 2/3	97 2/3	-59 1/3	21
111 2/3	-122 1/3	-140 1/3	-127 1/3	124 2/3	160 2/3	113 2/3	-120 1/3	-138 1/3	-129 1/3	122 2/3	158 2/3	115 2/3	-118 1/3	-136 1/3	-131 1/3	120 2/3	156 2/3	21
-153 1/3	152 2/3	137 2/3	134 2/3	-150 1/3	-114 1/3	-160 1/3	145 2/3	144 2/3	127 2/3	-143 1/3	-107 1/3	-155 1/3	150 2/3	139 2/3	132 2/3	-148 1/3	-112 1/3	21
101 2/3	-96 1/3	83 2/3	-81 1/3	-63 1/3	62 2/3	108 2/3	-89 1/3	90 2/3	-88 1/3	-70 1/3	55 2/3	103 2/3	-94 1/3	85 2/3	-83 1/3	-65 1/3	60 2/3	21
47 2/3	44 2/3	-27 1/3	-24 1/3	11 2/3	-45 1/3	54 2/3	37 2/3	-34 1/3	-17 1/3	18 2/3	-52 1/3	49 2/3	42 2/3	-29 1/3	-22 1/3	13 2/3	-47 1/3	21
-6 1/3	-42 1/3	26 2/3	29 2/3	-9 1/3	8 2/3	2/3	-35 1/3	19 2/3	36 2/3	-16 1/3	1 2/3	-4 1/3	-40 1/3	24 2/3	31 2/3	-11 1/3	6 2/3	21
-99 1/3	65 2/3	-78 1/3	80 2/3	98 2/3	-60 1/3	-106 1/3	72 2/3	-71 1/3	73 2/3	91 2/3	-53 1/3	-101 1/3	67 2/3	-76 1/3	78 2/3	96 2/3	-58 1/3	21
116 2/3	-117 1/3	-135 1/3	-132 1/3	119 2/3	155 2/3	109 2/3	-124 1/3	-142 1/3	-125 1/3	126 2/3	162 2/3	114 2/3	-119 1/3	-137 1/3	-130 1/3	121 2/3	157 2/3	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

																		441
-134	172	165	154	-123	-87	-129	177	160	159	-128	-92	-136	170	167	152	-121	-85	441
129	-69	111	-62	-44	82	124	-74	106	-57	-39	87	131	-67	113	-64	-46	80	441
75	64	-8	3	39	-26	70	69	-3	-2	34	-21	77	62	-10	5	41	-28	441
21	-15	46	57	10	28	16	-20	51	52	15	33	23	-13	44	59	8	26	441
-80	93	-51	100	118	-33	-75	88	-56	105	123	-38	-82	95	-49	98	116	-31	441
136	-98	-116	-105	147	183	141	-93	-111	-110	142	178	134	-100	-118	-103	149	185	441
-135	171	166	153	-122	-86	-133	173	164	155	-124	-88	-131	175	162	157	-126	-90	441
130	-68	112	-63	-45	81	128	-70	110	-61	-43	83	126	-72	108	-59	-41	85	441
76	63	-9	4	40	-27	74	65	-7	2	38	-25	72	67	-5	0	36	-23	441
22	-14	45	58	9	27	20	-16	47	56	11	29	18	-18	49	54	13	31	441
-81	94	-50	99	117	-32	-79	92	-52	101	119	-34	-77	90	-54	103	121	-36	441
135	-99	-117	-104	148	184	137	-97	-115	-106	146	182	139	-95	-113	-108	144	180	441
-130	176	161	158	-127	-91	-137	169	168	151	-120	-84	-132	174	163	156	-125	-89	441
125	-73	107	-58	-40	86	132	-66	114	-65	-47	79	127	-71	109	-60	-42	84	441
71	68	-4	-1	35	-22	78	61	-11	6	42	-29	73	66	-6	1	37	-24	441
17	-19	50	53	14	32	24	-12	43	60	7	25	19	-17	48	55	12	30	441
-76	89	-55	104	122	-37	-83	96	-48	97	115	-30	-78	91	-53	102	120	-35	441
140	-94	-112	-109	143	179	133	-101	-119	-102	150	186	138	-96	-114	-107	145	181	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

																	2021
-46 2/9	259 7/9	252 7/9	241 7/9	-35 2/9	7/9	-41 2/9	264 7/9	247 7/9	246 7/9	-40 2/9	-4 2/9	-48 2/9	257 7/9	254 7/9	239 7/9	-33 2/9	2 7/9	2021
216 7/9	18 7/9	198 7/9	25 7/9	43 7/9	169 7/9	211 7/9	13 7/9	193 7/9	30 7/9	48 7/9	174 7/9	218 7/9	20 7/9	200 7/9	23 7/9	41 7/9	167 7/9	2021
162 7/9	151 7/9	79 7/9	90 7/9	126 7/9	61 7/9	157 7/9	156 7/9	84 7/9	85 7/9	121 7/9	66 7/9	164 7/9	149 7/9	77 7/9	92 7/9	128 7/9	59 7/9	2021
108 7/9	72 7/9	133 7/9	144 7/9	97 7/9	115 7/9	103 7/9	67 7/9	138 7/9	139 7/9	102 7/9	120 7/9	110 7/9	74 7/9	131 7/9	146 7/9	95 7/9	113 7/9	2021
7 7/9	180 7/9	36 7/9	187 7/9	205 7/9	54 7/9	12 7/9	175 7/9	31 7/9	192 7/9	210 7/9	49 7/9	5 7/9	182 7/9	38 7/9	185 7/9	203 7/9	56 7/9	2021
223 7/9	-10 2/9	-28 2/9	-17 2/9	234 7/9	270 7/9	228 7/9	-5 2/9	-23 2/9	-22 2/9	229 7/9	265 7/9	221 7/9	-12 2/9	-30 2/9	-15 2/9	236 7/9	272 7/9	2021
-47 2/9	258 7/9	253 7/9	240 7/9	-34 2/9	1 7/9	-45 2/9	260 7/9	251 7/9	242 7/9	-36 2/9	- 2/9	-43 2/9	262 7/9	249 7/9	244 7/9	-38 2/9	-2 2/9	2021
217 7/9	19 7/9	199 7/9	24 7/9	42 7/9	168 7/9	215 7/9	17 7/9	197 7/9	26 7/9	44 7/9	170 7/9	213 7/9	15 7/9	195 7/9	28 7/9	46 7/9	172 7/9	2021
163 7/9	150 7/9	78 7/9	91 7/9	127 7/9	60 7/9	161 7/9	152 7/9	80 7/9	89 7/9	125 7/9	62 7/9	159 7/9	154 7/9	82 7/9	87 7/9	123 7/9	64 7/9	2021
109 7/9	73 7/9	132 7/9	145 7/9	96 7/9	114 7/9	107 7/9	71 7/9	134 7/9	143 7/9	98 7/9	116 7/9	105 7/9	69 7/9	136 7/9	141 7/9	100 7/9	118 7/9	2021
6 7/9	181 7/9	37 7/9	186 7/9	204 7/9	55 7/9	8 7/9	179 7/9	35 7/9	188 7/9	206 7/9	53 7/9	10 7/9	177 7/9	33 7/9	190 7/9	208 7/9	51 7/9	2021
222 7/9	-11 2/9	-29 2/9	-16 2/9	235 7/9	271 7/9	224 7/9	-9 2/9	-27 2/9	-18 2/9	233 7/9	269 7/9	226 7/9	-7 2/9	-25 2/9	-20 2/9	231 7/9	267 7/9	2021
-42 2/9	263 7/9	248 7/9	245 7/9	-39 2/9	-3 2/9	-49 2/9	256 7/9	255 7/9	238 7/9	-32 2/9	3 7/9	-44 2/9	261 7/9	250 7/9	243 7/9	-37 2/9	-1 2/9	2021
212 7/9	14 7/9	194 7/9	29 7/9	47 7/9	173 7/9	219 7/9	21 7/9	201 7/9	22 7/9	40 7/9	166 7/9	214 7/9	16 7/9	196 7/9	27 7/9	45 7/9	171 7/9	2021
158 7/9	155 7/9	83 7/9	86 7/9	122 7/9	65 7/9	165 7/9	148 7/9	76 7/9	93 7/9	129 7/9	58 7/9	160 7/9	153 7/9	81 7/9	88 7/9	124 7/9	63 7/9	2021
104 7/9	68 7/9	137 7/9	140 7/9	101 7/9	119 7/9	111 7/9	75 7/9	130 7/9	147 7/9	94 7/9	112 7/9	106 7/9	70 7/9	135 7/9	142 7/9	99 7/9	117 7/9	2021
11 7/9	176 7/9	32 7/9	191 7/9	209 7/9	50 7/9	4 7/9	183 7/9	39 7/9	184 7/9	202 7/9	57 7/9	9 7/9	178 7/9	34 7/9	189 7/9	207 7/9	52 7/9	2021
227 7/9	-6 2/9	-24 2/9	-21 2/9	230 7/9	266 7/9	220 7/9	-13 2/9	-31 2/9	-14 2/9	237 7/9	273 7/9	225 7/9	-8 2/9	-26 2/9	-19 2/9	232 7/9	268 7/9	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case all the blocks of order 6 are magic squares with equal magic sums given by

$$[S_{6\times 6} : S_{18\times 18} := 21] := 7$$

$$[S_{6\times 6} : S_{18\times 18} := 441] := 147$$

$$[S_{6\times 6} : S_{18\times 18} := 2021] := \frac{2021}{3}.$$

1.12 Block-Bordered Magic Squares of Order 19

Below are **block-bordered magic squares** of order 19 in two different ways giving magic sums 21, 21^2 and 2021. The **block-wise** magic square considered is of order 15 with blocks of order 3 and 5. The blocks of order 3 are **semi-magic** with equal **semi-magic** sums. The blocks of order 5 are **pandiagonal** with equal magic sums. In both the cases the magic square of order 15 is **pandiagonal** as given in Subsection 1.8. The magic sums of order 15 are given by

$$[S_{15\times 15} : S_{19\times 19} := 21] := \frac{315}{19}$$
$$[S_{15\times 15} : S_{19\times 19} := 441] := \frac{6615}{19}$$
$$[S_{15\times 15} : S_{19\times 19} := 2021] := \frac{30315}{19}.$$

1.12.1 First Type

-159 17/19	-143 17/19	-145 17/19	-147 17/19	-149 17/19	-151 17/19	-153 17/19	-155 17/19	-157 17/19	165 2/19	166 2/19	168 2/19	170 2/19	172 2/19	174 2/19	176 2/19	178 2/19	180 2/19	-161 17/19	21
181 2/19	-127 17/19	144 2/19	142 2/19	140 2/19	138 2/19	136 2/19	134 2/19	132 2/19	131 2/19	-123 17/19	-121 17/19	-119 17/19	-117 17/19	-115 17/19	-113 17/19	-111 17/19	-125 17/19	-178 17/19	21
179 2/19	-142 17/19	74 2/19	-46 17/19	-23 17/19	75 2/19	-37 17/19	-33 17/19	76 2/19	-36 17/19	-35 17/19	77 2/19	-47 17/19	-25 17/19	78 2/19	-49 17/19	-24 17/19	145 2/19	-176 17/19	21
177 2/19	-140 17/19	-31 17/19	81 2/19	-45 17/19	-22 17/19	71 2/19	-44 17/19	-21 17/19	69 2/19	-43 17/19	-32 17/19	79 2/19	-42 17/19	-34 17/19	80 2/19	-41 17/19	143 2/19	-174 17/19	21
175 2/19	-138 17/19	-38 17/19	-30 17/19	73 2/19	-48 17/19	-29 17/19	82 2/19	-50 17/19	-28 17/19	83 2/19	-40 17/19	-27 17/19	72 2/19	-39 17/19	-26 17/19	70 2/19	141 2/19	-172 17/19	21
173 2/19	-136 17/19	-75 17/19	88 2/19	-8 17/19	-74 17/19	97 2/19	-18 17/19	-73 17/19	98 2/19	-20 17/19	-72 17/19	87 2/19	-10 17/19	-71 17/19	85 2/19	-9 17/19	139 2/19	-170 17/19	21
171 2/19	-134 17/19	-16 17/19	-68 17/19	89 2/19	-7 17/19	-78 17/19	90 2/19	-6 17/19	-80 17/19	91 2/19	-17 17/19	-70 17/19	92 2/19	-19 17/19	-69 17/19	93 2/19	137 2/19	-168 17/19	21
169 2/19	-132 17/19	96 2/19	-15 17/19	-76 17/19	86 2/19	-14 17/19	-67 17/19	84 2/19	-13 17/19	-66 17/19	94 2/19	-12 17/19	-77 17/19	95 2/19	-11 17/19	-79 17/19	135 2/19	-166 17/19	21
167 2/19	-130 17/19	-105 17/19	103 2/19	6 2/19	-104 17/19	112 2/19	-3 17/19	-103 17/19	113 2/19	-5 17/19	-102 17/19	102 2/19	4 2/19	-101 17/19	100 2/19	5 2/19	133 2/19	-164 17/19	21
-160 17/19	129 2/19	-1 17/19	-98 17/19	104 2/19	7 2/19	-108 17/19	105 2/19	8 2/19	-110 17/19	106 2/19	-2 17/19	-100 17/19	107 2/19	-4 17/19	-99 17/19	108 2/19	-126 17/19	163 2/19	21
-158 17/19	127 2/19	111 2/19	- 17/19	-106 17/19	101 2/19	2/19	-97 17/19	99 2/19	1 2/19	-96 17/19	109 2/19	2 2/19	-107 17/19	110 2/19	3 2/19	-109 17/19	-124 17/19	161 2/19	21
-156 17/19	125 2/19	44 2/19	-61 17/19	21 2/19	45 2/19	-52 17/19	11 2/19	46 2/19	-51 17/19	9 2/19	47 2/19	-62 17/19	19 2/19	48 2/19	-64 17/19	20 2/19	-122 17/19	159 2/19	21
-154 17/19	123 2/19	13 2/19	51 2/19	-60 17/19	22 2/19	41 2/19	-59 17/19	23 2/19	39 2/19	-58 17/19	12 2/19	49 2/19	-57 17/19	10 2/19	50 2/19	-56 17/19	-120 17/19	157 2/19	21
-152 17/19	121 2/19	-53 17/19	14 2/19	43 2/19	-63 17/19	15 2/19	52 2/19	-65 17/19	16 2/19	53 2/19	-55 17/19	17 2/19	42 2/19	-54 17/19	18 2/19	40 2/19	-118 17/19	155 2/19	21
-150 17/19	119 2/19	59 2/19	-91 17/19	36 2/19	60 2/19	-82 17/19	26 2/19	61 2/19	-81 17/19	24 2/19	62 2/19	-92 17/19	34 2/19	63 2/19	-94 17/19	35 2/19	-116 17/19	153 2/19	21
-148 17/19	117 2/19	28 2/19	66 2/19	-90 17/19	37 2/19	56 2/19	-89 17/19	38 2/19	54 2/19	-88 17/19	27 2/19	64 2/19	-87 17/19	25 2/19	65 2/19	-86 17/19	-114 17/19	151 2/19	21
-146 17/19	115 2/19	-83 17/19	29 2/19	58 2/19	-93 17/19	30 2/19	67 2/19	-95 17/19	31 2/19	68 2/19	-85 17/19	32 2/19	57 2/19	-84 17/19	33 2/19	55 2/19	-112 17/19	149 2/19	21
-144 17/19	128 2/19	-141 17/19	-139 17/19	-137 17/19	-135 17/19	-133 17/19	-131 17/19	-129 17/19	-128 17/19	126 2/19	124 2/19	122 2/19	120 2/19	118 2/19	116 2/19	114 2/19	130 2/19	147 2/19	21
164 2/19	146 2/19	148 2/19	150 2/19	152 2/19	154 2/19	156 2/19	158 2/19	160 2/19	-162 17/19	-163 17/19	-165 17/19	-167 17/19	-169 17/19	-171 17/19	-173 17/19	-175 17/19	-177 17/19	162 2/19	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

																		441
-137 15/19	-121 15/19	-123 15/19	-125 15/19	-127 15/19	-129 15/19	-131 15/19	-133 15/19	-135 15/19	187 4/19	188 4/19	190 4/19	192 4/19	194 4/19	196 4/19	198 4/19	200 4/19	202 4/19	-139 15/19	441
203 4/19	-105 15/19	166 4/19	164 4/19	162 4/19	160 4/19	158 4/19	156 4/19	154 4/19	153 4/19	-101 15/19	-99 15/19	-97 15/19	-95 15/19	-93 15/19	-91 15/19	-89 15/19	-103 15/19	-156 15/19	441
201 4/19	-120 15/19	96 4/19	-24 15/19	-1 15/19	97 4/19	-15 15/19	-11 15/19	98 4/19	-14 15/19	-13 15/19	99 4/19	-25 15/19	-3 15/19	100 4/19	-27 15/19	-2 15/19	167 4/19	-154 15/19	441
199 4/19	-118 15/19	-9 15/19	103 4/19	-23 15/19	- 15/19	93 4/19	-22 15/19	4/19	91 4/19	-21 15/19	-10 15/19	101 4/19	-20 15/19	-12 15/19	102 4/19	-19 15/19	165 4/19	-152 15/19	441
197 4/19	-116 15/19	-16 15/19	-8 15/19	95 4/19	-26 15/19	-7 15/19	104 4/19	-28 15/19	-6 15/19	105 4/19	-18 15/19	-5 15/19	94 4/19	-17 15/19	-4 15/19	92 4/19	163 4/19	-150 15/19	441
195 4/19	-114 15/19	-53 15/19	110 4/19	13 4/19	-52 15/19	119 4/19	3 4/19	-51 15/19	120 4/19	1 4/19	-50 15/19	109 4/19	11 4/19	-49 15/19	107 4/19	12 4/19	161 4/19	-148 15/19	441
193 4/19	-112 15/19	5 4/19	-46 15/19	111 4/19	14 4/19	-56 15/19	112 4/19	15 4/19	-58 15/19	113 4/19	4 4/19	-48 15/19	114 4/19	2 4/19	-47 15/19	115 4/19	159 4/19	-146 15/19	441
191 4/19	-110 15/19	118 4/19	6 4/19	-54 15/19	108 4/19	7 4/19	-45 15/19	106 4/19	8 4/19	-44 15/19	116 4/19	9 4/19	-55 15/19	117 4/19	10 4/19	-57 15/19	157 4/19	-144 15/19	441
189 4/19	-108 15/19	-83 15/19	125 4/19	28 4/19	-82 15/19	134 4/19	18 4/19	-81 15/19	135 4/19	16 4/19	-80 15/19	124 4/19	26 4/19	-79 15/19	122 4/19	27 4/19	155 4/19	-142 15/19	441
-138 15/19	151 4/19	20 4/19	-76 15/19	126 4/19	29 4/19	-86 15/19	127 4/19	30 4/19	-88 15/19	128 4/19	19 4/19	-78 15/19	129 4/19	17 4/19	-77 15/19	130 4/19	-104 15/19	185 4/19	441
-136 15/19	149 4/19	133 4/19	21 4/19	-84 15/19	123 4/19	22 4/19	-75 15/19	121 4/19	23 4/19	-74 15/19	131 4/19	24 4/19	-85 15/19	132 4/19	25 4/19	-87 15/19	-102 15/19	183 4/19	441
-134 15/19	147 4/19	66 4/19	-39 15/19	43 4/19	67 4/19	-30 15/19	33 4/19	68 4/19	-29 15/19	31 4/19	69 4/19	-40 15/19	41 4/19	70 4/19	-42 15/19	42 4/19	-100 15/19	181 4/19	441
-132 15/19	145 4/19	35 4/19	73 4/19	-38 15/19	44 4/19	63 4/19	-37 15/19	45 4/19	61 4/19	-36 15/19	34 4/19	71 4/19	-35 15/19	32 4/19	72 4/19	-34 15/19	-98 15/19	179 4/19	441
-130 15/19	143 4/19	-31 15/19	36 4/19	65 4/19	-41 15/19	37 4/19	74 4/19	-43 15/19	38 4/19	75 4/19	-33 15/19	39 4/19	64 4/19	-32 15/19	40 4/19	62 4/19	-96 15/19	177 4/19	441
-128 15/19	141 4/19	81 4/19	-69 15/19	58 4/19	82 4/19	-60 15/19	48 4/19	83 4/19	-59 15/19	46 4/19	84 4/19	-70 15/19	56 4/19	85 4/19	-72 15/19	57 4/19	-94 15/19	175 4/19	441
-126 15/19	139 4/19	50 4/19	88 4/19	-68 15/19	59 4/19	78 4/19	-67 15/19	60 4/19	76 4/19	-66 15/19	49 4/19	86 4/19	-65 15/19	47 4/19	87 4/19	-64 15/19	-92 15/19	173 4/19	441
-124 15/19	137 4/19	-61 15/19	51 4/19	80 4/19	-71 15/19	52 4/19	89 4/19	-73 15/19	53 4/19	90 4/19	-63 15/19	54 4/19	79 4/19	-62 15/19	55 4/19	77 4/19	-90 15/19	171 4/19	441
-122 15/19	150 4/19	-119 15/19	-117 15/19	-115 15/19	-113 15/19	-111 15/19	-109 15/19	-107 15/19	-106 15/19	148 4/19	146 4/19	144 4/19	142 4/19	140 4/19	138 4/19	136 4/19	152 4/19	169 4/19	441
186 4/19	168 4/19	170 4/19	172 4/19	174 4/19	176 4/19	178 4/19	180 4/19	182 4/19	-140 15/19	-141 15/19	-143 15/19	-145 15/19	-147 15/19	-149 15/19	-151 15/19	-153 15/19	-155 15/19	184 4/19	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

																		2021
-54 12/19	-38 12/19	-40 12/19	-42 12/19	-44 12/19	-46 12/19	-48 12/19	-50 12/19	-52 12/19	270 7/19	271 7/19	273 7/19	275 7/19	277 7/19	279 7/19	281 7/19	283 7/19	285 7/19	-56 12/19	2021
286 7/19	-22 12/19	249 7/19	247 7/19	245 7/19	243 7/19	241 7/19	239 7/19	237 7/19	236 7/19	-18 12/19	-16 12/19	-14 12/19	-12 12/19	-10 12/19	-8 12/19	-6 12/19	-20 12/19	-73 12/19	2021
284 7/19	-37 12/19	179 7/19	58 7/19	81 7/19	180 7/19	67 7/19	71 7/19	181 7/19	68 7/19	69 7/19	182 7/19	57 7/19	79 7/19	183 7/19	55 7/19	80 7/19	250 7/19	-71 12/19	2021
282 7/19	-35 12/19	73 7/19	186 7/19	59 7/19	82 7/19	176 7/19	60 7/19	83 7/19	174 7/19	61 7/19	72 7/19	184 7/19	62 7/19	70 7/19	185 7/19	63 7/19	248 7/19	-69 12/19	2021
280 7/19	-33 12/19	66 7/19	74 7/19	178 7/19	56 7/19	75 7/19	187 7/19	54 7/19	76 7/19	188 7/19	64 7/19	77 7/19	177 7/19	65 7/19	78 7/19	175 7/19	246 7/19	-67 12/19	2021
278 7/19	-31 12/19	29 7/19	193 7/19	96 7/19	30 7/19	202 7/19	86 7/19	31 7/19	203 7/19	84 7/19	32 7/19	192 7/19	94 7/19	33 7/19	190 7/19	95 7/19	244 7/19	-65 12/19	2021
276 7/19	-29 12/19	88 7/19	36 7/19	194 7/19	97 7/19	26 7/19	195 7/19	98 7/19	24 7/19	196 7/19	87 7/19	34 7/19	197 7/19	85 7/19	35 7/19	198 7/19	242 7/19	-63 12/19	2021
274 7/19	-27 12/19	201 7/19	89 7/19	28 7/19	191 7/19	90 7/19	37 7/19	189 7/19	91 7/19	38 7/19	199 7/19	92 7/19	27 7/19	200 7/19	93 7/19	25 7/19	240 7/19	-61 12/19	2021
272 7/19	-25 12/19	- 12/19	208 7/19	111 7/19	7/19	217 7/19	101 7/19	1 7/19	218 7/19	99 7/19	2 7/19	207 7/19	109 7/19	3 7/19	205 7/19	110 7/19	238 7/19	-59 12/19	2021
-55 12/19	234 7/19	103 7/19	6 7/19	209 7/19	112 7/19	-3 12/19	210 7/19	113 7/19	-5 12/19	211 7/19	102 7/19	4 7/19	212 7/19	100 7/19	5 7/19	213 7/19	-21 12/19	268 7/19	2021
-53 12/19	232 7/19	216 7/19	104 7/19	-1 12/19	206 7/19	105 7/19	7 7/19	204 7/19	106 7/19	8 7/19	214 7/19	107 7/19	-2 12/19	215 7/19	108 7/19	-4 12/19	-19 12/19	266 7/19	2021
-51 12/19	230 7/19	149 7/19	43 7/19	126 7/19	150 7/19	52 7/19	116 7/19	151 7/19	53 7/19	114 7/19	152 7/19	42 7/19	124 7/19	153 7/19	40 7/19	125 7/19	-17 12/19	264 7/19	2021
-49 12/19	228 7/19	118 7/19	156 7/19	44 7/19	127 7/19	146 7/19	45 7/19	128 7/19	144 7/19	46 7/19	117 7/19	154 7/19	47 7/19	115 7/19	155 7/19	48 7/19	-15 12/19	262 7/19	2021
-47 12/19	226 7/19	51 7/19	119 7/19	148 7/19	41 7/19	120 7/19	157 7/19	39 7/19	121 7/19	158 7/19	49 7/19	122 7/19	147 7/19	50 7/19	123 7/19	145 7/19	-13 12/19	260 7/19	2021
-45 12/19	224 7/19	164 7/19	13 7/19	141 7/19	165 7/19	22 7/19	131 7/19	166 7/19	23 7/19	129 7/19	167 7/19	12 7/19	139 7/19	168 7/19	10 7/19	140 7/19	-11 12/19	258 7/19	2021
-43 12/19	222 7/19	133 7/19	171 7/19	14 7/19	142 7/19	161 7/19	15 7/19	143 7/19	159 7/19	16 7/19	132 7/19	169 7/19	17 7/19	130 7/19	170 7/19	18 7/19	-9 12/19	256 7/19	2021
-41 12/19	220 7/19	21 7/19	134 7/19	163 7/19	11 7/19	135 7/19	172 7/19	9 7/19	136 7/19	173 7/19	19 7/19	137 7/19	162 7/19	20 7/19	138 7/19	160 7/19	-7 12/19	254 7/19	2021
-39 12/19	233 7/19	-36 12/19	-34 12/19	-32 12/19	-30 12/19	-28 12/19	-26 12/19	-24 12/19	-23 12/19	231 7/19	229 7/19	227 7/19	225 7/19	223 7/19	221 7/19	219 7/19	235 7/19	252 7/19	2021
269 7/19	251 7/19	253 7/19	255 7/19	257 7/19	259 7/19	261 7/19	263 7/19	265 7/19	-57 12/19	-58 12/19	-60 12/19	-62 12/19	-64 12/19	-66 12/19	-68 12/19	-70 12/19	-72 12/19	267 7/19	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 3 are **semi-magic squares** with equal magic sums. In each case the **semi-magic sums** are given by

$$[Sm_{3\times 3} : S_{19\times 19} := 21] := \frac{63}{19}$$

$$[Sm_{3\times 3} : S_{19\times 19} := 441] := \frac{1323}{19}$$

$$[Sm_{3\times 3} : S_{19\times 19} := 2021] := \frac{6063}{19}$$

1.12.2 Second Type

																		21
-159 17/19	-143 17/19	-145 17/19	-147 17/19	-149 17/19	-151 17/19	-153 17/19	-155 17/19	-157 17/19	165 2/19	166 2/19	168 2/19	170 2/19	172 2/19	174 2/19	176 2/19	178 2/19	180 2/19	-161 17/19	21
181 2/19	-127 17/19	144 2/19	142 2/19	140 2/19	138 2/19	136 2/19	134 2/19	132 2/19	131 2/19	-123 17/19	-121 17/19	-119 17/19	-117 17/19	-115 17/19	-113 17/19	-111 17/19	-125 17/19	-178 17/19	21
179 2/19	-142 17/19	-110 17/19	106 2/19	-81 17/19	7 2/19	85 2/19	-80 17/19	76 2/19	-36 17/19	-7 17/19	55 2/19	-65 17/19	46 2/19	-21 17/19	22 2/19	25 2/19	145 2/19	-176 17/19	21
177 2/19	-140 17/19	8 2/19	97 2/19	-109 17/19	99 2/19	-88 17/19	-6 17/19	67 2/19	-79 17/19	69 2/19	-43 17/19	23 2/19	37 2/19	-64 17/19	39 2/19	-28 17/19	143 2/19	-174 17/19	21
175 2/19	-138 17/19	100 2/19	-95 17/19	1 2/19	98 2/19	-97 17/19	70 2/19	-50 17/19	-13 17/19	68 2/19	-67 17/19	40 2/19	-35 17/19	16 2/19	38 2/19	-52 17/19	141 2/19	-172 17/19	21
173 2/19	-136 17/19	91 2/19	-96 17/19	112 2/19	-94 17/19	-5 17/19	61 2/19	-66 17/19	82 2/19	-49 17/19	-20 17/19	31 2/19	-51 17/19	52 2/19	-34 17/19	9 2/19	139 2/19	-170 17/19	21
171 2/19	-134 17/19	-82 17/19	-4 17/19	84 2/19	-103 17/19	113 2/19	-37 17/19	-19 17/19	54 2/19	-73 17/19	83 2/19	-22 17/19	10 2/19	24 2/19	-58 17/19	53 2/19	137 2/19	-168 17/19	21
169 2/19	-132 17/19	-108 17/19	105 2/19	-83 17/19	5 2/19	88 2/19	-78 17/19	75 2/19	-38 17/19	-9 17/19	58 2/19	-63 17/19	45 2/19	-23 17/19	20 2/19	28 2/19	135 2/19	-166 17/19	21
167 2/19	-130 17/19	6 2/19	95 2/19	-106 17/19	101 2/19	-89 17/19	-8 17/19	65 2/19	-76 17/19	71 2/19	-44 17/19	21 2/19	35 2/19	-61 17/19	41 2/19	-29 17/19	133 2/19	-164 17/19	21
-160 17/19	129 2/19	103 2/19	-93 17/19	2/19	96 2/19	-99 17/19	73 2/19	-48 17/19	-14 17/19	66 2/19	-69 17/19	43 2/19	-33 17/19	15 2/19	36 2/19	-54 17/19	-126 17/19	163 2/19	21
-158 17/19	127 2/19	90 2/19	-98 17/19	110 2/19	-91 17/19	-3 17/19	60 2/19	-68 17/19	80 2/19	-46 17/19	-18 17/19	30 2/19	-53 17/19	50 2/19	-31 17/19	11 2/19	-124 17/19	161 2/19	21
-156 17/19	125 2/19	-84 17/19	-1 17/19	86 2/19	-104 17/19	111 2/19	-39 17/19	-16 17/19	56 2/19	-74 17/19	81 2/19	-24 17/19	13 2/19	26 2/19	-59 17/19	51 2/19	-122 17/19	159 2/19	21
-154 17/19	123 2/19	-107 17/19	107 2/19	-85 17/19	3 2/19	89 2/19	-77 17/19	77 2/19	-40 17/19	-11 17/19	59 2/19	-62 17/19	47 2/19	-25 17/19	18 2/19	29 2/19	-120 17/19	157 2/19	21
-152 17/19	121 2/19	4 2/19	93 2/19	-105 17/19	102 2/19	-87 17/19	-10 17/19	63 2/19	-75 17/19	72 2/19	-42 17/19	19 2/19	33 2/19	-60 17/19	42 2/19	-27 17/19	-118 17/19	155 2/19	21
-150 17/19	119 2/19	104 2/19	-92 17/19	2 2/19	94 2/19	-101 17/19	74 2/19	-47 17/19	-12 17/19	64 2/19	-71 17/19	44 2/19	-32 17/19	17 2/19	34 2/19	-56 17/19	-116 17/19	153 2/19	21
-148 17/19	117 2/19	92 2/19	-100 17/19	108 2/19	-90 17/19	-2 17/19	62 2/19	-70 17/19	78 2/19	-45 17/19	-17 17/19	32 2/19	-55 17/19	48 2/19	-30 17/19	12 2/19	-114 17/19	151 2/19	21
-146 17/19	115 2/19	-86 17/19	- 17/19	87 2/19	-102 17/19	109 2/19	-41 17/19	-15 17/19	57 2/19	-72 17/19	79 2/19	-26 17/19	14 2/19	27 2/19	-57 17/19	49 2/19	-112 17/19	149 2/19	21
-144 17/19	128 2/19	-141 17/19	-139 17/19	-137 17/19	-135 17/19	-133 17/19	-131 17/19	-129 17/19	-128 17/19	126 2/19	124 2/19	122 2/19	120 2/19	118 2/19	116 2/19	114 2/19	130 2/19	147 2/19	21
164 2/19	146 2/19	148 2/19	150 2/19	152 2/19	154 2/19	156 2/19	158 2/19	160 2/19	-162 17/19	-163 17/19	-165 17/19	-167 17/19	-169 17/19	-171 17/19	-173 17/19	-175 17/19	-177 17/19	162 2/19	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

																			441
-137 15/19	-121 15/19	-123 15/19	-125 15/19	-127 15/19	-129 15/19	-131 15/19	-133 15/19	-135 15/19	187 4/19	188 4/19	190 4/19	192 4/19	194 4/19	196 4/19	198 4/19	200 4/19	202 4/19	-139 15/19	441
203 4/19	-105 15/19	166 4/19	164 4/19	162 4/19	160 4/19	158 4/19	156 4/19	154 4/19	153 4/19	-101 15/19	-99 15/19	-97 15/19	-95 15/19	-93 15/19	-91 15/19	-89 15/19	-103 15/19	-156 15/19	441
201 4/19	-120 15/19	-88 15/19	128 4/19	-59 15/19	29 4/19	107 4/19	-58 15/19	98 4/19	-14 15/19	14 4/19	77 4/19	-43 15/19	68 4/19	4/19	44 4/19	47 4/19	167 4/19	-154 15/19	441
199 4/19	-118 15/19	30 4/19	119 4/19	-87 15/19	121 4/19	-66 15/19	15 4/19	89 4/19	-57 15/19	91 4/19	-21 15/19	45 4/19	59 4/19	-42 15/19	61 4/19	-6 15/19	165 4/19	-152 15/19	441
197 4/19	-116 15/19	122 4/19	-73 15/19	23 4/19	120 4/19	-75 15/19	92 4/19	-28 15/19	8 4/19	90 4/19	-45 15/19	62 4/19	-13 15/19	38 4/19	60 4/19	-30 15/19	163 4/19	-150 15/19	441
195 4/19	-114 15/19	113 4/19	-74 15/19	134 4/19	-72 15/19	16 4/19	83 4/19	-44 15/19	104 4/19	-27 15/19	1 4/19	53 4/19	-29 15/19	74 4/19	-12 15/19	31 4/19	161 4/19	-148 15/19	441
193 4/19	-112 15/19	-60 15/19	17 4/19	106 4/19	-81 15/19	135 4/19	-15 15/19	2 4/19	76 4/19	-51 15/19	105 4/19	- 15/19	32 4/19	46 4/19	-36 15/19	75 4/19	159 4/19	-146 15/19	441
191 4/19	-110 15/19	-86 15/19	127 4/19	-61 15/19	27 4/19	110 4/19	-56 15/19	97 4/19	-16 15/19	12 4/19	80 4/19	-41 15/19	67 4/19	-1 15/19	42 4/19	50 4/19	157 4/19	-144 15/19	441
189 4/19	-108 15/19	28 4/19	117 4/19	-84 15/19	123 4/19	-67 15/19	13 4/19	87 4/19	-54 15/19	93 4/19	-22 15/19	43 4/19	57 4/19	-39 15/19	63 4/19	-7 15/19	155 4/19	-142 15/19	441
-138 15/19	151 4/19	125 4/19	-71 15/19	22 4/19	118 4/19	-77 15/19	95 4/19	-26 15/19	7 4/19	88 4/19	-47 15/19	65 4/19	-11 15/19	37 4/19	58 4/19	-32 15/19	-104 15/19	185 4/19	441
-136 15/19	149 4/19	112 4/19	-76 15/19	132 4/19	-69 15/19	18 4/19	82 4/19	-46 15/19	102 4/19	-24 15/19	3 4/19	52 4/19	-31 15/19	72 4/19	-9 15/19	33 4/19	-102 15/19	183 4/19	441
-134 15/19	147 4/19	-62 15/19	20 4/19	108 4/19	-82 15/19	133 4/19	-17 15/19	5 4/19	78 4/19	-52 15/19	103 4/19	-2 15/19	35 4/19	48 4/19	-37 15/19	73 4/19	-100 15/19	181 4/19	441
-132 15/19	145 4/19	-85 15/19	129 4/19	-63 15/19	25 4/19	111 4/19	-55 15/19	99 4/19	-18 15/19	10 4/19	81 4/19	-40 15/19	69 4/19	-3 15/19	40 4/19	51 4/19	-98 15/19	179 4/19	441
-130 15/19	143 4/19	26 4/19	115 4/19	-83 15/19	124 4/19	-65 15/19	11 4/19	85 4/19	-53 15/19	94 4/19	-20 15/19	41 4/19	55 4/19	-38 15/19	64 4/19	-5 15/19	-96 15/19	177 4/19	441
-128 15/19	141 4/19	126 4/19	-70 15/19	24 4/19	116 4/19	-79 15/19	96 4/19	-25 15/19	9 4/19	86 4/19	-49 15/19	66 4/19	-10 15/19	39 4/19	56 4/19	-34 15/19	-94 15/19	175 4/19	441
-126 15/19	139 4/19	114 4/19	-78 15/19	130 4/19	-68 15/19	19 4/19	84 4/19	-48 15/19	100 4/19	-23 15/19	4 4/19	54 4/19	-33 15/19	70 4/19	-8 15/19	34 4/19	-92 15/19	173 4/19	441
-124 15/19	137 4/19	-64 15/19	21 4/19	109 4/19	-80 15/19	131 4/19	-19 15/19	6 4/19	79 4/19	-50 15/19	101 4/19	-4 15/19	36 4/19	49 4/19	-35 15/19	71 4/19	-90 15/19	171 4/19	441
-122 15/19	150 4/19	-119 15/19	-117 15/19	-115 15/19	-113 15/19	-111 15/19	-109 15/19	-107 15/19	-106 15/19	148 4/19	146 4/19	144 4/19	142 4/19	140 4/19	138 4/19	136 4/19	152 4/19	169 4/19	441
186 4/19	168 4/19	170 4/19	172 4/19	174 4/19	176 4/19	178 4/19	180 4/19	182 4/19	-140 15/19	-141 15/19	-143 15/19	-145 15/19	-147 15/19	-149 15/19	-151 15/19	-153 15/19	-155 15/19	184 4/19	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

																		2021
-54 12/19	-38 12/19	-40 12/19	-42 12/19	-44 12/19	-46 12/19	-48 12/19	-50 12/19	-52 12/19	270 7/19	271 7/19	273 7/19	275 7/19	277 7/19	279 7/19	281 7/19	283 7/19	285 7/19	-56 12/19	2021
286 7/19	-22 12/19	249 7/19	247 7/19	245 7/19	243 7/19	241 7/19	239 7/19	237 7/19	236 7/19	-18 12/19	-16 12/19	-14 12/19	-12 12/19	-10 12/19	-8 12/19	-6 12/19	-20 12/19	-73 12/19	2021
284 7/19	-37 12/19	-5 12/19	211 7/19	23 7/19	112 7/19	190 7/19	24 7/19	181 7/19	68 7/19	97 7/19	160 7/19	39 7/19	151 7/19	83 7/19	127 7/19	130 7/19	250 7/19	-71 12/19	2021
282 7/19	-35 12/19	113 7/19	202 7/19	-4 12/19	204 7/19	16 7/19	98 7/19	172 7/19	25 7/19	174 7/19	61 7/19	128 7/19	142 7/19	40 7/19	144 7/19	76 7/19	248 7/19	-69 12/19	2021
280 7/19	-33 12/19	205 7/19	9 7/19	106 7/19	203 7/19	7 7/19	175 7/19	54 7/19	91 7/19	173 7/19	37 7/19	145 7/19	69 7/19	121 7/19	143 7/19	52 7/19	246 7/19	-67 12/19	2021
278 7/19	-31 12/19	196 7/19	8 7/19	217 7/19	10 7/19	99 7/19	166 7/19	38 7/19	187 7/19	55 7/19	84 7/19	136 7/19	53 7/19	157 7/19	70 7/19	114 7/19	244 7/19	-65 12/19	2021
276 7/19	-29 12/19	22 7/19	100 7/19	189 7/19	1 7/19	218 7/19	67 7/19	85 7/19	159 7/19	31 7/19	188 7/19	82 7/19	115 7/19	129 7/19	46 7/19	158 7/19	242 7/19	-63 12/19	2021
274 7/19	-27 12/19	-3 12/19	210 7/19	21 7/19	110 7/19	193 7/19	26 7/19	180 7/19	66 7/19	95 7/19	163 7/19	41 7/19	150 7/19	81 7/19	125 7/19	133 7/19	240 7/19	-61 12/19	2021
272 7/19	-25 12/19	111 7/19	200 7/19	-1 12/19	206 7/19	15 7/19	96 7/19	170 7/19	28 7/19	176 7/19	60 7/19	126 7/19	140 7/19	43 7/19	146 7/19	75 7/19	238 7/19	-59 12/19	2021
-55 12/19	234 7/19	208 7/19	11 7/19	105 7/19	201 7/19	5 7/19	178 7/19	56 7/19	90 7/19	171 7/19	35 7/19	148 7/19	71 7/19	120 7/19	141 7/19	50 7/19	-21 12/19	268 7/19	2021
-53 12/19	232 7/19	195 7/19	6 7/19	215 7/19	13 7/19	101 7/19	165 7/19	36 7/19	185 7/19	58 7/19	86 7/19	135 7/19	51 7/19	155 7/19	73 7/19	116 7/19	-19 12/19	266 7/19	2021
-51 12/19	230 7/19	20 7/19	103 7/19	191 7/19	7/19	216 7/19	65 7/19	88 7/19	161 7/19	30 7/19	186 7/19	80 7/19	118 7/19	131 7/19	45 7/19	156 7/19	-17 12/19	264 7/19	2021
-49 12/19	228 7/19	-2 12/19	212 7/19	19 7/19	108 7/19	194 7/19	27 7/19	182 7/19	64 7/19	93 7/19	164 7/19	42 7/19	152 7/19	79 7/19	123 7/19	134 7/19	-15 12/19	262 7/19	2021
-47 12/19	226 7/19	109 7/19	198 7/19	- 12/19	207 7/19	17 7/19	94 7/19	168 7/19	29 7/19	177 7/19	62 7/19	124 7/19	138 7/19	44 7/19	147 7/19	77 7/19	-13 12/19	260 7/19	2021
-45 12/19	224 7/19	209 7/19	12 7/19	107 7/19	199 7/19	3 7/19	179 7/19	57 7/19	92 7/19	169 7/19	33 7/19	149 7/19	72 7/19	122 7/19	139 7/19	48 7/19	-11 12/19	258 7/19	2021
-43 12/19	222 7/19	197 7/19	4 7/19	213 7/19	14 7/19	102 7/19	167 7/19	34 7/19	183 7/19	59 7/19	87 7/19	137 7/19	49 7/19	153 7/19	74 7/19	117 7/19	-9 12/19	256 7/19	2021
-41 12/19	220 7/19	18 7/19	104 7/19	192 7/19	2 7/19	214 7/19	63 7/19	89 7/19	162 7/19	32 7/19	184 7/19	78 7/19	119 7/19	132 7/19	47 7/19	154 7/19	-7 12/19	254 7/19	2021
-39 12/19	233 7/19	-36 12/19	-34 12/19	-32 12/19	-30 12/19	-28 12/19	-26 12/19	-24 12/19	-23 12/19	231 7/19	229 7/19	227 7/19	225 7/19	223 7/19	221 7/19	219 7/19	235 7/19	252 7/19	2021
269 7/19	251 7/19	253 7/19	255 7/19	257 7/19	259 7/19	261 7/19	263 7/19	265 7/19	-57 12/19	-58 12/19	-60 12/19	-62 12/19	-64 12/19	-66 12/19	-68 12/19	-70 12/19	-72 12/19	267 7/19	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 5 are **pandiagonal** with equal magic sums. In each case the **magic sums** order 5 are given by

$$[S_{5\times 5} : S_{19\times 19} := 21] := \frac{105}{19}$$

$$[S_{5\times 5} : S_{19\times 19} := 441] := \frac{2205}{19}$$

$$[S_{5\times 5} : S_{19\times 19} := 2021] := \frac{10105}{19}.$$

1.13 Block-Wise Magic Squares of Order 20

Below are **block-wise magic squares** of order 20 in two different ways giving magic sums 21, 21^2 and 2021. First, **pandiagonal** blocks of order 4 with equal magic sums. The second, **pandiagonal** blocks of order 5 with different magic sums.

1.13.1 First Type

pan	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
21	-9.45	1.55	-179.45	191.55	-32.45	24.55	-162.45	174.55	-50.45	42.55	-140.45	152.55	-73.45	65.55	-123.45	135.55	-91.45	83.55	-101.45	113.55	21
21	-188.45	200.55	-18.45	10.55	-165.45	177.55	-35.45	27.55	-147.45	159.55	-57.45	49.55	-124.45	136.55	-74.45	66.55	-106.45	118.55	-96.45	88.55	21
21	181.55	-189.45	11.55	0.55	164.55	-172.45	34.55	-22.45	142.55	-150.45	52.55	-40.45	125.55	-133.45	75.55	-63.45	103.55	-111.45	93.55	-81.45	21
21	20.55	-8.45	190.55	-198.45	37.55	-25.45	167.55	-175.45	59.55	-47.45	149.55	-157.45	76.55	-64.45	126.55	-134.45	98.55	-86.45	108.55	-116.45	21
21	-70.45	62.55	-120.45	132.55	-93.45	85.55	-103.45	115.55	-11.45	3.55	-181.45	193.55	-29.45	21.55	-159.45	171.55	-52.45	44.55	-142.45	154.55	21
21	-127.45	139.55	-77.45	69.55	-104.45	116.55	-94.45	86.55	-186.45	198.55	-16.45	8.55	-168.45	180.55	-38.45	30.55	-145.45	157.55	-55.45	47.55	21
21	122.55	-130.45	72.55	-60.45	105.55	-113.45	95.55	-83.45	183.55	-191.45	13.55	-1.45	161.55	-169.45	31.55	-19.45	144.55	-152.45	54.55	-42.45	21
21	79.55	-67.45	129.55	-137.45	96.55	-84.45	106.55	-114.45	18.55	-6.45	188.55	-196.45	40.55	-28.45	170.55	-178.45	57.55	-45.45	147.55	-155.45	21
21	-31.45	23.55	-161.45	173.55	-49.45	41.55	-139.45	151.55	-72.45	64.55	-122.45	134.55	-90.45	82.55	-100.45	112.55	-13.45	5.55	-183.45	195.55	21
21	-166.45	178.55	-36.45	28.55	-148.45	160.55	-58.45	50.55	-125.45	137.55	-75.45	67.55	-107.45	119.55	-97.45	89.55	-184.45	196.55	-14.45	6.55	21
21	163.55	-171.45	33.55	-21.45	141.55	-149.45	51.55	-39.45	124.55	-132.45	74.55	-62.45	102.55	-110.45	92.55	-80.45	185.55	-193.45	15.55	-3.45	21
21	38.55	-26.45	168.55	-176.45	60.55	-48.45	150.55	-158.45	77.55	-65.45	127.55	-135.45	99.55	-87.45	109.55	-117.45	16.55	-4.45	186.55	-194.45	21
21	-92.45	84.55	-102.45	114.55	-10.45	2.55	-180.45	192.55	-33.45	25.55	-163.45	175.55	-51.45	43.55	-141.45	153.55	-69.45	61.55	-119.45	131.55	21
21	-105.45	117.55	-95.45	87.55	-187.45	199.55	-17.45	9.55	-164.45	176.55	-34.45	26.55	-146.45	158.55	-56.45	48.55	-128.45	140.55	-78.45	70.55	21
21	104.55	-112.45	94.55	-82.45	182.55	-190.45	12.55	-0.45	165.55	-173.45	35.55	-23.45	143.55	-151.45	53.55	-41.45	121.55	-129.45	71.55	-59.45	21
21	97.55	-85.45	107.55	-115.45	19.55	-7.45	189.55	-197.45	36.55	-24.45	166.55	-174.45	58.55	-46.45	148.55	-156.45	80.55	-68.45	130.55	-138.45	21
21	-53.45	45.55	-143.45	155.55	-71.45	63.55	-121.45	133.55	-89.45	81.55	-99.45	111.55	-12.45	4.55	-182.45	194.55	-30.45	22.55	-160.45	172.55	21
21	-144.45	156.55	-54.45	46.55	-126.45	138.55	-76.45	68.55	-108.45	120.55	-98.45	90.55	-185.45	197.55	-15.45	7.55	-167.45	179.55	-37.45	29.55	21
21	145.55	-153.45	55.55	-43.45	123.55	-131.45	73.55	-61.45	101.55	-109.45	91.55	-79.45	184.55	-192.45	14.55	-2.45	162.55	-170.45	32.55	-20.45	21
	56.55	-44.45	146.55	-154.45	78.55	-66.45	128.55	-136.45	100.55	-88.45	110.55	-118.45	17.55	-5.45	187.55	-195.45	39.55	-27.45	169.55	-177.45	21
	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

	pan	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
441	11.55	22.55	-158.45	212.55	-11.45	45.55	-141.45	195.55	-29.45	63.55	-119.45	173.55	-52.45	86.55	-102.45	156.55	-70.45	104.55	-80.45	134.55	441
441	-167.45	221.55	2.55	31.55	-144.45	198.55	-14.45	48.55	-126.45	180.55	-36.45	70.55	-103.45	157.55	-53.45	87.55	-85.45	139.55	-75.45	109.55	441
441	202.55	-168.45	32.55	21.55	185.55	-151.45	55.55	-1.45	163.55	-129.45	73.55	-19.45	146.55	-112.45	96.55	-42.45	124.55	-90.45	114.55	-60.45	441
441	41.55	12.55	211.55	-177.45	58.55	-4.45	188.55	-154.45	80.55	-26.45	170.55	-136.45	97.55	-43.45	147.55	-113.45	119.55	-65.45	129.55	-95.45	441
441	-49.45	83.55	-99.45	153.55	-72.45	106.55	-82.45	136.55	9.55	24.55	-160.45	214.55	-8.45	42.55	-138.45	192.55	-31.45	65.55	-121.45	175.55	441
441	-106.45	160.55	-56.45	90.55	-83.45	137.55	-73.45	107.55	-165.45	219.55	4.55	29.55	-147.45	201.55	-17.45	51.55	-124.45	178.55	-34.45	68.55	441
441	143.55	-109.45	93.55	-39.45	126.55	-92.45	116.55	-62.45	204.55	-170.45	34.55	19.55	182.55	-148.45	52.55	1.55	165.55	-131.45	75.55	-21.45	441
441	100.55	-46.45	150.55	-116.45	117.55	-63.45	127.55	-93.45	39.55	14.55	209.55	-175.45	61.55	-7.45	191.55	-157.45	78.55	-24.45	168.55	-134.45	441
441	-10.45	44.55	-140.45	194.55	-28.45	62.55	-118.45	172.55	-51.45	85.55	-101.45	155.55	-69.45	103.55	-79.45	133.55	7.55	26.55	-162.45	216.55	441
441	-145.45	199.55	-15.45	49.55	-127.45	181.55	-37.45	71.55	-104.45	158.55	-54.45	88.55	-86.45	140.55	-76.45	110.55	-163.45	217.55	6.55	27.55	441
441	184.55	-150.45	54.55	-0.45	162.55	-128.45	72.55	-18.45	145.55	-111.45	95.55	-41.45	123.55	-89.45	113.55	-59.45	206.55	-172.45	36.55	17.55	441
441	59.55	-5.45	189.55	-155.45	81.55	-27.45	171.55	-137.45	98.55	-44.45	148.55	-114.45	120.55	-66.45	130.55	-96.45	37.55	16.55	207.55	-173.45	441
441	-71.45	105.55	-81.45	135.55	10.55	23.55	-159.45	213.55	-12.45	46.55	-142.45	196.55	-30.45	64.55	-120.45	174.55	-48.45	82.55	-98.45	152.55	441
441	-84.45	138.55	-74.45	108.55	-166.45	220.55	3.55	30.55	-143.45	197.55	-13.45	47.55	-125.45	179.55	-35.45	69.55	-107.45	161.55	-57.45	91.55	441
441	125.55	-91.45	115.55	-61.45	203.55	-169.45	33.55	20.55	186.55	-152.45	56.55	-2.45	164.55	-130.45	74.55	-20.45	142.55	-108.45	92.55	-38.45	441
441	118.55	-64.45	128.55	-94.45	40.55	13.55	210.55	-176.45	57.55	-3.45	187.55	-153.45	79.55	-25.45	169.55	-135.45	101.55	-47.45	151.55	-117.45	441
441	-32.45	66.55	-122.45	176.55	-50.45	84.55	-100.45	154.55	-68.45	102.55	-78.45	132.55	8.55	25.55	-161.45	215.55	-9.45	43.55	-139.45	193.55	441
441	-123.45	177.55	-33.45	67.55	-105.45	159.55	-55.45	89.55	-87.45	141.55	-77.45	111.55	-164.45	218.55	5.55	28.55	-146.45	200.55	-16.45	50.55	441
441	166.55	-132.45	76.55	-22.45	144.55	-110.45	94.55	-40.45	122.55	-88.45	112.55	-58.45	205.55	-171.45	35.55	18.55	183.55	-149.45	53.55	0.55	441
	77.55	-23.45	167.55	-133.45	99.55	-45.45	149.55	-115.45	121.55	-67.45	131.55	-97.45	38.55	15.55	208.55	-174.45	60.55	-6.45	190.55	-156.45	441
	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	90.55	101.55	-79.45	291.55	67.55	124.55	-62.45	274.55	49.55	142.55	-40.45	252.55	26.55	165.55	-23.45	235.55	8.55	183.55	-1.45	213.55	2021
2021	-88.45	300.55	81.55	110.55	-65.45	277.55	64.55	127.55	-47.45	259.55	42.55	149.55	-24.45	236.55	25.55	166.55	-6.45	218.55	3.55	188.55	2021
2021	281.55	-89.45	111.55	100.55	264.55	-72.45	134.55	77.55	242.55	-50.45	152.55	59.55	225.55	-33.45	175.55	36.55	203.55	-11.45	193.55	18.55	2021
2021	120.55	91.55	290.55	-98.45	137.55	74.55	267.55	-75.45	159.55	52.55	249.55	-57.45	176.55	35.55	226.55	-34.45	198.55	13.55	208.55	-16.45	2021
2021	29.55	162.55	-20.45	232.55	6.55	185.55	-3.45	215.55	88.55	103.55	-81.45	293.55	70.55	121.55	-59.45	271.55	47.55	144.55	-42.45	254.55	2021
2021	-27.45	239.55	22.55	169.55	-4.45	216.55	5.55	186.55	-86.45	298.55	83.55	108.55	-68.45	280.55	61.55	130.55	-45.45	257.55	44.55	147.55	2021
2021	222.55	-30.45	172.55	39.55	205.55	-13.45	195.55	16.55	283.55	-91.45	113.55	98.55	261.55	-69.45	131.55	80.55	244.55	-52.45	154.55	57.55	2021
2021	179.55	32.55	229.55	-37.45	196.55	15.55	206.55	-14.45	118.55	93.55	288.55	-96.45	140.55	71.55	270.55	-78.45	157.55	54.55	247.55	-55.45	2021
2021	68.55	123.55	-61.45	273.55	50.55	141.55	-39.45	251.55	27.55	164.55	-22.45	234.55	9.55	182.55	-0.45	212.55	86.55	105.55	-83.45	295.55	2021
2021	-66.45	278.55	63.55	128.55	-48.45	260.55	41.55	150.55	-25.45	237.55	24.55	167.55	-7.45	219.55	2.55	189.55	-84.45	296.55	85.55	106.55	2021
2021	263.55	-71.45	133.55	78.55	241.55	-49.45	151.55	60.55	224.55	-32.45	174.55	37.55	202.55	-10.45	192.55	19.55	285.55	-93.45	115.55	96.55	2021
2021	138.55	73.55	268.55	-76.45	160.55	51.55	250.55	-58.45	177.55	34.55	227.55	-35.45	199.55	12.55	209.55	-17.45	116.55	95.55	286.55	-94.45	2021
2021	7.55	184.55	-2.45	214.55	89.55	102.55	-80.45	292.55	66.55	125.55	-63.45	275.55	48.55	143.55	-41.45	253.55	30.55	161.55	-19.45	231.55	2021
2021	-5.45	217.55	4.55	187.55	-87.45	299.55	82.55	109.55	-64.45	276.55	65.55	126.55	-46.45	258.55	43.55	148.55	-28.45	240.55	21.55	170.55	2021
2021	204.55	-12.45	194.55	17.55	282.55	-90.45	112.55	99.55	265.55	-73.45	135.55	76.55	243.55	-51.45	153.55	58.55	221.55	-29.45	171.55	40.55	2021
2021	197.55	14.55	207.55	-15.45	119.55	92.55	289.55	-97.45	136.55	75.55	266.55	-74.45	158.55	53.55	248.55	-56.45	180.55	31.55	230.55	-38.45	2021
2021	46.55	145.55	-43.45	255.55	28.55	163.55	-21.45	233.55	10.55	181.55	0.55	211.55	87.55	104.55	-82.45	294.55	69.55	122.55	-60.45	272.55	2021
2021	-44.45	256.55	45.55	146.55	-26.45	238.55	23.55	168.55	-8.45	220.55	1.55	190.55	-85.45	297.55	84.55	107.55	-67.45	279.55	62.55	129.55	2021
2021	245.55	-53.45	155.55	56.55	223.55	-31.45	173.55	38.55	201.55	-9.45	191.55	20.55	284.55	-92.45	114.55	97.55	262.55	-70.45	132.55	79.55	2021
	156.55	55.55	246.55	-54.45	178.55	33.55	228.55	-36.45	200.55	11.55	210.55	-18.45	117.55	94.55	287.55	-95.45	139.55	72.55	269.55	-77.45	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the block of order 4 are **pandiagonal** magic squares with equal magic sums given by

$$[S_{4\times 4} : S_{20\times 20} := 21] := \frac{21}{5} = 4.2$$

$$[S_{4\times 4} : S_{20\times 20} := 441] := \frac{441}{5} = 88.2$$

$$[S_{4\times 4} : S_{20\times 20} := 2021] := \frac{2021}{5} = 404.2$$

1.13.2 Second Type

pan	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
21	-192.45	-64.45	-16.45	111.55	159.55	-187.45	-59.45	-11.45	116.55	164.55	-198.45	-70.45	-22.45	105.55	153.55	-185.45	-57.45	-9.45	118.55	166.55	21
21	63.55	191.55	-160.45	-112.45	15.55	68.55	196.55	-155.45	-107.45	20.55	57.55	185.55	-166.45	-118.45	9.55	70.55	198.55	-153.45	-105.45	22.55	21
21	-80.45	-32.45	95.55	143.55	-128.45	-75.45	-27.45	100.55	148.55	-123.45	-86.45	-38.45	89.55	137.55	-134.45	-73.45	-25.45	102.55	150.55	-121.45	21
21	175.55	-176.45	-48.45	-0.45	47.55	180.55	-171.45	-43.45	4.55	52.55	169.55	-182.45	-54.45	-6.45	41.55	182.55	-169.45	-41.45	6.55	54.55	21
21	31.55	79.55	127.55	-144.45	-96.45	36.55	84.55	132.55	-139.45	-91.45	25.55	73.55	121.55	-150.45	-102.45	38.55	86.55	134.55	-137.45	-89.45	21
21	-197.45	-69.45	-21.45	106.55	154.55	-186.45	-58.45	-10.45	117.55	165.55	-191.45	-63.45	-15.45	112.55	160.55	-188.45	-60.45	-12.45	115.55	163.55	21
21	58.55	186.55	-165.45	-117.45	10.55	69.55	197.55	-154.45	-106.45	21.55	64.55	192.55	-159.45	-111.45	16.55	67.55	195.55	-156.45	-108.45	19.55	21
21	-85.45	-37.45	90.55	138.55	-133.45	-74.45	-26.45	101.55	149.55	-122.45	-79.45	-31.45	96.55	144.55	-127.45	-76.45	-28.45	99.55	147.55	-124.45	21
21	170.55	-181.45	-53.45	-5.45	42.55	181.55	-170.45	-42.45	5.55	53.55	176.55	-175.45	-47.45	0.55	48.55	179.55	-172.45	-44.45	3.55	51.55	21
21	26.55	74.55	122.55	-149.45	-101.45	37.55	85.55	133.55	-138.45	-90.45	32.55	80.55	128.55	-143.45	-95.45	35.55	83.55	131.55	-140.45	-92.45	21
21	-183.45	-55.45	-7.45	120.55	168.55	-196.45	-68.45	-20.45	107.55	155.55	-189.45	-61.45	-13.45	114.55	162.55	-194.45	-66.45	-18.45	109.55	157.55	21
21	72.55	200.55	-151.45	-103.45	24.55	59.55	187.55	-164.45	-116.45	11.55	66.55	194.55	-157.45	-109.45	18.55	61.55	189.55	-162.45	-114.45	13.55	21
21	-71.45	-23.45	104.55	152.55	-119.45	-84.45	-36.45	91.55	139.55	-132.45	-77.45	-29.45	98.55	146.55	-125.45	-82.45	-34.45	93.55	141.55	-130.45	21
21	184.55	-167.45	-39.45	8.55	56.55	171.55	-180.45	-52.45	-4.45	43.55	178.55	-173.45	-45.45	2.55	50.55	173.55	-178.45	-50.45	-2.45	45.55	21
21	40.55	88.55	136.55	-135.45	-87.45	27.55	75.55	123.55	-148.45	-100.45	34.55	82.55	130.55	-141.45	-93.45	29.55	77.55	125.55	-146.45	-98.45	21
21	-190.45	-62.45	-14.45	113.55	161.55	-193.45	-65.45	-17.45	110.55	158.55	-184.45	-56.45	-8.45	119.55	167.55	-195.45	-67.45	-19.45	108.55	156.55	21
21	65.55	193.55	-158.45	-110.45	17.55	62.55	190.55	-161.45	-113.45	14.55	71.55	199.55	-152.45	-104.45	23.55	60.55	188.55	-163.45	-115.45	12.55	21
21	-78.45	-30.45	97.55	145.55	-126.45	-81.45	-33.45	94.55	142.55	-129.45	-72.45	-24.45	103.55	151.55	-120.45	-83.45	-35.45	92.55	140.55	-131.45	21
21	177.55	-174.45	-46.45	1.55	49.55	174.55	-177.45	-49.45	-1.45	46.55	183.55	-168.45	-40.45	7.55	55.55	172.55	-179.45	-51.45	-3.45	44.55	21
	33.55	81.55	129.55	-142.45	-94.45	30.55	78.55	126.55	-145.45	-97.45	39.55	87.55	135.55	-136.45	-88.45	28.55	76.55	124.55	-147.45	-99.45	21
	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

	pan	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
441	-171.45	-43.45	4.55	132.55	180.55	-166.45	-38.45	9.55	137.55	185.55	-177.45	-49.45	-1.45	126.55	174.55	-164.45	-36.45	11.55	139.55	187.55	441
441	84.55	212.55	-139.45	-91.45	36.55	89.55	217.55	-134.45	-86.45	41.55	78.55	206.55	-145.45	-97.45	30.55	91.55	219.55	-132.45	-84.45	43.55	441
441	-59.45	-11.45	116.55	164.55	-107.45	-54.45	-6.45	121.55	169.55	-102.45	-65.45	-17.45	110.55	158.55	-113.45	-52.45	-4.45	123.55	171.55	-100.45	441
441	196.55	-155.45	-27.45	20.55	68.55	201.55	-150.45	-22.45	25.55	73.55	190.55	-161.45	-33.45	14.55	62.55	203.55	-148.45	-20.45	27.55	75.55	441
441	52.55	100.55	148.55	-123.45	-75.45	57.55	105.55	153.55	-118.45	-70.45	46.55	94.55	142.55	-129.45	-81.45	59.55	107.55	155.55	-116.45	-68.45	441
441	-176.45	-48.45	-0.45	127.55	175.55	-165.45	-37.45	10.55	138.55	186.55	-170.45	-42.45	5.55	133.55	181.55	-167.45	-39.45	8.55	136.55	184.55	441
441	79.55	207.55	-144.45	-96.45	31.55	90.55	218.55	-133.45	-85.45	42.55	85.55	213.55	-138.45	-90.45	37.55	88.55	216.55	-135.45	-87.45	40.55	441
441	-64.45	-16.45	111.55	159.55	-112.45	-53.45	-5.45	122.55	170.55	-101.45	-58.45	-10.45	117.55	165.55	-106.45	-55.45	-7.45	120.55	168.55	-103.45	441
441	191.55	-160.45	-32.45	15.55	63.55	202.55	-149.45	-21.45	26.55	74.55	197.55	-154.45	-26.45	21.55	69.55	200.55	-151.45	-23.45	24.55	72.55	441
441	47.55	95.55	143.55	-128.45	-80.45	58.55	106.55	154.55	-117.45	-69.45	53.55	101.55	149.55	-122.45	-74.45	56.55	104.55	152.55	-119.45	-71.45	441
441	-162.45	-34.45	13.55	141.55	189.55	-175.45	-47.45	0.55	128.55	176.55	-168.45	-40.45	7.55	135.55	183.55	-173.45	-45.45	2.55	130.55	178.55	441
441	93.55	221.55	-130.45	-82.45	45.55	80.55	208.55	-143.45	-95.45	32.55	87.55	215.55	-136.45	-88.45	39.55	82.55	210.55	-141.45	-93.45	34.55	441
441	-50.45	-2.45	125.55	173.55	-98.45	-63.45	-15.45	112.55	160.55	-111.45	-56.45	-8.45	119.55	167.55	-104.45	-61.45	-13.45	114.55	162.55	-109.45	441
441	205.55	-146.45	-18.45	29.55	77.55	192.55	-159.45	-31.45	16.55	64.55	199.55	-152.45	-24.45	23.55	71.55	194.55	-157.45	-29.45	18.55	66.55	441
441	61.55	109.55	157.55	-114.45	-66.45	48.55	96.55	144.55	-127.45	-79.45	55.55	103.55	151.55	-120.45	-72.45	50.55	98.55	146.55	-125.45	-77.45	441
441	-169.45	-41.45	6.55	134.55	182.55	-172.45	-44.45	3.55	131.55	179.55	-163.45	-35.45	12.55	140.55	188.55	-174.45	-46.45	1.55	129.55	177.55	441
441	86.55	214.55	-137.45	-89.45	38.55	83.55	211.55	-140.45	-92.45	35.55	92.55	220.55	-131.45	-83.45	44.55	81.55	209.55	-142.45	-94.45	33.55	441
441	-57.45	-9.45	118.55	166.55	-105.45	-60.45	-12.45	115.55	163.55	-108.45	-51.45	-3.45	124.55	172.55	-99.45	-62.45	-14.45	113.55	161.55	-110.45	441
441	198.55	-153.45	-25.45	22.55	70.55	195.55	-156.45	-28.45	19.55	67.55	204.55	-147.45	-19.45	28.55	76.55	193.55	-158.45	-30.45	17.55	65.55	441
	54.55	102.55	150.55	-121.45	-73.45	51.55	99.55	147.55	-124.45	-76.45	60.55	108.55	156.55	-115.45	-67.45	49.55	97.55	145.55	-126.45	-78.45	441
	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	-92.45	35.55	83.55	211.55	259.55	-87.45	40.55	88.55	216.55	264.55	-98.45	29.55	77.55	205.55	253.55	-85.45	42.55	90.55	218.55	266.55	2021
2021	163.55	291.55	-60.45	-12.45	115.55	168.55	296.55	-55.45	-7.45	120.55	157.55	285.55	-66.45	-18.45	109.55	170.55	298.55	-53.45	-5.45	122.55	2021
2021	19.55	67.55	195.55	243.55	-28.45	24.55	72.55	200.55	248.55	-23.45	13.55	61.55	189.55	237.55	-34.45	26.55	74.55	202.55	250.55	-21.45	2021
2021	275.55	-76.45	51.55	99.55	147.55	280.55	-71.45	56.55	104.55	152.55	269.55	-82.45	45.55	93.55	141.55	282.55	-69.45	58.55	106.55	154.55	2021
2021	131.55	179.55	227.55	-44.45	3.55	136.55	184.55	232.55	-39.45	8.55	125.55	173.55	221.55	-50.45	-2.45	138.55	186.55	234.55	-37.45	10.55	2021
2021	-97.45	30.55	78.55	206.55	254.55	-86.45	41.55	89.55	217.55	265.55	-91.45	36.55	84.55	212.55	260.55	-88.45	39.55	87.55	215.55	263.55	2021
2021	158.55	286.55	-65.45	-17.45	110.55	169.55	297.55	-54.45	-6.45	121.55	164.55	292.55	-59.45	-11.45	116.55	167.55	295.55	-56.45	-8.45	119.55	2021
2021	14.55	62.55	190.55	238.55	-33.45	25.55	73.55	201.55	249.55	-22.45	20.55	68.55	196.55	244.55	-27.45	23.55	71.55	199.55	247.55	-24.45	2021
2021	270.55	-81.45	46.55	94.55	142.55	281.55	-70.45	57.55	105.55	153.55	276.55	-75.45	52.55	100.55	148.55	279.55	-72.45	55.55	103.55	151.55	2021
2021	126.55	174.55	222.55	-49.45	-1.45	137.55	185.55	233.55	-38.45	9.55	132.55	180.55	228.55	-43.45	4.55	135.55	183.55	231.55	-40.45	7.55	2021
2021	-83.45	44.55	92.55	220.55	268.55	-96.45	31.55	79.55	207.55	255.55	-89.45	38.55	86.55	214.55	262.55	-94.45	33.55	81.55	209.55	257.55	2021
2021	172.55	300.55	-51.45	-3.45	124.55	159.55	287.55	-64.45	-16.45	111.55	166.55	294.55	-57.45	-9.45	118.55	161.55	289.55	-62.45	-14.45	113.55	2021
2021	28.55	76.55	204.55	252.55	-19.45	15.55	63.55	191.55	239.55	-32.45	22.55	70.55	198.55	246.55	-25.45	17.55	65.55	193.55	241.55	-30.45	2021
2021	284.55	-67.45	60.55	108.55	156.55	271.55	-80.45	47.55	95.55	143.55	278.55	-73.45	54.55	102.55	150.55	273.55	-78.45	49.55	97.55	145.55	2021
2021	140.55	188.55	236.55	-35.45	12.55	127.55	175.55	223.55	-48.45	-0.45	134.55	182.55	230.55	-41.45	6.55	129.55	177.55	225.55	-46.45	1.55	2021
2021	-90.45	37.55	85.55	213.55	261.55	-93.45	34.55	82.55	210.55	258.55	-84.45	43.55	91.55	219.55	267.55	-95.45	32.55	80.55	208.55	256.55	2021
2021	165.55	293.55	-58.45	-10.45	117.55	162.55	290.55	-61.45	-13.45	114.55	171.55	299.55	-52.45	-4.45	123.55	160.55	288.55	-63.45	-15.45	112.55	2021
2021	21.55	69.55	197.55	245.55	-26.45	18.55	66.55	194.55	242.55	-29.45	27.55	75.55	203.55	251.55	-20.45	16.55	64.55	192.55	240.55	-31.45	2021
2021	277.55	-74.45	53.55	101.55	149.55	274.55	-77.45	50.55	98.55	146.55	283.55	-68.45	59.55	107.55	155.55	272.55	-79.45	48.55	96.55	144.55	2021
	133.55	181.55	229.55	-42.45	5.55	130.55	178.55	226.55	-45.45	2.55	139.55	187.55	235.55	-36.45	11.55	128.55	176.55	224.55	-47.45	0.55	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 5 are **pandiagonal** with different magic sums.

1.14 Block-Wise Magic Squares of Order 21

Below are **block-wise magic squares** of order 21 in two different ways giving magic sums 21, 21^2 and 2021. First, **semi-magic** squares blocks of order 3 with equal **semi-magic** sums. The second, **pandiagonal** blocks of order 7 with equal magic sums.

1.14.1 First Type

	pan	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
21	26	-109	86	54	155	-206	-33	-131	167	-8	199	-188	-52	-153	208	35	133	-165	-15	-87	105	21
21	80	23	-100	-202	67	138	163	-43	-117	-179	1	181	204	-65	-136	-161	45	119	102	-21	-78	21
21	-103	89	17	151	-219	71	-127	177	-47	190	-197	10	-149	221	-69	129	-175	49	-84	111	-24	21
21	53	120	-170	-28	-77	108	27	-108	84	68	143	-208	-51	-118	172	9	184	-190	-71	-137	211	21
21	-174	40	137	112	-18	-91	81	21	-99	-214	65	152	176	-38	-135	-194	-1	198	220	-62	-155	21
21	124	-157	36	-81	98	-14	-105	90	18	149	-205	59	-122	159	-34	188	-180	-5	-146	202	-53	21
21	-9	197	-185	-54	-152	209	34	136	-167	-10	-90	103	14	-98	87	69	144	-210	-37	-130	170	21
21	-181	4	180	205	-64	-138	-158	43	118	99	-23	-73	91	24	-112	-213	63	153	164	-40	-121	21
21	193	-198	8	-148	219	-68	127	-176	52	-86	116	-27	-102	77	28	147	-204	60	-124	173	-46	21
21	56	154	-207	-36	-129	168	5	185	-187	-72	-139	214	51	121	-169	-29	-74	106	32	-111	82	21
21	-203	66	140	165	-42	-120	-193	2	194	218	-59	-156	-173	41	135	115	-20	-92	78	19	-94	21
21	150	-217	70	-126	174	-45	191	-184	-4	-143	201	-55	125	-159	37	-83	97	-11	-107	95	15	21
21	-12	-89	104	13	-95	85	74	141	-212	-49	-119	171	6	186	-189	-58	-151	212	33	134	-164	21
21	100	-22	-75	94	22	-113	-216	61	158	175	-39	-133	-192	0	195	206	-61	-142	-160	46	117	21
21	-85	114	-26	-104	76	31	145	-199	57	-123	161	-35	189	-183	-3	-145	215	-67	130	-177	50	21
21	-57	-150	210	47	122	-166	-30	-76	109	30	-110	83	55	157	-209	-31	-132	166	-7	196	-186	21
21	207	-63	-141	-172	44	131	113	-17	-93	79	20	-96	-200	64	139	162	-44	-115	-182	3	182	21
21	-147	216	-66	128	-163	38	-80	96	-13	-106	93	16	148	-218	73	-128	179	-48	192	-196	7	21
21	-50	-116	169	11	183	-191	-70	-140	213	48	123	-168	-16	-88	107	12	-97	88	72	142	-211	21
21	178	-41	-134	-195	-2	200	217	-60	-154	-171	42	132	101	-19	-79	92	25	-114	-215	62	156	21
	-125	160	-32	187	-178	-6	-144	203	-56	126	-162	39	-82	110	-25	-101	75	29	146	-201	58	21
	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

	pan	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
441	46	-89	106	74	175	-186	-13	-111	187	12	219	-168	-32	-133	228	55	153	-145	5	-67	125	441
441	100	43	-80	-182	87	158	183	-23	-97	-159	21	201	224	-45	-116	-141	65	139	122	-1	-58	441
441	-83	109	37	171	-199	91	-107	197	-27	210	-177	30	-129	241	-49	149	-155	69	-64	131	-4	441
441	73	140	-150	-8	-57	128	47	-88	104	88	163	-188	-31	-98	192	29	204	-170	-51	-117	231	441
441	-154	60	157	132	2	-71	101	41	-79	-194	85	172	196	-18	-115	-174	19	218	240	-42	-135	441
441	144	-137	56	-61	118	6	-85	110	38	169	-185	79	-102	179	-14	208	-160	15	-126	222	-33	441
441	11	217	-165	-34	-132	229	54	156	-147	10	-70	123	34	-78	107	89	164	-190	-17	-110	190	441
441	-161	24	200	225	-44	-118	-138	63	138	119	-3	-53	111	44	-92	-193	83	173	184	-20	-101	441
441	213	-178	28	-128	239	-48	147	-156	72	-66	136	-7	-82	97	48	167	-184	80	-104	193	-26	441
441	76	174	-187	-16	-109	188	25	205	-167	-52	-119	234	71	141	-149	-9	-54	126	52	-91	102	441
441	-183	86	160	185	-22	-100	-173	22	214	238	-39	-136	-153	61	155	135	0	-72	98	39	-74	441
441	170	-197	90	-106	194	-25	211	-164	16	-123	221	-35	145	-139	57	-63	117	9	-87	115	35	441
441	8	-69	124	33	-75	105	94	161	-192	-29	-99	191	26	206	-169	-38	-131	232	53	154	-144	441
441	120	-2	-55	114	42	-93	-196	81	178	195	-19	-113	-172	20	215	226	-41	-122	-140	66	137	441
441	-65	134	-6	-84	96	51	165	-179	77	-103	181	-15	209	-163	17	-125	235	-47	150	-157	70	441
441	-37	-130	230	67	142	-146	-10	-56	129	50	-90	103	75	177	-189	-11	-112	186	13	216	-166	441
441	227	-43	-121	-152	64	151	133	3	-73	99	40	-76	-180	84	159	182	-24	-95	-162	23	202	441
441	-127	236	-46	148	-143	58	-60	116	7	-86	113	36	168	-198	93	-108	199	-28	212	-176	27	441
441	-30	-96	189	31	203	-171	-50	-120	233	68	143	-148	4	-68	127	32	-77	108	92	162	-191	441
441	198	-21	-114	-175	18	220	237	-40	-134	-151	62	152	121	1	-59	112	45	-94	-195	82	176	441
	-105	180	-12	207	-158	14	-124	223	-36	146	-142	59	-62	130	-5	-81	95	49	166	-181	78	441
	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	121 5/21	-13 16/21	181 5/21	149 5/21	250 5/21	-110 16/21	62 5/21	-35 16/21	262 5/21	87 5/21	294 5/21	-92 16/21	43 5/21	-57 16/21	303 5/21	130 5/21	228 5/21	-69 16/21	80 5/21	8 5/21	200 5/21	2021
2021	175 5/21	118 5/21	-4 16/21	-106 16/21	162 5/21	233 5/21	258 5/21	52 5/21	-21 16/21	-83 16/21	96 5/21	276 5/21	299 5/21	30 5/21	-40 16/21	-65 16/21	140 5/21	214 5/21	197 5/21	74 5/21	17 5/21	2021
2021	-7 16/21	184 5/21	112 5/21	246 5/21	-123 16/21	166 5/21	-31 16/21	272 5/21	48 5/21	285 5/21	-101 16/21	105 5/21	-53 16/21	316 5/21	26 5/21	224 5/21	-79 16/21	144 5/21	11 5/21	206 5/21	71 5/21	2021
2021	148 5/21	215 5/21	-74 16/21	67 5/21	18 5/21	203 5/21	122 5/21	-12 16/21	179 5/21	163 5/21	238 5/21	-112 16/21	44 5/21	-22 16/21	267 5/21	104 5/21	279 5/21	-94 16/21	24 5/21	-41 16/21	306 5/21	2021
2021	-78 16/21	135 5/21	232 5/21	207 5/21	77 5/21	4 5/21	176 5/21	116 5/21	-3 16/21	-118 16/21	160 5/21	247 5/21	271 5/21	57 5/21	-39 16/21	-98 16/21	94 5/21	293 5/21	315 5/21	33 5/21	-59 16/21	2021
2021	219 5/21	-61 16/21	131 5/21	14 5/21	193 5/21	81 5/21	-9 16/21	185 5/21	113 5/21	244 5/21	-109 16/21	154 5/21	-26 16/21	254 5/21	61 5/21	283 5/21	-84 16/21	90 5/21	-50 16/21	297 5/21	42 5/21	2021
2021	86 5/21	292 5/21	-89 16/21	41 5/21	-56 16/21	304 5/21	129 5/21	231 5/21	-71 16/21	85 5/21	5 5/21	198 5/21	109 5/21	-2 16/21	182 5/21	164 5/21	239 5/21	-114 16/21	58 5/21	-34 16/21	265 5/21	2021
2021	-85 16/21	99 5/21	275 5/21	300 5/21	31 5/21	-42 16/21	-62 16/21	138 5/21	213 5/21	194 5/21	72 5/21	22 5/21	186 5/21	119 5/21	-16 16/21	-117 16/21	158 5/21	248 5/21	259 5/21	55 5/21	-25 16/21	2021
2021	288 5/21	-102 16/21	103 5/21	-52 16/21	314 5/21	27 5/21	222 5/21	-80 16/21	147 5/21	9 5/21	211 5/21	68 5/21	-6 16/21	172 5/21	123 5/21	242 5/21	-108 16/21	155 5/21	-28 16/21	268 5/21	49 5/21	2021
2021	151 5/21	249 5/21	-111 16/21	59 5/21	-33 16/21	263 5/21	100 5/21	280 5/21	-91 16/21	23 5/21	-43 16/21	309 5/21	146 5/21	216 5/21	-73 16/21	66 5/21	21 5/21	201 5/21	127 5/21	-15 16/21	177 5/21	2021
2021	-107 16/21	161 5/21	235 5/21	260 5/21	53 5/21	-24 16/21	-97 16/21	97 5/21	289 5/21	313 5/21	36 5/21	-60 16/21	-77 16/21	136 5/21	230 5/21	210 5/21	75 5/21	3 5/21	173 5/21	114 5/21	1 5/21	2021
2021	245 5/21	-121 16/21	165 5/21	-30 16/21	269 5/21	50 5/21	286 5/21	-88 16/21	91 5/21	-47 16/21	296 5/21	40 5/21	220 5/21	-63 16/21	132 5/21	12 5/21	192 5/21	84 5/21	-11 16/21	190 5/21	110 5/21	2021
2021	83 5/21	6 5/21	199 5/21	108 5/21	5/21	180 5/21	169 5/21	236 5/21	-116 16/21	46 5/21	-23 16/21	266 5/21	101 5/21	281 5/21	-93 16/21	37 5/21	-55 16/21	307 5/21	128 5/21	229 5/21	-68 16/21	2021
2021	195 5/21	73 5/21	20 5/21	189 5/21	117 5/21	-17 16/21	-120 16/21	156 5/21	253 5/21	270 5/21	56 5/21	-37 16/21	-96 16/21	95 5/21	290 5/21	301 5/21	34 5/21	-46 16/21	-64 16/21	141 5/21	212 5/21	2021
2021	10 5/21	209 5/21	69 5/21	-8 16/21	171 5/21	126 5/21	240 5/21	-103 16/21	152 5/21	-27 16/21	256 5/21	60 5/21	284 5/21	-87 16/21	92 5/21	-49 16/21	310 5/21	28 5/21	225 5/21	-81 16/21	145 5/21	2021
2021	38 5/21	-54 16/21	305 5/21	142 5/21	217 5/21	-70 16/21	65 5/21	19 5/21	204 5/21	125 5/21	-14 16/21	178 5/21	150 5/21	252 5/21	-113 16/21	64 5/21	-36 16/21	261 5/21	88 5/21	291 5/21	-90 16/21	2021
2021	302 5/21	32 5/21	-45 16/21	-76 16/21	139 5/21	226 5/21	208 5/21	78 5/21	2 5/21	174 5/21	115 5/21	- 16/21	-104 16/21	159 5/21	234 5/21	257 5/21	51 5/21	-19 16/21	-86 16/21	98 5/21	277 5/21	2021
2021	-51 16/21	311 5/21	29 5/21	223 5/21	-67 16/21	133 5/21	15 5/21	191 5/21	82 5/21	-10 16/21	188 5/21	111 5/21	243 5/21	-122 16/21	168 5/21	-32 16/21	274 5/21	47 5/21	287 5/21	-100 16/21	102 5/21	2021
2021	45 5/21	-20 16/21	264 5/21	106 5/21	278 5/21	-95 16/21	25 5/21	-44 16/21	308 5/21	143 5/21	218 5/21	-72 16/21	79 5/21	7 5/21	202 5/21	107 5/21	-1 16/21	183 5/21	167 5/21	237 5/21	-115 16/21	2021
2021	273 5/21	54 5/21	-38 16/21	-99 16/21	93 5/21	295 5/21	312 5/21	35 5/21	-58 16/21	-75 16/21	137 5/21	227 5/21	196 5/21	76 5/21	16 5/21	187 5/21	120 5/21	-18 16/21	-119 16/21	157 5/21	251 5/21	2021
	-29 16/21	255 5/21	63 5/21	282 5/21	-82 16/21	89 5/21	-48 16/21	298 5/21	39 5/21	221 5/21	-66 16/21	134 5/21	13 5/21	205 5/21	70 5/21	-5 16/21	170 5/21	124 5/21	241 5/21	-105 16/21	153 5/21	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 3 are **semi-magic squares**, with following equal **semi-magic sums** given by

$$[Sm_{3\times 3} : S_{21\times 21} := 21] := 3$$

$$[Sm_{3\times 3} : S_{21\times 21} := 441] := 63$$

$$[Sm_{3\times 3} : S_{21\times 21} := 2021] := \frac{2021}{7}.$$

1.14.2 Second Type

	pan	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
21	-219	-109	-65	23	45	155	177	-217	-110	-66	22	46	154	178	-218	-111	-64	21	47	153	179	21
21	150	176	-201	-114	-67	19	44	151	175	-200	-112	-68	18	43	152	174	-199	-113	-69	20	42	21
21	17	40	149	171	-202	-96	-72	16	39	148	172	-203	-95	-70	15	41	147	173	-204	-94	-71	21
21	-97	-54	12	38	145	170	-207	-98	-53	14	37	144	169	-206	-99	-52	13	36	146	168	-205	21
21	166	-208	-102	-55	30	33	143	165	-209	-101	-56	31	35	142	167	-210	-100	-57	32	34	141	21
21	51	138	164	-212	-103	-60	29	52	140	163	-213	-104	-59	28	53	139	162	-211	-105	-58	27	21
21	-61	24	50	156	159	-214	-107	-62	25	49	157	161	-215	-108	-63	26	48	158	160	-216	-106	21
21	-177	-130	-86	2	66	134	198	-175	-131	-87	1	67	133	199	-176	-132	-85	0	68	132	200	21
21	129	197	-159	-135	-88	-2	65	130	196	-158	-133	-89	-3	64	131	195	-157	-134	-90	-1	63	21
21	-4	61	128	192	-160	-117	-93	-5	60	127	193	-161	-116	-91	-6	62	126	194	-162	-115	-92	21
21	-118	-75	-9	59	124	191	-165	-119	-74	-7	58	123	190	-164	-120	-73	-8	57	125	189	-163	21
21	187	-166	-123	-76	9	54	122	186	-167	-122	-77	10	56	121	188	-168	-121	-78	11	55	120	21
21	72	117	185	-170	-124	-81	8	73	119	184	-171	-125	-80	7	74	118	183	-169	-126	-79	6	21
21	-82	3	71	135	180	-172	-128	-83	4	70	136	182	-173	-129	-84	5	69	137	181	-174	-127	21
21	-198	-151	-44	-19	87	113	219	-196	-152	-45	-20	88	112	220	-197	-153	-43	-21	89	111	221	21
21	108	218	-180	-156	-46	-23	86	109	217	-179	-154	-47	-24	85	110	216	-178	-155	-48	-22	84	21
21	-25	82	107	213	-181	-138	-51	-26	81	106	214	-182	-137	-49	-27	83	105	215	-183	-136	-50	21
21	-139	-33	-30	80	103	212	-186	-140	-32	-28	79	102	211	-185	-141	-31	-29	78	104	210	-184	21
21	208	-187	-144	-34	-12	75	101	207	-188	-143	-35	-11	77	100	209	-189	-142	-36	-10	76	99	21
21	93	96	206	-191	-145	-39	-13	94	98	205	-192	-146	-38	-14	95	97	204	-190	-147	-37	-15	21
	-40	-18	92	114	201	-193	-149	-41	-17	91	115	203	-194	-150	-42	-16	90	116	202	-195	-148	21
	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

	pan	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
441	-199	-89	-45	43	65	175	197	-197	-90	-46	42	66	174	198	-198	-91	-44	41	67	173	199	441
441	170	196	-181	-94	-47	39	64	171	195	-180	-92	-48	38	63	172	194	-179	-93	-49	40	62	441
441	37	60	169	191	-182	-76	-52	36	59	168	192	-183	-75	-50	35	61	167	193	-184	-74	-51	441
441	-77	-34	32	58	165	190	-187	-78	-33	34	57	164	189	-186	-79	-32	33	56	166	188	-185	441
441	186	-188	-82	-35	50	53	163	185	-189	-81	-36	51	55	162	187	-190	-80	-37	52	54	161	441
441	71	158	184	-192	-83	-40	49	72	160	183	-193	-84	-39	48	73	159	182	-191	-85	-38	47	441
441	-41	44	70	176	179	-194	-87	-42	45	69	177	181	-195	-88	-43	46	68	178	180	-196	-86	441
441	-157	-110	-66	22	86	154	218	-155	-111	-67	21	87	153	219	-156	-112	-65	20	88	152	220	441
441	149	217	-139	-115	-68	18	85	150	216	-138	-113	-69	17	84	151	215	-137	-114	-70	19	83	441
441	16	81	148	212	-140	-97	-73	15	80	147	213	-141	-96	-71	14	82	146	214	-142	-95	-72	441
441	-98	-55	11	79	144	211	-145	-99	-54	13	78	143	210	-144	-100	-53	12	77	145	209	-143	441
441	207	-146	-103	-56	29	74	142	206	-147	-102	-57	30	76	141	208	-148	-101	-58	31	75	140	441
441	92	137	205	-150	-104	-61	28	93	139	204	-151	-105	-60	27	94	138	203	-149	-106	-59	26	441
441	-62	23	91	155	200	-152	-108	-63	24	90	156	202	-153	-109	-64	25	89	157	201	-154	-107	441
441	-178	-131	-24	1	107	133	239	-176	-132	-25	0	108	132	240	-177	-133	-23	-1	109	131	241	441
441	128	238	-160	-136	-26	-3	106	129	237	-159	-134	-27	-4	105	130	236	-158	-135	-28	-2	104	441
441	-5	102	127	233	-161	-118	-31	-6	101	126	234	-162	-117	-29	-7	103	125	235	-163	-116	-30	441
441	-119	-13	-10	100	123	232	-166	-120	-12	-8	99	122	231	-165	-121	-11	-9	98	124	230	-164	441
441	228	-167	-124	-14	8	95	121	227	-168	-123	-15	9	97	120	229	-169	-122	-16	10	96	119	441
441	113	116	226	-171	-125	-19	7	114	118	225	-172	-126	-18	6	115	117	224	-170	-127	-17	5	441
	-20	2	112	134	221	-173	-129	-21	3	111	135	223	-174	-130	-22	4	110	136	222	-175	-128	441
	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	-123 16/21	-13 16/21	30 5/21	118 5/21	140 5/21	250 5/21	272 5/21	-121 16/21	-14 16/21	29 5/21	117 5/21	141 5/21	249 5/21	273 5/21	-122 16/21	-15 16/21	31 5/21	116 5/21	142 5/21	248 5/21	274 5/21	2021
2021	245 5/21	271 5/21	-105 16/21	-18 16/21	28 5/21	114 5/21	139 5/21	246 5/21	270 5/21	-104 16/21	-16 16/21	27 5/21	113 5/21	138 5/21	247 5/21	269 5/21	-103 16/21	-17 16/21	26 5/21	115 5/21	137 5/21	2021
2021	112 5/21	135 5/21	244 5/21	266 5/21	-106 16/21	- 16/21	23 5/21	111 5/21	134 5/21	243 5/21	267 5/21	-107 16/21	5/21	25 5/21	110 5/21	136 5/21	242 5/21	268 5/21	-108 16/21	1 5/21	24 5/21	2021
2021	-1 16/21	41 5/21	107 5/21	133 5/21	240 5/21	265 5/21	-111 16/21	-2 16/21	42 5/21	109 5/21	132 5/21	239 5/21	264 5/21	-110 16/21	-3 16/21	43 5/21	108 5/21	131 5/21	241 5/21	263 5/21	-109 16/21	2021
2021	261 5/21	-112 16/21	-6 16/21	40 5/21	125 5/21	128 5/21	238 5/21	260 5/21	-113 16/21	-5 16/21	39 5/21	126 5/21	130 5/21	237 5/21	262 5/21	-114 16/21	-4 16/21	38 5/21	127 5/21	129 5/21	236 5/21	2021
2021	146 5/21	233 5/21	259 5/21	-116 16/21	-7 16/21	35 5/21	124 5/21	147 5/21	235 5/21	258 5/21	-117 16/21	-8 16/21	36 5/21	123 5/21	148 5/21	234 5/21	257 5/21	-115 16/21	-9 16/21	37 5/21	122 5/21	2021
2021	34 5/21	119 5/21	145 5/21	251 5/21	254 5/21	-118 16/21	-11 16/21	33 5/21	120 5/21	144 5/21	252 5/21	256 5/21	-119 16/21	-12 16/21	32 5/21	121 5/21	143 5/21	253 5/21	255 5/21	-120 16/21	-10 16/21	2021
2021	-81 16/21	-34 16/21	9 5/21	97 5/21	161 5/21	229 5/21	293 5/21	-79 16/21	-35 16/21	8 5/21	96 5/21	162 5/21	228 5/21	294 5/21	-80 16/21	-36 16/21	10 5/21	95 5/21	163 5/21	227 5/21	295 5/21	2021
2021	224 5/21	292 5/21	-63 16/21	-39 16/21	7 5/21	93 5/21	160 5/21	225 5/21	291 5/21	-62 16/21	-37 16/21	6 5/21	92 5/21	159 5/21	226 5/21	290 5/21	-61 16/21	-38 16/21	5 5/21	94 5/21	158 5/21	2021
2021	91 5/21	156 5/21	223 5/21	287 5/21	-64 16/21	-21 16/21	2 5/21	90 5/21	155 5/21	222 5/21	288 5/21	-65 16/21	-20 16/21	4 5/21	89 5/21	157 5/21	221 5/21	289 5/21	-66 16/21	-19 16/21	3 5/21	2021
2021	-22 16/21	20 5/21	86 5/21	154 5/21	219 5/21	286 5/21	-69 16/21	-23 16/21	21 5/21	88 5/21	153 5/21	218 5/21	285 5/21	-68 16/21	-24 16/21	22 5/21	87 5/21	152 5/21	220 5/21	284 5/21	-67 16/21	2021
2021	282 5/21	-70 16/21	-27 16/21	19 5/21	104 5/21	149 5/21	217 5/21	281 5/21	-71 16/21	-26 16/21	18 5/21	105 5/21	151 5/21	216 5/21	283 5/21	-72 16/21	-25 16/21	17 5/21	106 5/21	150 5/21	215 5/21	2021
2021	167 5/21	212 5/21	280 5/21	-74 16/21	-28 16/21	14 5/21	103 5/21	168 5/21	214 5/21	279 5/21	-75 16/21	-29 16/21	15 5/21	102 5/21	169 5/21	213 5/21	278 5/21	-73 16/21	-30 16/21	16 5/21	101 5/21	2021
2021	13 5/21	98 5/21	166 5/21	230 5/21	275 5/21	-76 16/21	-32 16/21	12 5/21	99 5/21	165 5/21	231 5/21	277 5/21	-77 16/21	-33 16/21	11 5/21	100 5/21	164 5/21	232 5/21	276 5/21	-78 16/21	-31 16/21	2021
2021	-102 16/21	-55 16/21	51 5/21	76 5/21	182 5/21	208 5/21	314 5/21	-100 16/21	-56 16/21	50 5/21	75 5/21	183 5/21	207 5/21	315 5/21	-101 16/21	-57 16/21	52 5/21	74 5/21	184 5/21	206 5/21	316 5/21	2021
2021	203 5/21	313 5/21	-84 16/21	-60 16/21	49 5/21	72 5/21	181 5/21	204 5/21	312 5/21	-83 16/21	-58 16/21	48 5/21	71 5/21	180 5/21	205 5/21	311 5/21	-82 16/21	-59 16/21	47 5/21	73 5/21	179 5/21	2021
2021	70 5/21	177 5/21	202 5/21	308 5/21	-85 16/21	-42 16/21	44 5/21	69 5/21	176 5/21	201 5/21	309 5/21	-86 16/21	-41 16/21	46 5/21	68 5/21	178 5/21	200 5/21	310 5/21	-87 16/21	-40 16/21	45 5/21	2021
2021	-43 16/21	62 5/21	65 5/21	175 5/21	198 5/21	307 5/21	-90 16/21	-44 16/21	63 5/21	67 5/21	174 5/21	197 5/21	306 5/21	-89 16/21	-45 16/21	64 5/21	66 5/21	173 5/21	199 5/21	305 5/21	-88 16/21	2021
2021	303 5/21	-91 16/21	-48 16/21	61 5/21	83 5/21	170 5/21	196 5/21	302 5/21	-92 16/21	-47 16/21	60 5/21	84 5/21	172 5/21	195 5/21	304 5/21	-93 16/21	-46 16/21	59 5/21	85 5/21	171 5/21	194 5/21	2021
2021	188 5/21	191 5/21	301 5/21	-95 16/21	-49 16/21	56 5/21	82 5/21	189 5/21	193 5/21	300 5/21	-96 16/21	-50 16/21	57 5/21	81 5/21	190 5/21	192 5/21	299 5/21	-94 16/21	-51 16/21	58 5/21	80 5/21	2021
	55 5/21	77 5/21	187 5/21	209 5/21	296 5/21	-97 16/21	-53 16/21	54 5/21	78 5/21	186 5/21	210 5/21	298 5/21	-98 16/21	-54 16/21	53 5/21	79 5/21	185 5/21	211 5/21	297 5/21	-99 16/21	-52 16/21	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, blocks of order 7 are **pandiagonal** with equal magic square sums. These sums are given by

$$[S_{7\times 7} : S_{21\times 21} := 21] := 7$$

$$[S_{7\times 7} : S_{21\times 21} := 441] := 147$$

$$[S_{7\times 7} : S_{21\times 21} := 2021] := \frac{2021}{3}.$$

1.15 Block-Bordered Magic Squares of Order 22

Below are **block-bordered magic squares** of order 22 in two different ways giving magic sums 21, 21^2 and 2021. The block-wise magic square considered is of order 20 with blocks of orders 4 and 5.First, the **pandiagonal** blocks of order 4 with

equal magic sums. The second, **pandiagonal** magic squares of order 5 with different magic sums. The magic squares sums of order 20 are given by

$$[S_{20\times 20} : S_{22\times 22} := 21] := \frac{210}{11}$$
$$[S_{20\times 20} : S_{22\times 22} := 441] := \frac{4410}{11}$$
$$[S_{20\times 20} : S_{22\times 22} := 2021] := \frac{20210}{11}.$$

1.15.1 First Type

																					21
-220 6/11	231 5/11	-228 6/11	229 5/11	-226 6/11	227 5/11	-224 6/11	225 5/11	-222 6/11	223 5/11	-240 6/11	232 5/11	-218 6/11	219 5/11	-216 6/11	217 5/11	-214 6/11	215 5/11	-212 6/11	213 5/11	-210 6/11	221 5/11	21
-208 6/11	-9 6/11	1 5/11	-179 6/11	191 5/11	-32 6/11	24 5/11	-162 6/11	174 5/11	-50 6/11	42 5/11	-140 6/11	152 5/11	-73 6/11	65 5/11	-123 6/11	135 5/11	-91 6/11	83 5/11	-101 6/11	113 5/11	210 5/11	21
209 5/11	-188 6/11	200 5/11	-18 6/11	10 5/11	-165 6/11	177 5/11	-35 6/11	27 5/11	-147 6/11	159 5/11	-57 6/11	49 5/11	-124 6/11	136 5/11	-74 6/11	66 5/11	-106 6/11	118 5/11	-96 6/11	88 5/11	-207 6/11	21
-206 6/11	181 5/11	-189 6/11	11 5/11	5/11	164 5/11	-172 6/11	34 5/11	-22 6/11	142 5/11	-150 6/11	52 5/11	-40 6/11	125 5/11	-133 6/11	75 5/11	-63 6/11	103 5/11	-111 6/11	93 5/11	-81 6/11	208 5/11	21
207 5/11	20 5/11	-8 6/11	190 5/11	-198 6/11	37 5/11	-25 6/11	167 5/11	-175 6/11	59 5/11	-47 6/11	149 5/11	-157 6/11	76 5/11	-64 6/11	126 5/11	-134 6/11	98 5/11	-86 6/11	108 5/11	-116 6/11	-205 6/11	21
-204 6/11	-70 6/11	62 5/11	-120 6/11	132 5/11	-93 6/11	85 5/11	-103 6/11	115 5/11	-11 6/11	3 5/11	-181 6/11	193 5/11	-29 6/11	21 5/11	-159 6/11	171 5/11	-52 6/11	44 5/11	-142 6/11	154 5/11	206 5/11	21
205 5/11	-127 6/11	139 5/11	-77 6/11	69 5/11	-104 6/11	116 5/11	-94 6/11	86 5/11	-186 6/11	198 5/11	-16 6/11	8 5/11	-168 6/11	180 5/11	-38 6/11	30 5/11	-145 6/11	157 5/11	-55 6/11	47 5/11	-203 6/11	21
-202 6/11	122 5/11	-130 6/11	72 5/11	-60 6/11	105 5/11	-113 6/11	95 5/11	-83 6/11	183 5/11	-191 6/11	13 5/11	-1 6/11	161 5/11	-169 6/11	31 5/11	-19 6/11	144 5/11	-152 6/11	54 5/11	-42 6/11	204 5/11	21
203 5/11	79 5/11	-67 6/11	129 5/11	-137 6/11	96 5/11	-84 6/11	106 5/11	-114 6/11	18 5/11	-6 6/11	188 5/11	-196 6/11	40 5/11	-28 6/11	170 5/11	-178 6/11	57 5/11	-45 6/11	147 5/11	-155 6/11	-201 6/11	21
-200 6/11	-31 6/11	23 5/11	-161 6/11	173 5/11	-49 6/11	41 5/11	-139 6/11	151 5/11	-72 6/11	64 5/11	-122 6/11	134 5/11	-90 6/11	82 5/11	-100 6/11	112 5/11	-13 6/11	5 5/11	-183 6/11	195 5/11	202 5/11	21
201 5/11	-166 6/11	178 5/11	-36 6/11	28 5/11	-148 6/11	160 5/11	-58 6/11	50 5/11	-125 6/11	137 5/11	-75 6/11	67 5/11	-107 6/11	119 5/11	-97 6/11	89 5/11	-184 6/11	196 5/11	-14 6/11	6 5/11	-199 6/11	21
211 5/11	163 5/11	-171 6/11	33 5/11	-21 6/11	141 5/11	-149 6/11	51 5/11	-39 6/11	124 5/11	-132 6/11	74 5/11	-62 6/11	102 5/11	-110 6/11	92 5/11	-80 6/11	185 5/11	-193 6/11	15 5/11	-3 6/11	-209 6/11	21
233 5/11	38 5/11	-26 6/11	168 5/11	-176 6/11	60 5/11	-48 6/11	150 5/11	-158 6/11	77 5/11	-65 6/11	127 5/11	-135 6/11	99 5/11	-87 6/11	109 5/11	-117 6/11	16 5/11	-4 6/11	186 5/11	-194 6/11	-231 6/11	21
-232 6/11	-92 6/11	84 5/11	-102 6/11	114 5/11	-10 6/11	2 5/11	-180 6/11	192 5/11	-33 6/11	25 5/11	-163 6/11	175 5/11	-51 6/11	43 5/11	-141 6/11	153 5/11	-69 6/11	61 5/11	-119 6/11	131 5/11	234 5/11	21
235 5/11	-105 6/11	117 5/11	-95 6/11	87 5/11	-187 6/11	199 5/11	-17 6/11	9 5/11	-164 6/11	176 5/11	-34 6/11	26 5/11	-146 6/11	158 5/11	-56 6/11	48 5/11	-128 6/11	140 5/11	-78 6/11	70 5/11	-233 6/11	21
-234 6/11	104 5/11	-112 6/11	94 5/11	-82 6/11	182 5/11	-190 6/11	12 5/11	- 6/11	165 5/11	-173 6/11	35 5/11	-23 6/11	143 5/11	-151 6/11	53 5/11	-41 6/11	121 5/11	-129 6/11	71 5/11	-59 6/11	236 5/11	21
237 5/11	97 5/11	-85 6/11	107 5/11	-115 6/11	19 5/11	-7 6/11	189 5/11	-197 6/11	36 5/11	-24 6/11	166 5/11	-174 6/11	58 5/11	-46 6/11	148 5/11	-156 6/11	80 5/11	-68 6/11	130 5/11	-138 6/11	-235 6/11	21
-236 6/11	-53 6/11	45 5/11	-143 6/11	155 5/11	-71 6/11	63 5/11	-121 6/11	133 5/11	-89 6/11	81 5/11	-99 6/11	111 5/11	-12 6/11	4 5/11	-182 6/11	194 5/11	-30 6/11	22 5/11	-160 6/11	172 5/11	238 5/11	21
239 5/11	-144 6/11	156 5/11	-54 6/11	46 5/11	-126 6/11	138 5/11	-76 6/11	68 5/11	-108 6/11	120 5/11	-98 6/11	90 5/11	-185 6/11	197 5/11	-15 6/11	7 5/11	-167 6/11	179 5/11	-37 6/11	29 5/11	-237 6/11	21
-238 6/11	145 5/11	-153 6/11	55 5/11	-43 6/11	123 5/11	-131 6/11	73 5/11	-61 6/11	101 5/11	-109 6/11	91 5/11	-79 6/11	184 5/11	-192 6/11	14 5/11	-2 6/11	162 5/11	-170 6/11	32 5/11	-20 6/11	240 5/11	21
241 5/11	56 5/11	-44 6/11	146 5/11	-154 6/11	78 5/11	-66 6/11	128 5/11	-136 6/11	100 5/11	-88 6/11	110 5/11	-118 6/11	17 5/11	-5 6/11	187 5/11	-195 6/11	39 5/11	-27 6/11	169 5/11	-177 6/11	-239 6/11	21
-219 6/11	-229 6/11	230 5/11	-227 6/11	228 5/11	-225 6/11	226 5/11	-223 6/11	224 5/11	-221 6/11	242 5/11	-230 6/11	220 5/11	-217 6/11	218 5/11	-215 6/11	216 5/11	-213 6/11	214 5/11	-211 6/11	212 5/11	222 5/11	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

																						441
-201 5/11	250 6/11	-209 5/11	248 6/11	-207 5/11	246 6/11	-205 5/11	244 6/11	-203 5/11	242 6/11	-221 5/11	251 6/11	-199 5/11	238 6/11	-197 5/11	236 6/11	-195 5/11	234 6/11	-193 5/11	232 6/11	-191 5/11	240 6/11	441
-189 5/11	9 6/11	20 6/11	-160 5/11	210 6/11	-13 5/11	43 6/11	-143 5/11	193 6/11	-31 5/11	61 6/11	-121 5/11	171 6/11	-54 5/11	84 6/11	-104 5/11	154 6/11	-72 5/11	102 6/11	-82 5/11	132 6/11	229 6/11	441
228 6/11	-169 5/11	219 6/11	6/11	29 6/11	-146 5/11	196 6/11	-16 5/11	46 6/11	-128 5/11	178 6/11	-38 5/11	68 6/11	-105 5/11	155 6/11	-55 5/11	85 6/11	-87 5/11	137 6/11	-77 5/11	107 6/11	-188 5/11	441
-187 5/11	200 6/11	-170 5/11	30 6/11	19 6/11	183 6/11	-153 5/11	53 6/11	-3 5/11	161 6/11	-131 5/11	71 6/11	-21 5/11	144 6/11	-114 5/11	94 6/11	-44 5/11	122 6/11	-92 5/11	112 6/11	-62 5/11	227 6/11	441
226 6/11	39 6/11	10 6/11	209 6/11	-179 5/11	56 6/11	-6 5/11	186 6/11	-156 5/11	78 6/11	-28 5/11	168 6/11	-138 5/11	95 6/11	-45 5/11	145 6/11	-115 5/11	117 6/11	-67 5/11	127 6/11	-97 5/11	-186 5/11	441
-185 5/11	-51 5/11	81 6/11	-101 5/11	151 6/11	-74 5/11	104 6/11	-84 5/11	134 6/11	7 6/11	22 6/11	-162 5/11	212 6/11	-10 5/11	40 6/11	-140 5/11	190 6/11	-33 5/11	63 6/11	-123 5/11	173 6/11	225 6/11	441
224 6/11	-108 5/11	158 6/11	-58 5/11	88 6/11	-85 5/11	135 6/11	-75 5/11	105 6/11	-167 5/11	217 6/11	2 6/11	27 6/11	-149 5/11	199 6/11	-19 5/11	49 6/11	-126 5/11	176 6/11	-36 5/11	66 6/11	-184 5/11	441
-183 5/11	141 6/11	-111 5/11	91 6/11	-41 5/11	124 6/11	-94 5/11	114 6/11	-64 5/11	202 6/11	-172 5/11	32 6/11	17 6/11	180 6/11	-150 5/11	50 6/11	- 5/11	163 6/11	-133 5/11	73 6/11	-23 5/11	223 6/11	441
222 6/11	98 6/11	-48 5/11	148 6/11	-118 5/11	115 6/11	-65 5/11	125 6/11	-95 5/11	37 6/11	12 6/11	207 6/11	-177 5/11	59 6/11	-9 5/11	189 6/11	-159 5/11	76 6/11	-26 5/11	166 6/11	-136 5/11	-182 5/11	441
-181 5/11	-12 5/11	42 6/11	-142 5/11	192 6/11	-30 5/11	60 6/11	-120 5/11	170 6/11	-53 5/11	83 6/11	-103 5/11	153 6/11	-71 5/11	101 6/11	-81 5/11	131 6/11	5 6/11	24 6/11	-164 5/11	214 6/11	221 6/11	441
220 6/11	-147 5/11	197 6/11	-17 5/11	47 6/11	-129 5/11	179 6/11	-39 5/11	69 6/11	-106 5/11	156 6/11	-56 5/11	86 6/11	-88 5/11	138 6/11	-78 5/11	108 6/11	-165 5/11	215 6/11	4 6/11	25 6/11	-180 5/11	441
230 6/11	182 6/11	-152 5/11	52 6/11	-2 5/11	160 6/11	-130 5/11	70 6/11	-20 5/11	143 6/11	-113 5/11	93 6/11	-43 5/11	121 6/11	-91 5/11	111 6/11	-61 5/11	204 6/11	-174 5/11	34 6/11	15 6/11	-190 5/11	441
252 6/11	57 6/11	-7 5/11	187 6/11	-157 5/11	79 6/11	-29 5/11	169 6/11	-139 5/11	96 6/11	-46 5/11	146 6/11	-116 5/11	118 6/11	-68 5/11	128 6/11	-98 5/11	35 6/11	14 6/11	205 6/11	-175 5/11	-212 5/11	441
-213 5/11	-73 5/11	103 6/11	-83 5/11	133 6/11	8 6/11	21 6/11	-161 5/11	211 6/11	-14 5/11	44 6/11	-144 5/11	194 6/11	-32 5/11	62 6/11	-122 5/11	172 6/11	-50 5/11	80 6/11	-100 5/11	150 6/11	253 6/11	441
254 6/11	-86 5/11	136 6/11	-76 5/11	106 6/11	-168 5/11	218 6/11	1 6/11	28 6/11	-145 5/11	195 6/11	-15 5/11	45 6/11	-127 5/11	177 6/11	-37 5/11	67 6/11	-109 5/11	159 6/11	-59 5/11	89 6/11	-214 5/11	441
-215 5/11	123 6/11	-93 5/11	113 6/11	-63 5/11	201 6/11	-171 5/11	31 6/11	18 6/11	184 6/11	-154 5/11	54 6/11	-4 5/11	162 6/11	-132 5/11	72 6/11	-22 5/11	140 6/11	-110 5/11	90 6/11	-40 5/11	255 6/11	441
256 6/11	116 6/11	-66 5/11	126 6/11	-96 5/11	38 6/11	11 6/11	208 6/11	-178 5/11	55 6/11	-5 5/11	185 6/11	-155 5/11	77 6/11	-27 5/11	167 6/11	-137 5/11	99 6/11	-49 5/11	149 6/11	-119 5/11	-216 5/11	441
-217 5/11	-34 5/11	64 6/11	-124 5/11	174 6/11	-52 5/11	82 6/11	-102 5/11	152 6/11	-70 5/11	100 6/11	-80 5/11	130 6/11	6 6/11	23 6/11	-163 5/11	213 6/11	-11 5/11	41 6/11	-141 5/11	191 6/11	257 6/11	441
258 6/11	-125 5/11	175 6/11	-35 5/11	65 6/11	-107 5/11	157 6/11	-57 5/11	87 6/11	-89 5/11	139 6/11	-79 5/11	109 6/11	-166 5/11	216 6/11	3 6/11	26 6/11	-148 5/11	198 6/11	-18 5/11	48 6/11	-218 5/11	441
-219 5/11	164 6/11	-134 5/11	74 6/11	-24 5/11	142 6/11	-112 5/11	92 6/11	-42 5/11	120 6/11	-90 5/11	110 6/11	-60 5/11	203 6/11	-173 5/11	33 6/11	16 6/11	181 6/11	-151 5/11	51 6/11	-1 5/11	259 6/11	441
260 6/11	75 6/11	-25 5/11	165 6/11	-135 5/11	97 6/11	-47 5/11	147 6/11	-117 5/11	119 6/11	-69 5/11	129 6/11	-99 5/11	36 6/11	13 6/11	206 6/11	-176 5/11	58 6/11	-8 5/11	188 6/11	-158 5/11	-220 5/11	441
-200 5/11	-210 5/11	249 6/11	-208 5/11	247 6/11	-206 5/11	245 6/11	-204 5/11	243 6/11	-202 5/11	261 6/11	-211 5/11	239 6/11	-198 5/11	237 6/11	-196 5/11	235 6/11	-194 5/11	233 6/11	-192 5/11	231 6/11	241 6/11	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

																					2021
-129 7/11	322 4/11	-137 7/11	320 4/11	-135 7/11	318 4/11	-133 7/11	316 4/11	-131 7/11	314 4/11	-149 7/11	323 4/11	-127 7/11	310 4/11	-125 7/11	308 4/11	-123 7/11	306 4/11	-121 7/11	304 4/11	-119 7/11	312 4/11	2021
-117 7/11	81 4/11	92 4/11	-88 7/11	282 4/11	58 4/11	115 4/11	-71 7/11	265 4/11	40 4/11	133 4/11	-49 7/11	243 4/11	17 4/11	156 4/11	-32 7/11	226 4/11	- 7/11	174 4/11	-10 7/11	204 4/11	301 4/11	2021
300 4/11	-97 7/11	291 4/11	72 4/11	101 4/11	-74 7/11	268 4/11	55 4/11	118 4/11	-56 7/11	250 4/11	33 4/11	140 4/11	-33 7/11	227 4/11	16 4/11	157 4/11	-15 7/11	209 4/11	-5 7/11	179 4/11	-116 7/11	2021
-115 7/11	272 4/11	-98 7/11	102 4/11	91 4/11	255 4/11	-81 7/11	125 4/11	68 4/11	233 4/11	-59 7/11	143 4/11	50 4/11	216 4/11	-42 7/11	166 4/11	27 4/11	194 4/11	-20 7/11	184 4/11	9 4/11	299 4/11	2021
298 4/11	111 4/11	82 4/11	281 4/11	-107 7/11	128 4/11	65 4/11	258 4/11	-84 7/11	150 4/11	43 4/11	240 4/11	-66 7/11	167 4/11	26 4/11	217 4/11	-43 7/11	189 4/11	4 4/11	199 4/11	-25 7/11	-114 7/11	2021
-113 7/11	20 4/11	153 4/11	-29 7/11	223 4/11	-2 7/11	176 4/11	-12 7/11	206 4/11	79 4/11	94 4/11	-90 7/11	284 4/11	61 4/11	112 4/11	-68 7/11	262 4/11	38 4/11	135 4/11	-51 7/11	245 4/11	297 4/11	2021
296 4/11	-36 7/11	230 4/11	13 4/11	160 4/11	-13 7/11	207 4/11	-3 7/11	177 4/11	-95 7/11	289 4/11	74 4/11	99 4/11	-77 7/11	271 4/11	52 4/11	121 4/11	-54 7/11	248 4/11	35 4/11	138 4/11	-112 7/11	2021
-111 7/11	213 4/11	-39 7/11	163 4/11	30 4/11	196 4/11	-22 7/11	186 4/11	7 4/11	274 4/11	-100 7/11	104 4/11	89 4/11	252 4/11	-78 7/11	122 4/11	71 4/11	235 4/11	-61 7/11	145 4/11	48 4/11	295 4/11	2021
294 4/11	170 4/11	23 4/11	220 4/11	-46 7/11	187 4/11	6 4/11	197 4/11	-23 7/11	109 4/11	84 4/11	279 4/11	-105 7/11	131 4/11	62 4/11	261 4/11	-87 7/11	148 4/11	45 4/11	238 4/11	-64 7/11	-110 7/11	2021
-109 7/11	59 4/11	114 4/11	-70 7/11	264 4/11	41 4/11	132 4/11	-48 7/11	242 4/11	18 4/11	155 4/11	-31 7/11	225 4/11	4/11	173 4/11	-9 7/11	203 4/11	77 4/11	96 4/11	-92 7/11	286 4/11	293 4/11	2021
292 4/11	-75 7/11	269 4/11	54 4/11	119 4/11	-57 7/11	251 4/11	32 4/11	141 4/11	-34 7/11	228 4/11	15 4/11	158 4/11	-16 7/11	210 4/11	-6 7/11	180 4/11	-93 7/11	287 4/11	76 4/11	97 4/11	-108 7/11	2021
302 4/11	254 4/11	-80 7/11	124 4/11	69 4/11	232 4/11	-58 7/11	142 4/11	51 4/11	215 4/11	-41 7/11	165 4/11	28 4/11	193 4/11	-19 7/11	183 4/11	10 4/11	276 4/11	-102 7/11	106 4/11	87 4/11	-118 7/11	2021
324 4/11	129 4/11	64 4/11	259 4/11	-85 7/11	151 4/11	42 4/11	241 4/11	-67 7/11	168 4/11	25 4/11	218 4/11	-44 7/11	190 4/11	3 4/11	200 4/11	-26 7/11	107 4/11	86 4/11	277 4/11	-103 7/11	-140 7/11	2021
-141 7/11	-1 7/11	175 4/11	-11 7/11	205 4/11	80 4/11	93 4/11	-89 7/11	283 4/11	57 4/11	116 4/11	-72 7/11	266 4/11	39 4/11	134 4/11	-50 7/11	244 4/11	21 4/11	152 4/11	-28 7/11	222 4/11	325 4/11	2021
326 4/11	-14 7/11	208 4/11	-4 7/11	178 4/11	-96 7/11	290 4/11	73 4/11	100 4/11	-73 7/11	267 4/11	56 4/11	117 4/11	-55 7/11	249 4/11	34 4/11	139 4/11	-37 7/11	231 4/11	12 4/11	161 4/11	-142 7/11	2021
-143 7/11	195 4/11	-21 7/11	185 4/11	8 4/11	273 4/11	-99 7/11	103 4/11	90 4/11	256 4/11	-82 7/11	126 4/11	67 4/11	234 4/11	-60 7/11	144 4/11	49 4/11	212 4/11	-38 7/11	162 4/11	31 4/11	327 4/11	2021
328 4/11	188 4/11	5 4/11	198 4/11	-24 7/11	110 4/11	83 4/11	280 4/11	-106 7/11	127 4/11	66 4/11	257 4/11	-83 7/11	149 4/11	44 4/11	239 4/11	-65 7/11	171 4/11	22 4/11	221 4/11	-47 7/11	-144 7/11	2021
-145 7/11	37 4/11	136 4/11	-52 7/11	246 4/11	19 4/11	154 4/11	-30 7/11	224 4/11	1 4/11	172 4/11	-8 7/11	202 4/11	78 4/11	95 4/11	-91 7/11	285 4/11	60 4/11	113 4/11	-69 7/11	263 4/11	329 4/11	2021
330 4/11	-53 7/11	247 4/11	36 4/11	137 4/11	-35 7/11	229 4/11	14 4/11	159 4/11	-17 7/11	211 4/11	-7 7/11	181 4/11	-94 7/11	288 4/11	75 4/11	98 4/11	-76 7/11	270 4/11	53 4/11	120 4/11	-146 7/11	2021
-147 7/11	236 4/11	-62 7/11	146 4/11	47 4/11	214 4/11	-40 7/11	164 4/11	29 4/11	192 4/11	-18 7/11	182 4/11	11 4/11	275 4/11	-101 7/11	105 4/11	88 4/11	253 4/11	-79 7/11	123 4/11	70 4/11	331 4/11	2021
332 4/11	147 4/11	46 4/11	237 4/11	-63 7/11	169 4/11	24 4/11	219 4/11	-45 7/11	191 4/11	2 4/11	201 4/11	-27 7/11	108 4/11	85 4/11	278 4/11	-104 7/11	130 4/11	63 4/11	260 4/11	-86 7/11	-148 7/11	2021
-128 7/11	-138 7/11	321 4/11	-136 7/11	319 4/11	-134 7/11	317 4/11	-132 7/11	315 4/11	-130 7/11	333 4/11	-139 7/11	311 4/11	-126 7/11	309 4/11	-124 7/11	307 4/11	-122 7/11	305 4/11	-120 7/11	303 4/11	313 4/11	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 4 are **pandiagonal** with equal magic sums. In each case the **magic sums** of order 5 are given by

$$[S_{4\times 4} : S_{22\times 22} := 21] := \frac{42}{11}$$

$$[S_{4\times 4} : S_{22\times 22} := 441] := \frac{882}{11}$$

$$[S_{4\times 4} : S_{22\times 22} := 2021] := \frac{4042}{11}.$$

1.15.2 Second Type

																					21
-220 6/11	231 5/11	-228 6/11	229 5/11	-226 6/11	227 5/11	-224 6/11	225 5/11	-222 6/11	223 5/11	-240 6/11	232 5/11	-218 6/11	219 5/11	-216 6/11	217 5/11	-214 6/11	215 5/11	-212 6/11	213 5/11	-210 6/11	221 5/11	21
-208 6/11	-192 6/11	-64 6/11	-16 6/11	111 5/11	159 5/11	-187 6/11	-59 6/11	-11 6/11	116 5/11	164 5/11	-198 6/11	-70 6/11	-22 6/11	105 5/11	153 5/11	-185 6/11	-57 6/11	-9 6/11	118 5/11	166 5/11	210 5/11	21
209 5/11	63 5/11	191 5/11	-160 6/11	-112 6/11	15 5/11	68 5/11	196 5/11	-155 6/11	-107 6/11	20 5/11	57 5/11	185 5/11	-166 6/11	-118 6/11	9 5/11	70 5/11	198 5/11	-153 6/11	-105 6/11	22 5/11	-207 6/11	21
-206 6/11	-80 6/11	-32 6/11	95 5/11	143 5/11	-128 6/11	-75 6/11	-27 6/11	100 5/11	148 5/11	-123 6/11	-86 6/11	-38 6/11	89 5/11	137 5/11	-134 6/11	-73 6/11	-25 6/11	102 5/11	150 5/11	-121 6/11	208 5/11	21
207 5/11	175 5/11	-176 6/11	-48 6/11	- 6/11	47 5/11	180 5/11	-171 6/11	-43 6/11	4 5/11	52 5/11	169 5/11	-182 6/11	-54 6/11	-6 6/11	41 5/11	182 5/11	-169 6/11	-41 6/11	6 5/11	54 5/11	-205 6/11	21
-204 6/11	31 5/11	79 5/11	127 5/11	-144 6/11	-96 6/11	36 5/11	84 5/11	132 5/11	-139 6/11	-91 6/11	25 5/11	73 5/11	121 5/11	-150 6/11	-102 6/11	38 5/11	86 5/11	134 5/11	-137 6/11	-89 6/11	206 5/11	21
205 5/11	-197 6/11	-69 6/11	-21 6/11	106 5/11	154 5/11	-186 6/11	-58 6/11	-10 6/11	117 5/11	165 5/11	-191 6/11	-63 6/11	-15 6/11	112 5/11	160 5/11	-188 6/11	-60 6/11	-12 6/11	115 5/11	163 5/11	-203 6/11	21
-202 6/11	58 5/11	186 5/11	-165 6/11	-117 6/11	10 5/11	69 5/11	197 5/11	-154 6/11	-106 6/11	21 5/11	64 5/11	192 5/11	-159 6/11	-111 6/11	16 5/11	67 5/11	195 5/11	-156 6/11	-108 6/11	19 5/11	204 5/11	21
203 5/11	-85 6/11	-37 6/11	90 5/11	138 5/11	-133 6/11	-74 6/11	-26 6/11	101 5/11	149 5/11	-122 6/11	-79 6/11	-31 6/11	96 5/11	144 5/11	-127 6/11	-76 6/11	-28 6/11	99 5/11	147 5/11	-124 6/11	-201 6/11	21
-200 6/11	170 5/11	-181 6/11	-53 6/11	-5 6/11	42 5/11	181 5/11	-170 6/11	-42 6/11	5 5/11	53 5/11	176 5/11	-175 6/11	-47 6/11	5/11	48 5/11	179 5/11	-172 6/11	-44 6/11	3 5/11	51 5/11	202 5/11	21
201 5/11	26 5/11	74 5/11	122 5/11	-149 6/11	-101 6/11	37 5/11	85 5/11	133 5/11	-138 6/11	-90 6/11	32 5/11	80 5/11	128 5/11	-143 6/11	-95 6/11	35 5/11	83 5/11	131 5/11	-140 6/11	-92 6/11	-199 6/11	21
211 5/11	-183 6/11	-55 6/11	-7 6/11	120 5/11	168 5/11	-196 6/11	-68 6/11	-20 6/11	107 5/11	155 5/11	-189 6/11	-61 6/11	-13 6/11	114 5/11	162 5/11	-194 6/11	-66 6/11	-18 6/11	109 5/11	157 5/11	-209 6/11	21
233 5/11	72 5/11	200 5/11	-151 6/11	-103 6/11	24 5/11	59 5/11	187 5/11	-164 6/11	-116 6/11	11 5/11	66 5/11	194 5/11	-157 6/11	-109 6/11	18 5/11	61 5/11	189 5/11	-162 6/11	-114 6/11	13 5/11	-231 6/11	21
-232 6/11	-71 6/11	-23 6/11	104 5/11	152 5/11	-119 6/11	-84 6/11	-36 6/11	91 5/11	139 5/11	-132 6/11	-77 6/11	-29 6/11	98 5/11	146 5/11	-125 6/11	-82 6/11	-34 6/11	93 5/11	141 5/11	-130 6/11	234 5/11	21
235 5/11	184 5/11	-167 6/11	-39 6/11	8 5/11	56 5/11	171 5/11	-180 6/11	-52 6/11	-4 6/11	43 5/11	178 5/11	-173 6/11	-45 6/11	2 5/11	50 5/11	173 5/11	-178 6/11	-50 6/11	-2 6/11	45 5/11	-233 6/11	21
-234 6/11	40 5/11	88 5/11	136 5/11	-135 6/11	-87 6/11	27 5/11	75 5/11	123 5/11	-148 6/11	-100 6/11	34 5/11	82 5/11	130 5/11	-141 6/11	-93 6/11	29 5/11	77 5/11	125 5/11	-146 6/11	-98 6/11	236 5/11	21
237 5/11	-190 6/11	-62 6/11	-14 6/11	113 5/11	161 5/11	-193 6/11	-65 6/11	-17 6/11	110 5/11	158 5/11	-184 6/11	-56 6/11	-8 6/11	119 5/11	167 5/11	-195 6/11	-67 6/11	-19 6/11	108 5/11	156 5/11	-235 6/11	21
-236 6/11	65 5/11	193 5/11	-158 6/11	-110 6/11	17 5/11	62 5/11	190 5/11	-161 6/11	-113 6/11	14 5/11	71 5/11	199 5/11	-152 6/11	-104 6/11	23 5/11	60 5/11	188 5/11	-163 6/11	-115 6/11	12 5/11	238 5/11	21
239 5/11	-78 6/11	-30 6/11	97 5/11	145 5/11	-126 6/11	-81 6/11	-33 6/11	94 5/11	142 5/11	-129 6/11	-72 6/11	-24 6/11	103 5/11	151 5/11	-120 6/11	-83 6/11	-35 6/11	92 5/11	140 5/11	-131 6/11	-237 6/11	21
-238 6/11	177 5/11	-174 6/11	-46 6/11	1 5/11	49 5/11	174 5/11	-177 6/11	-49 6/11	-1 6/11	46 5/11	183 5/11	-168 6/11	-40 6/11	7 5/11	55 5/11	172 5/11	-179 6/11	-51 6/11	-3 6/11	44 5/11	240 5/11	21
241 5/11	33 5/11	81 5/11	129 5/11	-142 6/11	-94 6/11	30 5/11	78 5/11	126 5/11	-145 6/11	-97 6/11	39 5/11	87 5/11	135 5/11	-136 6/11	-88 6/11	28 5/11	76 5/11	124 5/11	-147 6/11	-99 6/11	-239 6/11	21
-219 6/11	-229 6/11	230 5/11	-227 6/11	228 5/11	-225 6/11	226 5/11	-223 6/11	224 5/11	-221 6/11	242 5/11	-230 6/11	220 5/11	-217 6/11	218 5/11	-215 6/11	216 5/11	-213 6/11	214 5/11	-211 6/11	212 5/11	222 5/11	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

																						441
-201 5/11	250 6/11	-209 5/11	248 6/11	-207 5/11	246 6/11	-205 5/11	244 6/11	-203 5/11	242 6/11	-221 5/11	251 6/11	-199 5/11	238 6/11	-197 5/11	236 6/11	-195 5/11	234 6/11	-193 5/11	232 6/11	-191 5/11	240 6/11	441
-189 5/11	-173 5/11	-45 5/11	2 6/11	130 6/11	178 6/11	-168 5/11	-40 5/11	7 6/11	135 6/11	183 6/11	-179 5/11	-51 5/11	-3 5/11	124 6/11	172 6/11	-166 5/11	-38 5/11	9 6/11	137 6/11	185 6/11	229 6/11	441
228 6/11	82 6/11	210 6/11	-141 5/11	-93 5/11	34 6/11	87 6/11	215 6/11	-136 5/11	-88 5/11	39 6/11	76 6/11	204 6/11	-147 5/11	-99 5/11	28 6/11	89 6/11	217 6/11	-134 5/11	-86 5/11	41 6/11	-188 5/11	441
-187 5/11	-61 5/11	-13 5/11	114 6/11	162 6/11	-109 5/11	-56 5/11	-8 5/11	119 6/11	167 6/11	-104 5/11	-67 5/11	-19 5/11	108 6/11	156 6/11	-115 5/11	-54 5/11	-6 5/11	121 6/11	169 6/11	-102 5/11	227 6/11	441
226 6/11	194 6/11	-157 5/11	-29 5/11	18 6/11	66 6/11	199 6/11	-152 5/11	-24 5/11	23 6/11	71 6/11	188 6/11	-163 5/11	-35 5/11	12 6/11	60 6/11	201 6/11	-150 5/11	-22 5/11	25 6/11	73 6/11	-186 5/11	441
-185 5/11	50 6/11	98 6/11	146 6/11	-125 5/11	-77 5/11	55 6/11	103 6/11	151 6/11	-120 5/11	-72 5/11	44 6/11	92 6/11	140 6/11	-131 5/11	-83 5/11	57 6/11	105 6/11	153 6/11	-118 5/11	-70 5/11	225 6/11	441
224 6/11	-178 5/11	-50 5/11	-2 5/11	125 6/11	173 6/11	-167 5/11	-39 5/11	8 6/11	136 6/11	184 6/11	-172 5/11	-44 5/11	3 6/11	131 6/11	179 6/11	-169 5/11	-41 5/11	6 6/11	134 6/11	182 6/11	-184 5/11	441
-183 5/11	77 6/11	205 6/11	-146 5/11	-98 5/11	29 6/11	88 6/11	216 6/11	-135 5/11	-87 5/11	40 6/11	83 6/11	211 6/11	-140 5/11	-92 5/11	35 6/11	86 6/11	214 6/11	-137 5/11	-89 5/11	38 6/11	223 6/11	441
222 6/11	-66 5/11	-18 5/11	109 6/11	157 6/11	-114 5/11	-55 5/11	-7 5/11	120 6/11	168 6/11	-103 5/11	-60 5/11	-12 5/11	115 6/11	163 6/11	-108 5/11	-57 5/11	-9 5/11	118 6/11	166 6/11	-105 5/11	-182 5/11	441
-181 5/11	189 6/11	-162 5/11	-34 5/11	13 6/11	61 6/11	200 6/11	-151 5/11	-23 5/11	24 6/11	72 6/11	195 6/11	-156 5/11	-28 5/11	19 6/11	67 6/11	198 6/11	-153 5/11	-25 5/11	22 6/11	70 6/11	221 6/11	441
220 6/11	45 6/11	93 6/11	141 6/11	-130 5/11	-82 5/11	56 6/11	104 6/11	152 6/11	-119 5/11	-71 5/11	51 6/11	99 6/11	147 6/11	-124 5/11	-76 5/11	54 6/11	102 6/11	150 6/11	-121 5/11	-73 5/11	-180 5/11	441
230 6/11	-164 5/11	-36 5/11	11 6/11	139 6/11	187 6/11	-177 5/11	-49 5/11	-1 5/11	126 6/11	174 6/11	-170 5/11	-42 5/11	5 6/11	133 6/11	181 6/11	-175 5/11	-47 5/11	6/11	128 6/11	176 6/11	-190 5/11	441
252 6/11	91 6/11	219 6/11	-132 5/11	-84 5/11	43 6/11	78 6/11	206 6/11	-145 5/11	-97 5/11	30 6/11	85 6/11	213 6/11	-138 5/11	-90 5/11	37 6/11	80 6/11	208 6/11	-143 5/11	-95 5/11	32 6/11	-212 5/11	441
-213 5/11	-52 5/11	-4 5/11	123 6/11	171 6/11	-100 5/11	-65 5/11	-17 5/11	110 6/11	158 6/11	-113 5/11	-58 5/11	-10 5/11	117 6/11	165 6/11	-106 5/11	-63 5/11	-15 5/11	112 6/11	160 6/11	-111 5/11	253 6/11	441
254 6/11	203 6/11	-148 5/11	-20 5/11	27 6/11	75 6/11	190 6/11	-161 5/11	-33 5/11	14 6/11	62 6/11	197 6/11	-154 5/11	-26 5/11	21 6/11	69 6/11	192 6/11	-159 5/11	-31 5/11	16 6/11	64 6/11	-214 5/11	441
-215 5/11	59 6/11	107 6/11	155 6/11	-116 5/11	-68 5/11	46 6/11	94 6/11	142 6/11	-129 5/11	-81 5/11	53 6/11	101 6/11	149 6/11	-122 5/11	-74 5/11	48 6/11	96 6/11	144 6/11	-127 5/11	-79 5/11	255 6/11	441
256 6/11	-171 5/11	-43 5/11	4 6/11	132 6/11	180 6/11	-174 5/11	-46 5/11	1 6/11	129 6/11	177 6/11	-165 5/11	-37 5/11	10 6/11	138 6/11	186 6/11	-176 5/11	-48 5/11	- 5/11	127 6/11	175 6/11	-216 5/11	441
-217 5/11	84 6/11	212 6/11	-139 5/11	-91 5/11	36 6/11	81 6/11	209 6/11	-142 5/11	-94 5/11	33 6/11	90 6/11	218 6/11	-133 5/11	-85 5/11	42 6/11	79 6/11	207 6/11	-144 5/11	-96 5/11	31 6/11	257 6/11	441
258 6/11	-59 5/11	-11 5/11	116 6/11	164 6/11	-107 5/11	-62 5/11	-14 5/11	113 6/11	161 6/11	-110 5/11	-53 5/11	-5 5/11	122 6/11	170 6/11	-101 5/11	-64 5/11	-16 5/11	111 6/11	159 6/11	-112 5/11	-218 5/11	441
-219 5/11	196 6/11	-155 5/11	-27 5/11	20 6/11	68 6/11	193 6/11	-158 5/11	-30 5/11	17 6/11	65 6/11	202 6/11	-149 5/11	-21 5/11	26 6/11	74 6/11	191 6/11	-160 5/11	-32 5/11	15 6/11	63 6/11	259 6/11	441
260 6/11	52 6/11	100 6/11	148 6/11	-123 5/11	-75 5/11	49 6/11	97 6/11	145 6/11	-126 5/11	-78 5/11	58 6/11	106 6/11	154 6/11	-117 5/11	-69 5/11	47 6/11	95 6/11	143 6/11	-128 5/11	-80 5/11	-220 5/11	441
-200 5/11	-210 5/11	249 6/11	-208 5/11	247 6/11	-206 5/11	245 6/11	-204 5/11	243 6/11	-202 5/11	261 6/11	-211 5/11	239 6/11	-198 5/11	237 6/11	-196 5/11	235 6/11	-194 5/11	233 6/11	-192 5/11	231 6/11	241 6/11	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

																						2021
-129 7/11	322 4/11	-137 7/11	320 4/11	-135 7/11	318 4/11	-133 7/11	316 4/11	-131 7/11	314 4/11	-149 7/11	323 4/11	-127 7/11	310 4/11	-125 7/11	308 4/11	-123 7/11	306 4/11	-121 7/11	304 4/11	-119 7/11	312 4/11	2021
-117 7/11	-101 7/11	26 4/11	74 4/11	202 4/11	250 4/11	-96 7/11	31 4/11	79 4/11	207 4/11	255 4/11	-107 7/11	20 4/11	68 4/11	196 4/11	244 4/11	-94 7/11	33 4/11	81 4/11	209 4/11	257 4/11	301 4/11	2021
300 4/11	154 4/11	282 4/11	-69 7/11	-21 7/11	106 4/11	159 4/11	287 4/11	-64 7/11	-16 7/11	111 4/11	148 4/11	276 4/11	-75 7/11	-27 7/11	100 4/11	161 4/11	289 4/11	-62 7/11	-14 7/11	113 4/11	-116 7/11	2021
-115 7/11	10 4/11	58 4/11	186 4/11	234 4/11	-37 7/11	15 4/11	63 4/11	191 4/11	239 4/11	-32 7/11	4 4/11	52 4/11	180 4/11	228 4/11	-43 7/11	17 4/11	65 4/11	193 4/11	241 4/11	-30 7/11	299 4/11	2021
298 4/11	266 4/11	-85 7/11	42 4/11	90 4/11	138 4/11	271 4/11	-80 7/11	47 4/11	95 4/11	143 4/11	260 4/11	-91 7/11	36 4/11	84 4/11	132 4/11	273 4/11	-78 7/11	49 4/11	97 4/11	145 4/11	-114 7/11	2021
-113 7/11	122 4/11	170 4/11	218 4/11	-53 7/11	-5 7/11	127 4/11	175 4/11	223 4/11	-48 7/11	- 7/11	116 4/11	164 4/11	212 4/11	-59 7/11	-11 7/11	129 4/11	177 4/11	225 4/11	-46 7/11	1 4/11	297 4/11	2021
296 4/11	-106 7/11	21 4/11	69 4/11	197 4/11	245 4/11	-95 7/11	32 4/11	80 4/11	208 4/11	256 4/11	-100 7/11	27 4/11	75 4/11	203 4/11	251 4/11	-97 7/11	30 4/11	78 4/11	206 4/11	254 4/11	-112 7/11	2021
-111 7/11	149 4/11	277 4/11	-74 7/11	-26 7/11	101 4/11	160 4/11	288 4/11	-63 7/11	-15 7/11	112 4/11	155 4/11	283 4/11	-68 7/11	-20 7/11	107 4/11	158 4/11	286 4/11	-65 7/11	-17 7/11	110 4/11	295 4/11	2021
294 4/11	5 4/11	53 4/11	181 4/11	229 4/11	-42 7/11	16 4/11	64 4/11	192 4/11	240 4/11	-31 7/11	11 4/11	59 4/11	187 4/11	235 4/11	-36 7/11	14 4/11	62 4/11	190 4/11	238 4/11	-33 7/11	-110 7/11	2021
-109 7/11	261 4/11	-90 7/11	37 4/11	85 4/11	133 4/11	272 4/11	-79 7/11	48 4/11	96 4/11	144 4/11	267 4/11	-84 7/11	43 4/11	91 4/11	139 4/11	270 4/11	-81 7/11	46 4/11	94 4/11	142 4/11	293 4/11	2021
292 4/11	117 4/11	165 4/11	213 4/11	-58 7/11	-10 7/11	128 4/11	176 4/11	224 4/11	-47 7/11	4/11	123 4/11	171 4/11	219 4/11	-52 7/11	-4 7/11	126 4/11	174 4/11	222 4/11	-49 7/11	-1 7/11	-108 7/11	2021
302 4/11	-92 7/11	35 4/11	83 4/11	211 4/11	259 4/11	-105 7/11	22 4/11	70 4/11	198 4/11	246 4/11	-98 7/11	29 4/11	77 4/11	205 4/11	253 4/11	-103 7/11	24 4/11	72 4/11	200 4/11	248 4/11	-118 7/11	2021
324 4/11	163 4/11	291 4/11	-60 7/11	-12 7/11	115 4/11	150 4/11	278 4/11	-73 7/11	-25 7/11	102 4/11	157 4/11	285 4/11	-66 7/11	-18 7/11	109 4/11	152 4/11	280 4/11	-71 7/11	-23 7/11	104 4/11	-140 7/11	2021
-141 7/11	19 4/11	67 4/11	195 4/11	243 4/11	-28 7/11	6 4/11	54 4/11	182 4/11	230 4/11	-41 7/11	13 4/11	61 4/11	189 4/11	237 4/11	-34 7/11	8 4/11	56 4/11	184 4/11	232 4/11	-39 7/11	325 4/11	2021
326 4/11	275 4/11	-76 7/11	51 4/11	99 4/11	147 4/11	262 4/11	-89 7/11	38 4/11	86 4/11	134 4/11	269 4/11	-82 7/11	45 4/11	93 4/11	141 4/11	264 4/11	-87 7/11	40 4/11	88 4/11	136 4/11	-142 7/11	2021
-143 7/11	131 4/11	179 4/11	227 4/11	-44 7/11	3 4/11	118 4/11	166 4/11	214 4/11	-57 7/11	-9 7/11	125 4/11	173 4/11	221 4/11	-50 7/11	-2 7/11	120 4/11	168 4/11	216 4/11	-55 7/11	-7 7/11	327 4/11	2021
328 4/11	-99 7/11	28 4/11	76 4/11	204 4/11	252 4/11	-102 7/11	25 4/11	73 4/11	201 4/11	249 4/11	-93 7/11	34 4/11	82 4/11	210 4/11	258 4/11	-104 7/11	23 4/11	71 4/11	199 4/11	247 4/11	-144 7/11	2021
-145 7/11	156 4/11	284 4/11	-67 7/11	-19 7/11	108 4/11	153 4/11	281 4/11	-70 7/11	-22 7/11	105 4/11	162 4/11	290 4/11	-61 7/11	-13 7/11	114 4/11	151 4/11	279 4/11	-72 7/11	-24 7/11	103 4/11	329 4/11	2021
330 4/11	12 4/11	60 4/11	188 4/11	236 4/11	-35 7/11	9 4/11	57 4/11	185 4/11	233 4/11	-38 7/11	18 4/11	66 4/11	194 4/11	242 4/11	-29 7/11	7 4/11	55 4/11	183 4/11	231 4/11	-40 7/11	-146 7/11	2021
-147 7/11	268 4/11	-83 7/11	44 4/11	92 4/11	140 4/11	265 4/11	-86 7/11	41 4/11	89 4/11	137 4/11	274 4/11	-77 7/11	50 4/11	98 4/11	146 4/11	263 4/11	-88 7/11	39 4/11	87 4/11	135 4/11	331 4/11	2021
332 4/11	124 4/11	172 4/11	220 4/11	-51 7/11	-3 7/11	121 4/11	169 4/11	217 4/11	-54 7/11	-6 7/11	130 4/11	178 4/11	226 4/11	-45 7/11	2 4/11	119 4/11	167 4/11	215 4/11	-56 7/11	-8 7/11	-148 7/11	2021
-128 7/11	-138 7/11	321 4/11	-136 7/11	319 4/11	-134 7/11	317 4/11	-132 7/11	315 4/11	-130 7/11	333 4/11	-139 7/11	311 4/11	-126 7/11	309 4/11	-124 7/11	307 4/11	-122 7/11	305 4/11	-120 7/11	303 4/11	313 4/11	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the block order 5 are **pandiagonal** with different magic sums.

1.16 Block-Bordered Magic Squares of Order 23

Below are **block-bordered magic squares** of order 23 in two different ways giving magic sums 21, 21^2 and 2021. The block-wise magic square considered is of order 21 with blocks of orders 3 and 7. The blocks of order 3 are **semi-magic** squares with equal semi-magic sums. The block of order 7 are **pandiagonal** magic squares with different magic sums. In this case, the magic sums of order 21 are given by

$$[S_{21\times 21} : S_{23\times 23} := 21] := \frac{441}{23}$$
$$[S_{21\times 21} : S_{23\times 23} := 441] := \frac{9261}{23}$$
$$[S_{21\times 21} : S_{23\times 23} := 2021] := \frac{42441}{23}.$$

1.16.1 First Type

																						21
243 21/23	-221 2/23	-223 2/23	-225 2/23	-227 2/23	-229 2/23	-231 2/23	-233 2/23	-235 2/23	-237 2/23	-239 2/23	-241 2/23	246 21/23	248 21/23	250 21/23	252 21/23	254 21/23	256 21/23	258 21/23	260 21/23	262 21/23	264 21/23	-240 2/23	21
221 21/23	25 21/23	-109 2/23	85 21/23	53 21/23	154 21/23	-206 2/23	-33 2/23	-131 2/23	166 21/23	-8 2/23	198 21/23	-188 2/23	-52 2/23	-153 2/23	207 21/23	34 21/23	132 21/23	-165 2/23	-15 2/23	-87 2/23	104 21/23	-220 2/23	21
223 21/23	79 21/23	22 21/23	-100 2/23	-202 2/23	66 21/23	137 21/23	162 21/23	-43 2/23	-117 2/23	-179 2/23	21/23	180 21/23	203 21/23	-65 2/23	-136 2/23	-161 2/23	44 21/23	118 21/23	101 21/23	-21 2/23	-78 2/23	-222 2/23	21
225 21/23	-103 2/23	88 21/23	16 21/23	150 21/23	-219 2/23	70 21/23	-127 2/23	176 21/23	-47 2/23	189 21/23	-197 2/23	9 21/23	-149 2/23	220 21/23	-69 2/23	128 21/23	-175 2/23	48 21/23	-84 2/23	110 21/23	-24 2/23	-224 2/23	21
227 21/23	52 21/23	119 21/23	-170 2/23	-28 2/23	-77 2/23	107 21/23	26 21/23	-108 2/23	83 21/23	67 21/23	142 21/23	-208 2/23	-51 2/23	-118 2/23	171 21/23	8 21/23	183 21/23	-190 2/23	-71 2/23	-137 2/23	210 21/23	-226 2/23	21
229 21/23	-174 2/23	39 21/23	136 21/23	111 21/23	-18 2/23	-91 2/23	80 21/23	20 21/23	-99 2/23	-214 2/23	64 21/23	151 21/23	175 21/23	-38 2/23	-135 2/23	-194 2/23	-1 2/23	197 21/23	219 21/23	-62 2/23	-155 2/23	-228 2/23	21
231 21/23	123 21/23	-157 2/23	35 21/23	-81 2/23	97 21/23	-14 2/23	-105 2/23	89 21/23	17 21/23	148 21/23	-205 2/23	58 21/23	-122 2/23	158 21/23	-34 2/23	187 21/23	-180 2/23	-5 2/23	-146 2/23	201 21/23	-53 2/23	-230 2/23	21
233 21/23	-9 2/23	196 21/23	-185 2/23	-54 2/23	-152 2/23	208 21/23	33 21/23	135 21/23	-167 2/23	-10 2/23	-90 2/23	102 21/23	13 21/23	-98 2/23	86 21/23	68 21/23	143 21/23	-210 2/23	-37 2/23	-130 2/23	169 21/23	-232 2/23	21
235 21/23	-181 2/23	3 21/23	179 21/23	204 21/23	-64 2/23	-138 2/23	-158 2/23	42 21/23	117 21/23	98 21/23	-23 2/23	-73 2/23	90 21/23	23 21/23	-112 2/23	-213 2/23	62 21/23	152 21/23	163 21/23	-40 2/23	-121 2/23	-234 2/23	21
237 21/23	192 21/23	-198 2/23	7 21/23	-148 2/23	218 21/23	-68 2/23	126 21/23	-176 2/23	51 21/23	-86 2/23	115 21/23	-27 2/23	-102 2/23	76 21/23	27 21/23	146 21/23	-204 2/23	59 21/23	-124 2/23	172 21/23	-46 2/23	-236 2/23	21
239 21/23	55 21/23	153 21/23	-207 2/23	-36 2/23	-129 2/23	167 21/23	4 21/23	184 21/23	-187 2/23	-72 2/23	-139 2/23	213 21/23	50 21/23	120 21/23	-169 2/23	-29 2/23	-74 2/23	105 21/23	31 21/23	-111 2/23	81 21/23	-238 2/23	21
-243 2/23	-203 2/23	65 21/23	139 21/23	164 21/23	-42 2/23	-120 2/23	-193 2/23	1 21/23	193 21/23	217 21/23	-59 2/23	-156 2/23	-173 2/23	40 21/23	134 21/23	114 21/23	-20 2/23	-92 2/23	77 21/23	18 21/23	-94 2/23	244 21/23	21
-244 2/23	149 21/23	-217 2/23	69 21/23	-126 2/23	173 21/23	-45 2/23	190 21/23	-184 2/23	-4 2/23	-143 2/23	200 21/23	-55 2/23	124 21/23	-159 2/23	36 21/23	-83 2/23	96 21/23	-11 2/23	-107 2/23	94 21/23	14 21/23	245 21/23	21
-246 2/23	-12 2/23	-89 2/23	103 21/23	12 21/23	-95 2/23	84 21/23	73 21/23	140 21/23	-212 2/23	-49 2/23	-119 2/23	170 21/23	5 21/23	185 21/23	-189 2/23	-58 2/23	-151 2/23	211 21/23	32 21/23	133 21/23	-164 2/23	247 21/23	21
-248 2/23	99 21/23	-22 2/23	-75 2/23	93 21/23	21 21/23	-113 2/23	-216 2/23	60 21/23	157 21/23	174 21/23	-39 2/23	-133 2/23	-192 2/23	- 2/23	194 21/23	205 21/23	-61 2/23	-142 2/23	-160 2/23	45 21/23	116 21/23	249 21/23	21
-250 2/23	-85 2/23	113 21/23	-26 2/23	-104 2/23	75 21/23	30 21/23	144 21/23	-199 2/23	56 21/23	-123 2/23	160 21/23	-35 2/23	188 21/23	-183 2/23	-3 2/23	-145 2/23	214 21/23	-67 2/23	129 21/23	-177 2/23	49 21/23	251 21/23	21
-252 2/23	-57 2/23	-150 2/23	209 21/23	46 21/23	121 21/23	-166 2/23	-30 2/23	-76 2/23	108 21/23	29 21/23	-110 2/23	82 21/23	54 21/23	156 21/23	-209 2/23	-31 2/23	-132 2/23	165 21/23	-7 2/23	195 21/23	-186 2/23	253 21/23	21
-254 2/23	206 21/23	-63 2/23	-141 2/23	-172 2/23	43 21/23	130 21/23	112 21/23	-17 2/23	-93 2/23	78 21/23	19 21/23	-96 2/23	-200 2/23	63 21/23	138 21/23	161 21/23	-44 2/23	-115 2/23	-182 2/23	2 21/23	181 21/23	255 21/23	21
-256 2/23	-147 2/23	215 21/23	-66 2/23	127 21/23	-163 2/23	37 21/23	-80 2/23	95 21/23	-13 2/23	-106 2/23	92 21/23	15 21/23	147 21/23	-218 2/23	72 21/23	-128 2/23	178 21/23	-48 2/23	191 21/23	-196 2/23	6 21/23	257 21/23	21
-258 2/23	-50 2/23	-116 2/23	168 21/23	10 21/23	182 21/23	-191 2/23	-70 2/23	-140 2/23	212 21/23	47 21/23	122 21/23	-168 2/23	-16 2/23	-88 2/23	106 21/23	11 21/23	-97 2/23	87 21/23	71 21/23	141 21/23	-211 2/23	259 21/23	21
-260 2/23	177 21/23	-41 2/23	-134 2/23	-195 2/23	-2 2/23	199 21/23	216 21/23	-60 2/23	-154 2/23	-171 2/23	41 21/23	131 21/23	100 21/23	-19 2/23	-79 2/23	91 21/23	24 21/23	-114 2/23	-215 2/23	61 21/23	155 21/23	261 21/23	21
-262 2/23	-125 2/23	159 21/23	-32 2/23	186 21/23	-178 2/23	-6 2/23	-144 2/23	202 21/23	-56 2/23	125 21/23	-162 2/23	38 21/23	-82 2/23	109 21/23	-25 2/23	-101 2/23	74 21/23	28 21/23	145 21/23	-201 2/23	57 21/23	263 21/23	21
241 21/23	222 21/23	224 21/23	226 21/23	228 21/23	230 21/23	232 21/23	234 21/23	236 21/23	238 21/23	240 21/23	242 21/23	-245 2/23	-247 2/23	-249 2/23	-251 2/23	-253 2/23	-255 2/23	-257 2/23	-259 2/23	-261 2/23	-263 2/23	-242 2/23	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

																						441
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256 4/23	211 4/23	-179 19/23	26 4/23	-129 19/23	237 4/23	-49 19/23	145 4/23	-157 19/23	70 4/23	-67 19/23	134 4/23	-8 19/23	-83 19/23	95 4/23	46 4/23	165 4/23	-185 19/23	78 4/23	-105 19/23	191 4/23	-27 19/23	-217 19/23	441
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-229 19/23	118 4/23	-3 19/23	-56 19/23	112 4/23	40 4/23	-94 19/23	-197 19/23	79 4/23	176 4/23	193 4/23	-20 19/23	-114 19/23	-173 19/23	18 4/23	213 4/23	224 4/23	-42 19/23	-123 19/23	-141 19/23	64 4/23	135 4/23	268 4/23	441
-231 19/23	-66 19/23	132 4/23	-7 19/23	-85 19/23	94 4/23	49 4/23	163 4/23	-180 19/23	75 4/23	-104 19/23	179 4/23	-16 19/23	207 4/23	-164 19/23	15 4/23	-126 19/23	233 4/23	-48 19/23	148 4/23	-158 19/23	68 4/23	270 4/23	441
-233 19/23	-38 19/23	-131 19/23	228 4/23	65 4/23	140 4/23	-147 19/23	-11 19/23	-57 19/23	127 4/23	48 4/23	-91 19/23	101 4/23	73 4/23	175 4/23	-190 19/23	-12 19/23	-113 19/23	184 4/23	11 4/23	214 4/23	-167 19/23	272 4/23	441
-235 19/23	225 4/23	-44 19/23	-122 19/23	-153 19/23	62 4/23	149 4/23	131 4/23	1 4/23	-74 19/23	97 4/23	38 4/23	-77 19/23	-181 19/23	82 4/23	157 4/23	180 4/23	-25 19/23	-96 19/23	-163 19/23	21 4/23	200 4/23	274 4/23	441
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-239 19/23	-31 19/23	-97 19/23	187 4/23	29 4/23	201 4/23	-172 19/23	-51 19/23	-121 19/23	231 4/23	66 4/23	141 4/23	-149 19/23	2 4/23	-69 19/23	125 4/23	30 4/23	-78 19/23	106 4/23	90 4/23	160 4/23	-192 19/23	278 4/23	441
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-243 19/23	-106 19/23	178 4/23	-13 19/23	205 4/23	-159 19/23	12 4/23	-125 19/23	221 4/23	-37 19/23	144 4/23	-143 19/23	57 4/23	-63 19/23	128 4/23	-6 19/23	-82 19/23	93 4/23	47 4/23	164 4/23	-182 19/23	76 4/23	282 4/23	441
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441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

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330 20/23	-134 3/23	-136 3/23	-138 3/23	-140 3/23	-142 3/23	-144 3/23	-146 3/23	-148 3/23	-150 3/23	-152 3/23	-154 3/23	333 20/23	335 20/23	337 20/23	339 20/23	341 20/23	343 20/23	345 20/23	347 20/23	349 20/23	351 20/23	-153 3/23	2021
308 20/23	112 20/23	-22 3/23	172 20/23	140 20/23	241 20/23	-119 3/23	53 20/23	-44 3/23	253 20/23	78 20/23	285 20/23	-101 3/23	34 20/23	-66 3/23	294 20/23	121 20/23	219 20/23	-78 3/23	71 20/23	- 3/23	191 20/23	-133 3/23	2021
310 20/23	166 20/23	109 20/23	-13 3/23	-115 3/23	153 20/23	224 20/23	249 20/23	43 20/23	-30 3/23	-92 3/23	87 20/23	267 20/23	290 20/23	21 20/23	-49 3/23	-74 3/23	131 20/23	205 20/23	188 20/23	65 20/23	8 20/23	-135 3/23	2021
312 20/23	-16 3/23	175 20/23	103 20/23	237 20/23	-132 3/23	157 20/23	-40 3/23	263 20/23	39 20/23	276 20/23	-110 3/23	96 20/23	-62 3/23	307 20/23	17 20/23	215 20/23	-88 3/23	135 20/23	2 20/23	197 20/23	62 20/23	-137 3/23	2021
314 20/23	139 20/23	206 20/23	-83 3/23	58 20/23	9 20/23	194 20/23	113 20/23	-21 3/23	170 20/23	154 20/23	229 20/23	-121 3/23	35 20/23	-31 3/23	258 20/23	95 20/23	270 20/23	-103 3/23	15 20/23	-50 3/23	297 20/23	-139 3/23	2021
316 20/23	-87 3/23	126 20/23	223 20/23	198 20/23	68 20/23	-4 3/23	167 20/23	107 20/23	-12 3/23	-127 3/23	151 20/23	238 20/23	262 20/23	48 20/23	-48 3/23	-107 3/23	85 20/23	284 20/23	306 20/23	24 20/23	-68 3/23	-141 3/23	2021
318 20/23	210 20/23	-70 3/23	122 20/23	5 20/23	184 20/23	72 20/23	-18 3/23	176 20/23	104 20/23	235 20/23	-118 3/23	145 20/23	-35 3/23	245 20/23	52 20/23	274 20/23	-93 3/23	81 20/23	-59 3/23	288 20/23	33 20/23	-143 3/23	2021
320 20/23	77 20/23	283 20/23	-98 3/23	32 20/23	-65 3/23	295 20/23	120 20/23	222 20/23	-80 3/23	76 20/23	-3 3/23	189 20/23	100 20/23	-11 3/23	173 20/23	155 20/23	230 20/23	-123 3/23	49 20/23	-43 3/23	256 20/23	-145 3/23	2021
322 20/23	-94 3/23	90 20/23	266 20/23	291 20/23	22 20/23	-51 3/23	-71 3/23	129 20/23	204 20/23	185 20/23	63 20/23	13 20/23	177 20/23	110 20/23	-25 3/23	-126 3/23	149 20/23	239 20/23	250 20/23	46 20/23	-34 3/23	-147 3/23	2021
324 20/23	279 20/23	-111 3/23	94 20/23	-61 3/23	305 20/23	18 20/23	213 20/23	-89 3/23	138 20/23	20/23	202 20/23	59 20/23	-15 3/23	163 20/23	114 20/23	233 20/23	-117 3/23	146 20/23	-37 3/23	259 20/23	40 20/23	-149 3/23	2021
326 20/23	142 20/23	240 20/23	-120 3/23	50 20/23	-42 3/23	254 20/23	91 20/23	271 20/23	-100 3/23	14 20/23	-52 3/23	300 20/23	137 20/23	207 20/23	-82 3/23	57 20/23	12 20/23	192 20/23	118 20/23	-24 3/23	168 20/23	-151 3/23	2021
-156 3/23	-116 3/23	152 20/23	226 20/23	251 20/23	44 20/23	-33 3/23	-106 3/23	88 20/23	280 20/23	304 20/23	27 20/23	-69 3/23	-86 3/23	127 20/23	221 20/23	201 20/23	66 20/23	-5 3/23	164 20/23	105 20/23	-7 3/23	331 20/23	2021
-157 3/23	236 20/23	-130 3/23	156 20/23	-39 3/23	260 20/23	41 20/23	277 20/23	-97 3/23	82 20/23	-56 3/23	287 20/23	31 20/23	211 20/23	-72 3/23	123 20/23	3 20/23	183 20/23	75 20/23	-20 3/23	181 20/23	101 20/23	332 20/23	2021
-159 3/23	74 20/23	-2 3/23	190 20/23	99 20/23	-8 3/23	171 20/23	160 20/23	227 20/23	-125 3/23	37 20/23	-32 3/23	257 20/23	92 20/23	272 20/23	-102 3/23	28 20/23	-64 3/23	298 20/23	119 20/23	220 20/23	-77 3/23	334 20/23	2021
-161 3/23	186 20/23	64 20/23	11 20/23	180 20/23	108 20/23	-26 3/23	-129 3/23	147 20/23	244 20/23	261 20/23	47 20/23	-46 3/23	-105 3/23	86 20/23	281 20/23	292 20/23	25 20/23	-55 3/23	-73 3/23	132 20/23	203 20/23	336 20/23	2021
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-165 3/23	29 20/23	-63 3/23	296 20/23	133 20/23	208 20/23	-79 3/23	56 20/23	10 20/23	195 20/23	116 20/23	-23 3/23	169 20/23	141 20/23	243 20/23	-122 3/23	55 20/23	-45 3/23	252 20/23	79 20/23	282 20/23	-99 3/23	340 20/23	2021
-167 3/23	293 20/23	23 20/23	-54 3/23	-85 3/23	130 20/23	217 20/23	199 20/23	69 20/23	-6 3/23	165 20/23	106 20/23	-9 3/23	-113 3/23	150 20/23	225 20/23	248 20/23	42 20/23	-28 3/23	-95 3/23	89 20/23	268 20/23	342 20/23	2021
-169 3/23	-60 3/23	302 20/23	20 20/23	214 20/23	-76 3/23	124 20/23	6 20/23	182 20/23	73 20/23	-19 3/23	179 20/23	102 20/23	234 20/23	-131 3/23	159 20/23	-41 3/23	265 20/23	38 20/23	278 20/23	-109 3/23	93 20/23	344 20/23	2021
-171 3/23	36 20/23	-29 3/23	255 20/23	97 20/23	269 20/23	-104 3/23	16 20/23	-53 3/23	299 20/23	134 20/23	209 20/23	-81 3/23	70 20/23	-1 3/23	193 20/23	98 20/23	-10 3/23	174 20/23	158 20/23	228 20/23	-124 3/23	346 20/23	2021
-173 3/23	264 20/23	45 20/23	-47 3/23	-108 3/23	84 20/23	286 20/23	303 20/23	26 20/23	-67 3/23	-84 3/23	128 20/23	218 20/23	187 20/23	67 20/23	7 20/23	178 20/23	111 20/23	-27 3/23	-128 3/23	148 20/23	242 20/23	348 20/23	2021
-175 3/23	-38 3/23	246 20/23	54 20/23	273 20/23	-91 3/23	80 20/23	-57 3/23	289 20/23	30 20/23	212 20/23	-75 3/23	125 20/23	4 20/23	196 20/23	61 20/23	-14 3/23	161 20/23	115 20/23	232 20/23	-114 3/23	144 20/23	350 20/23	2021
328 20/23	309 20/23	311 20/23	313 20/23	315 20/23	317 20/23	319 20/23	321 20/23	323 20/23	325 20/23	327 20/23	329 20/23	-158 3/23	-160 3/23	-162 3/23	-164 3/23	-166 3/23	-168 3/23	-170 3/23	-172 3/23	-174 3/23	-176 3/23	-155 3/23	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 3 are **semi-magic squares**, with following equal **semi-magic sums** given by

$$[Sm_{3\times 3} : S_{23\times 23} := 21] := \frac{63}{23}$$

$$[Sm_{3\times 3} : S_{23\times 23} := 441] := \frac{1323}{23}$$

$$[Sm_{3\times 3} : S_{23\times 23} := 2021] := \frac{6063}{23}$$

1.16.2 Second Type

																						21
243 21/23	-221 2/23	-223 2/23	-225 2/23	-227 2/23	-229 2/23	-231 2/23	-233 2/23	-235 2/23	-237 2/23	-239 2/23	-241 2/23	246 21/23	248 21/23	250 21/23	252 21/23	254 21/23	256 21/23	258 21/23	260 21/23	262 21/23	264 21/23	-240 2/23	21
221 21/23	-219 2/23	-109 2/23	-65 2/23	22 21/23	44 21/23	154 21/23	176 21/23	-217 2/23	-110 2/23	-66 2/23	21 21/23	45 21/23	153 21/23	177 21/23	-218 2/23	-111 2/23	-64 2/23	20 21/23	46 21/23	152 21/23	178 21/23	-220 2/23	21
223 21/23	149 21/23	175 21/23	-201 2/23	-114 2/23	-67 2/23	18 21/23	43 21/23	150 21/23	174 21/23	-200 2/23	-112 2/23	-68 2/23	17 21/23	42 21/23	151 21/23	173 21/23	-199 2/23	-113 2/23	-69 2/23	19 21/23	41 21/23	-222 2/23	21
225 21/23	16 21/23	39 21/23	148 21/23	170 21/23	-202 2/23	-96 2/23	-72 2/23	15 21/23	38 21/23	147 21/23	171 21/23	-203 2/23	-95 2/23	-70 2/23	14 21/23	40 21/23	146 21/23	-172 21/23	-204 2/23	-94 2/23	-71 2/23	-224 2/23	21
227 21/23	-97 2/23	-54 2/23	11 21/23	37 21/23	144 21/23	169 21/23	-207 2/23	-98 2/23	-53 2/23	13 21/23	36 21/23	143 21/23	168 21/23	-206 2/23	-99 2/23	-52 2/23	12 21/23	35 21/23	145 21/23	167 21/23	-205 2/23	-226 2/23	21
229 21/23	165 21/23	-208 2/23	-102 2/23	-55 2/23	29 21/23	32 21/23	142 21/23	164 21/23	-209 2/23	-101 2/23	-56 2/23	30 21/23	34 21/23	141 21/23	166 21/23	-210 2/23	-100 2/23	-57 2/23	31 21/23	33 21/23	140 21/23	-228 2/23	21
231 21/23	50 21/23	137 21/23	163 21/23	-212 2/23	-103 2/23	-60 2/23	28 21/23	51 21/23	139 21/23	162 21/23	-213 2/23	-104 2/23	-59 2/23	27 21/23	52 21/23	138 21/23	161 21/23	-211 2/23	-105 2/23	-58 2/23	26 21/23	-230 2/23	21
233 21/23	-61 2/23	23 21/23	49 21/23	155 21/23	158 21/23	-214 2/23	-107 2/23	-62 2/23	24 21/23	48 21/23	156 21/23	160 21/23	-215 2/23	-108 2/23	-63 2/23	25 21/23	47 21/23	157 21/23	159 21/23	-216 2/23	-106 2/23	-232 2/23	21
235 21/23	-177 2/23	-130 2/23	-86 2/23	1 21/23	65 21/23	133 21/23	197 21/23	-175 2/23	-131 2/23	-87 2/23	21/23	66 21/23	132 21/23	198 21/23	-176 2/23	-132 2/23	-85 2/23	- 2/23	67 21/23	131 21/23	199 21/23	-234 2/23	21
237 21/23	128 21/23	196 21/23	-159 2/23	-135 2/23	-88 2/23	-2 2/23	64 21/23	129 21/23	195 21/23	-158 2/23	-133 2/23	-89 2/23	-3 2/23	63 21/23	130 21/23	194 21/23	-157 2/23	-134 2/23	-90 2/23	-1 2/23	62 21/23	-236 2/23	21
239 21/23	-4 2/23	60 21/23	127 21/23	191 21/23	-160 2/23	-117 2/23	-93 2/23	-5 2/23	59 21/23	126 21/23	192 21/23	-161 2/23	-116 2/23	-91 2/23	-6 2/23	61 21/23	125 21/23	-193 21/23	-162 2/23	-115 2/23	-92 2/23	-238 2/23	21
-243 2/23	-118 2/23	-75 2/23	-9 2/23	58 21/23	123 21/23	190 21/23	-165 2/23	-119 2/23	-74 2/23	-7 2/23	57 21/23	122 21/23	189 21/23	-164 2/23	-120 2/23	-73 2/23	-8 2/23	56 21/23	124 21/23	188 21/23	-163 2/23	244 21/23	21
-244 2/23	186 21/23	-166 2/23	-123 2/23	-76 2/23	8 21/23	53 21/23	121 21/23	185 21/23	-167 2/23	-122 2/23	-77 2/23	9 21/23	55 21/23	120 21/23	187 21/23	-168 2/23	-121 2/23	-78 2/23	10 21/23	54 21/23	119 21/23	245 21/23	21
-246 2/23	71 21/23	116 21/23	184 21/23	-170 2/23	-124 2/23	-81 2/23	7 21/23	72 21/23	118 21/23	183 21/23	-171 2/23	-125 2/23	-80 2/23	6 21/23	73 21/23	117 21/23	182 21/23	-169 2/23	-126 2/23	-79 2/23	5 21/23	247 21/23	21
-248 2/23	-82 2/23	2 21/23	70 21/23	134 21/23	179 21/23	-172 2/23	-128 2/23	-83 2/23	3 21/23	69 21/23	135 21/23	181 21/23	-173 2/23	-129 2/23	-84 2/23	4 21/23	68 21/23	136 21/23	180 21/23	-174 2/23	-127 2/23	249 21/23	21
-250 2/23	-198 2/23	-151 2/23	-44 2/23	-19 2/23	86 21/23	112 21/23	218 21/23	-196 2/23	-152 2/23	-45 2/23	-20 2/23	87 21/23	111 21/23	219 21/23	-197 2/23	-153 2/23	-43 2/23	-21 2/23	88 21/23	110 21/23	220 21/23	251 21/23	21
-252 2/23	107 21/23	217 21/23	-180 2/23	-156 2/23	-46 2/23	-23 2/23	85 21/23	108 21/23	216 21/23	-179 2/23	-154 2/23	-47 2/23	-24 2/23	84 21/23	109 21/23	215 21/23	-178 2/23	-155 2/23	-48 2/23	-22 2/23	83 21/23	253 21/23	21
-254 2/23	-25 2/23	81 21/23	106 21/23	212 21/23	-181 2/23	-138 2/23	-51 2/23	-26 2/23	80 21/23	105 21/23	213 21/23	-182 2/23	-137 2/23	-49 2/23	-27 2/23	82 21/23	104 21/23	-214 21/23	-183 2/23	-136 2/23	-50 2/23	255 21/23	21
-256 2/23	-139 2/23	-33 2/23	-30 2/23	79 21/23	102 21/23	211 21/23	-186 2/23	-140 2/23	-32 2/23	-28 2/23	78 21/23	101 21/23	210 21/23	-185 2/23	-141 2/23	-31 2/23	-29 2/23	77 21/23	103 21/23	209 21/23	-184 2/23	257 21/23	21
-258 2/23	207 21/23	-187 2/23	-144 2/23	-34 2/23	-12 2/23	74 21/23	100 21/23	206 21/23	-188 2/23	-143 2/23	-35 2/23	-11 2/23	76 21/23	99 21/23	208 21/23	-189 2/23	-142 2/23	-36 2/23	-10 2/23	75 21/23	98 21/23	259 21/23	21
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-262 2/23	-40 2/23	-18 2/23	91 21/23	113 21/23	200 21/23	-193 2/23	-149 2/23	-41 2/23	-17 2/23	90 21/23	114 21/23	202 21/23	-194 2/23	-150 2/23	-42 2/23	-16 2/23	89 21/23	115 21/23	201 21/23	-195 2/23	-148 2/23	263 21/23	21
241 21/23	222 21/23	224 21/23	226 21/23	228 21/23	230 21/23	232 21/23	234 21/23	236 21/23	238 21/23	240 21/23	242 21/23	-245 2/23	-247 2/23	-249 2/23	-251 2/23	-253 2/23	-255 2/23	-257 2/23	-259 2/23	-261 2/23	-263 2/23	-242 2/23	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

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262 4/23	-202 19/23	-204 19/23	-206 19/23	-208 19/23	-210 19/23	-212 19/23	-214 19/23	-216 19/23	-218 19/23	-220 19/23	-222 19/23	265 4/23	267 4/23	269 4/23	271 4/23	273 4/23	275 4/23	277 4/23	279 4/23	281 4/23	283 4/23	-221 19/23	441
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244 4/23	35 4/23	58 4/23	167 4/23	189 4/23	-183 19/23	-77 19/23	-53 19/23	34 4/23	57 4/23	166 4/23	190 4/23	-184 19/23	-76 19/23	-51 19/23	33 4/23	59 4/23	165 4/23	191 4/23	-185 19/23	-75 19/23	-52 19/23	-205 19/23	441
246 4/23	-78 19/23	-35 19/23	30 4/23	56 4/23	163 4/23	188 4/23	-188 19/23	-79 19/23	-34 19/23	32 4/23	55 4/23	162 4/23	187 4/23	-187 19/23	-80 19/23	-33 19/23	31 4/23	54 4/23	164 4/23	186 4/23	-186 19/23	-207 19/23	441
248 4/23	184 4/23	-189 19/23	-83 19/23	-36 19/23	48 4/23	51 4/23	161 4/23	183 4/23	-190 19/23	-82 19/23	-37 19/23	49 4/23	53 4/23	160 4/23	185 4/23	-191 19/23	-81 19/23	-38 19/23	50 4/23	52 4/23	159 4/23	-209 19/23	441
250 4/23	69 4/23	156 4/23	182 4/23	-193 19/23	-84 19/23	-41 19/23	47 4/23	70 4/23	158 4/23	181 4/23	-194 19/23	-85 19/23	-40 19/23	46 4/23	71 4/23	157 4/23	180 4/23	-192 19/23	-86 19/23	-39 19/23	45 4/23	-211 19/23	441
252 4/23	-42 19/23	42 4/23	68 4/23	174 4/23	177 4/23	-195 19/23	-88 19/23	-43 19/23	43 4/23	67 4/23	175 4/23	179 4/23	-196 19/23	-89 19/23	-44 19/23	44 4/23	66 4/23	176 4/23	178 4/23	-197 19/23	-87 19/23	-213 19/23	441
254 4/23	-158 19/23	-111 19/23	-67 19/23	20 4/23	84 4/23	152 4/23	216 4/23	-156 19/23	-112 19/23	-68 19/23	19 4/23	85 4/23	151 4/23	217 4/23	-157 19/23	-113 19/23	-66 19/23	18 4/23	86 4/23	150 4/23	218 4/23	-215 19/23	441
256 4/23	147 4/23	215 4/23	-140 19/23	-116 19/23	-69 19/23	16 4/23	83 4/23	148 4/23	214 4/23	-139 19/23	-114 19/23	-70 19/23	15 4/23	82 4/23	149 4/23	213 4/23	-138 19/23	-115 19/23	-71 19/23	17 4/23	81 4/23	-217 19/23	441
258 4/23	14 4/23	79 4/23	146 4/23	210 4/23	-141 19/23	-98 19/23	-74 19/23	13 4/23	78 4/23	145 4/23	211 4/23	-142 19/23	-97 19/23	-72 19/23	12 4/23	80 4/23	144 4/23	212 4/23	-143 19/23	-96 19/23	-73 19/23	-219 19/23	441
-224 19/23	-99 19/23	-56 19/23	9 4/23	77 4/23	142 4/23	209 4/23	-146 19/23	-100 19/23	-55 19/23	11 4/23	76 4/23	141 4/23	208 4/23	-145 19/23	-101 19/23	-54 19/23	10 4/23	75 4/23	143 4/23	207 4/23	-144 19/23	263 4/23	441
-225 19/23	205 4/23	-147 19/23	-104 19/23	-57 19/23	27 4/23	72 4/23	140 4/23	204 4/23	-148 19/23	-103 19/23	-58 19/23	28 4/23	74 4/23	139 4/23	206 4/23	-149 19/23	-102 19/23	-59 19/23	29 4/23	73 4/23	138 4/23	264 4/23	441
-227 19/23	90 4/23	135 4/23	203 4/23	-151 19/23	-105 19/23	-62 19/23	26 4/23	91 4/23	137 4/23	202 4/23	-152 19/23	-106 19/23	-61 19/23	25 4/23	92 4/23	136 4/23	201 4/23	-150 19/23	-107 19/23	-60 19/23	24 4/23	266 4/23	441
-229 19/23	-63 19/23	21 4/23	89 4/23	153 4/23	198 4/23	-153 19/23	-109 19/23	-64 19/23	22 4/23	88 4/23	154 4/23	200 4/23	-154 19/23	-110 19/23	-65 19/23	23 4/23	87 4/23	155 4/23	199 4/23	-155 19/23	-108 19/23	268 4/23	441
-231 19/23	-179 19/23	-132 19/23	-25 19/23	- 19/23	105 4/23	131 4/23	237 4/23	-177 19/23	-133 19/23	-26 19/23	-1 19/23	106 4/23	130 4/23	238 4/23	-178 19/23	-134 19/23	-24 19/23	-2 19/23	107 4/23	129 4/23	239 4/23	270 4/23	441
-233 19/23	126 4/23	236 4/23	-161 19/23	-137 19/23	-27 19/23	-4 19/23	104 4/23	127 4/23	235 4/23	-160 19/23	-135 19/23	-28 19/23	-5 19/23	103 4/23	128 4/23	234 4/23	-159 19/23	-136 19/23	-29 19/23	-3 19/23	102 4/23	272 4/23	441
-235 19/23	-6 19/23	100 4/23	125 4/23	231 4/23	-162 19/23	-119 19/23	-32 19/23	-7 19/23	99 4/23	124 4/23	232 4/23	-163 19/23	-118 19/23	-30 19/23	-8 19/23	101 4/23	123 4/23	233 4/23	-164 19/23	-117 19/23	-31 19/23	274 4/23	441
-237 19/23	-120 19/23	-14 19/23	-11 19/23	98 4/23	121 4/23	230 4/23	-167 19/23	-121 19/23	-13 19/23	-9 19/23	97 4/23	120 4/23	229 4/23	-166 19/23	-122 19/23	-12 19/23	-10 19/23	96 4/23	122 4/23	228 4/23	-165 19/23	276 4/23	441
-239 19/23	226 4/23	-168 19/23	-125 19/23	-15 19/23	6 4/23	93 4/23	119 4/23	225 4/23	-169 19/23	-124 19/23	-16 19/23	7 4/23	95 4/23	118 4/23	227 4/23	-170 19/23	-123 19/23	-17 19/23	8 4/23	94 4/23	117 4/23	278 4/23	441
-241 19/23	111 4/23	114 4/23	224 4/23	-172 19/23	-126 19/23	-20 19/23	5 4/23	112 4/23	116 4/23	223 4/23	-173 19/23	-127 19/23	-19 19/23	4 4/23	113 4/23	115 4/23	222 4/23	-171 19/23	-128 19/23	-18 19/23	3 4/23	280 4/23	441
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441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

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330 20/23	-134 3/23	-136 3/23	-138 3/23	-140 3/23	-142 3/23	-144 3/23	-146 3/23	-148 3/23	-150 3/23	-152 3/23	-154 3/23	333 20/23	335 20/23	337 20/23	339 20/23	341 20/23	343 20/23	345 20/23	347 20/23	349 20/23	351 20/23	-153 3/23	2021
308 20/23	-132 3/23	-22 3/23	21 20/23	109 20/23	131 20/23	241 20/23	263 20/23	-130 3/23	-23 3/23	20 20/23	108 20/23	132 20/23	240 20/23	264 20/23	-131 3/23	-24 3/23	22 20/23	107 20/23	133 20/23	239 20/23	265 20/23	-133 3/23	2021
310 20/23	236 20/23	262 20/23	-114 3/23	-27 3/23	19 20/23	105 20/23	130 20/23	237 20/23	261 20/23	-113 3/23	-25 3/23	18 20/23	104 20/23	129 20/23	238 20/23	260 20/23	-112 3/23	-26 3/23	17 20/23	106 20/23	128 20/23	-135 3/23	2021
312 20/23	103 20/23	126 20/23	235 20/23	257 20/23	-115 3/23	-9 3/23	14 20/23	102 20/23	125 20/23	234 20/23	258 20/23	-116 3/23	-8 3/23	16 20/23	101 20/23	127 20/23	233 20/23	259 20/23	-117 3/23	-7 3/23	15 20/23	-137 3/23	2021
314 20/23	-10 3/23	32 20/23	98 20/23	124 20/23	231 20/23	256 20/23	-120 3/23	-11 3/23	33 20/23	100 20/23	123 20/23	230 20/23	255 20/23	-119 3/23	-12 3/23	34 20/23	99 20/23	122 20/23	232 20/23	254 20/23	-118 3/23	-139 3/23	2021
316 20/23	252 20/23	-121 3/23	-15 3/23	31 20/23	116 20/23	119 20/23	229 20/23	251 20/23	-122 3/23	-14 3/23	30 20/23	117 20/23	121 20/23	228 20/23	253 20/23	-123 3/23	-13 3/23	29 20/23	118 20/23	120 20/23	227 20/23	-141 3/23	2021
318 20/23	137 20/23	224 20/23	250 20/23	-125 3/23	-16 3/23	26 20/23	115 20/23	138 20/23	226 20/23	249 20/23	-126 3/23	-17 3/23	27 20/23	114 20/23	139 20/23	225 20/23	248 20/23	-124 3/23	-18 3/23	28 20/23	113 20/23	-143 3/23	2021
320 20/23	25 20/23	110 20/23	136 20/23	242 20/23	245 20/23	-127 3/23	-20 3/23	24 20/23	111 20/23	135 20/23	243 20/23	247 20/23	-128 3/23	-21 3/23	23 20/23	112 20/23	134 20/23	244 20/23	246 20/23	-129 3/23	-19 3/23	-145 3/23	2021
322 20/23	-90 3/23	-43 3/23	20/23	88 20/23	152 20/23	220 20/23	284 20/23	-88 3/23	-44 3/23	- 3/23	87 20/23	153 20/23	219 20/23	285 20/23	-89 3/23	-45 3/23	1 20/23	86 20/23	154 20/23	218 20/23	286 20/23	-147 3/23	2021
324 20/23	215 20/23	283 20/23	-72 3/23	-48 3/23	-1 3/23	84 20/23	151 20/23	216 20/23	282 20/23	-71 3/23	-46 3/23	-2 3/23	83 20/23	150 20/23	217 20/23	281 20/23	-70 3/23	-47 3/23	-3 3/23	85 20/23	149 20/23	-149 3/23	2021
326 20/23	82 20/23	147 20/23	214 20/23	278 20/23	-73 3/23	-30 3/23	-6 3/23	81 20/23	146 20/23	213 20/23	279 20/23	-74 3/23	-29 3/23	-4 3/23	80 20/23	148 20/23	212 20/23	280 20/23	-75 3/23	-28 3/23	-5 3/23	-151 3/23	2021
-156 3/23	-31 3/23	11 20/23	77 20/23	145 20/23	210 20/23	277 20/23	-78 3/23	-32 3/23	12 20/23	79 20/23	144 20/23	209 20/23	276 20/23	-77 3/23	-33 3/23	13 20/23	78 20/23	143 20/23	211 20/23	275 20/23	-76 3/23	331 20/23	2021
-157 3/23	273 20/23	-79 3/23	-36 3/23	10 20/23	95 20/23	140 20/23	208 20/23	272 20/23	-80 3/23	-35 3/23	9 20/23	96 20/23	142 20/23	207 20/23	274 20/23	-81 3/23	-34 3/23	8 20/23	97 20/23	141 20/23	206 20/23	332 20/23	2021
-159 3/23	158 20/23	203 20/23	271 20/23	-83 3/23	-37 3/23	5 20/23	94 20/23	159 20/23	205 20/23	270 20/23	-84 3/23	-38 3/23	6 20/23	93 20/23	160 20/23	204 20/23	269 20/23	-82 3/23	-39 3/23	7 20/23	92 20/23	334 20/23	2021
-161 3/23	4 20/23	89 20/23	157 20/23	221 20/23	266 20/23	-85 3/23	-41 3/23	3 20/23	90 20/23	156 20/23	222 20/23	268 20/23	-86 3/23	-42 3/23	2 20/23	91 20/23	155 20/23	223 20/23	267 20/23	-87 3/23	-40 3/23	336 20/23	2021
-163 3/23	-111 3/23	-64 3/23	42 20/23	67 20/23	173 20/23	199 20/23	305 20/23	-109 3/23	-65 3/23	41 20/23	66 20/23	174 20/23	198 20/23	306 20/23	-110 3/23	-66 3/23	43 20/23	65 20/23	175 20/23	197 20/23	307 20/23	338 20/23	2021
-165 3/23	194 20/23	304 20/23	-93 3/23	-69 3/23	40 20/23	63 20/23	172 20/23	195 20/23	303 20/23	-92 3/23	-67 3/23	39 20/23	62 20/23	171 20/23	196 20/23	302 20/23	-91 3/23	-68 3/23	38 20/23	64 20/23	170 20/23	340 20/23	2021
-167 3/23	61 20/23	168 20/23	193 20/23	299 20/23	-94 3/23	-51 3/23	35 20/23	60 20/23	167 20/23	192 20/23	300 20/23	-95 3/23	-50 3/23	37 20/23	59 20/23	169 20/23	191 20/23	301 20/23	-96 3/23	-49 3/23	36 20/23	342 20/23	2021
-169 3/23	-52 3/23	53 20/23	56 20/23	166 20/23	189 20/23	298 20/23	-99 3/23	-53 3/23	54 20/23	58 20/23	165 20/23	188 20/23	297 20/23	-98 3/23	-54 3/23	55 20/23	57 20/23	164 20/23	190 20/23	296 20/23	-97 3/23	344 20/23	2021
-171 3/23	294 20/23	-100 3/23	-57 3/23	52 20/23	74 20/23	161 20/23	187 20/23	293 20/23	-101 3/23	-56 3/23	51 20/23	75 20/23	163 20/23	186 20/23	295 20/23	-102 3/23	-55 3/23	50 20/23	76 20/23	162 20/23	185 20/23	346 20/23	2021
-173 3/23	179 20/23	182 20/23	292 20/23	-104 3/23	-58 3/23	47 20/23	73 20/23	180 20/23	184 20/23	291 20/23	-105 3/23	-59 3/23	48 20/23	72 20/23	181 20/23	183 20/23	290 20/23	-103 3/23	-60 3/23	49 20/23	71 20/23	348 20/23	2021
-175 3/23	46 20/23	68 20/23	178 20/23	200 20/23	287 20/23	-106 3/23	-62 3/23	45 20/23	69 20/23	177 20/23	201 20/23	289 20/23	-107 3/23	-63 3/23	44 20/23	70 20/23	176 20/23	202 20/23	288 20/23	-108 3/23	-61 3/23	350 20/23	2021
328 20/23	309 20/23	311 20/23	313 20/23	315 20/23	317 20/23	319 20/23	321 20/23	323 20/23	325 20/23	327 20/23	329 20/23	-158 3/23	-160 3/23	-162 3/23	-164 3/23	-166 3/23	-168 3/23	-170 3/23	-172 3/23	-174 3/23	-176 3/23	-155 3/23	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 7 are **pandiagonal** with equal magic square sums. These sums are given by

$$[S_{7\times 7} : S_{23\times 23} := 21] := \frac{147}{23}$$

$$[S_{7\times 7} : S_{23\times 23} := 441] := \frac{3087}{23}$$

$$[S_{7\times 7} : S_{23\times 23} := 2021] := \frac{141471}{23}.$$

1.17 Block-Wise Magic Squares of Order 24

Below are **block-wise magic squares** of order 24 in four different ways giving magic sums 21, 21^2 and 2021. First, the blocks of order 3, magic squares with different magic sums, resulting in **pandiagonal** magic squares and **semi-bimagic** squares of order 24. Second, the blocks of order 4, **pandiagonal** magic squares with equal magic sums, resulting in **pandiagonal** magic squares of order 24. Third, blocks of order 6 magic squares with equal magic sums. Forth, blocks of order 8 **bimagic** or **semi-bimagic** squares of order 8, resulting in **semi-bimagic** square of order 24.

1.17.1 First Type

	pan	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
21	-167.625	-193.625	-144.625	97.375	75.375	122.375	36.375	58.375	11.375	-250.625	-224.625	-273.625	-40.625	-62.625	-15.625	258.375	232.375	281.375	187.375	213.375	164.375	-113.625	-91.625	-138.625	21
21	-145.625	-168.625	-191.625	123.375	98.375	73.375	10.375	35.375	60.375	-272.625	-249.625	-226.625	-14.625	-39.625	-64.625	280.375	257.375	234.375	165.375	188.375	211.375	-139.625	-114.625	-89.625	21
21	-192.625	-143.625	-169.625	74.375	121.375	99.375	59.375	12.375	34.375	-225.625	-274.625	-248.625	-63.625	-16.625	-38.625	233.375	282.375	256.375	212.375	163.375	189.375	-90.625	-137.625	-115.625	21
21	-41.625	-67.625	-18.625	259.375	237.375	284.375	186.375	208.375	161.375	-112.625	-86.625	-135.625	-178.625	-200.625	-153.625	108.375	82.375	131.375	25.375	51.375	2.375	-239.625	-217.625	-264.625	21
21	-19.625	-42.625	-65.625	285.375	260.375	235.375	160.375	185.375	210.375	-134.625	-111.625	-88.625	-152.625	-177.625	-202.625	130.375	107.375	84.375	3.375	26.375	49.375	-265.625	-240.625	-215.625	21
21	-66.625	-17.625	-43.625	236.375	283.375	261.375	209.375	162.375	184.375	-87.625	-136.625	-110.625	-201.625	-154.625	-176.625	83.375	132.375	106.375	50.375	1.375	27.375	-216.625	-263.625	-241.625	21
21	-262.625	-236.625	-285.625	48.375	70.375	23.375	109.375	87.375	134.375	-179.625	-205.625	-156.625	-101.625	-79.625	-126.625	175.375	201.375	152.375	246.375	220.375	269.375	-28.625	-50.625	-3.625	21
21	-284.625	-261.625	-238.625	22.375	47.375	72.375	135.375	110.375	85.375	-157.625	-180.625	-203.625	-127.625	-102.625	-77.625	153.375	176.375	199.375	268.375	245.375	222.375	-2.625	-27.625	-52.625	21
21	-237.625	-286.625	-260.625	71.375	24.375	46.375	86.375	133.375	111.375	-204.625	-155.625	-181.625	-78.625	-125.625	-103.625	200.375	151.375	177.375	221.375	270.375	244.375	-51.625	-4.625	-26.625	21
21	-100.625	-74.625	-123.625	174.375	196.375	149.375	247.375	225.375	272.375	-29.625	-55.625	-6.625	-251.625	-229.625	-276.625	37.375	63.375	14.375	120.375	94.375	143.375	-190.625	-212.625	-165.625	21
21	-122.625	-99.625	-76.625	148.375	173.375	198.375	273.375	248.375	223.375	-7.625	-30.625	-53.625	-277.625	-252.625	-227.625	15.375	38.375	61.375	142.375	119.375	96.375	-164.625	-189.625	-214.625	21
21	-75.625	-124.625	-98.625	197.375	150.375	172.375	224.375	271.375	249.375	-54.625	-5.625	-31.625	-228.625	-275.625	-253.625	62.375	13.375	39.375	95.375	144.375	118.375	-213.625	-166.625	-188.625	21
21	42.375	64.375	17.375	-256.625	-230.625	-279.625	-185.625	-211.625	-162.625	115.375	93.375	140.375	169.375	195.375	146.375	-95.625	-73.625	-120.625	-34.625	-56.625	-9.625	252.375	226.375	275.375	21
21	16.375	41.375	66.375	-278.625	-255.625	-232.625	-163.625	-186.625	-209.625	141.375	116.375	91.375	147.375	170.375	193.375	-121.625	-96.625	-71.625	-8.625	-33.625	-58.625	274.375	251.375	228.375	21
21	65.375	18.375	40.375	-231.625	-280.625	-254.625	-210.625	-161.625	-187.625	92.375	139.375	117.375	194.375	145.375	171.375	-72.625	-119.625	-97.625	-57.625	-10.625	-32.625	227.375	276.375	250.375	21
21	180.375	202.375	155.375	-106.625	-80.625	-129.625	-23.625	-49.625	-0.625	241.375	219.375	266.375	43.375	69.375	20.375	-257.625	-235.625	-282.625	-184.625	-206.625	-159.625	114.375	88.375	137.375	21
21	154.375	179.375	204.375	-128.625	-105.625	-82.625	-1.625	-24.625	-47.625	267.375	242.375	217.375	21.375	44.375	67.375	-283.625	-258.625	-233.625	-158.625	-183.625	-208.625	136.375	113.375	90.375	21
21	203.375	156.375	178.375	-81.625	-130.625	-104.625	-48.625	0.375	-25.625	218.375	265.375	243.375	68.375	19.375	45.375	-234.625	-281.625	-259.625	-207.625	-160.625	-182.625	89.375	138.375	112.375	21
21	103.375	81.375	128.375	-173.625	-199.625	-150.625	-244.625	-218.625	-267.625	30.375	52.375	5.375	264.375	238.375	287.375	-46.625	-68.625	-21.625	-107.625	-85.625	-132.625	181.375	207.375	158.375	21
21	129.375	104.375	79.375	-151.625	-174.625	-197.625	-266.625	-243.625	-220.625	4.375	29.375	54.375	286.375	263.375	240.375	-20.625	-45.625	-70.625	-133.625	-108.625	-83.625	159.375	182.375	205.375	21
21	80.375	127.375	105.375	-198.625	-149.625	-175.625	-219.625	-268.625	-242.625	53.375	6.375	28.375	239.375	288.375	262.375	-69.625	-22.625	-44.625	-84.625	-131.625	-109.625	206.375	157.375	183.375	21
21	253.375	231.375	278.375	-35.625	-61.625	-12.625	-118.625	-92.625	-141.625	192.375	214.375	167.375	102.375	76.375	125.375	-172.625	-194.625	-147.625	-245.625	-223.625	-270.625	31.375	57.375	8.375	21
21	279.375	254.375	229.375	-13.625	-36.625	-59.625	-140.625	-117.625	-94.625	166.375	191.375	216.375	124.375	101.375	78.375	-146.625	-171.625	-196.625	-271.625	-246.625	-221.625	9.375	32.375	55.375	21
	230.375	277.375	255.375	-60.625	-11.625	-37.625	-93.625	-142.625	-116.625	215.375	168.375	190.375	77.375	126.375	100.375	-195.625	-148.625	-170.625	-222.625	-269.625	-247.625	56.375	7.375	33.375	21
	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

	pan	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
441	-150.125	-176.125	-127.125	114.875	92.875	139.875	53.875	75.875	28.875	-233.125	-207.125	-256.125	-23.125	-45.125	1.875	275.875	249.875	298.875	204.875	230.875	181.875	-96.125	-74.125	-121.125	441
441	-128.125	-151.125	-174.125	140.875	115.875	90.875	27.875	52.875	77.875	-255.125	-232.125	-209.125	2.875	-22.125	-47.125	297.875	274.875	251.875	182.875	205.875	228.875	-122.125	-97.125	-72.125	441
441	-175.125	-126.125	-152.125	91.875	138.875	116.875	76.875	29.875	51.875	-208.125	-257.125	-231.125	-46.125	0.875	-21.125	250.875	299.875	273.875	229.875	180.875	206.875	-73.125	-120.125	-98.125	441
441	-24.125	-50.125	-1.125	276.875	254.875	301.875	203.875	225.875	178.875	-95.125	-69.125	-118.125	-161.125	-183.125	-136.125	125.875	99.875	148.875	42.875	68.875	19.875	-222.125	-200.125	-247.125	441
441	-2.125	-25.125	-48.125	302.875	277.875	252.875	177.875	202.875	227.875	-117.125	-94.125	-71.125	-135.125	-160.125	-185.125	147.875	124.875	101.875	20.875	43.875	66.875	-248.125	-223.125	-198.125	441
441	-49.125	-0.125	-26.125	253.875	300.875	278.875	226.875	179.875	201.875	-70.125	-119.125	-93.125	-184.125	-137.125	-159.125	100.875	149.875	123.875	67.875	18.875	44.875	-199.125	-246.125	-224.125	441
441	-245.125	-219.125	-268.125	65.875	87.875	40.875	126.875	104.875	151.875	-162.125	-188.125	-139.125	-84.125	-62.125	-109.125	192.875	218.875	169.875	263.875	237.875	286.875	-11.125	-33.125	13.875	441
441	-267.125	-244.125	-221.125	39.875	64.875	89.875	152.875	127.875	102.875	-140.125	-163.125	-186.125	-110.125	-85.125	-60.125	170.875	193.875	216.875	285.875	262.875	239.875	14.875	-10.125	-35.125	441
441	-220.125	-269.125	-243.125	88.875	41.875	63.875	103.875	150.875	128.875	-187.125	-138.125	-164.125	-61.125	-108.125	-86.125	217.875	168.875	194.875	238.875	287.875	261.875	-34.125	12.875	-9.125	441
441	-83.125	-57.125	-106.125	191.875	213.875	166.875	264.875	242.875	289.875	-12.125	-38.125	10.875	-234.125	-212.125	-259.125	54.875	80.875	31.875	137.875	111.875	160.875	-173.125	-195.125	-148.125	441
441	-105.125	-82.125	-59.125	165.875	190.875	215.875	290.875	265.875	240.875	9.875	-13.125	-36.125	-260.125	-235.125	-210.125	32.875	55.875	78.875	159.875	136.875	113.875	-147.125	-172.125	-197.125	441
441	-58.125	-107.125	-81.125	214.875	167.875	189.875	241.875	288.875	266.875	-37.125	11.875	-14.125	-211.125	-258.125	-236.125	79.875	30.875	56.875	112.875	161.875	135.875	-196.125	-149.125	-171.125	441
441	59.875	81.875	34.875	-239.125	-213.125	-262.125	-168.125	-194.125	-145.125	132.875	110.875	157.875	186.875	212.875	163.875	-78.125	-56.125	-103.125	-17.125	-39.125	7.875	269.875	243.875	292.875	441
441	33.875	58.875	83.875	-261.125	-238.125	-215.125	-146.125	-169.125	-192.125	158.875	133.875	108.875	164.875	187.875	210.875	-104.125	-79.125	-54.125	8.875	-16.125	-41.125	291.875	268.875	245.875	441
441	82.875	35.875	57.875	-214.125	-263.125	-237.125	-193.125	-144.125	-170.125	109.875	156.875	134.875	211.875	162.875	188.875	-55.125	-102.125	-80.125	-40.125	6.875	-15.125	244.875	293.875	267.875	441
441	197.875	219.875	172.875	-89.125	-63.125	-112.125	-6.125	-32.125	16.875	258.875	236.875	283.875	60.875	86.875	37.875	-240.125	-218.125	-265.125	-167.125	-189.125	-142.125	131.875	105.875	154.875	441
441	171.875	196.875	221.875	-111.125	-88.125	-65.125	15.875	-7.125	-30.125	284.875	259.875	234.875	38.875	61.875	84.875	-266.125	-241.125	-216.125	-141.125	-166.125	-191.125	153.875	130.875	107.875	441
441	220.875	173.875	195.875	-64.125	-113.125	-87.125	-31.125	17.875	-8.125	235.875	282.875	260.875	85.875	36.875	62.875	-217.125	-264.125	-242.125	-190.125	-143.125	-165.125	106.875	155.875	129.875	441
441	120.875	98.875	145.875	-156.125	-182.125	-133.125	-227.125	-201.125	-250.125	47.875	69.875	22.875	281.875	255.875	304.875	-29.125	-51.125	-4.125	-90.125	-68.125	-115.125	198.875	224.875	175.875	441
441	146.875	121.875	96.875	-134.125	-157.125	-180.125	-249.125	-226.125	-203.125	21.875	46.875	71.875	303.875	280.875	257.875	-3.125	-28.125	-53.125	-116.125	-91.125	-66.125	176.875	199.875	222.875	441
441	97.875	144.875	122.875	-181.125	-132.125	-158.125	-202.125	-251.125	-225.125	70.875	23.875	45.875	256.875	305.875	279.875	-52.125	-5.125	-27.125	-67.125	-114.125	-92.125	223.875	174.875	200.875	441
441	270.875	248.875	295.875	-18.125	-44.125	4.875	-101.125	-75.125	-124.125	209.875	231.875	184.875	119.875	93.875	142.875	-155.125	-177.125	-130.125	-228.125	-206.125	-253.125	48.875	74.875	25.875	441
441	296.875	271.875	246.875	3.875	-19.125	-42.125	-123.125	-100.125	-77.125	183.875	208.875	233.875	141.875	118.875	95.875	-129.125	-154.125	-179.125	-254.125	-229.125	-204.125	26.875	49.875	72.875	441
	247.875	294.875	272.875	-43.125	5.875	-20.125	-76.125	-125.125	-99.125	232.875	185.875	207.875	94.875	143.875	117.875	-178.125	-131.125	-153.125	-205.125	-252.125	-230.125	73.875	24.875	50.875	441
	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	-84 7/24	-110 7/24	-61 7/24	180 17/24	158 17/24	205 17/24	119 17/24	141 17/24	94 17/24	-167 7/24	-141 7/24	-190 7/24	42 17/24	20 17/24	67 17/24	341 17/24	315 17/24	364 17/24	270 17/24	296 17/24	247 17/24	-30 7/24	-8 7/24	-55 7/24	2021
2021	-62 7/24	-85 7/24	-108 7/24	206 17/24	181 17/24	156 17/24	93 17/24	118 17/24	143 17/24	-189 7/24	-166 7/24	-143 7/24	68 17/24	43 17/24	18 17/24	363 17/24	340 17/24	317 17/24	248 17/24	271 17/24	294 17/24	-56 7/24	-31 7/24	-6 7/24	2021
2021	-109 7/24	-60 7/24	-86 7/24	157 17/24	204 17/24	182 17/24	142 17/24	95 17/24	117 17/24	-142 7/24	-191 7/24	-165 7/24	19 17/24	66 17/24	44 17/24	316 17/24	365 17/24	339 17/24	295 17/24	246 17/24	272 17/24	-7 7/24	-54 7/24	-32 7/24	2021
2021	41 17/24	15 17/24	64 17/24	342 17/24	320 17/24	367 17/24	269 17/24	291 17/24	244 17/24	-29 7/24	-3 7/24	-52 7/24	-95 7/24	-117 7/24	-70 7/24	191 17/24	165 17/24	214 17/24	108 17/24	134 17/24	85 17/24	-156 7/24	-134 7/24	-181 7/24	2021
2021	63 17/24	40 17/24	17 17/24	368 17/24	343 17/24	318 17/24	243 17/24	268 17/24	293 17/24	-51 7/24	-28 7/24	-5 7/24	-69 7/24	-94 7/24	-119 7/24	213 17/24	190 17/24	167 17/24	86 17/24	109 17/24	132 17/24	-182 7/24	-157 7/24	-132 7/24	2021
2021	16 17/24	65 17/24	39 17/24	319 17/24	366 17/24	344 17/24	292 17/24	245 17/24	267 17/24	-4 7/24	-53 7/24	-27 7/24	-118 7/24	-71 7/24	-93 7/24	166 17/24	215 17/24	189 17/24	133 17/24	84 17/24	110 17/24	-133 7/24	-180 7/24	-158 7/24	2021
2021	-179 7/24	-153 7/24	-202 7/24	131 17/24	153 17/24	106 17/24	192 17/24	170 17/24	217 17/24	-96 7/24	-122 7/24	-73 7/24	-18 7/24	3 17/24	-43 7/24	258 17/24	284 17/24	235 17/24	329 17/24	303 17/24	352 17/24	54 17/24	32 17/24	79 17/24	2021
2021	-201 7/24	-178 7/24	-155 7/24	105 17/24	130 17/24	155 17/24	218 17/24	193 17/24	168 17/24	-74 7/24	-97 7/24	-120 7/24	-44 7/24	-19 7/24	5 17/24	236 17/24	259 17/24	282 17/24	351 17/24	328 17/24	305 17/24	80 17/24	55 17/24	30 17/24	2021
2021	-154 7/24	-203 7/24	-177 7/24	154 17/24	107 17/24	129 17/24	169 17/24	216 17/24	194 17/24	-121 7/24	-72 7/24	-98 7/24	4 17/24	-42 7/24	-20 7/24	283 17/24	234 17/24	260 17/24	304 17/24	353 17/24	327 17/24	31 17/24	78 17/24	56 17/24	2021
2021	-17 7/24	8 17/24	-40 7/24	257 17/24	279 17/24	232 17/24	330 17/24	308 17/24	355 17/24	53 17/24	27 17/24	76 17/24	-168 7/24	-146 7/24	-193 7/24	120 17/24	146 17/24	97 17/24	203 17/24	177 17/24	226 17/24	-107 7/24	-129 7/24	-82 7/24	2021
2021	-39 7/24	-16 7/24	6 17/24	231 17/24	256 17/24	281 17/24	356 17/24	331 17/24	306 17/24	75 17/24	52 17/24	29 17/24	-194 7/24	-169 7/24	-144 7/24	98 17/24	121 17/24	144 17/24	225 17/24	202 17/24	179 17/24	-81 7/24	-106 7/24	-131 7/24	2021
2021	7 17/24	-41 7/24	-15 7/24	280 17/24	233 17/24	255 17/24	307 17/24	354 17/24	332 17/24	28 17/24	77 17/24	51 17/24	-145 7/24	-192 7/24	-170 7/24	145 17/24	96 17/24	122 17/24	178 17/24	227 17/24	201 17/24	-130 7/24	-83 7/24	-105 7/24	2021
2021	125 17/24	147 17/24	100 17/24	-173 7/24	-147 7/24	-196 7/24	-102 7/24	-128 7/24	-79 7/24	198 17/24	176 17/24	223 17/24	252 17/24	278 17/24	229 17/24	-12 7/24	9 17/24	-37 7/24	48 17/24	26 17/24	73 17/24	335 17/24	309 17/24	358 17/24	2021
2021	99 17/24	124 17/24	149 17/24	-195 7/24	-172 7/24	-149 7/24	-80 7/24	-103 7/24	-126 7/24	224 17/24	199 17/24	174 17/24	230 17/24	253 17/24	276 17/24	-38 7/24	-13 7/24	11 17/24	74 17/24	49 17/24	24 17/24	357 17/24	334 17/24	311 17/24	2021
2021	148 17/24	101 17/24	123 17/24	-148 7/24	-197 7/24	-171 7/24	-127 7/24	-78 7/24	-104 7/24	175 17/24	222 17/24	200 17/24	277 17/24	228 17/24	254 17/24	10 17/24	-36 7/24	-14 7/24	25 17/24	72 17/24	50 17/24	310 17/24	359 17/24	333 17/24	2021
2021	263 17/24	285 17/24	238 17/24	-23 7/24	2 17/24	-46 7/24	59 17/24	33 17/24	82 17/24	324 17/24	302 17/24	349 17/24	126 17/24	152 17/24	103 17/24	-174 7/24	-152 7/24	-199 7/24	-101 7/24	-123 7/24	-76 7/24	197 17/24	171 17/24	220 17/24	2021
2021	237 17/24	262 17/24	287 17/24	-45 7/24	-22 7/24	17/24	81 17/24	58 17/24	35 17/24	350 17/24	325 17/24	300 17/24	104 17/24	127 17/24	150 17/24	-200 7/24	-175 7/24	-150 7/24	-75 7/24	-100 7/24	-125 7/24	219 17/24	196 17/24	173 17/24	2021
2021	286 17/24	239 17/24	261 17/24	1 17/24	-47 7/24	-21 7/24	34 17/24	83 17/24	57 17/24	301 17/24	348 17/24	326 17/24	151 17/24	102 17/24	128 17/24	-151 7/24	-198 7/24	-176 7/24	-124 7/24	-77 7/24	-99 7/24	172 17/24	221 17/24	195 17/24	2021
2021	186 17/24	164 17/24	211 17/24	-90 7/24	-116 7/24	-67 7/24	-161 7/24	-135 7/24	-184 7/24	113 17/24	135 17/24	88 17/24	347 17/24	321 17/24	370 17/24	36 17/24	14 17/24	61 17/24	-24 7/24	-2 7/24	-49 7/24	264 17/24	290 17/24	241 17/24	2021
2021	212 17/24	187 17/24	162 17/24	-68 7/24	-91 7/24	-114 7/24	-183 7/24	-160 7/24	-137 7/24	87 17/24	112 17/24	137 17/24	369 17/24	346 17/24	323 17/24	62 17/24	37 17/24	12 17/24	-50 7/24	-25 7/24	- 7/24	242 17/24	265 17/24	288 17/24	2021
2021	163 17/24	210 17/24	188 17/24	-115 7/24	-66 7/24	-92 7/24	-136 7/24	-185 7/24	-159 7/24	136 17/24	89 17/24	111 17/24	322 17/24	371 17/24	345 17/24	13 17/24	60 17/24	38 17/24	-1 7/24	-48 7/24	-26 7/24	289 17/24	240 17/24	266 17/24	2021
2021	336 17/24	314 17/24	361 17/24	47 17/24	21 17/24	70 17/24	-35 7/24	-9 7/24	-58 7/24	275 17/24	297 17/24	250 17/24	185 17/24	159 17/24	208 17/24	-89 7/24	-111 7/24	-64 7/24	-162 7/24	-140 7/24	-187 7/24	114 17/24	140 17/24	91 17/24	2021
2021	362 17/24	337 17/24	312 17/24	69 17/24	46 17/24	23 17/24	-57 7/24	-34 7/24	-11 7/24	249 17/24	274 17/24	299 17/24	207 17/24	184 17/24	161 17/24	-63 7/24	-88 7/24	-113 7/24	-188 7/24	-163 7/24	-138 7/24	92 17/24	115 17/24	138 17/24	2021
	313 17/24	360 17/24	338 17/24	22 17/24	71 17/24	45 17/24	-10 7/24	-59 7/24	-33 7/24	298 17/24	251 17/24	273 17/24	160 17/24	209 17/24	183 17/24	-112 7/24	-65 7/24	-87 7/24	-139 7/24	-186 7/24	-164 7/24	139 17/24	90 17/24	116 17/24	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the block of order 3 are magic squares with different magic sums. Moreover, the magic squares of order 24 are **semi-bimagic** square with **semi-bimagic** sums given by

$$[Smb_{24\times 24} : S_{24\times 24} := 21] := 663568.375$$

$$[Smb_{24\times 24} : S_{24\times 24} := 441] := 671653.375$$

$$[Smb_{24\times 24} : S_{24\times 24} := 2021] := \frac{20009641}{24}$$

1.17.2 Second Type

	pan	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
21	-70.625	144.375	-286.625	216.375	-69.625	143.375	-285.625	215.375	-68.625	142.375	-284.625	214.375	-67.625	141.375	-283.625	213.375	-66.625	140.375	-282.625	212.375	-65.625	139.375	-281.625	211.375	21
21	-215.625	145.375	0.375	73.375	-216.625	146.375	-0.625	74.375	-217.625	147.375	-1.625	75.375	-218.625	148.375	-2.625	76.375	-219.625	149.375	-3.625	77.375	-220.625	150.375	-4.625	78.375	21
21	288.375	-214.625	72.375	-142.625	287.375	-213.625	71.375	-141.625	286.375	-212.625	70.375	-140.625	285.375	-211.625	69.375	-139.625	284.375	-210.625	68.375	-138.625	283.375	-209.625	67.375	-137.625	21
21	1.375	-71.625	217.375	-143.625	2.375	-72.625	218.375	-144.625	3.375	-73.625	219.375	-145.625	4.375	-74.625	220.375	-146.625	5.375	-75.625	221.375	-147.625	6.375	-76.625	222.375	-148.625	21
21	-64.625	138.375	-280.625	210.375	-63.625	137.375	-279.625	209.375	-62.625	136.375	-278.625	208.375	-61.625	135.375	-277.625	207.375	-60.625	134.375	-276.625	206.375	-59.625	133.375	-275.625	205.375	21
21	-221.625	151.375	-5.625	79.375	-222.625	152.375	-6.625	80.375	-223.625	153.375	-7.625	81.375	-224.625	154.375	-8.625	82.375	-225.625	155.375	-9.625	83.375	-226.625	156.375	-10.625	84.375	21
21	282.375	-208.625	66.375	-136.625	281.375	-207.625	65.375	-135.625	280.375	-206.625	64.375	-134.625	279.375	-205.625	63.375	-133.625	278.375	-204.625	62.375	-132.625	277.375	-203.625	61.375	-131.625	21
21	7.375	-77.625	223.375	-149.625	8.375	-78.625	224.375	-150.625	9.375	-79.625	225.375	-151.625	10.375	-80.625	226.375	-152.625	11.375	-81.625	227.375	-153.625	12.375	-82.625	228.375	-154.625	21
21	-58.625	132.375	-274.625	204.375	-57.625	131.375	-273.625	203.375	-56.625	130.375	-272.625	202.375	-55.625	129.375	-271.625	201.375	-54.625	128.375	-270.625	200.375	-53.625	127.375	-269.625	199.375	21
21	-227.625	157.375	-11.625	85.375	-228.625	158.375	-12.625	86.375	-229.625	159.375	-13.625	87.375	-230.625	160.375	-14.625	88.375	-231.625	161.375	-15.625	89.375	-232.625	162.375	-16.625	90.375	21
21	276.375	-202.625	60.375	-130.625	275.375	-201.625	59.375	-129.625	274.375	-200.625	58.375	-128.625	273.375	-199.625	57.375	-127.625	272.375	-198.625	56.375	-126.625	271.375	-197.625	55.375	-125.625	21
21	13.375	-83.625	229.375	-155.625	14.375	-84.625	230.375	-156.625	15.375	-85.625	231.375	-157.625	16.375	-86.625	232.375	-158.625	17.375	-87.625	233.375	-159.625	18.375	-88.625	234.375	-160.625	21
21	-52.625	126.375	-268.625	198.375	-51.625	125.375	-267.625	197.375	-50.625	124.375	-266.625	196.375	-49.625	123.375	-265.625	195.375	-48.625	122.375	-264.625	194.375	-47.625	121.375	-263.625	193.375	21
21	-233.625	163.375	-17.625	91.375	-234.625	164.375	-18.625	92.375	-235.625	165.375	-19.625	93.375	-236.625	166.375	-20.625	94.375	-237.625	167.375	-21.625	95.375	-238.625	168.375	-22.625	96.375	21
21	270.375	-196.625	54.375	-124.625	269.375	-195.625	53.375	-123.625	268.375	-194.625	52.375	-122.625	267.375	-193.625	51.375	-121.625	266.375	-192.625	50.375	-120.625	265.375	-191.625	49.375	-119.625	21
21	19.375	-89.625	235.375	-161.625	20.375	-90.625	236.375	-162.625	21.375	-91.625	237.375	-163.625	22.375	-92.625	238.375	-164.625	23.375	-93.625	239.375	-165.625	24.375	-94.625	240.375	-166.625	21
21	-46.625	120.375	-262.625	192.375	-45.625	119.375	-261.625	191.375	-44.625	118.375	-260.625	190.375	-43.625	117.375	-259.625	189.375	-42.625	116.375	-258.625	188.375	-41.625	115.375	-257.625	187.375	21
21	-239.625	169.375	-23.625	97.375	-240.625	170.375	-24.625	98.375	-241.625	171.375	-25.625	99.375	-242.625	172.375	-26.625	100.375	-243.625	173.375	-27.625	101.375	-244.625	174.375	-28.625	102.375	21
21	264.375	-190.625	48.375	-118.625	263.375	-189.625	47.375	-117.625	262.375	-188.625	46.375	-116.625	261.375	-187.625	45.375	-115.625	260.375	-186.625	44.375	-114.625	259.375	-185.625	43.375	-113.625	21
21	25.375	-95.625	241.375	-167.625	26.375	-96.625	242.375	-168.625	27.375	-97.625	243.375	-169.625	28.375	-98.625	244.375	-170.625	29.375	-99.625	245.375	-171.625	30.375	-100.625	246.375	-172.625	21
21	-40.625	114.375	-256.625	186.375	-39.625	113.375	-255.625	185.375	-38.625	112.375	-254.625	184.375	-37.625	111.375	-253.625	183.375	-36.625	110.375	-252.625	182.375	-35.625	109.375	-251.625	181.375	21
21	-245.625	175.375	-29.625	103.375	-246.625	176.375	-30.625	104.375	-247.625	177.375	-31.625	105.375	-248.625	178.375	-32.625	106.375	-249.625	179.375	-33.625	107.375	-250.625	180.375	-34.625	108.375	21
21	258.375	-184.625	42.375	-112.625	257.375	-183.625	41.375	-111.625	256.375	-182.625	40.375	-110.625	255.375	-181.625	39.375	-109.625	254.375	-180.625	38.375	-108.625	253.375	-179.625	37.375	-107.625	21
	31.375	-101.625	247.375	-173.625	32.375	-102.625	248.375	-174.625	33.375	-103.625	249.375	-175.625	34.375	-104.625	250.375	-176.625	35.375	-105.625	251.375	-177.625	36.375	-106.625	252.375	-178.625	21
	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

	pan	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
441	-53.125	161.875	-269.125	233.875	-52.125	160.875	-268.125	232.875	-51.125	159.875	-267.125	231.875	-50.125	158.875	-266.125	230.875	-49.125	157.875	-265.125	229.875	-48.125	156.875	-264.125	228.875	441
441	-198.125	162.875	17.875	90.875	-199.125	163.875	16.875	91.875	-200.125	164.875	15.875	92.875	-201.125	165.875	14.875	93.875	-202.125	166.875	13.875	94.875	-203.125	167.875	12.875	95.875	441
441	305.875	-197.125	89.875	-125.125	304.875	-196.125	88.875	-124.125	303.875	-195.125	87.875	-123.125	302.875	-194.125	86.875	-122.125	301.875	-193.125	85.875	-121.125	300.875	-192.125	84.875	-120.125	441
441	18.875	-54.125	234.875	-126.125	19.875	-55.125	235.875	-127.125	20.875	-56.125	236.875	-128.125	21.875	-57.125	237.875	-129.125	22.875	-58.125	238.875	-130.125	23.875	-59.125	239.875	-131.125	441
441	-47.125	155.875	-263.125	227.875	-46.125	154.875	-262.125	226.875	-45.125	153.875	-261.125	225.875	-44.125	152.875	-260.125	224.875	-43.125	151.875	-259.125	223.875	-42.125	150.875	-258.125	222.875	441
441	-204.125	168.875	11.875	96.875	-205.125	169.875	10.875	97.875	-206.125	170.875	9.875	98.875	-207.125	171.875	8.875	99.875	-208.125	172.875	7.875	100.875	-209.125	173.875	6.875	101.875	441
441	299.875	-191.125	83.875	-119.125	298.875	-190.125	82.875	-118.125	297.875	-189.125	81.875	-117.125	296.875	-188.125	80.875	-116.125	295.875	-187.125	79.875	-115.125	294.875	-186.125	78.875	-114.125	441
441	24.875	-60.125	240.875	-132.125	25.875	-61.125	241.875	-133.125	26.875	-62.125	242.875	-134.125	27.875	-63.125	243.875	-135.125	28.875	-64.125	244.875	-136.125	29.875	-65.125	245.875	-137.125	441
441	-41.125	149.875	-257.125	221.875	-40.125	148.875	-256.125	220.875	-39.125	147.875	-255.125	219.875	-38.125	146.875	-254.125	218.875	-37.125	145.875	-253.125	217.875	-36.125	144.875	-252.125	216.875	441
441	-210.125	174.875	5.875	102.875	-211.125	175.875	4.875	103.875	-212.125	176.875	3.875	104.875	-213.125	177.875	2.875	105.875	-214.125	178.875	1.875	106.875	-215.125	179.875	0.875	107.875	441
441	293.875	-185.125	77.875	-113.125	292.875	-184.125	76.875	-112.125	291.875	-183.125	75.875	-111.125	290.875	-182.125	74.875	-110.125	289.875	-181.125	73.875	-109.125	288.875	-180.125	72.875	-108.125	441
441	30.875	-66.125	246.875	-138.125	31.875	-67.125	247.875	-139.125	32.875	-68.125	248.875	-140.125	33.875	-69.125	249.875	-141.125	34.875	-70.125	250.875	-142.125	35.875	-71.125	251.875	-143.125	441
441	-35.125	143.875	-251.125	215.875	-34.125	142.875	-250.125	214.875	-33.125	141.875	-249.125	213.875	-32.125	140.875	-248.125	212.875	-31.125	139.875	-247.125	211.875	-30.125	138.875	-246.125	210.875	441
441	-216.125	180.875	-0.125	108.875	-217.125	181.875	-1.125	109.875	-218.125	182.875	-2.125	110.875	-219.125	183.875	-3.125	111.875	-220.125	184.875	-4.125	112.875	-221.125	185.875	-5.125	113.875	441
441	287.875	-179.125	71.875	-107.125	286.875	-178.125	70.875	-106.125	285.875	-177.125	69.875	-105.125	284.875	-176.125	68.875	-104.125	283.875	-175.125	67.875	-103.125	282.875	-174.125	66.875	-102.125	441
441	36.875	-72.125	252.875	-144.125	37.875	-73.125	253.875	-145.125	38.875	-74.125	254.875	-146.125	39.875	-75.125	255.875	-147.125	40.875	-76.125	256.875	-148.125	41.875	-77.125	257.875	-149.125	441
441	-29.125	137.875	-245.125	209.875	-28.125	136.875	-244.125	208.875	-27.125	135.875	-243.125	207.875	-26.125	134.875	-242.125	206.875	-25.125	133.875	-241.125	205.875	-24.125	132.875	-240.125	204.875	441
441	-222.125	186.875	-6.125	114.875	-223.125	187.875	-7.125	115.875	-224.125	188.875	-8.125	116.875	-225.125	189.875	-9.125	117.875	-226.125	190.875	-10.125	118.875	-227.125	191.875	-11.125	119.875	441
441	281.875	-173.125	65.875	-101.125	280.875	-172.125	64.875	-100.125	279.875	-171.125	63.875	-99.125	278.875	-170.125	62.875	-98.125	277.875	-169.125	61.875	-97.125	276.875	-168.125	60.875	-96.125	441
441	42.875	-78.125	258.875	-150.125	43.875	-79.125	259.875	-151.125	44.875	-80.125	260.875	-152.125	45.875	-81.125	261.875	-153.125	46.875	-82.125	262.875	-154.125	47.875	-83.125	263.875	-155.125	441
441	-23.125	131.875	-239.125	203.875	-22.125	130.875	-238.125	202.875	-21.125	129.875	-237.125	201.875	-20.125	128.875	-236.125	200.875	-19.125	127.875	-235.125	199.875	-18.125	126.875	-234.125	198.875	441
441	-228.125	192.875	-12.125	120.875	-229.125	193.875	-13.125	121.875	-230.125	194.875	-14.125	122.875	-231.125	195.875	-15.125	123.875	-232.125	196.875	-16.125	124.875	-233.125	197.875	-17.125	125.875	441
441	275.875	-167.125	59.875	-95.125	274.875	-166.125	58.875	-94.125	273.875	-165.125	57.875	-93.125	272.875	-164.125	56.875	-92.125	271.875	-163.125	55.875	-91.125	270.875	-162.125	54.875	-90.125	441
	48.875	-84.125	264.875	-156.125	49.875	-85.125	265.875	-157.125	50.875	-86.125	266.875	-158.125	51.875	-87.125	267.875	-159.125	52.875	-88.125	268.875	-160.125	53.875	-89.125	269.875	-161.125	441
	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	12 17/24	227 17/24	-203 7/24	299 17/24	13 17/24	226 17/24	-202 7/24	298 17/24	14 17/24	225 17/24	-201 7/24	297 17/24	15 17/24	224 17/24	-200 7/24	296 17/24	16 17/24	223 17/24	-199 7/24	295 17/24	17 17/24	222 17/24	-198 7/24	294 17/24	2021
2021	-132 7/24	228 17/24	83 17/24	156 17/24	-133 7/24	229 17/24	82 17/24	157 17/24	-134 7/24	230 17/24	81 17/24	158 17/24	-135 7/24	231 17/24	80 17/24	159 17/24	-136 7/24	232 17/24	79 17/24	160 17/24	-137 7/24	233 17/24	78 17/24	161 17/24	2021
2021	371 17/24	-131 7/24	155 17/24	-59 7/24	370 17/24	-130 7/24	154 17/24	-58 7/24	369 17/24	-129 7/24	153 17/24	-57 7/24	368 17/24	-128 7/24	152 17/24	-56 7/24	367 17/24	-127 7/24	151 17/24	-55 7/24	366 17/24	-126 7/24	150 17/24	-54 7/24	2021
2021	84 17/24	11 17/24	300 17/24	-60 7/24	85 17/24	10 17/24	301 17/24	-61 7/24	86 17/24	9 17/24	302 17/24	-62 7/24	87 17/24	8 17/24	303 17/24	-63 7/24	88 17/24	7 17/24	304 17/24	-64 7/24	89 17/24	6 17/24	305 17/24	-65 7/24	2021
2021	18 17/24	221 17/24	-197 7/24	293 17/24	19 17/24	220 17/24	-196 7/24	292 17/24	20 17/24	219 17/24	-195 7/24	291 17/24	21 17/24	218 17/24	-194 7/24	290 17/24	22 17/24	217 17/24	-193 7/24	289 17/24	23 17/24	216 17/24	-192 7/24	288 17/24	2021
2021	-138 7/24	234 17/24	77 17/24	162 17/24	-139 7/24	235 17/24	76 17/24	163 17/24	-140 7/24	236 17/24	75 17/24	164 17/24	-141 7/24	237 17/24	74 17/24	165 17/24	-142 7/24	238 17/24	73 17/24	166 17/24	-143 7/24	239 17/24	72 17/24	167 17/24	2021
2021	365 17/24	-125 7/24	149 17/24	-53 7/24	364 17/24	-124 7/24	148 17/24	-52 7/24	363 17/24	-123 7/24	147 17/24	-51 7/24	362 17/24	-122 7/24	146 17/24	-50 7/24	361 17/24	-121 7/24	145 17/24	-49 7/24	360 17/24	-120 7/24	144 17/24	-48 7/24	2021
2021	90 17/24	5 17/24	306 17/24	-66 7/24	91 17/24	4 17/24	307 17/24	-67 7/24	92 17/24	3 17/24	308 17/24	-68 7/24	93 17/24	2 17/24	309 17/24	-69 7/24	94 17/24	1 17/24	310 17/24	-70 7/24	95 17/24	17/24	311 17/24	-71 7/24	2021
2021	24 17/24	215 17/24	-191 7/24	287 17/24	25 17/24	214 17/24	-190 7/24	286 17/24	26 17/24	213 17/24	-189 7/24	285 17/24	27 17/24	212 17/24	-188 7/24	284 17/24	28 17/24	211 17/24	-187 7/24	283 17/24	29 17/24	210 17/24	-186 7/24	282 17/24	2021
2021	-144 7/24	240 17/24	71 17/24	168 17/24	-145 7/24	241 17/24	70 17/24	169 17/24	-146 7/24	242 17/24	69 17/24	170 17/24	-147 7/24	243 17/24	68 17/24	171 17/24	-148 7/24	244 17/24	67 17/24	172 17/24	-149 7/24	245 17/24	66 17/24	173 17/24	2021
2021	359 17/24	-119 7/24	143 17/24	-47 7/24	358 17/24	-118 7/24	142 17/24	-46 7/24	357 17/24	-117 7/24	141 17/24	-45 7/24	356 17/24	-116 7/24	140 17/24	-44 7/24	355 17/24	-115 7/24	139 17/24	-43 7/24	354 17/24	-114 7/24	138 17/24	-42 7/24	2021
2021	96 17/24	- 7/24	312 17/24	-72 7/24	97 17/24	-1 7/24	313 17/24	-73 7/24	98 17/24	-2 7/24	314 17/24	-74 7/24	99 17/24	-3 7/24	315 17/24	-75 7/24	100 17/24	-4 7/24	316 17/24	-76 7/24	101 17/24	-5 7/24	317 17/24	-77 7/24	2021
2021	30 17/24	209 17/24	-185 7/24	281 17/24	31 17/24	208 17/24	-184 7/24	280 17/24	32 17/24	207 17/24	-183 7/24	279 17/24	33 17/24	206 17/24	-182 7/24	278 17/24	34 17/24	205 17/24	-181 7/24	277 17/24	35 17/24	204 17/24	-180 7/24	276 17/24	2021
2021	-150 7/24	246 17/24	65 17/24	174 17/24	-151 7/24	247 17/24	64 17/24	175 17/24	-152 7/24	248 17/24	63 17/24	176 17/24	-153 7/24	249 17/24	62 17/24	177 17/24	-154 7/24	250 17/24	61 17/24	178 17/24	-155 7/24	251 17/24	60 17/24	179 17/24	2021
2021	353 17/24	-113 7/24	137 17/24	-41 7/24	352 17/24	-112 7/24	136 17/24	-40 7/24	351 17/24	-111 7/24	135 17/24	-39 7/24	350 17/24	-110 7/24	134 17/24	-38 7/24	349 17/24	-109 7/24	133 17/24	-37 7/24	348 17/24	-108 7/24	132 17/24	-36 7/24	2021
2021	102 17/24	-6 7/24	318 17/24	-78 7/24	103 17/24	-7 7/24	319 17/24	-79 7/24	104 17/24	-8 7/24	320 17/24	-80 7/24	105 17/24	-9 7/24	321 17/24	-81 7/24	106 17/24	-10 7/24	322 17/24	-82 7/24	107 17/24	-11 7/24	323 17/24	-83 7/24	2021
2021	36 17/24	203 17/24	-179 7/24	275 17/24	37 17/24	202 17/24	-178 7/24	274 17/24	38 17/24	201 17/24	-177 7/24	273 17/24	39 17/24	200 17/24	-176 7/24	272 17/24	40 17/24	199 17/24	-175 7/24	271 17/24	41 17/24	198 17/24	-174 7/24	270 17/24	2021
2021	-156 7/24	252 17/24	59 17/24	180 17/24	-157 7/24	253 17/24	58 17/24	181 17/24	-158 7/24	254 17/24	57 17/24	182 17/24	-159 7/24	255 17/24	56 17/24	183 17/24	-160 7/24	256 17/24	55 17/24	184 17/24	-161 7/24	257 17/24	54 17/24	185 17/24	2021
2021	347 17/24	-107 7/24	131 17/24	-35 7/24	346 17/24	-106 7/24	130 17/24	-34 7/24	345 17/24	-105 7/24	129 17/24	-33 7/24	344 17/24	-104 7/24	128 17/24	-32 7/24	343 17/24	-103 7/24	127 17/24	-31 7/24	342 17/24	-102 7/24	126 17/24	-30 7/24	2021
2021	108 17/24	-12 7/24	324 17/24	-84 7/24	109 17/24	-13 7/24	325 17/24	-85 7/24	110 17/24	-14 7/24	326 17/24	-86 7/24	111 17/24	-15 7/24	327 17/24	-87 7/24	112 17/24	-16 7/24	328 17/24	-88 7/24	113 17/24	-17 7/24	329 17/24	-89 7/24	2021
2021	42 17/24	197 17/24	-173 7/24	269 17/24	43 17/24	196 17/24	-172 7/24	268 17/24	44 17/24	195 17/24	-171 7/24	267 17/24	45 17/24	194 17/24	-170 7/24	266 17/24	46 17/24	193 17/24	-169 7/24	265 17/24	47 17/24	192 17/24	-168 7/24	264 17/24	2021
2021	-162 7/24	258 17/24	53 17/24	186 17/24	-163 7/24	259 17/24	52 17/24	187 17/24	-164 7/24	260 17/24	51 17/24	188 17/24	-165 7/24	261 17/24	50 17/24	189 17/24	-166 7/24	262 17/24	49 17/24	190 17/24	-167 7/24	263 17/24	48 17/24	191 17/24	2021
2021	341 17/24	-101 7/24	125 17/24	-29 7/24	340 17/24	-100 7/24	124 17/24	-28 7/24	339 17/24	-99 7/24	123 17/24	-27 7/24	338 17/24	-98 7/24	122 17/24	-26 7/24	337 17/24	-97 7/24	121 17/24	-25 7/24	336 17/24	-96 7/24	120 17/24	-24 7/24	2021
	114 17/24	-18 7/24	330 17/24	-90 7/24	115 17/24	-19 7/24	331 17/24	-91 7/24	116 17/24	-20 7/24	332 17/24	-92 7/24	117 17/24	-21 7/24	333 17/24	-93 7/24	118 17/24	-22 7/24	334 17/24	-94 7/24	119 17/24	-23 7/24	335 17/24	-95 7/24	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 4 are **pandiagonal** with equal magic sums given by

$$[S_{4\times 4} : S_{24\times 24} := 21] := 3.5$$

$$[S_{4\times 4} : S_{24\times 24} := 441] := 73.5$$

$$[S_{4\times 4} : S_{24\times 24} := 2021] := \frac{2021}{6}.$$

1.17.3 Third Type

mgc																							21
-286.625	257.375	256.375	225.375	-255.625	-191.625	-285.625	258.375	255.375	226.375	-256.625	-192.625	-284.625	259.375	254.375	227.375	-257.625	-193.625	-283.625	260.375	253.375	228.375	-258.625	-194.625	21
192.375	-159.625	160.375	-158.625	-126.625	97.375	191.375	-160.625	159.375	-157.625	-125.625	98.375	190.375	-161.625	158.375	-156.625	-124.625	99.375	189.375	-162.625	157.375	-155.625	-123.625	100.375	21
96.375	65.375	-62.625	-31.625	32.375	-94.625	95.375	66.375	-61.625	-32.625	31.375	-93.625	94.375	67.375	-60.625	-33.625	30.375	-92.625	93.375	68.375	-59.625	-34.625	29.375	-91.625	21
0.375	-63.625	33.375	64.375	-30.625	1.375	-0.625	-64.625	34.375	63.375	-29.625	2.375	-1.625	-65.625	35.375	62.375	-28.625	3.375	-2.625	-66.625	36.375	61.375	-27.625	4.375	21
-190.625	128.375	-127.625	129.375	161.375	-95.625	-189.625	127.375	-128.625	130.375	162.375	-96.625	-188.625	126.375	-129.625	131.375	163.375	-97.625	-187.625	125.375	-130.625	132.375	164.375	-98.625	21
193.375	-222.625	-254.625	-223.625	224.375	288.375	194.375	-221.625	-253.625	-224.625	223.375	287.375	195.375	-220.625	-252.625	-225.625	222.375	286.375	196.375	-219.625	-251.625	-226.625	221.375	285.375	21
-282.625	261.375	252.375	229.375	-259.625	-195.625	-281.625	262.375	251.375	230.375	-260.625	-196.625	-280.625	263.375	250.375	231.375	-261.625	-197.625	-279.625	264.375	249.375	232.375	-262.625	-198.625	21
188.375	-163.625	156.375	-154.625	-122.625	101.375	187.375	-164.625	155.375	-153.625	-121.625	102.375	186.375	-165.625	154.375	-152.625	-120.625	103.375	185.375	-166.625	153.375	-151.625	-119.625	104.375	21
92.375	69.375	-58.625	-35.625	28.375	-90.625	91.375	70.375	-57.625	-36.625	27.375	-89.625	90.375	71.375	-56.625	-37.625	26.375	-88.625	89.375	72.375	-55.625	-38.625	25.375	-87.625	21
-3.625	-67.625	37.375	60.375	-26.625	5.375	-4.625	-68.625	38.375	59.375	-25.625	6.375	-5.625	-69.625	39.375	58.375	-24.625	7.375	-6.625	-70.625	40.375	57.375	-23.625	8.375	21
-186.625	124.375	-131.625	133.375	165.375	-99.625	-185.625	123.375	-132.625	134.375	166.375	-100.625	-184.625	122.375	-133.625	135.375	167.375	-101.625	-183.625	121.375	-134.625	136.375	168.375	-102.625	21
197.375	-218.625	-250.625	-227.625	220.375	284.375	198.375	-217.625	-249.625	-228.625	219.375	283.375	199.375	-216.625	-248.625	-229.625	218.375	282.375	200.375	-215.625	-247.625	-230.625	217.375	281.375	21
-278.625	265.375	248.375	233.375	-263.625	-199.625	-277.625	266.375	247.375	234.375	-264.625	-200.625	-276.625	267.375	246.375	235.375	-265.625	-201.625	-275.625	268.375	245.375	236.375	-266.625	-202.625	21
184.375	-167.625	152.375	-150.625	-118.625	105.375	183.375	-168.625	151.375	-149.625	-117.625	106.375	182.375	-169.625	150.375	-148.625	-116.625	107.375	181.375	-170.625	149.375	-147.625	-115.625	108.375	21
88.375	73.375	-54.625	-39.625	24.375	-86.625	87.375	74.375	-53.625	-40.625	23.375	-85.625	86.375	75.375	-52.625	-41.625	22.375	-84.625	85.375	76.375	-51.625	-42.625	21.375	-83.625	21
-7.625	-71.625	41.375	56.375	-22.625	9.375	-8.625	-72.625	42.375	55.375	-21.625	10.375	-9.625	-73.625	43.375	54.375	-20.625	11.375	-10.625	-74.625	44.375	53.375	-19.625	12.375	21
-182.625	120.375	-135.625	137.375	169.375	-103.625	-181.625	119.375	-136.625	138.375	170.375	-104.625	-180.625	118.375	-137.625	139.375	171.375	-105.625	-179.625	117.375	-138.625	140.375	172.375	-106.625	21
201.375	-214.625	-246.625	-231.625	216.375	280.375	202.375	-213.625	-245.625	-232.625	215.375	279.375	203.375	-212.625	-244.625	-233.625	214.375	278.375	204.375	-211.625	-243.625	-234.625	213.375	277.375	21
-274.625	269.375	244.375	237.375	-267.625	-203.625	-273.625	270.375	243.375	238.375	-268.625	-204.625	-272.625	271.375	242.375	239.375	-269.625	-205.625	-271.625	272.375	241.375	240.375	-270.625	-206.625	21
180.375	-171.625	148.375	-146.625	-114.625	109.375	179.375	-172.625	147.375	-145.625	-113.625	110.375	178.375	-173.625	146.375	-144.625	-112.625	111.375	177.375	-174.625	145.375	-143.625	-111.625	112.375	21
84.375	77.375	-50.625	-43.625	20.375	-82.625	83.375	78.375	-49.625	-44.625	19.375	-81.625	82.375	79.375	-48.625	-45.625	18.375	-80.625	81.375	80.375	-47.625	-46.625	17.375	-79.625	21
-11.625	-75.625	45.375	52.375	-18.625	13.375	-12.625	-76.625	46.375	51.375	-17.625	14.375	-13.625	-77.625	47.375	50.375	-16.625	15.375	-14.625	-78.625	48.375	49.375	-15.625	16.375	21
-178.625	116.375	-139.625	141.375	173.375	-107.625	-177.625	115.375	-140.625	142.375	174.375	-108.625	-176.625	114.375	-141.625	143.375	175.375	-109.625	-175.625	113.375	-142.625	144.375	176.375	-110.625	21
205.375	-210.625	-242.625	-235.625	212.375	276.375	206.375	-209.625	-241.625	-236.625	211.375	275.375	207.375	-208.625	-240.625	-237.625	210.375	274.375	208.375	-207.625	-239.625	-238.625	209.375	273.375	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

mgc																							441
-269.125	274.875	273.875	242.875	-238.125	-174.125	-268.125	275.875	272.875	243.875	-239.125	-175.125	-267.125	276.875	271.875	244.875	-240.125	-176.125	-266.125	277.875	270.875	245.875	-241.125	-177.125	441
209.875	-142.125	177.875	-141.125	-109.125	114.875	208.875	-143.125	176.875	-140.125	-108.125	115.875	207.875	-144.125	175.875	-139.125	-107.125	116.875	206.875	-145.125	174.875	-138.125	-106.125	117.875	441
113.875	82.875	-45.125	-14.125	49.875	-77.125	112.875	83.875	-44.125	-15.125	48.875	-76.125	111.875	84.875	-43.125	-16.125	47.875	-75.125	110.875	85.875	-42.125	-17.125	46.875	-74.125	441
17.875	-46.125	50.875	81.875	-13.125	18.875	16.875	-47.125	51.875	80.875	-12.125	19.875	15.875	-48.125	52.875	79.875	-11.125	20.875	14.875	-49.125	53.875	78.875	-10.125	21.875	441
-173.125	145.875	-110.125	146.875	178.875	-78.125	-172.125	144.875	-111.125	147.875	179.875	-79.125	-171.125	143.875	-112.125	148.875	180.875	-80.125	-170.125	142.875	-113.125	149.875	181.875	-81.125	441
210.875	-205.125	-237.125	-206.125	241.875	305.875	211.875	-204.125	-236.125	-207.125	240.875	304.875	212.875	-203.125	-235.125	-208.125	239.875	303.875	213.875	-202.125	-234.125	-209.125	238.875	302.875	441
-265.125	278.875	269.875	246.875	-242.125	-178.125	-264.125	279.875	268.875	247.875	-243.125	-179.125	-263.125	280.875	267.875	248.875	-244.125	-180.125	-262.125	281.875	266.875	249.875	-245.125	-181.125	441
205.875	-146.125	173.875	-137.125	-105.125	118.875	204.875	-147.125	172.875	-136.125	-104.125	119.875	203.875	-148.125	171.875	-135.125	-103.125	120.875	202.875	-149.125	170.875	-134.125	-102.125	121.875	441
109.875	86.875	-41.125	-18.125	45.875	-73.125	108.875	87.875	-40.125	-19.125	44.875	-72.125	107.875	88.875	-39.125	-20.125	43.875	-71.125	106.875	89.875	-38.125	-21.125	42.875	-70.125	441
13.875	-50.125	54.875	77.875	-9.125	22.875	12.875	-51.125	55.875	76.875	-8.125	23.875	11.875	-52.125	56.875	75.875	-7.125	24.875	10.875	-53.125	57.875	74.875	-6.125	25.875	441
-169.125	141.875	-114.125	150.875	182.875	-82.125	-168.125	140.875	-115.125	151.875	183.875	-83.125	-167.125	139.875	-116.125	152.875	184.875	-84.125	-166.125	138.875	-117.125	153.875	185.875	-85.125	441
214.875	-201.125	-233.125	-210.125	237.875	301.875	215.875	-200.125	-232.125	-211.125	236.875	300.875	216.875	-199.125	-231.125	-212.125	235.875	299.875	217.875	-198.125	-230.125	-213.125	234.875	298.875	441
-261.125	282.875	265.875	250.875	-246.125	-182.125	-260.125	283.875	264.875	251.875	-247.125	-183.125	-259.125	284.875	263.875	252.875	-248.125	-184.125	-258.125	285.875	262.875	253.875	-249.125	-185.125	441
201.875	-150.125	169.875	-133.125	-101.125	122.875	200.875	-151.125	168.875	-132.125	-100.125	123.875	199.875	-152.125	167.875	-131.125	-99.125	124.875	198.875	-153.125	166.875	-130.125	-98.125	125.875	441
105.875	90.875	-37.125	-22.125	41.875	-69.125	104.875	91.875	-36.125	-23.125	40.875	-68.125	103.875	92.875	-35.125	-24.125	39.875	-67.125	102.875	93.875	-34.125	-25.125	38.875	-66.125	441
9.875	-54.125	58.875	73.875	-5.125	26.875	8.875	-55.125	59.875	72.875	-4.125	27.875	7.875	-56.125	60.875	71.875	-3.125	28.875	6.875	-57.125	61.875	70.875	-2.125	29.875	441
-165.125	137.875	-118.125	154.875	186.875	-86.125	-164.125	136.875	-119.125	155.875	187.875	-87.125	-163.125	135.875	-120.125	156.875	188.875	-88.125	-162.125	134.875	-121.125	157.875	189.875	-89.125	441
218.875	-197.125	-229.125	-214.125	233.875	297.875	219.875	-196.125	-228.125	-215.125	232.875	296.875	220.875	-195.125	-227.125	-216.125	231.875	295.875	221.875	-194.125	-226.125	-217.125	230.875	294.875	441
-257.125	286.875	261.875	254.875	-250.125	-186.125	-256.125	287.875	260.875	255.875	-251.125	-187.125	-255.125	288.875	259.875	256.875	-252.125	-188.125	-254.125	289.875	258.875	257.875	-253.125	-189.125	441
197.875	-154.125	165.875	-129.125	-97.125	126.875	196.875	-155.125	164.875	-128.125	-96.125	127.875	195.875	-156.125	163.875	-127.125	-95.125	128.875	194.875	-157.125	162.875	-126.125	-94.125	129.875	441
101.875	94.875	-33.125	-26.125	37.875	-65.125	100.875	95.875	-32.125	-27.125	36.875	-64.125	99.875	96.875	-31.125	-28.125	35.875	-63.125	98.875	97.875	-30.125	-29.125	34.875	-62.125	441
5.875	-58.125	62.875	69.875	-1.125	30.875	4.875	-59.125	63.875	68.875	-0.125	31.875	3.875	-60.125	64.875	67.875	0.875	32.875	2.875	-61.125	65.875	66.875	1.875	33.875	441
-161.125	133.875	-122.125	158.875	190.875	-90.125	-160.125	132.875	-123.125	159.875	191.875	-91.125	-159.125	131.875	-124.125	160.875	192.875	-92.125	-158.125	130.875	-125.125	161.875	193.875	-93.125	441
222.875	-193.125	-225.125	-218.125	229.875	293.875	223.875	-192.125	-224.125	-219.125	228.875	292.875	224.875	-191.125	-223.125	-220.125	227.875	291.875	225.875	-190.125	-222.125	-221.125	226.875	290.875	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

mgc																								2021
-203 7/24	340 17/24	339 17/24	308 17/24	-172 7/24	-108 7/24	-202 7/24	341 17/24	338 17/24	309 17/24	-173 7/24	-109 7/24	-201 7/24	342 17/24	337 17/24	310 17/24	-174 7/24	-110 7/24	-200 7/24	343 17/24	336 17/24	311 17/24	-175 7/24	-111 7/24	2021
275 17/24	-76 7/24	243 17/24	-75 7/24	-43 7/24	180 17/24	274 17/24	-77 7/24	242 17/24	-74 7/24	-42 7/24	181 17/24	273 17/24	-78 7/24	241 17/24	-73 7/24	-41 7/24	182 17/24	272 17/24	-79 7/24	240 17/24	-72 7/24	-40 7/24	183 17/24	2021
179 17/24	148 17/24	20 17/24	51 17/24	115 17/24	-11 7/24	178 17/24	149 17/24	21 17/24	50 17/24	114 17/24	-10 7/24	177 17/24	150 17/24	22 17/24	49 17/24	113 17/24	-9 7/24	176 17/24	151 17/24	23 17/24	48 17/24	112 17/24	-8 7/24	2021
83 17/24	19 17/24	116 17/24	147 17/24	52 17/24	84 17/24	82 17/24	18 17/24	117 17/24	146 17/24	53 17/24	85 17/24	81 17/24	17 17/24	118 17/24	145 17/24	54 17/24	86 17/24	80 17/24	16 17/24	119 17/24	144 17/24	55 17/24	87 17/24	2021
-107 7/24	211 17/24	-44 7/24	212 17/24	244 17/24	-12 7/24	-106 7/24	210 17/24	-45 7/24	213 17/24	245 17/24	-13 7/24	-105 7/24	209 17/24	-46 7/24	214 17/24	246 17/24	-14 7/24	-104 7/24	208 17/24	-47 7/24	215 17/24	247 17/24	-15 7/24	2021
276 17/24	-139 7/24	-171 7/24	-140 7/24	307 17/24	371 17/24	277 17/24	-138 7/24	-170 7/24	-141 7/24	306 17/24	370 17/24	278 17/24	-137 7/24	-169 7/24	-142 7/24	305 17/24	369 17/24	279 17/24	-136 7/24	-168 7/24	-143 7/24	304 17/24	368 17/24	2021
-199 7/24	344 17/24	335 17/24	312 17/24	-176 7/24	-112 7/24	-198 7/24	345 17/24	334 17/24	313 17/24	-177 7/24	-113 7/24	-197 7/24	346 17/24	333 17/24	314 17/24	-178 7/24	-114 7/24	-196 7/24	347 17/24	332 17/24	315 17/24	-179 7/24	-115 7/24	2021
271 17/24	-80 7/24	239 17/24	-71 7/24	-39 7/24	184 17/24	270 17/24	-81 7/24	238 17/24	-70 7/24	-38 7/24	185 17/24	269 17/24	-82 7/24	237 17/24	-69 7/24	-37 7/24	186 17/24	268 17/24	-83 7/24	236 17/24	-68 7/24	-36 7/24	187 17/24	2021
175 17/24	152 17/24	24 17/24	47 17/24	111 17/24	-7 7/24	174 17/24	153 17/24	25 17/24	46 17/24	110 17/24	-6 7/24	173 17/24	154 17/24	26 17/24	45 17/24	109 17/24	-5 7/24	172 17/24	155 17/24	27 17/24	44 17/24	108 17/24	-4 7/24	2021
79 17/24	15 17/24	120 17/24	143 17/24	56 17/24	88 17/24	78 17/24	14 17/24	121 17/24	142 17/24	57 17/24	89 17/24	77 17/24	13 17/24	122 17/24	141 17/24	58 17/24	90 17/24	76 17/24	12 17/24	123 17/24	140 17/24	59 17/24	91 17/24	2021
-103 7/24	207 17/24	-48 7/24	216 17/24	248 17/24	-16 7/24	-102 7/24	206 17/24	-49 7/24	217 17/24	249 17/24	-17 7/24	-101 7/24	205 17/24	-50 7/24	218 17/24	250 17/24	-18 7/24	-100 7/24	204 17/24	-51 7/24	219 17/24	251 17/24	-19 7/24	2021
280 17/24	-135 7/24	-167 7/24	-144 7/24	303 17/24	367 17/24	281 17/24	-134 7/24	-166 7/24	-145 7/24	302 17/24	366 17/24	282 17/24	-133 7/24	-165 7/24	-146 7/24	301 17/24	365 17/24	283 17/24	-132 7/24	-164 7/24	-147 7/24	300 17/24	364 17/24	2021
-195 7/24	348 17/24	331 17/24	316 17/24	-180 7/24	-116 7/24	-194 7/24	349 17/24	330 17/24	317 17/24	-181 7/24	-117 7/24	-193 7/24	350 17/24	329 17/24	318 17/24	-182 7/24	-118 7/24	-192 7/24	351 17/24	328 17/24	319 17/24	-183 7/24	-119 7/24	2021
267 17/24	-84 7/24	235 17/24	-67 7/24	-35 7/24	188 17/24	266 17/24	-85 7/24	234 17/24	-66 7/24	-34 7/24	189 17/24	265 17/24	-86 7/24	233 17/24	-65 7/24	-33 7/24	190 17/24	264 17/24	-87 7/24	232 17/24	-64 7/24	-32 7/24	191 17/24	2021
171 17/24	156 17/24	28 17/24	43 17/24	107 17/24	-3 7/24	170 17/24	157 17/24	29 17/24	42 17/24	106 17/24	-2 7/24	169 17/24	158 17/24	30 17/24	41 17/24	105 17/24	-1 7/24	168 17/24	159 17/24	31 17/24	40 17/24	104 17/24	- 7/24	2021
75 17/24	11 17/24	124 17/24	139 17/24	60 17/24	92 17/24	74 17/24	10 17/24	125 17/24	138 17/24	61 17/24	93 17/24	73 17/24	9 17/24	126 17/24	137 17/24	62 17/24	94 17/24	72 17/24	8 17/24	127 17/24	136 17/24	63 17/24	95 17/24	2021
-99 7/24	203 17/24	-52 7/24	220 17/24	252 17/24	-20 7/24	-98 7/24	202 17/24	-53 7/24	221 17/24	253 17/24	-21 7/24	-97 7/24	201 17/24	-54 7/24	222 17/24	254 17/24	-22 7/24	-96 7/24	200 17/24	-55 7/24	223 17/24	255 17/24	-23 7/24	2021
284 17/24	-131 7/24	-163 7/24	-148 7/24	299 17/24	363 17/24	285 17/24	-130 7/24	-162 7/24	-149 7/24	298 17/24	362 17/24	286 17/24	-129 7/24	-161 7/24	-150 7/24	297 17/24	361 17/24	287 17/24	-128 7/24	-160 7/24	-151 7/24	296 17/24	360 17/24	2021
-191 7/24	352 17/24	327 17/24	320 17/24	-184 7/24	-120 7/24	-190 7/24	353 17/24	326 17/24	321 17/24	-185 7/24	-121 7/24	-189 7/24	354 17/24	325 17/24	322 17/24	-186 7/24	-122 7/24	-188 7/24	355 17/24	324 17/24	323 17/24	-187 7/24	-123 7/24	2021
263 17/24	-88 7/24	231 17/24	-63 7/24	-31 7/24	192 17/24	262 17/24	-89 7/24	230 17/24	-62 7/24	-30 7/24	193 17/24	261 17/24	-90 7/24	229 17/24	-61 7/24	-29 7/24	194 17/24	260 17/24	-91 7/24	228 17/24	-60 7/24	-28 7/24	195 17/24	2021
167 17/24	160 17/24	32 17/24	39 17/24	103 17/24	17/24	166 17/24	161 17/24	33 17/24	38 17/24	102 17/24	1 17/24	165 17/24	162 17/24	34 17/24	37 17/24	101 17/24	2 17/24	164 17/24	163 17/24	35 17/24	36 17/24	100 17/24	3 17/24	2021
71 17/24	7 17/24	128 17/24	135 17/24	64 17/24	96 17/24	70 17/24	6 17/24	129 17/24	134 17/24	65 17/24	97 17/24	69 17/24	5 17/24	130 17/24	133 17/24	66 17/24	98 17/24	68 17/24	4 17/24	131 17/24	132 17/24	67 17/24	99 17/24	2021
-95 7/24	199 17/24	-56 7/24	224 17/24	256 17/24	-24 7/24	-94 7/24	198 17/24	-57 7/24	225 17/24	257 17/24	-25 7/24	-93 7/24	197 17/24	-58 7/24	226 17/24	258 17/24	-26 7/24	-92 7/24	196 17/24	-59 7/24	227 17/24	259 17/24	-27 7/24	2021
288 17/24	-127 7/24	-159 7/24	-152 7/24	295 17/24	359 17/24	289 17/24	-126 7/24	-158 7/24	-153 7/24	294 17/24	358 17/24	290 17/24	-125 7/24	-157 7/24	-154 7/24	293 17/24	357 17/24	291 17/24	-124 7/24	-156 7/24	-155 7/24	292 17/24	356 17/24	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 6 are with equal magic sums given by

$$[S_{6\times 6} : S_{24\times 24} := 21] := 5.25$$

$$[S_{6\times 6} : S_{24\times 24} := 441] := 110.25$$

$$[S_{6\times 6} : S_{24\times 24} := 2021] := 505.25.$$

Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums
21, 21^2 and 2021, December 20, 2020, pp. 1-118, *https://doi.org/10.5281/zenodo.4380343*

1.17.4 Forth Type

mgc																							21
-144.625	122.375	11.375	-273.625	-15.625	281.375	164.375	-138.625	-193.625	75.375	58.375	-224.625	-62.625	232.375	213.375	-91.625	-167.625	97.375	36.375	-250.625	-40.625	258.375	187.375	-113.625	21
-18.625	284.375	161.375	-135.625	-153.625	131.375	2.375	-264.625	-67.625	237.375	208.375	-86.625	-200.625	82.375	51.375	-217.625	-41.625	259.375	186.375	-112.625	-178.625	108.375	25.375	-239.625	21
-285.625	23.375	134.375	-156.625	-126.625	152.375	269.375	-3.625	-236.625	70.375	87.375	-205.625	-79.625	201.375	220.375	-50.625	-262.625	48.375	109.375	-179.625	-101.625	175.375	246.375	-28.625	21
-123.625	149.375	272.375	-6.625	-276.625	14.375	143.375	-165.625	-74.625	196.375	225.375	-55.625	-229.625	63.375	94.375	-212.625	-100.625	174.375	247.375	-29.625	-251.625	37.375	120.375	-190.625	21
17.375	-279.625	-162.625	140.375	146.375	-120.625	-9.625	275.375	64.375	-230.625	-211.625	93.375	195.375	-73.625	-56.625	226.375	42.375	-256.625	-185.625	115.375	169.375	-95.625	-34.625	252.375	21
155.375	-129.625	-0.625	266.375	20.375	-282.625	-159.625	137.375	202.375	-80.625	-49.625	219.375	69.375	-235.625	-206.625	88.375	180.375	-106.625	-23.625	241.375	43.375	-257.625	-184.625	114.375	21
128.375	-150.625	-267.625	5.375	287.375	-21.625	-132.625	158.375	81.375	-199.625	-218.625	52.375	238.375	-68.625	-85.625	207.375	103.375	-173.625	-244.625	30.375	264.375	-46.625	-107.625	181.375	21
278.375	-12.625	-141.625	167.375	125.375	-147.625	-270.625	8.375	231.375	-61.625	-92.625	214.375	76.375	-194.625	-223.625	57.375	253.375	-35.625	-118.625	192.375	102.375	-172.625	-245.625	31.375	21
-191.625	73.375	60.375	-226.625	-64.625	234.375	211.375	-89.625	-168.625	98.375	35.375	-249.625	-39.625	257.375	188.375	-114.625	-145.625	123.375	10.375	-272.625	-14.625	280.375	165.375	-139.625	21
-65.625	235.375	210.375	-88.625	-202.625	84.375	49.375	-215.625	-42.625	260.375	185.375	-111.625	-177.625	107.375	26.375	-240.625	-19.625	285.375	160.375	-134.625	-152.625	130.375	3.375	-265.625	21
-238.625	72.375	85.375	-203.625	-77.625	199.375	222.375	-52.625	-261.625	47.375	110.375	-180.625	-102.625	176.375	245.375	-27.625	-284.625	22.375	135.375	-157.625	-127.625	153.375	268.375	-2.625	21
-76.625	198.375	223.375	-53.625	-227.625	61.375	96.375	-214.625	-99.625	173.375	248.375	-30.625	-252.625	38.375	119.375	-189.625	-122.625	148.375	273.375	-7.625	-277.625	15.375	142.375	-164.625	21
66.375	-232.625	-209.625	91.375	193.375	-71.625	-58.625	228.375	41.375	-255.625	-186.625	116.375	170.375	-96.625	-33.625	251.375	16.375	-278.625	-163.625	141.375	147.375	-121.625	-8.625	274.375	21
204.375	-82.625	-47.625	217.375	67.375	-233.625	-208.625	90.375	179.375	-105.625	-24.625	242.375	44.375	-258.625	-183.625	113.375	154.375	-128.625	-1.625	267.375	21.375	-283.625	-158.625	136.375	21
79.375	-197.625	-220.625	54.375	240.375	-70.625	-83.625	205.375	104.375	-174.625	-243.625	29.375	263.375	-45.625	-108.625	182.375	129.375	-151.625	-266.625	4.375	286.375	-20.625	-133.625	159.375	21
229.375	-59.625	-94.625	216.375	78.375	-196.625	-221.625	55.375	254.375	-36.625	-117.625	191.375	101.375	-171.625	-246.625	32.375	279.375	-13.625	-140.625	166.375	124.375	-146.625	-271.625	9.375	21
-169.625	99.375	34.375	-248.625	-38.625	256.375	189.375	-115.625	-143.625	121.375	12.375	-274.625	-16.625	282.375	163.375	-137.625	-192.625	74.375	59.375	-225.625	-63.625	233.375	212.375	-90.625	21
-43.625	261.375	184.375	-110.625	-176.625	106.375	27.375	-241.625	-17.625	283.375	162.375	-136.625	-154.625	132.375	1.375	-263.625	-66.625	236.375	209.375	-87.625	-201.625	83.375	50.375	-216.625	21
-260.625	46.375	111.375	-181.625	-103.625	177.375	244.375	-26.625	-286.625	24.375	133.375	-155.625	-125.625	151.375	270.375	-4.625	-237.625	71.375	86.375	-204.625	-78.625	200.375	221.375	-51.625	21
-98.625	172.375	249.375	-31.625	-253.625	39.375	118.375	-188.625	-124.625	150.375	271.375	-5.625	-275.625	13.375	144.375	-166.625	-75.625	197.375	224.375	-54.625	-228.625	62.375	95.375	-213.625	21
40.375	-254.625	-187.625	117.375	171.375	-97.625	-32.625	250.375	18.375	-280.625	-161.625	139.375	145.375	-119.625	-10.625	276.375	65.375	-231.625	-210.625	92.375	194.375	-72.625	-57.625	227.375	21
178.375	-104.625	-25.625	243.375	45.375	-259.625	-182.625	112.375	156.375	-130.625	0.375	265.375	19.375	-281.625	-160.625	138.375	203.375	-81.625	-48.625	218.375	68.375	-234.625	-207.625	89.375	21
105.375	-175.625	-242.625	28.375	262.375	-44.625	-109.625	183.375	127.375	-149.625	-268.625	6.375	288.375	-22.625	-131.625	157.375	80.375	-198.625	-219.625	53.375	239.375	-69.625	-84.625	206.375	21
255.375	-37.625	-116.625	190.375	100.375	-170.625	-247.625	33.375	277.375	-11.625	-142.625	168.375	126.375	-148.625	-269.625	7.375	230.375	-60.625	-93.625	215.375	77.375	-195.625	-222.625	56.375	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

mgc																						
-127.125	139.875	28.875	-256.125	1.875	298.875	181.875	-121.125	-176.125	92.875	75.875	-207.125	-45.125	249.875	230.875	-74.125	-150.125	114.875	53.875	-233.125	-23.125	275.875	204.875	-96.125	441
-1.125	301.875	178.875	-118.125	-136.125	148.875	19.875	-247.125	-50.125	254.875	225.875	-69.125	-183.125	99.875	68.875	-200.125	-24.125	276.875	203.875	-95.125	-161.125	125.875	42.875	-222.125	441
-268.125	40.875	151.875	-139.125	-109.125	169.875	286.875	13.875	-219.125	87.875	104.875	-188.125	-62.125	218.875	237.875	-33.125	-245.125	65.875	126.875	-162.125	-84.125	192.875	263.875	-11.125	441
-106.125	166.875	289.875	10.875	-259.125	31.875	160.875	-148.125	-57.125	213.875	242.875	-38.125	-212.125	80.875	111.875	-195.125	-83.125	191.875	264.875	-12.125	-234.125	54.875	137.875	-173.125	441
34.875	-262.125	-145.125	157.875	163.875	-103.125	7.875	292.875	81.875	-213.125	-194.125	110.875	212.875	-56.125	-39.125	243.875	59.875	-239.125	-168.125	132.875	186.875	-78.125	-17.125	269.875	441
172.875	-112.125	16.875	283.875	37.875	-265.125	-142.125	154.875	219.875	-63.125	-32.125	236.875	86.875	-218.125	-189.125	105.875	197.875	-89.125	-6.125	258.875	60.875	-240.125	-167.125	131.875	441
145.875	-133.125	-250.125	22.875	304.875	-4.125	-115.125	175.875	98.875	-182.125	-201.125	69.875	255.875	-51.125	-68.125	224.875	120.875	-156.125	-227.125	47.875	281.875	-29.125	-90.125	198.875	441
295.875	4.875	-124.125	184.875	142.875	-130.125	-253.125	25.875	248.875	-44.125	-75.125	231.875	93.875	-177.125	-206.125	74.875	270.875	-18.125	-101.125	209.875	119.875	-155.125	-228.125	48.875	441
-174.125	90.875	77.875	-209.125	-47.125	251.875	228.875	-72.125	-151.125	115.875	52.875	-232.125	-22.125	274.875	205.875	-97.125	-128.125	140.875	27.875	-255.125	2.875	297.875	182.875	-122.125	441
-48.125	252.875	227.875	-71.125	-185.125	101.875	66.875	-198.125	-25.125	277.875	202.875	-94.125	-160.125	124.875	43.875	-223.125	-2.125	302.875	177.875	-117.125	-135.125	147.875	20.875	-248.125	441
-221.125	89.875	102.875	-186.125	-60.125	216.875	239.875	-35.125	-244.125	64.875	127.875	-163.125	-85.125	193.875	262.875	-10.125	-267.125	39.875	152.875	-140.125	-110.125	170.875	285.875	14.875	441
-59.125	215.875	240.875	-36.125	-210.125	78.875	113.875	-197.125	-82.125	190.875	265.875	-13.125	-235.125	55.875	136.875	-172.125	-105.125	165.875	290.875	9.875	-260.125	32.875	159.875	-147.125	441
83.875	-215.125	-192.125	108.875	210.875	-54.125	-41.125	245.875	58.875	-238.125	-169.125	133.875	187.875	-79.125	-16.125	268.875	33.875	-261.125	-146.125	158.875	164.875	-104.125	8.875	291.875	441
221.875	-65.125	-30.125	234.875	84.875	-216.125	-191.125	107.875	196.875	-88.125	-7.125	259.875	61.875	-241.125	-166.125	130.875	171.875	-111.125	15.875	284.875	38.875	-266.125	-141.125	153.875	441
96.875	-180.125	-203.125	71.875	257.875	-53.125	-66.125	222.875	121.875	-157.125	-226.125	46.875	280.875	-28.125	-91.125	199.875	146.875	-134.125	-249.125	21.875	303.875	-3.125	-116.125	176.875	441
246.875	-42.125	-77.125	233.875	95.875	-179.125	-204.125	72.875	271.875	-19.125	-100.125	208.875	118.875	-154.125	-229.125	49.875	296.875	3.875	-123.125	183.875	141.875	-129.125	-254.125	26.875	441
-152.125	116.875	51.875	-231.125	-21.125	273.875	206.875	-98.125	-126.125	138.875	29.875	-257.125	0.875	299.875	180.875	-120.125	-175.125	91.875	76.875	-208.125	-46.125	250.875	229.875	-73.125	441
-26.125	278.875	201.875	-93.125	-159.125	123.875	44.875	-224.125	-0.125	300.875	179.875	-119.125	-137.125	149.875	18.875	-246.125	-49.125	253.875	226.875	-70.125	-184.125	100.875	67.875	-199.125	441
-243.125	63.875	128.875	-164.125	-86.125	194.875	261.875	-9.125	-269.125	41.875	150.875	-138.125	-108.125	168.875	287.875	12.875	-220.125	88.875	103.875	-187.125	-61.125	217.875	238.875	-34.125	441
-81.125	189.875	266.875	-14.125	-236.125	56.875	135.875	-171.125	-107.125	167.875	288.875	11.875	-258.125	30.875	161.875	-149.125	-58.125	214.875	241.875	-37.125	-211.125	79.875	112.875	-196.125	441
57.875	-237.125	-170.125	134.875	188.875	-80.125	-15.125	267.875	35.875	-263.125	-144.125	156.875	162.875	-102.125	6.875	293.875	82.875	-214.125	-193.125	109.875	211.875	-55.125	-40.125	244.875	441
195.875	-87.125	-8.125	260.875	62.875	-242.125	-165.125	129.875	173.875	-113.125	17.875	282.875	36.875	-264.125	-143.125	155.875	220.875	-64.125	-31.125	235.875	85.875	-217.125	-190.125	106.875	441
122.875	-158.125	-225.125	45.875	279.875	-27.125	-92.125	200.875	144.875	-132.125	-251.125	23.875	305.875	-5.125	-114.125	174.875	97.875	-181.125	-202.125	70.875	256.875	-52.125	-67.125	223.875	441
272.875	-20.125	-99.125	207.875	117.875	-153.125	-230.125	50.875	294.875	5.875	-125.125	185.875	143.875	-131.125	-252.125	24.875	247.875	-43.125	-76.125	232.875	94.875	-178.125	-205.125	73.875	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

mgc																								2021
-61 7/24	205 17/24	94 17/24	-190 7/24	67 17/24	364 17/24	247 17/24	-55 7/24	-110 7/24	158 17/24	141 17/24	-141 7/24	20 17/24	315 17/24	296 17/24	-8 7/24	-84 7/24	180 17/24	119 17/24	-167 7/24	42 17/24	341 17/24	270 17/24	-30 7/24	2021
64 17/24	367 17/24	244 17/24	-52 7/24	-70 7/24	214 17/24	85 17/24	-181 7/24	15 17/24	320 17/24	291 17/24	-3 7/24	-117 7/24	165 17/24	134 17/24	-134 7/24	41 17/24	342 17/24	269 17/24	-29 7/24	-95 7/24	191 17/24	108 17/24	-156 7/24	2021
-202 7/24	106 17/24	217 17/24	-73 7/24	-43 7/24	235 17/24	352 17/24	79 17/24	-153 7/24	153 17/24	170 17/24	-122 7/24	3 17/24	284 17/24	303 17/24	32 17/24	-179 7/24	131 17/24	192 17/24	-96 7/24	-18 7/24	258 17/24	329 17/24	54 17/24	2021
-40 7/24	232 17/24	355 17/24	76 17/24	-193 7/24	97 17/24	226 17/24	-82 7/24	8 17/24	279 17/24	308 17/24	27 17/24	-146 7/24	146 17/24	177 17/24	-129 7/24	-17 7/24	257 17/24	330 17/24	53 17/24	-168 7/24	120 17/24	203 17/24	-107 7/24	2021
100 17/24	-196 7/24	-79 7/24	223 17/24	229 17/24	-37 7/24	73 17/24	358 17/24	147 17/24	-147 7/24	-128 7/24	176 17/24	278 17/24	9 17/24	26 17/24	309 17/24	125 17/24	-173 7/24	-102 7/24	198 17/24	252 17/24	-12 7/24	48 17/24	335 17/24	2021
238 17/24	-46 7/24	82 17/24	349 17/24	103 17/24	-199 7/24	-76 7/24	220 17/24	285 17/24	2 17/24	33 17/24	302 17/24	152 17/24	-152 7/24	-123 7/24	171 17/24	263 17/24	-23 7/24	59 17/24	324 17/24	126 17/24	-174 7/24	-101 7/24	197 17/24	2021
211 17/24	-67 7/24	-184 7/24	88 17/24	370 17/24	61 17/24	-49 7/24	241 17/24	164 17/24	-116 7/24	-135 7/24	135 17/24	321 17/24	14 17/24	-2 7/24	290 17/24	186 17/24	-90 7/24	-161 7/24	113 17/24	347 17/24	36 17/24	-24 7/24	264 17/24	2021
361 17/24	70 17/24	-58 7/24	250 17/24	208 17/24	-64 7/24	-187 7/24	91 17/24	314 17/24	21 17/24	-9 7/24	297 17/24	159 17/24	-111 7/24	-140 7/24	140 17/24	336 17/24	47 17/24	-35 7/24	275 17/24	185 17/24	-89 7/24	-162 7/24	114 17/24	2021
-108 7/24	156 17/24	143 17/24	-143 7/24	18 17/24	317 17/24	294 17/24	-6 7/24	-85 7/24	181 17/24	118 17/24	-166 7/24	43 17/24	340 17/24	271 17/24	-31 7/24	-62 7/24	206 17/24	93 17/24	-189 7/24	68 17/24	363 17/24	248 17/24	-56 7/24	2021
17 17/24	318 17/24	293 17/24	-5 7/24	-119 7/24	167 17/24	132 17/24	-132 7/24	40 17/24	343 17/24	268 17/24	-28 7/24	-94 7/24	190 17/24	109 17/24	-157 7/24	63 17/24	368 17/24	243 17/24	-51 7/24	-69 7/24	213 17/24	86 17/24	-182 7/24	2021
-155 7/24	155 17/24	168 17/24	-120 7/24	5 17/24	282 17/24	305 17/24	30 17/24	-178 7/24	130 17/24	193 17/24	-97 7/24	-19 7/24	259 17/24	328 17/24	55 17/24	-201 7/24	105 17/24	218 17/24	-74 7/24	-44 7/24	236 17/24	351 17/24	80 17/24	2021
6 17/24	281 17/24	306 17/24	29 17/24	-144 7/24	144 17/24	179 17/24	-131 7/24	-16 7/24	256 17/24	331 17/24	52 17/24	-169 7/24	121 17/24	202 17/24	-106 7/24	-39 7/24	231 17/24	356 17/24	75 17/24	-194 7/24	98 17/24	225 17/24	-81 7/24	2021
149 17/24	-149 7/24	-126 7/24	174 17/24	276 17/24	11 17/24	24 17/24	311 17/24	124 17/24	-172 7/24	-103 7/24	199 17/24	253 17/24	-13 7/24	49 17/24	334 17/24	99 17/24	-195 7/24	-80 7/24	224 17/24	230 17/24	-38 7/24	74 17/24	357 17/24	2021
287 17/24	17/24	35 17/24	300 17/24	150 17/24	-150 7/24	-125 7/24	173 17/24	262 17/24	-22 7/24	58 17/24	325 17/24	127 17/24	-175 7/24	-100 7/24	196 17/24	237 17/24	-45 7/24	81 17/24	350 17/24	104 17/24	-200 7/24	-75 7/24	219 17/24	2021
162 17/24	-114 7/24	-137 7/24	137 17/24	323 17/24	12 17/24	- 7/24	288 17/24	187 17/24	-91 7/24	-160 7/24	112 17/24	346 17/24	37 17/24	-25 7/24	265 17/24	212 17/24	-68 7/24	-183 7/24	87 17/24	369 17/24	62 17/24	-50 7/24	242 17/24	2021
312 17/24	23 17/24	-11 7/24	299 17/24	161 17/24	-113 7/24	-138 7/24	138 17/24	337 17/24	46 17/24	-34 7/24	274 17/24	184 17/24	-88 7/24	-163 7/24	115 17/24	362 17/24	69 17/24	-57 7/24	249 17/24	207 17/24	-63 7/24	-188 7/24	92 17/24	2021
-86 7/24	182 17/24	117 17/24	-165 7/24	44 17/24	339 17/24	272 17/24	-32 7/24	-60 7/24	204 17/24	95 17/24	-191 7/24	66 17/24	365 17/24	246 17/24	-54 7/24	-109 7/24	157 17/24	142 17/24	-142 7/24	19 17/24	316 17/24	295 17/24	-7 7/24	2021
39 17/24	344 17/24	267 17/24	-27 7/24	-93 7/24	189 17/24	110 17/24	-158 7/24	65 17/24	366 17/24	245 17/24	-53 7/24	-71 7/24	215 17/24	84 17/24	-180 7/24	16 17/24	319 17/24	292 17/24	-4 7/24	-118 7/24	166 17/24	133 17/24	-133 7/24	2021
-177 7/24	129 17/24	194 17/24	-98 7/24	-20 7/24	260 17/24	327 17/24	56 17/24	-203 7/24	107 17/24	216 17/24	-72 7/24	-42 7/24	234 17/24	353 17/24	78 17/24	-154 7/24	154 17/24	169 17/24	-121 7/24	4 17/24	283 17/24	304 17/24	31 17/24	2021
-15 7/24	255 17/24	332 17/24	51 17/24	-170 7/24	122 17/24	201 17/24	-105 7/24	-41 7/24	233 17/24	354 17/24	77 17/24	-192 7/24	96 17/24	227 17/24	-83 7/24	7 17/24	280 17/24	307 17/24	28 17/24	-145 7/24	145 17/24	178 17/24	-130 7/24	2021
123 17/24	-171 7/24	-104 7/24	200 17/24	254 17/24	-14 7/24	50 17/24	333 17/24	101 17/24	-197 7/24	-78 7/24	222 17/24	228 17/24	-36 7/24	72 17/24	359 17/24	148 17/24	-148 7/24	-127 7/24	175 17/24	277 17/24	10 17/24	25 17/24	310 17/24	2021
261 17/24	-21 7/24	57 17/24	326 17/24	128 17/24	-176 7/24	-99 7/24	195 17/24	239 17/24	-47 7/24	83 17/24	348 17/24	102 17/24	-198 7/24	-77 7/24	221 17/24	286 17/24	1 17/24	34 17/24	301 17/24	151 17/24	-151 7/24	-124 7/24	172 17/24	2021
188 17/24	-92 7/24	-159 7/24	111 17/24	345 17/24	38 17/24	-26 7/24	266 17/24	210 17/24	-66 7/24	-185 7/24	89 17/24	371 17/24	60 17/24	-48 7/24	240 17/24	163 17/24	-115 7/24	-136 7/24	136 17/24	322 17/24	13 17/24	-1 7/24	289 17/24	2021
338 17/24	45 17/24	-33 7/24	273 17/24	183 17/24	-87 7/24	-164 7/24	116 17/24	360 17/24	71 17/24	-59 7/24	251 17/24	209 17/24	-65 7/24	-186 7/24	90 17/24	313 17/24	22 17/24	-10 7/24	298 17/24	160 17/24	-112 7/24	-139 7/24	139 17/24	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 8 are magic squares with equal magic sums given by

$$[S_{8\times 8} : S_{24\times 24} := 21] := 7$$

$$[S_{8\times 8} : S_{24\times 24} := 441] := 63$$

$$[S_{8\times 8} : S_{24\times 24} := 2021] := \frac{2021}{3}.$$

Moreover, the block of order 8 are either **bimagic** or **semi-bimagic** squares. The magic squares of order 24 are **semi-bimagic** squares with **semi-bimagic** sums given by

$$[Smb_{24\times 24} : S_{24\times 24} := 21] := 663568.375$$
$$[Smb_{24\times 24} : S_{24\times 24} := 441] := 671653.375$$
$$[Smb_{24\times 24} : S_{24\times 24} := 2021] := \frac{20009641}{24}$$

These sums are same as given in **First Type**.

1.18 Block-Wise Bimagic Square of Order 25

Below is **block-wise magic square** of order 25 giving magic sums 21, 21^2 and 2021. The blocks of order 5 are pandiagonal magic squares of equal sums resulting in a **bimagic square** of order 25.

pan	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
21	-311.16	-143.16	-5.16	162.84	300.84	130.84	268.84	-188.16	-175.16	-32.16	-77.16	-39.16	98.84	241.84	-220.16	234.84	-247.16	-109.16	53.84	71.84	26.84	164.84	207.84	-279.16	-116.16	21
21	144.84	312.84	-299.16	-161.16	6.84	-163.16	-25.16	117.84	280.84	-206.16	248.84	-233.16	-70.16	-52.16	110.84	40.84	78.84	221.84	-240.16	-97.16	-267.16	-129.16	33.84	176.84	189.84	21
21	-149.16	-11.16	156.84	294.84	-287.16	267.84	-194.16	-181.16	-13.16	124.84	-45.16	97.84	260.84	-226.16	-83.16	-253.16	-90.16	52.84	65.84	228.84	183.84	201.84	-285.16	-117.16	20.84	21
21	306.84	-305.16	-137.16	0.84	138.84	-31.16	136.84	274.84	-207.16	-169.16	-214.16	-76.16	-58.16	104.84	247.84	77.84	215.84	-246.16	-103.16	59.84	-135.16	32.84	170.84	208.84	-273.16	21
21	12.84	150.84	288.84	-293.16	-155.16	-200.16	-182.16	-19.16	118.84	286.84	91.84	254.84	-227.16	-64.16	-51.16	-96.16	46.84	84.84	227.84	-259.16	195.84	-266.16	-123.16	14.84	182.84	21
21	222.84	-239.16	-101.16	41.84	79.84	34.84	177.84	190.84	-271.16	-128.16	-298.16	-160.16	7.84	145.84	308.84	113.84	281.84	-205.16	-162.16	-24.16	-69.16	-56.16	111.84	249.84	-232.16	21
21	48.84	66.84	229.84	-252.16	-89.16	-284.16	-121.16	21.84	184.84	202.84	157.84	295.84	-291.16	-148.16	-10.16	-180.16	-12.16	125.84	263.84	-193.16	261.84	-225.16	-82.16	-44.16	93.84	21
21	-245.16	-102.16	60.84	73.84	216.84	171.84	209.84	-272.16	-134.16	28.84	-141.16	1.84	139.84	307.84	-304.16	275.84	-211.16	-168.16	-30.16	137.84	-57.16	105.84	243.84	-213.16	-75.16	21
21	85.84	223.84	-258.16	-95.16	47.84	-122.16	15.84	178.84	196.84	-265.16	289.84	-292.16	-154.16	8.84	151.84	-18.16	119.84	287.84	-199.16	-186.16	-231.16	-63.16	-50.16	92.84	255.84	21
21	-108.16	54.84	72.84	235.84	-251.16	203.84	-278.16	-115.16	27.84	165.84	-4.16	158.84	301.84	-310.16	-142.16	-187.16	-174.16	-36.16	131.84	269.84	99.84	242.84	-219.16	-81.16	-38.16	21
21	126.84	264.84	-192.16	-179.16	-16.16	-86.16	-43.16	94.84	262.84	-224.16	230.84	-256.16	-88.16	49.84	67.84	22.84	185.84	198.84	-283.16	-120.16	-290.16	-147.16	-9.16	153.84	296.84	21
21	-167.16	-29.16	133.84	276.84	-210.16	244.84	-212.16	-74.16	-61.16	106.84	61.84	74.84	217.84	-244.16	-106.16	-276.16	-133.16	29.84	172.84	210.84	140.84	303.84	-303.16	-140.16	2.84	21
21	283.84	-198.16	-185.16	-17.16	120.84	-49.16	88.84	256.84	-230.16	-62.16	-257.16	-94.16	43.84	86.84	224.84	179.84	197.84	-264.16	-126.16	16.84	-153.16	9.84	152.84	290.84	-296.16	21
21	-35.16	132.84	270.84	-191.16	-173.16	-218.16	-80.16	-37.16	100.84	238.84	68.84	236.84	-250.16	-107.16	55.84	-114.16	23.84	166.84	204.84	-277.16	302.84	-309.16	-146.16	-3.16	159.84	21
21	-204.16	-166.16	-23.16	114.84	282.84	112.84	250.84	-236.16	-68.16	-55.16	-100.16	42.84	80.84	218.84	-238.16	191.84	-270.16	-127.16	35.84	173.84	3.84	146.84	309.84	-297.16	-159.16	21
21	30.84	168.84	211.84	-275.16	-132.16	-302.16	-139.16	-1.16	141.84	304.84	134.84	277.84	-209.16	-171.16	-28.16	-73.16	-60.16	107.84	245.84	-216.16	213.84	-243.16	-105.16	62.84	75.84	21
21	-263.16	-125.16	17.84	180.84	193.84	148.84	291.84	-295.16	-152.16	10.84	-184.16	-21.16	121.84	284.84	-197.16	257.84	-229.16	-66.16	-48.16	89.84	44.84	87.84	225.84	-261.16	-93.16	21
21	167.84	205.84	-281.16	-113.16	24.84	-145.16	-2.16	160.84	298.84	-308.16	271.84	-190.16	-172.16	-34.16	128.84	-41.16	101.84	239.84	-217.16	-79.16	-249.16	-111.16	56.84	69.84	237.84	21
21	-131.16	36.84	174.84	192.84	-269.16	310.84	-301.16	-158.16	4.84	147.84	-22.16	115.84	278.84	-203.16	-165.16	-235.16	-67.16	-54.16	108.84	251.84	81.84	219.84	-237.16	-99.16	38.84	21
21	199.84	-282.16	-119.16	18.84	186.84	-8.16	154.84	297.84	-289.16	-151.16	-196.16	-178.16	-15.16	127.84	265.84	95.84	258.84	-223.16	-85.16	-42.16	-87.16	50.84	63.84	231.84	-255.16	21
21	-65.16	-47.16	90.84	253.84	-228.16	226.84	-260.16	-92.16	45.84	83.84	13.84	181.84	194.84	-262.16	-124.16	-294.16	-156.16	11.84	149.84	292.84	122.84	285.84	-201.16	-183.16	-20.16	21
21	240.84	-221.16	-78.16	-40.16	102.84	57.84	70.84	233.84	-248.16	-110.16	-280.16	-112.16	25.84	163.84	206.84	161.84	299.84	-307.16	-144.16	-6.16	-176.16	-33.16	129.84	272.84	-189.16	21
21	-53.16	109.84	252.84	-234.16	-71.16	-241.16	-98.16	39.84	82.84	220.84	175.84	188.84	-268.16	-130.16	37.84	-157.16	5.84	143.84	311.84	-300.16	279.84	-202.16	-164.16	-26.16	116.84	21
21	-222.16	-84.16	-46.16	96.84	259.84	64.84	232.84	-254.16	-91.16	51.84	-118.16	19.84	187.84	200.84	-286.16	293.84	-288.16	-150.16	-7.16	155.84	-14.16	123.84	266.84	-195.16	-177.16	21
	103.84	246.84	-215.16	-72.16	-59.16	-104.16	58.84	76.84	214.84	-242.16	212.84	-274.16	-136.16	31.84	169.84	-0.16	142.84	305.84	-306.16	-138.16	-208.16	-170.16	-27.16	135.84	273.84	21
	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

	pan	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
441	-294.36	-126.36	11.64	179.64	317.64	147.64	285.64	-171.36	-158.36	-15.36	-60.36	-22.36	115.64	258.64	-203.36	251.64	-230.36	-92.36	70.64	88.64	43.64	181.64	224.64	-262.36	-99.36	441
441	161.64	329.64	-282.36	-144.36	23.64	-146.36	-8.36	134.64	297.64	-189.36	265.64	-216.36	-53.36	-35.36	127.64	57.64	95.64	238.64	-223.36	-80.36	-250.36	-112.36	50.64	193.64	206.64	441
441	-132.36	5.64	173.64	311.64	-270.36	284.64	-177.36	-164.36	3.64	141.64	-28.36	114.64	277.64	-209.36	-66.36	-236.36	-73.36	69.64	82.64	245.64	200.64	218.64	-268.36	-100.36	37.64	441
441	323.64	-288.36	-120.36	17.64	155.64	-14.36	153.64	291.64	-190.36	-152.36	-197.36	-59.36	-41.36	121.64	264.64	94.64	232.64	-229.36	-86.36	76.64	-118.36	49.64	187.64	225.64	-256.36	441
441	29.64	167.64	305.64	-276.36	-138.36	-183.36	-165.36	-2.36	135.64	303.64	108.64	271.64	-210.36	-47.36	-34.36	-79.36	63.64	101.64	244.64	-242.36	212.64	-249.36	-106.36	31.64	199.64	441
441	239.64	-222.36	-84.36	58.64	96.64	51.64	194.64	207.64	-254.36	-111.36	-281.36	-143.36	24.64	162.64	325.64	130.64	298.64	-188.36	-145.36	-7.36	-52.36	-39.36	128.64	266.64	-215.36	441
441	65.64	83.64	246.64	-235.36	-72.36	-267.36	-104.36	38.64	201.64	219.64	174.64	312.64	-274.36	-131.36	6.64	-163.36	4.64	142.64	280.64	-176.36	278.64	-208.36	-65.36	-27.36	110.64	441
441	-228.36	-85.36	77.64	90.64	233.64	188.64	226.64	-255.36	-117.36	45.64	-124.36	18.64	156.64	324.64	-287.36	292.64	-194.36	-151.36	-13.36	154.64	-40.36	122.64	260.64	-196.36	-58.36	441
441	102.64	240.64	-241.36	-78.36	64.64	-105.36	32.64	195.64	213.64	-248.36	306.64	-275.36	-137.36	25.64	168.64	-1.36	136.64	304.64	-182.36	-169.36	-214.36	-46.36	-33.36	109.64	272.64	441
441	-91.36	71.64	89.64	252.64	-234.36	220.64	-261.36	-98.36	44.64	182.64	12.64	175.64	318.64	-293.36	-125.36	-170.36	-157.36	-19.36	148.64	286.64	116.64	259.64	-202.36	-64.36	-21.36	441
441	143.64	281.64	-175.36	-162.36	0.64	-69.36	-26.36	111.64	279.64	-207.36	247.64	-239.36	-71.36	66.64	84.64	39.64	202.64	215.64	-266.36	-103.36	-273.36	-130.36	7.64	170.64	313.64	441
441	-150.36	-12.36	150.64	293.64	-193.36	261.64	-195.36	-57.36	-44.36	123.64	78.64	91.64	234.64	-227.36	-89.36	-259.36	-116.36	46.64	189.64	227.64	157.64	320.64	-286.36	-123.36	19.64	441
441	300.64	-181.36	-168.36	-0.36	137.64	-32.36	105.64	273.64	-213.36	-45.36	-240.36	-77.36	60.64	103.64	241.64	196.64	214.64	-247.36	-109.36	33.64	-136.36	26.64	169.64	307.64	-279.36	441
441	-18.36	149.64	287.64	-174.36	-156.36	-201.36	-63.36	-20.36	117.64	255.64	85.64	253.64	-233.36	-90.36	72.64	-97.36	40.64	183.64	221.64	-260.36	319.64	-292.36	-129.36	13.64	176.64	441
441	-187.36	-149.36	-6.36	131.64	299.64	129.64	267.64	-219.36	-51.36	-38.36	-83.36	59.64	97.64	235.64	-221.36	208.64	-253.36	-110.36	52.64	190.64	20.64	163.64	326.64	-280.36	-142.36	441
441	47.64	185.64	228.64	-258.36	-115.36	-285.36	-122.36	15.64	158.64	321.64	151.64	294.64	-192.36	-154.36	-11.36	-56.36	-43.36	124.64	262.64	-199.36	230.64	-226.36	-88.36	79.64	92.64	441
441	-246.36	-108.36	34.64	197.64	210.64	165.64	308.64	-278.36	-135.36	27.64	-167.36	-4.36	138.64	301.64	-180.36	274.64	-212.36	-49.36	-31.36	106.64	61.64	104.64	242.64	-244.36	-76.36	441
441	184.64	222.64	-264.36	-96.36	41.64	-128.36	14.64	177.64	315.64	-291.36	288.64	-173.36	-155.36	-17.36	145.64	-24.36	118.64	256.64	-200.36	-62.36	-232.36	-94.36	73.64	86.64	254.64	441
441	-114.36	53.64	191.64	209.64	-252.36	327.64	-284.36	-141.36	21.64	164.64	-5.36	132.64	295.64	-186.36	-148.36	-218.36	-50.36	-37.36	125.64	268.64	98.64	236.64	-220.36	-82.36	55.64	441
441	216.64	-265.36	-102.36	35.64	203.64	8.64	171.64	314.64	-272.36	-134.36	-179.36	-161.36	1.64	144.64	282.64	112.64	275.64	-206.36	-68.36	-25.36	-70.36	67.64	80.64	248.64	-238.36	441
441	-48.36	-30.36	107.64	270.64	-211.36	243.64	-243.36	-75.36	62.64	100.64	30.64	198.64	211.64	-245.36	-107.36	-277.36	-139.36	28.64	166.64	309.64	139.64	302.64	-184.36	-166.36	-3.36	441
441	257.64	-204.36	-61.36	-23.36	119.64	74.64	87.64	250.64	-231.36	-93.36	-263.36	-95.36	42.64	180.64	223.64	178.64	316.64	-290.36	-127.36	10.64	-159.36	-16.36	146.64	289.64	-172.36	441
441	-36.36	126.64	269.64	-217.36	-54.36	-224.36	-81.36	56.64	99.64	237.64	192.64	205.64	-251.36	-113.36	54.64	-140.36	22.64	160.64	328.64	-283.36	296.64	-185.36	-147.36	-9.36	133.64	441
441	-205.36	-67.36	-29.36	113.64	276.64	81.64	249.64	-237.36	-74.36	68.64	-101.36	36.64	204.64	217.64	-269.36	310.64	-271.36	-133.36	9.64	172.64	2.64	140.64	283.64	-178.36	-160.36	441
	120.64	263.64	-198.36	-55.36	-42.36	-87.36	75.64	93.64	231.64	-225.36	229.64	-257.36	-119.36	48.64	186.64	16.64	159.64	322.64	-289.36	-121.36	-191.36	-153.36	-10.36	152.64	290.64	441
	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

	pan	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
2021	-231.16	-63.16	74.84	242.84	380.84	210.84	348.84	-108.16	-95.16	47.84	2.84	40.84	178.84	321.84	-140.16	314.84	-167.16	-29.16	133.84	151.84	106.84	244.84	287.84	-199.16	-36.16	2021
2021	224.84	392.84	-219.16	-81.16	86.84	-83.16	54.84	197.84	360.84	-126.16	328.84	-153.16	9.84	27.84	190.84	120.84	158.84	301.84	-160.16	-17.16	-187.16	-49.16	113.84	256.84	269.84	2021
2021	-69.16	68.84	236.84	374.84	-207.16	347.84	-114.16	-101.16	66.84	204.84	34.84	177.84	340.84	-146.16	-3.16	-173.16	-10.16	132.84	145.84	308.84	263.84	281.84	-205.16	-37.16	100.84	2021
2021	386.84	-225.16	-57.16	80.84	218.84	48.84	216.84	354.84	-127.16	-89.16	-134.16	3.84	21.84	184.84	327.84	157.84	295.84	-166.16	-23.16	139.84	-55.16	112.84	250.84	288.84	-193.16	2021
2021	92.84	230.84	368.84	-213.16	-75.16	-120.16	-102.16	60.84	198.84	366.84	171.84	334.84	-147.16	15.84	28.84	-16.16	126.84	164.84	307.84	-179.16	275.84	-186.16	-43.16	94.84	262.84	2021
2021	302.84	-159.16	-21.16	121.84	159.84	114.84	257.84	270.84	-191.16	-48.16	-218.16	-80.16	87.84	225.84	388.84	193.84	361.84	-125.16	-82.16	55.84	10.84	23.84	191.84	329.84	-152.16	2021
2021	128.84	146.84	309.84	-172.16	-9.16	-204.16	-41.16	101.84	264.84	282.84	237.84	375.84	-211.16	-68.16	69.84	-100.16	67.84	205.84	343.84	-113.16	341.84	-145.16	-2.16	35.84	173.84	2021
2021	-165.16	-22.16	140.84	153.84	296.84	251.84	289.84	-192.16	-54.16	108.84	-61.16	81.84	219.84	387.84	-224.16	355.84	-131.16	-88.16	49.84	217.84	22.84	185.84	323.84	-133.16	4.84	2021
2021	165.84	303.84	-178.16	-15.16	127.84	-42.16	95.84	258.84	276.84	-185.16	369.84	-212.16	-74.16	88.84	231.84	61.84	199.84	367.84	-119.16	-106.16	-151.16	16.84	29.84	172.84	335.84	2021
2021	-28.16	134.84	152.84	315.84	-171.16	283.84	-198.16	-35.16	107.84	245.84	75.84	238.84	381.84	-230.16	-62.16	-107.16	-94.16	43.84	211.84	349.84	179.84	322.84	-139.16	-1.16	41.84	2021
2021	206.84	344.84	-112.16	-99.16	63.84	-6.16	36.84	174.84	342.84	-144.16	310.84	-176.16	-8.16	129.84	147.84	102.84	265.84	278.84	-203.16	-40.16	-210.16	-67.16	70.84	233.84	376.84	2021
2021	-87.16	50.84	213.84	356.84	-130.16	324.84	-132.16	5.84	18.84	186.84	141.84	154.84	297.84	-164.16	-26.16	-196.16	-53.16	109.84	252.84	290.84	220.84	383.84	-223.16	-60.16	82.84	2021
2021	363.84	-118.16	-105.16	62.84	200.84	30.84	168.84	336.84	-150.16	17.84	-177.16	-14.16	123.84	166.84	304.84	259.84	277.84	-184.16	-46.16	96.84	-73.16	89.84	232.84	370.84	-216.16	2021
2021	44.84	212.84	350.84	-111.16	-93.16	-138.16	-0.16	42.84	180.84	318.84	148.84	316.84	-170.16	-27.16	135.84	-34.16	103.84	246.84	284.84	-197.16	382.84	-229.16	-66.16	76.84	239.84	2021
2021	-124.16	-86.16	56.84	194.84	362.84	192.84	330.84	-156.16	11.84	24.84	-20.16	122.84	160.84	298.84	-158.16	271.84	-190.16	-47.16	115.84	253.84	83.84	226.84	389.84	-217.16	-79.16	2021
2021	110.84	248.84	291.84	-195.16	-52.16	-222.16	-59.16	78.84	221.84	384.84	214.84	357.84	-129.16	-91.16	51.84	6.84	19.84	187.84	325.84	-136.16	293.84	-163.16	-25.16	142.84	155.84	2021
2021	-183.16	-45.16	97.84	260.84	273.84	228.84	371.84	-215.16	-72.16	90.84	-104.16	58.84	201.84	364.84	-117.16	337.84	-149.16	13.84	31.84	169.84	124.84	167.84	305.84	-181.16	-13.16	2021
2021	247.84	285.84	-201.16	-33.16	104.84	-65.16	77.84	240.84	378.84	-228.16	351.84	-110.16	-92.16	45.84	208.84	38.84	181.84	319.84	-137.16	0.84	-169.16	-31.16	136.84	149.84	317.84	2021
2021	-51.16	116.84	254.84	272.84	-189.16	390.84	-221.16	-78.16	84.84	227.84	57.84	195.84	358.84	-123.16	-85.16	-155.16	12.84	25.84	188.84	331.84	161.84	299.84	-157.16	-19.16	118.84	2021
2021	279.84	-202.16	-39.16	98.84	266.84	71.84	234.84	377.84	-209.16	-71.16	-116.16	-98.16	64.84	207.84	345.84	175.84	338.84	-143.16	-5.16	37.84	-7.16	130.84	143.84	311.84	-175.16	2021
2021	14.84	32.84	170.84	333.84	-148.16	306.84	-180.16	-12.16	125.84	163.84	93.84	261.84	274.84	-182.16	-44.16	-214.16	-76.16	91.84	229.84	372.84	202.84	365.84	-121.16	-103.16	59.84	2021
2021	320.84	-141.16	1.84	39.84	182.84	137.84	150.84	313.84	-168.16	-30.16	-200.16	-32.16	105.84	243.84	286.84	241.84	379.84	-227.16	-64.16	73.84	-96.16	46.84	209.84	352.84	-109.16	2021
2021	26.84	189.84	332.84	-154.16	8.84	-161.16	-18.16	119.84	162.84	300.84	255.84	268.84	-188.16	-50.16	117.84	-77.16	85.84	223.84	391.84	-220.16	359.84	-122.16	-84.16	53.84	196.84	2021
2021	-142.16	-4.16	33.84	176.84	339.84	144.84	312.84	-174.16	-11.16	131.84	-38.16	99.84	267.84	280.84	-206.16	373.84	-208.16	-70.16	72.84	235.84	65.84	203.84	346.84	-115.16	-97.16	2021
	183.84	326.84	-135.16	7.84	20.84	-24.16	138.84	156.84	294.84	-162.16	292.84	-194.16	-56.16	111.84	249.84	79.84	222.84	385.84	-226.16	-58.16	-128.16	-90.16	52.84	215.84	353.84	2021
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the magic squares are **bimagic** with **bimagic** sums given by

$$[Sb_{25\times 25} : S_{25\times 25} := 21] := 813817.64$$

$$[Sb_{25\times 25} : S_{25\times 25} := 441] := 821579.24$$

$$[Sb_{25\times 25} : S_{25\times 25} := 2021] := 977177.64$$

1.19 Block-Bordered Magic Squares of Order 26

Below are **block-bordered magic squares** of order 26 in four different ways giving magic sums 21, 21^2 and 2021. The **block-wise** magic square considered is of order 24 with blocks of orders 3, 4, 6 and 8. First, the blocks of order 3, magic squares with different magic sums resulting in **pandiagonal** magic squares and **semi-bimagic** squares of order 24. Second, the blocks of order 4, **pandiagonal** magic squares with equal magic sums resulting in **pandiagonal** magic squares of order 24. Third, the blocks of order 6 magic squares with equal magic sums. Forth, blocks of order 8 **bimagic** or **semi-bimagic** squares of order 8, resulting in **semi-bimagic** square of order 24. The magic squares sums of order 24 are given by

$$[S_{24\times 24} : S_{26\times 26} := 21] := \frac{252}{13}$$

$$[S_{24\times 24} : S_{26\times 26} := 441] := \frac{5292}{13}$$

$$[S_{24\times 24} : S_{26\times 26} := 2021] := \frac{24252}{13}.$$

1.19.1 First Type

																									21
-312 9/13	325 4/13	-322 9/13	323 4/13	-320 9/13	321 4/13	-318 9/13	319 4/13	-316 9/13	317 4/13	-314 9/13	315 4/13	-336 9/13	326 4/13	-310 9/13	311 4/13	-308 9/13	309 4/13	-306 9/13	307 4/13	-304 9/13	305 4/13	-302 9/13	303 4/13	-300 9/13	313 4/13	21
-298 9/13	-167 9/13	-193 9/13	-144 9/13	97 4/13	75 4/13	122 4/13	36 4/13	58 4/13	11 4/13	-250 9/13	-224 9/13	-273 9/13	-40 9/13	-62 9/13	-15 9/13	258 4/13	232 4/13	281 4/13	187 4/13	213 4/13	164 4/13	-113 9/13	-91 9/13	-138 9/13	300 4/13	21
299 4/13	-145 9/13	-168 9/13	-191 9/13	123 4/13	98 4/13	73 4/13	10 4/13	35 4/13	60 4/13	-272 9/13	-249 9/13	-226 9/13	-14 9/13	-39 9/13	-64 9/13	280 4/13	257 4/13	234 4/13	165 4/13	188 4/13	211 4/13	-139 9/13	-114 9/13	-89 9/13	-297 9/13	21
-296 9/13	-192 9/13	-143 9/13	-169 9/13	74 4/13	121 4/13	99 4/13	59 4/13	12 4/13	34 4/13	-225 9/13	-274 9/13	-248 9/13	-63 9/13	-16 9/13	-38 9/13	233 4/13	282 4/13	256 4/13	212 4/13	163 4/13	189 4/13	-90 9/13	-137 9/13	-115 9/13	298 4/13	21
297 4/13	-41 9/13	-67 9/13	-18 9/13	259 4/13	237 4/13	284 4/13	186 4/13	208 4/13	161 4/13	-112 9/13	-86 9/13	-135 9/13	-178 9/13	-200 9/13	-153 9/13	108 4/13	82 4/13	131 4/13	25 4/13	51 4/13	2 4/13	-239 9/13	-217 9/13	-264 9/13	-295 9/13	21
-294 9/13	-19 9/13	-42 9/13	-65 9/13	285 4/13	260 4/13	235 4/13	160 4/13	185 4/13	210 4/13	-134 9/13	-111 9/13	-88 9/13	-152 9/13	-177 9/13	-202 9/13	130 4/13	107 4/13	84 4/13	3 4/13	26 4/13	49 4/13	-265 9/13	-240 9/13	-215 9/13	296 4/13	21
295 4/13	-66 9/13	-17 9/13	-43 9/13	236 4/13	283 4/13	261 4/13	209 4/13	162 4/13	184 4/13	-87 9/13	-136 9/13	-110 9/13	-201 9/13	-154 9/13	-176 9/13	83 4/13	132 4/13	106 4/13	50 4/13	1 4/13	27 4/13	-216 9/13	-263 9/13	-241 9/13	-293 9/13	21
-292 9/13	-262 9/13	-236 9/13	-285 9/13	48 4/13	70 4/13	23 4/13	109 4/13	87 4/13	134 4/13	-179 9/13	-205 9/13	-156 9/13	-101 9/13	-79 9/13	-126 9/13	175 4/13	201 4/13	152 4/13	246 4/13	220 4/13	269 4/13	-28 9/13	-50 9/13	-3 9/13	294 4/13	21
293 4/13	-284 9/13	-261 9/13	-238 9/13	22 4/13	47 4/13	72 4/13	135 4/13	110 4/13	85 4/13	-157 9/13	-180 9/13	-203 9/13	-127 9/13	-102 9/13	-77 9/13	153 4/13	176 4/13	199 4/13	268 4/13	245 4/13	222 4/13	-2 9/13	-27 9/13	-52 9/13	-291 9/13	21
-290 9/13	-237 9/13	-286 9/13	-260 9/13	71 4/13	24 4/13	46 4/13	86 4/13	133 4/13	111 4/13	-204 9/13	-155 9/13	-181 9/13	-78 9/13	-125 9/13	-103 9/13	200 4/13	151 4/13	177 4/13	221 4/13	270 4/13	244 4/13	-51 9/13	-4 9/13	-26 9/13	292 4/13	21
291 4/13	-100 9/13	-74 9/13	-123 9/13	174 4/13	196 4/13	149 4/13	247 4/13	225 4/13	272 4/13	-29 9/13	-55 9/13	-6 9/13	-251 9/13	-229 9/13	-276 9/13	37 4/13	63 4/13	14 4/13	120 4/13	94 4/13	143 4/13	-190 9/13	-212 9/13	-165 9/13	-289 9/13	21
-288 9/13	-122 9/13	-99 9/13	-76 9/13	148 4/13	173 4/13	198 4/13	273 4/13	248 4/13	223 4/13	-7 9/13	-30 9/13	-53 9/13	-277 9/13	-252 9/13	-227 9/13	15 4/13	38 4/13	61 4/13	142 4/13	119 4/13	96 4/13	-164 9/13	-189 9/13	-214 9/13	290 4/13	21
289 4/13	-75 9/13	-124 9/13	-98 9/13	197 4/13	150 4/13	172 4/13	224 4/13	271 4/13	249 4/13	-54 9/13	-5 9/13	-31 9/13	-228 9/13	-275 9/13	-253 9/13	62 4/13	13 4/13	39 4/13	95 4/13	144 4/13	118 4/13	-213 9/13	-166 9/13	-188 9/13	-287 9/13	21
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335 4/13	253 4/13	231 4/13	278 4/13	-35 9/13	-61 9/13	-12 9/13	-118 9/13	-92 9/13	-141 9/13	192 4/13	214 4/13	167 4/13	102 4/13	76 4/13	125 4/13	-172 9/13	-194 9/13	-147 9/13	-245 9/13	-223 9/13	-270 9/13	31 4/13	57 4/13	8 4/13	-333 9/13	21
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441																											
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441																										

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368 3/13	-23 10/13	2 3/13	-46 10/13	251 3/13	273 3/13	226 3/13	324 3/13	302 3/13	349 3/13	47 3/13	21 3/13	70 3/13	-174 10/13	-152 10/13	-199 10/13	114 3/13	140 3/13	91 3/13	197 3/13	171 3/13	220 3/13	-113 10/13	-135 10/13	-88 10/13	-212 10/13	2021
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378 3/13	119 3/13	141 3/13	94 3/13	-179 10/13	-153 10/13	-202 10/13	-108 10/13	-134 10/13	-85 10/13	192 3/13	170 3/13	217 3/13	246 3/13	272 3/13	223 3/13	-18 10/13	3 3/13	-43 10/13	42 3/13	20 3/13	67 3/13	329 3/13	303 3/13	352 3/13	-222 10/13	2021
404 3/13	93 3/13	118 3/13	143 3/13	-201 10/13	-178 10/13	-155 10/13	-86 10/13	-109 10/13	-132 10/13	218 3/13	193 3/13	168 3/13	224 3/13	247 3/13	270 3/13	-44 10/13	-19 10/13	5 3/13	68 3/13	43 3/13	18 3/13	351 3/13	328 3/13	305 3/13	-248 10/13	2021
-249 10/13	142 3/13	95 3/13	117 3/13	-154 10/13	-203 10/13	-177 10/13	-133 10/13	-84 10/13	-110 10/13	169 3/13	216 3/13	194 3/13	271 3/13	222 3/13	248 3/13	4 3/13	-42 10/13	-20 10/13	19 3/13	66 3/13	44 3/13	304 3/13	353 3/13	327 3/13	405 3/13	2021
406 3/13	257 3/13	279 3/13	232 3/13	-29 10/13	-3 10/13	-52 10/13	53 3/13	27 3/13	76 3/13	318 3/13	296 3/13	343 3/13	120 3/13	146 3/13	97 3/13	-180 10/13	-158 10/13	-205 10/13	-107 10/13	-129 10/13	-82 10/13	191 3/13	165 3/13	214 3/13	-250 10/13	2021
-251 10/13	231 3/13	256 3/13	281 3/13	-51 10/13	-28 10/13	-5 10/13	75 3/13	52 3/13	29 3/13	344 3/13	319 3/13	294 3/13	98 3/13	121 3/13	144 3/13	-206 10/13	-181 10/13	-156 10/13	-81 10/13	-106 10/13	-131 10/13	213 3/13	190 3/13	167 3/13	407 3/13	2021
408 3/13	280 3/13	233 3/13	255 3/13	-4 10/13	-53 10/13	-27 10/13	28 3/13	77 3/13	51 3/13	295 3/13	342 3/13	320 3/13	145 3/13	96 3/13	122 3/13	-157 10/13	-204 10/13	-182 10/13	-130 10/13	-83 10/13	-105 10/13	166 3/13	215 3/13	189 3/13	-252 10/13	2021
-253 10/13	180 3/13	158 3/13	205 3/13	-96 10/13	-122 10/13	-73 10/13	-167 10/13	-141 10/13	-190 10/13	107 3/13	129 3/13	82 3/13	341 3/13	315 3/13	364 3/13	30 3/13	8 3/13	55 3/13	-30 10/13	-8 10/13	-55 10/13	258 3/13	284 3/13	235 3/13	409 3/13	2021
410 3/13	206 3/13	181 3/13	156 3/13	-74 10/13	-97 10/13	-120 10/13	-189 10/13	-166 10/13	-143 10/13	81 3/13	106 3/13	131 3/13	363 3/13	340 3/13	317 3/13	56 3/13	31 3/13	6 3/13	-56 10/13	-31 10/13	-6 10/13	236 3/13	259 3/13	282 3/13	-254 10/13	2021
-255 10/13	157 3/13	204 3/13	182 3/13	-121 10/13	-72 10/13	-98 10/13	-142 10/13	-191 10/13	-165 10/13	130 3/13	83 3/13	105 3/13	316 3/13	365 3/13	339 3/13	7 3/13	54 3/13	32 3/13	-7 10/13	-54 10/13	-32 10/13	283 3/13	234 3/13	260 3/13	411 3/13	2021
412 3/13	330 3/13	308 3/13	355 3/13	41 3/13	15 3/13	64 3/13	-41 10/13	-15 10/13	-64 10/13	269 3/13	291 3/13	244 3/13	179 3/13	153 3/13	202 3/13	-95 10/13	-117 10/13	-70 10/13	-168 10/13	-146 10/13	-193 10/13	108 3/13	134 3/13	85 3/13	-256 10/13	2021
-257 10/13	356 3/13	331 3/13	306 3/13	63 3/13	40 3/13	17 3/13	-63 10/13	-40 10/13	-17 10/13	243 3/13	268 3/13	293 3/13	201 3/13	178 3/13	155 3/13	-69 10/13	-94 10/13	-119 10/13	-194 10/13	-169 10/13	-144 10/13	86 3/13	109 3/13	132 3/13	413 3/13	2021
414 3/13	307 3/13	354 3/13	332 3/13	16 3/13	65 3/13	39 3/13	-16 10/13	-65 10/13	-39 10/13	292 3/13	245 3/13	267 3/13	154 3/13	203 3/13	177 3/13	-118 10/13	-71 10/13	-93 10/13	-145 10/13	-192 10/13	-170 10/13	133 3/13	84 3/13	110 3/13	-258 10/13	2021
-234 10/13	-246 10/13	401 3/13	-244 10/13	399 3/13	-242 10/13	397 3/13	-240 10/13	395 3/13	-238 10/13	393 3/13	-236 10/13	415 3/13	-247 10/13	389 3/13	-232 10/13	387 3/13	-230 10/13	385 3/13	-228 10/13	383 3/13	-226 10/13	381 3/13	-224 10/13	379 3/13	391 3/13	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 3 are magic squares with different magic sums.

1.19.2 Second Type

																									21
-312 9/13	325 4/13	-322 9/13	323 4/13	-320 9/13	321 4/13	-318 9/13	319 4/13	-316 9/13	317 4/13	-314 9/13	315 4/13	-336 9/13	326 4/13	-310 9/13	311 4/13	-308 9/13	309 4/13	-306 9/13	307 4/13	-304 9/13	305 4/13	-302 9/13	303 4/13	-300 9/13	313 4/13	21
-298 9/13	-70 9/13	144 4/13	-286 9/13	216 4/13	-69 9/13	143 4/13	-285 9/13	215 4/13	-68 9/13	142 4/13	-284 9/13	214 4/13	-67 9/13	141 4/13	-283 9/13	213 4/13	-66 9/13	140 4/13	-282 9/13	212 4/13	-65 9/13	139 4/13	-281 9/13	211 4/13	300 4/13	21
299 4/13	-215 9/13	145 4/13	4/13	73 4/13	-216 9/13	146 4/13	- 9/13	74 4/13	-217 9/13	147 4/13	-1 9/13	75 4/13	-218 9/13	148 4/13	-2 9/13	76 4/13	-219 9/13	149 4/13	-3 9/13	77 4/13	-220 9/13	150 4/13	-4 9/13	78 4/13	-297 9/13	21
-296 9/13	288 4/13	-214 9/13	72 4/13	-142 9/13	287 4/13	-213 9/13	71 4/13	-141 9/13	286 4/13	-212 9/13	70 4/13	-140 9/13	285 4/13	-211 9/13	69 4/13	-139 9/13	284 4/13	-210 9/13	68 4/13	-138 9/13	283 4/13	-209 9/13	67 4/13	-137 9/13	298 4/13	21
297 4/13	1 4/13	-71 9/13	217 4/13	-143 9/13	2 4/13	-72 9/13	218 4/13	-144 9/13	3 4/13	-73 9/13	219 4/13	-145 9/13	4 4/13	-74 9/13	220 4/13	-146 9/13	5 4/13	-75 9/13	221 4/13	-147 9/13	6 4/13	-76 9/13	222 4/13	-148 9/13	-295 9/13	21
-294 9/13	-64 9/13	138 4/13	-280 9/13	210 4/13	-63 9/13	137 4/13	-279 9/13	209 4/13	-62 9/13	136 4/13	-278 9/13	208 4/13	-61 9/13	135 4/13	-277 9/13	207 4/13	-60 9/13	134 4/13	-276 9/13	206 4/13	-59 9/13	133 4/13	-275 9/13	205 4/13	296 4/13	21
295 4/13	-221 9/13	151 4/13	-5 9/13	79 4/13	-222 9/13	152 4/13	-6 9/13	80 4/13	-223 9/13	153 4/13	-7 9/13	81 4/13	-224 9/13	154 4/13	-8 9/13	82 4/13	-225 9/13	155 4/13	-9 9/13	83 4/13	-226 9/13	156 4/13	-10 9/13	84 4/13	-293 9/13	21
-292 9/13	282 4/13	-208 9/13	66 4/13	-136 9/13	281 4/13	-207 9/13	65 4/13	-135 9/13	280 4/13	-206 9/13	64 4/13	-134 9/13	279 4/13	-205 9/13	63 4/13	-133 9/13	278 4/13	-204 9/13	62 4/13	-132 9/13	277 4/13	-203 9/13	61 4/13	-131 9/13	294 4/13	21
293 4/13	7 4/13	-77 9/13	223 4/13	-149 9/13	8 4/13	-78 9/13	224 4/13	-150 9/13	9 4/13	-79 9/13	225 4/13	-151 9/13	10 4/13	-80 9/13	226 4/13	-152 9/13	11 4/13	-81 9/13	227 4/13	-153 9/13	12 4/13	-82 9/13	228 4/13	-154 9/13	-291 9/13	21
-290 9/13	-58 9/13	132 4/13	-274 9/13	204 4/13	-57 9/13	131 4/13	-273 9/13	203 4/13	-56 9/13	130 4/13	-272 9/13	202 4/13	-55 9/13	129 4/13	-271 9/13	201 4/13	-54 9/13	128 4/13	-270 9/13	200 4/13	-53 9/13	127 4/13	-269 9/13	199 4/13	292 4/13	21
291 4/13	-227 9/13	157 4/13	-11 9/13	85 4/13	-228 9/13	158 4/13	-12 9/13	86 4/13	-229 9/13	159 4/13	-13 9/13	87 4/13	-230 9/13	160 4/13	-14 9/13	88 4/13	-231 9/13	161 4/13	-15 9/13	89 4/13	-232 9/13	162 4/13	-16 9/13	90 4/13	-289 9/13	21
-288 9/13	276 4/13	-202 9/13	60 4/13	-130 9/13	275 4/13	-201 9/13	59 4/13	-129 9/13	274 4/13	-200 9/13	58 4/13	-128 9/13	273 4/13	-199 9/13	57 4/13	-127 9/13	272 4/13	-198 9/13	56 4/13	-126 9/13	271 4/13	-197 9/13	55 4/13	-125 9/13	290 4/13	21
289 4/13	13 4/13	-83 9/13	229 4/13	-155 9/13	14 4/13	-84 9/13	230 4/13	-156 9/13	15 4/13	-85 9/13	231 4/13	-157 9/13	16 4/13	-86 9/13	232 4/13	-158 9/13	17 4/13	-87 9/13	233 4/13	-159 9/13	18 4/13	-88 9/13	234 4/13	-160 9/13	-287 9/13	21
301 4/13	-52 9/13	126 4/13	-268 9/13	198 4/13	-51 9/13	125 4/13	-267 9/13	197 4/13	-50 9/13	124 4/13	-266 9/13	196 4/13	-49 9/13	123 4/13	-265 9/13	195 4/13	-48 9/13	122 4/13	-264 9/13	194 4/13	-47 9/13	121 4/13	-263 9/13	193 4/13	-299 9/13	21
327 4/13	-233 9/13	163 4/13	-17 9/13	91 4/13	-234 9/13	164 4/13	-18 9/13	92 4/13	-235 9/13	165 4/13	-19 9/13	93 4/13	-236 9/13	166 4/13	-20 9/13	94 4/13	-237 9/13	167 4/13	-21 9/13	95 4/13	-238 9/13	168 4/13	-22 9/13	96 4/13	-325 9/13	21
-326 9/13	270 4/13	-196 9/13	54 4/13	-124 9/13	269 4/13	-195 9/13	53 4/13	-123 9/13	268 4/13	-194 9/13	52 4/13	-122 9/13	267 4/13	-193 9/13	51 4/13	-121 9/13	266 4/13	-192 9/13	50 4/13	-120 9/13	265 4/13	-191 9/13	49 4/13	-119 9/13	328 4/13	21
329 4/13	19 4/13	-89 9/13	235 4/13	-161 9/13	20 4/13	-90 9/13	236 4/13	-162 9/13	21 4/13	-91 9/13	237 4/13	-163 9/13	22 4/13	-92 9/13	238 4/13	-164 9/13	23 4/13	-93 9/13	239 4/13	-165 9/13	24 4/13	-94 9/13	240 4/13	-166 9/13	-327 9/13	21
-328 9/13	-46 9/13	120 4/13	-262 9/13	192 4/13	-45 9/13	119 4/13	-261 9/13	191 4/13	-44 9/13	118 4/13	-260 9/13	190 4/13	-43 9/13	117 4/13	-259 9/13	189 4/13	-42 9/13	116 4/13	-258 9/13	188 4/13	-41 9/13	115 4/13	-257 9/13	187 4/13	330 4/13	21
331 4/13	-239 9/13	169 4/13	-23 9/13	97 4/13	-240 9/13	170 4/13	-24 9/13	98 4/13	-241 9/13	171 4/13	-25 9/13	99 4/13	-242 9/13	172 4/13	-26 9/13	100 4/13	-243 9/13	173 4/13	-27 9/13	101 4/13	-244 9/13	174 4/13	-28 9/13	102 4/13	-329 9/13	21
-330 9/13	264 4/13	-190 9/13	48 4/13	-118 9/13	263 4/13	-189 9/13	47 4/13	-117 9/13	262 4/13	-188 9/13	46 4/13	-116 9/13	261 4/13	-187 9/13	45 4/13	-115 9/13	260 4/13	-186 9/13	44 4/13	-114 9/13	259 4/13	-185 9/13	43 4/13	-113 9/13	332 4/13	21
333 4/13	25 4/13	-95 9/13	241 4/13	-167 9/13	26 4/13	-96 9/13	242 4/13	-168 9/13	27 4/13	-97 9/13	243 4/13	-169 9/13	28 4/13	-98 9/13	244 4/13	-170 9/13	29 4/13	-99 9/13	245 4/13	-171 9/13	30 4/13	-100 9/13	246 4/13	-172 9/13	-331 9/13	21
-332 9/13	-40 9/13	114 4/13	-256 9/13	186 4/13	-39 9/13	113 4/13	-255 9/13	185 4/13	-38 9/13	112 4/13	-254 9/13	184 4/13	-37 9/13	111 4/13	-253 9/13	183 4/13	-36 9/13	110 4/13	-252 9/13	182 4/13	-35 9/13	109 4/13	-251 9/13	181 4/13	334 4/13	21
335 4/13	-245 9/13	175 4/13	-29 9/13	103 4/13	-246 9/13	176 4/13	-30 9/13	104 4/13	-247 9/13	177 4/13	-31 9/13	105 4/13	-248 9/13	178 4/13	-32 9/13	106 4/13	-249 9/13	179 4/13	-33 9/13	107 4/13	-250 9/13	180 4/13	-34 9/13	108 4/13	-333 9/13	21
-334 9/13	258 4/13	-184 9/13	42 4/13	-112 9/13	257 4/13	-183 9/13	41 4/13	-111 9/13	256 4/13	-182 9/13	40 4/13	-110 9/13	255 4/13	-181 9/13	39 4/13	-109 9/13	254 4/13	-180 9/13	38 4/13	-108 9/13	253 4/13	-179 9/13	37 4/13	-107 9/13	336 4/13	21
337 4/13	31 4/13	-101 9/13	247 4/13	-173 9/13	32 4/13	-102 9/13	248 4/13	-174 9/13	33 4/13	-103 9/13	249 4/13	-175 9/13	34 4/13	-104 9/13	250 4/13	-176 9/13	35 4/13	-105 9/13	251 4/13	-177 9/13	36 4/13	-106 9/13	252 4/13	-178 9/13	-335 9/13	21
-311 9/13	-323 9/13	324 4/13	-321 9/13	322 4/13	-319 9/13	320 4/13	-317 9/13	318 4/13	-315 9/13	316 4/13	-313 9/13	338 4/13	-324 9/13	312 4/13	-309 9/13	310 4/13	-307 9/13	308 4/13	-305 9/13	306 4/13	-303 9/13	304 4/13	-301 9/13	302 4/13	314 4/13	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

																									441
-296 7/13	341 6/13	-306 7/13	339 6/13	-304 7/13	337 6/13	-302 7/13	335 6/13	-300 7/13	333 6/13	-298 7/13	331 6/13	-320 7/13	342 6/13	-294 7/13	327 6/13	-292 7/13	325 6/13	-290 7/13	323 6/13	-288 7/13	321 6/13	-286 7/13	319 6/13	-284 7/13	329 6/13	441
-282 7/13	-54 7/13	160 6/13	-270 7/13	232 6/13	-53 7/13	159 6/13	-269 7/13	231 6/13	-52 7/13	158 6/13	-268 7/13	230 6/13	-51 7/13	157 6/13	-267 7/13	229 6/13	-50 7/13	156 6/13	-266 7/13	228 6/13	-49 7/13	155 6/13	-265 7/13	227 6/13	316 6/13	441
315 6/13	-199 7/13	161 6/13	16 6/13	89 6/13	-200 7/13	162 6/13	15 6/13	90 6/13	-201 7/13	163 6/13	14 6/13	91 6/13	-202 7/13	164 6/13	13 6/13	92 6/13	-203 7/13	165 6/13	12 6/13	93 6/13	-204 7/13	166 6/13	11 6/13	94 6/13	-281 7/13	441
-280 7/13	304 6/13	-198 7/13	88 6/13	-126 7/13	303 6/13	-197 7/13	87 6/13	-125 7/13	302 6/13	-196 7/13	86 6/13	-124 7/13	301 6/13	-195 7/13	85 6/13	-123 7/13	300 6/13	-194 7/13	84 6/13	-122 7/13	299 6/13	-193 7/13	83 6/13	-121 7/13	314 6/13	441
313 6/13	17 6/13	-55 7/13	233 6/13	-127 7/13	18 6/13	-56 7/13	234 6/13	-128 7/13	19 6/13	-57 7/13	235 6/13	-129 7/13	20 6/13	-58 7/13	236 6/13	-130 7/13	21 6/13	-59 7/13	237 6/13	-131 7/13	22 6/13	-60 7/13	238 6/13	-132 7/13	-279 7/13	441
-278 7/13	-48 7/13	154 6/13	-264 7/13	226 6/13	-47 7/13	153 6/13	-263 7/13	225 6/13	-46 7/13	152 6/13	-262 7/13	224 6/13	-45 7/13	151 6/13	-261 7/13	223 6/13	-44 7/13	150 6/13	-260 7/13	222 6/13	-43 7/13	149 6/13	-259 7/13	221 6/13	312 6/13	441
311 6/13	-205 7/13	167 6/13	10 6/13	95 6/13	-206 7/13	168 6/13	9 6/13	96 6/13	-207 7/13	169 6/13	8 6/13	97 6/13	-208 7/13	170 6/13	7 6/13	98 6/13	-209 7/13	171 6/13	6 6/13	99 6/13	-210 7/13	172 6/13	5 6/13	100 6/13	-277 7/13	441
-276 7/13	298 6/13	-192 7/13	82 6/13	-120 7/13	297 6/13	-191 7/13	81 6/13	-119 7/13	296 6/13	-190 7/13	80 6/13	-118 7/13	295 6/13	-189 7/13	79 6/13	-117 7/13	294 6/13	-188 7/13	78 6/13	-116 7/13	293 6/13	-187 7/13	77 6/13	-115 7/13	310 6/13	441
309 6/13	23 6/13	-61 7/13	239 6/13	-133 7/13	24 6/13	-62 7/13	240 6/13	-134 7/13	25 6/13	-63 7/13	241 6/13	-135 7/13	26 6/13	-64 7/13	242 6/13	-136 7/13	27 6/13	-65 7/13	243 6/13	-137 7/13	28 6/13	-66 7/13	244 6/13	-138 7/13	-275 7/13	441
-274 7/13	-42 7/13	148 6/13	-258 7/13	220 6/13	-41 7/13	147 6/13	-257 7/13	219 6/13	-40 7/13	146 6/13	-256 7/13	218 6/13	-39 7/13	145 6/13	-255 7/13	217 6/13	-38 7/13	144 6/13	-254 7/13	216 6/13	-37 7/13	143 6/13	-253 7/13	215 6/13	308 6/13	441
307 6/13	-211 7/13	173 6/13	4 6/13	101 6/13	-212 7/13	174 6/13	3 6/13	102 6/13	-213 7/13	175 6/13	2 6/13	103 6/13	-214 7/13	176 6/13	1 6/13	104 6/13	-215 7/13	177 6/13	6/13	105 6/13	-216 7/13	178 6/13	- 7/13	106 6/13	-273 7/13	441
-272 7/13	292 6/13	-186 7/13	76 6/13	-114 7/13	291 6/13	-185 7/13	75 6/13	-113 7/13	290 6/13	-184 7/13	74 6/13	-112 7/13	289 6/13	-183 7/13	73 6/13	-111 7/13	288 6/13	-182 7/13	72 6/13	-110 7/13	287 6/13	-181 7/13	71 6/13	-109 7/13	306 6/13	441
305 6/13	29 6/13	-67 7/13	245 6/13	-139 7/13	30 6/13	-68 7/13	246 6/13	-140 7/13	31 6/13	-69 7/13	247 6/13	-141 7/13	32 6/13	-70 7/13	248 6/13	-142 7/13	33 6/13	-71 7/13	249 6/13	-143 7/13	34 6/13	-72 7/13	250 6/13	-144 7/13	-271 7/13	441
317 6/13	-36 7/13	142 6/13	-252 7/13	214 6/13	-35 7/13	141 6/13	-251 7/13	213 6/13	-34 7/13	140 6/13	-250 7/13	212 6/13	-33 7/13	139 6/13	-249 7/13	211 6/13	-32 7/13	138 6/13	-248 7/13	210 6/13	-31 7/13	137 6/13	-247 7/13	209 6/13	-283 7/13	441
343 6/13	-217 7/13	179 6/13	-1 7/13	107 6/13	-218 7/13	180 6/13	-2 7/13	108 6/13	-219 7/13	181 6/13	-3 7/13	109 6/13	-220 7/13	182 6/13	-4 7/13	110 6/13	-221 7/13	183 6/13	-5 7/13	111 6/13	-222 7/13	184 6/13	-6 7/13	112 6/13	-309 7/13	441
-310 7/13	286 6/13	-180 7/13	70 6/13	-108 7/13	285 6/13	-179 7/13	69 6/13	-107 7/13	284 6/13	-178 7/13	68 6/13	-106 7/13	283 6/13	-177 7/13	67 6/13	-105 7/13	282 6/13	-176 7/13	66 6/13	-104 7/13	281 6/13	-175 7/13	65 6/13	-103 7/13	344 6/13	441
345 6/13	35 6/13	-73 7/13	251 6/13	-145 7/13	36 6/13	-74 7/13	252 6/13	-146 7/13	37 6/13	-75 7/13	253 6/13	-147 7/13	38 6/13	-76 7/13	254 6/13	-148 7/13	39 6/13	-77 7/13	255 6/13	-149 7/13	40 6/13	-78 7/13	256 6/13	-150 7/13	-311 7/13	441
-312 7/13	-30 7/13	136 6/13	-246 7/13	208 6/13	-29 7/13	135 6/13	-245 7/13	207 6/13	-28 7/13	134 6/13	-244 7/13	206 6/13	-27 7/13	133 6/13	-243 7/13	205 6/13	-26 7/13	132 6/13	-242 7/13	204 6/13	-25 7/13	131 6/13	-241 7/13	203 6/13	346 6/13	441
347 6/13	-223 7/13	185 6/13	-7 7/13	113 6/13	-224 7/13	186 6/13	-8 7/13	114 6/13	-225 7/13	187 6/13	-9 7/13	115 6/13	-226 7/13	188 6/13	-10 7/13	116 6/13	-227 7/13	189 6/13	-11 7/13	117 6/13	-228 7/13	190 6/13	-12 7/13	118 6/13	-313 7/13	441
-314 7/13	280 6/13	-174 7/13	64 6/13	-102 7/13	279 6/13	-173 7/13	63 6/13	-101 7/13	278 6/13	-172 7/13	62 6/13	-100 7/13	277 6/13	-171 7/13	61 6/13	-99 7/13	276 6/13	-170 7/13	60 6/13	-98 7/13	275 6/13	-169 7/13	59 6/13	-97 7/13	348 6/13	441
349 6/13	41 6/13	-79 7/13	257 6/13	-151 7/13	42 6/13	-80 7/13	258 6/13	-152 7/13	43 6/13	-81 7/13	259 6/13	-153 7/13	44 6/13	-82 7/13	260 6/13	-154 7/13	45 6/13	-83 7/13	261 6/13	-155 7/13	46 6/13	-84 7/13	262 6/13	-156 7/13	-315 7/13	441
-316 7/13	-24 7/13	130 6/13	-240 7/13	202 6/13	-23 7/13	129 6/13	-239 7/13	201 6/13	-22 7/13	128 6/13	-238 7/13	200 6/13	-21 7/13	127 6/13	-237 7/13	199 6/13	-20 7/13	126 6/13	-236 7/13	198 6/13	-19 7/13	125 6/13	-235 7/13	197 6/13	350 6/13	441
351 6/13	-229 7/13	191 6/13	-13 7/13	119 6/13	-230 7/13	192 6/13	-14 7/13	120 6/13	-231 7/13	193 6/13	-15 7/13	121 6/13	-232 7/13	194 6/13	-16 7/13	122 6/13	-233 7/13	195 6/13	-17 7/13	123 6/13	-234 7/13	196 6/13	-18 7/13	124 6/13	-317 7/13	441
-318 7/13	274 6/13	-168 7/13	58 6/13	-96 7/13	273 6/13	-167 7/13	57 6/13	-95 7/13	272 6/13	-166 7/13	56 6/13	-94 7/13	271 6/13	-165 7/13	55 6/13	-93 7/13	270 6/13	-164 7/13	54 6/13	-92 7/13	269 6/13	-163 7/13	53 6/13	-91 7/13	352 6/13	441
353 6/13	47 6/13	-85 7/13	263 6/13	-157 7/13	48 6/13	-86 7/13	264 6/13	-158 7/13	49 6/13	-87 7/13	265 6/13	-159 7/13	50 6/13	-88 7/13	266 6/13	-160 7/13	51 6/13	-89 7/13	267 6/13	-161 7/13	52 6/13	-90 7/13	268 6/13	-162 7/13	-319 7/13	441
-295 7/13	-307 7/13	340 6/13	-305 7/13	338 6/13	-303 7/13	336 6/13	-301 7/13	334 6/13	-299 7/13	332 6/13	-297 7/13	354 6/13	-308 7/13	328 6/13	-293 7/13	326 6/13	-291 7/13	324 6/13	-289 7/13	322 6/13	-287 7/13	320 6/13	-285 7/13	318 6/13	330 6/13	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

																								2021
-235 10/13	402 3/13	-245 10/13	400 3/13	-243 10/13	398 3/13	-241 10/13	396 3/13	-239 10/13	394 3/13	-237 10/13	392 3/13	-259 10/13	403 3/13	-233 10/13	388 3/13	-231 10/13	386 3/13	-229 10/13	384 3/13	-227 10/13	382 3/13	-225 10/13	380 3/13	-223 10/13	390 3/13	2021
-221 10/13	6 3/13	221 3/13	-209 10/13	293 3/13	7 3/13	220 3/13	-208 10/13	292 3/13	8 3/13	219 3/13	-207 10/13	291 3/13	9 3/13	218 3/13	-206 10/13	290 3/13	10 3/13	217 3/13	-205 10/13	289 3/13	11 3/13	216 3/13	-204 10/13	288 3/13	377 3/13	2021
376 3/13	-138 10/13	222 3/13	77 3/13	150 3/13	-139 10/13	223 3/13	76 3/13	151 3/13	-140 10/13	224 3/13	75 3/13	152 3/13	-141 10/13	225 3/13	74 3/13	153 3/13	-142 10/13	226 3/13	73 3/13	154 3/13	-143 10/13	227 3/13	72 3/13	155 3/13	-220 10/13	2021
-219 10/13	365 3/13	-137 10/13	149 3/13	-65 10/13	364 3/13	-136 10/13	148 3/13	-64 10/13	363 3/13	-135 10/13	147 3/13	-63 10/13	362 3/13	-134 10/13	146 3/13	-62 10/13	361 3/13	-133 10/13	145 3/13	-61 10/13	360 3/13	-132 10/13	144 3/13	-60 10/13	375 3/13	2021
374 3/13	78 3/13	5 3/13	294 3/13	-66 10/13	79 3/13	4 3/13	295 3/13	-67 10/13	80 3/13	3 3/13	296 3/13	-68 10/13	81 3/13	2 3/13	297 3/13	-69 10/13	82 3/13	1 3/13	298 3/13	-70 10/13	83 3/13	3/13	299 3/13	-71 10/13	-218 10/13	2021
-217 10/13	12 3/13	215 3/13	-203 10/13	287 3/13	13 3/13	214 3/13	-202 10/13	286 3/13	14 3/13	213 3/13	-201 10/13	285 3/13	15 3/13	212 3/13	-200 10/13	284 3/13	16 3/13	211 3/13	-199 10/13	283 3/13	17 3/13	210 3/13	-198 10/13	282 3/13	373 3/13	2021
372 3/13	-144 10/13	228 3/13	71 3/13	156 3/13	-145 10/13	229 3/13	70 3/13	157 3/13	-146 10/13	230 3/13	69 3/13	158 3/13	-147 10/13	231 3/13	68 3/13	159 3/13	-148 10/13	232 3/13	67 3/13	160 3/13	-149 10/13	233 3/13	66 3/13	161 3/13	-216 10/13	2021
-215 10/13	359 3/13	-131 10/13	143 3/13	-59 10/13	358 3/13	-130 10/13	142 3/13	-58 10/13	357 3/13	-129 10/13	141 3/13	-57 10/13	356 3/13	-128 10/13	140 3/13	-56 10/13	355 3/13	-127 10/13	139 3/13	-55 10/13	354 3/13	-126 10/13	138 3/13	-54 10/13	371 3/13	2021
370 3/13	84 3/13	- 10/13	300 3/13	-72 10/13	85 3/13	-1 10/13	301 3/13	-73 10/13	86 3/13	-2 10/13	302 3/13	-74 10/13	87 3/13	-3 10/13	303 3/13	-75 10/13	88 3/13	-4 10/13	304 3/13	-76 10/13	89 3/13	-5 10/13	305 3/13	-77 10/13	-214 10/13	2021
-213 10/13	18 3/13	209 3/13	-197 10/13	281 3/13	19 3/13	208 3/13	-196 10/13	280 3/13	20 3/13	207 3/13	-195 10/13	279 3/13	21 3/13	206 3/13	-194 10/13	278 3/13	22 3/13	205 3/13	-193 10/13	277 3/13	23 3/13	204 3/13	-192 10/13	276 3/13	369 3/13	2021
368 3/13	-150 10/13	234 3/13	65 3/13	162 3/13	-151 10/13	235 3/13	64 3/13	163 3/13	-152 10/13	236 3/13	63 3/13	164 3/13	-153 10/13	237 3/13	62 3/13	165 3/13	-154 10/13	238 3/13	61 3/13	166 3/13	-155 10/13	239 3/13	60 3/13	167 3/13	-212 10/13	2021
-211 10/13	353 3/13	-125 10/13	137 3/13	-53 10/13	352 3/13	-124 10/13	136 3/13	-52 10/13	351 3/13	-123 10/13	135 3/13	-51 10/13	350 3/13	-122 10/13	134 3/13	-50 10/13	349 3/13	-121 10/13	133 3/13	-49 10/13	348 3/13	-120 10/13	132 3/13	-48 10/13	367 3/13	2021
366 3/13	90 3/13	-6 10/13	306 3/13	-78 10/13	91 3/13	-7 10/13	307 3/13	-79 10/13	92 3/13	-8 10/13	308 3/13	-80 10/13	93 3/13	-9 10/13	309 3/13	-81 10/13	94 3/13	-10 10/13	310 3/13	-82 10/13	95 3/13	-11 10/13	311 3/13	-83 10/13	-210 10/13	2021
378 3/13	24 3/13	203 3/13	-191 10/13	275 3/13	25 3/13	202 3/13	-190 10/13	274 3/13	26 3/13	201 3/13	-189 10/13	273 3/13	27 3/13	200 3/13	-188 10/13	272 3/13	28 3/13	199 3/13	-187 10/13	271 3/13	29 3/13	198 3/13	-186 10/13	270 3/13	-222 10/13	2021
404 3/13	-156 10/13	240 3/13	59 3/13	168 3/13	-157 10/13	241 3/13	58 3/13	169 3/13	-158 10/13	242 3/13	57 3/13	170 3/13	-159 10/13	243 3/13	56 3/13	171 3/13	-160 10/13	244 3/13	55 3/13	172 3/13	-161 10/13	245 3/13	54 3/13	173 3/13	-248 10/13	2021
-249 10/13	347 3/13	-119 10/13	131 3/13	-47 10/13	346 3/13	-118 10/13	130 3/13	-46 10/13	345 3/13	-117 10/13	129 3/13	-45 10/13	344 3/13	-116 10/13	128 3/13	-44 10/13	343 3/13	-115 10/13	127 3/13	-43 10/13	342 3/13	-114 10/13	126 3/13	-42 10/13	405 3/13	2021
406 3/13	96 3/13	-12 10/13	312 3/13	-84 10/13	97 3/13	-13 10/13	313 3/13	-85 10/13	98 3/13	-14 10/13	314 3/13	-86 10/13	99 3/13	-15 10/13	315 3/13	-87 10/13	100 3/13	-16 10/13	316 3/13	-88 10/13	101 3/13	-17 10/13	317 3/13	-89 10/13	-250 10/13	2021
-251 10/13	30 3/13	197 3/13	-185 10/13	269 3/13	31 3/13	196 3/13	-184 10/13	268 3/13	32 3/13	195 3/13	-183 10/13	267 3/13	33 3/13	194 3/13	-182 10/13	266 3/13	34 3/13	193 3/13	-181 10/13	265 3/13	35 3/13	192 3/13	-180 10/13	264 3/13	407 3/13	2021
408 3/13	-162 10/13	246 3/13	53 3/13	174 3/13	-163 10/13	247 3/13	52 3/13	175 3/13	-164 10/13	248 3/13	51 3/13	176 3/13	-165 10/13	249 3/13	50 3/13	177 3/13	-166 10/13	250 3/13	49 3/13	178 3/13	-167 10/13	251 3/13	48 3/13	179 3/13	-252 10/13	2021
-253 10/13	341 3/13	-113 10/13	125 3/13	-41 10/13	340 3/13	-112 10/13	124 3/13	-40 10/13	339 3/13	-111 10/13	123 3/13	-39 10/13	338 3/13	-110 10/13	122 3/13	-38 10/13	337 3/13	-109 10/13	121 3/13	-37 10/13	336 3/13	-108 10/13	120 3/13	-36 10/13	409 3/13	2021
410 3/13	102 3/13	-18 10/13	318 3/13	-90 10/13	103 3/13	-19 10/13	319 3/13	-91 10/13	104 3/13	-20 10/13	320 3/13	-92 10/13	105 3/13	-21 10/13	321 3/13	-93 10/13	106 3/13	-22 10/13	322 3/13	-94 10/13	107 3/13	-23 10/13	323 3/13	-95 10/13	-254 10/13	2021
-255 10/13	36 3/13	191 3/13	-179 10/13	263 3/13	37 3/13	190 3/13	-178 10/13	262 3/13	38 3/13	189 3/13	-177 10/13	261 3/13	39 3/13	188 3/13	-176 10/13	260 3/13	40 3/13	187 3/13	-175 10/13	259 3/13	41 3/13	186 3/13	-174 10/13	258 3/13	411 3/13	2021
412 3/13	-168 10/13	252 3/13	47 3/13	180 3/13	-169 10/13	253 3/13	46 3/13	181 3/13	-170 10/13	254 3/13	45 3/13	182 3/13	-171 10/13	255 3/13	44 3/13	183 3/13	-172 10/13	256 3/13	43 3/13	184 3/13	-173 10/13	257 3/13	42 3/13	185 3/13	-256 10/13	2021
-257 10/13	335 3/13	-107 10/13	119 3/13	-35 10/13	334 3/13	-106 10/13	118 3/13	-34 10/13	333 3/13	-105 10/13	117 3/13	-33 10/13	332 3/13	-104 10/13	116 3/13	-32 10/13	331 3/13	-103 10/13	115 3/13	-31 10/13	330 3/13	-102 10/13	114 3/13	-30 10/13	413 3/13	2021
414 3/13	108 3/13	-24 10/13	324 3/13	-96 10/13	109 3/13	-25 10/13	325 3/13	-97 10/13	110 3/13	-26 10/13	326 3/13	-98 10/13	111 3/13	-27 10/13	327 3/13	-99 10/13	112 3/13	-28 10/13	328 3/13	-100 10/13	113 3/13	-29 10/13	329 3/13	-101 10/13	-258 10/13	2021
-234 10/13	-246 10/13	401 3/13	-244 10/13	399 3/13	-242 10/13	397 3/13	-240 10/13	395 3/13	-238 10/13	393 3/13	-236 10/13	415 3/13	-247 10/13	389 3/13	-232 10/13	387 3/13	-230 10/13	385 3/13	-228 10/13	383 3/13	-226 10/13	381 3/13	-224 10/13	379 3/13	391 3/13	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	

In this case, the blocks of order 4 are **pandiagonal** magic squares with equal magic sums. These sums are given by

$$[S_{4\times 4} : S_{26\times 26} := 21] := \frac{42}{13}$$

$$[S_{4\times 4} : S_{26\times 26} := 441] := \frac{882}{13}$$

$$[S_{4\times 4} : S_{26\times 26} := 2021] := \frac{4042}{13}.$$

1.19.3 Third Type

																											21
-312 9/13	325 4/13	-322 9/13	323 4/13	-320 9/13	321 4/13	-318 9/13	319 4/13	-316 9/13	317 4/13	-314 9/13	315 4/13	-336 9/13	326 4/13	-310 9/13	311 4/13	-308 9/13	309 4/13	-306 9/13	307 4/13	-304 9/13	305 4/13	-302 9/13	303 4/13	-300 9/13	313 4/13	21
-298 9/13	-286 9/13	257 4/13	256 4/13	225 4/13	-255 9/13	-191 9/13	-285 9/13	258 4/13	255 4/13	226 4/13	-256 9/13	-192 9/13	-284 9/13	259 4/13	254 4/13	227 4/13	-257 9/13	-193 9/13	-283 9/13	260 4/13	253 4/13	228 4/13	-258 9/13	-194 9/13	300 4/13	21
299 4/13	192 4/13	-159 9/13	160 4/13	-158 9/13	-126 9/13	97 4/13	191 4/13	-160 9/13	159 4/13	-157 9/13	-125 9/13	98 4/13	190 4/13	-161 9/13	158 4/13	-156 9/13	-124 9/13	99 4/13	189 4/13	-162 9/13	157 4/13	-155 9/13	-123 9/13	100 4/13	-297 9/13	21
-296 9/13	96 4/13	65 4/13	-62 9/13	-31 9/13	32 4/13	-94 9/13	95 4/13	66 4/13	-61 9/13	-32 9/13	31 4/13	-93 9/13	94 4/13	67 4/13	-60 9/13	-33 9/13	30 4/13	-92 9/13	93 4/13	68 4/13	-59 9/13	-34 9/13	29 4/13	-91 9/13	298 4/13	21
297 4/13	4/13	-63 9/13	33 4/13	64 4/13	-30 9/13	1 4/13	- 9/13	-64 9/13	34 4/13	63 4/13	-29 9/13	2 4/13	-1 9/13	-65 9/13	35 4/13	62 4/13	-28 9/13	3 4/13	-2 9/13	-66 9/13	36 4/13	61 4/13	-27 9/13	4 4/13	-295 9/13	21
-294 9/13	-190 9/13	128 4/13	-127 9/13	129 4/13	161 4/13	-95 9/13	-189 9/13	127 4/13	-128 9/13	130 4/13	162 4/13	-96 9/13	-188 9/13	126 4/13	-129 9/13	131 4/13	163 4/13	-97 9/13	-187 9/13	125 4/13	-130 9/13	132 4/13	164 4/13	-98 9/13	296 4/13	21
295 4/13	193 4/13	-222 9/13	-254 9/13	-223 9/13	224 4/13	288 4/13	194 4/13	-221 9/13	-253 9/13	-224 9/13	223 4/13	287 4/13	195 4/13	-220 9/13	-252 9/13	-225 9/13	222 4/13	286 4/13	196 4/13	-219 9/13	-251 9/13	-226 9/13	221 4/13	285 4/13	-293 9/13	21
-292 9/13	-282 9/13	261 4/13	252 4/13	229 4/13	-259 9/13	-195 9/13	-281 9/13	262 4/13	251 4/13	230 4/13	-260 9/13	-196 9/13	-280 9/13	263 4/13	250 4/13	231 4/13	-261 9/13	-197 9/13	-279 9/13	264 4/13	249 4/13	232 4/13	-262 9/13	-198 9/13	294 4/13	21
293 4/13	188 4/13	-163 9/13	156 4/13	-154 9/13	-122 9/13	101 4/13	187 4/13	-164 9/13	155 4/13	-153 9/13	-121 9/13	102 4/13	186 4/13	-165 9/13	154 4/13	-152 9/13	-120 9/13	103 4/13	185 4/13	-166 9/13	153 4/13	-151 9/13	-119 9/13	104 4/13	-291 9/13	21
-290 9/13	92 4/13	69 4/13	-58 9/13	-35 9/13	28 4/13	-90 9/13	91 4/13	70 4/13	-57 9/13	-36 9/13	27 4/13	-89 9/13	90 4/13	71 4/13	-56 9/13	-37 9/13	26 4/13	-88 9/13	89 4/13	72 4/13	-55 9/13	-38 9/13	25 4/13	-87 9/13	292 4/13	21
291 4/13	-3 9/13	-67 9/13	37 4/13	60 4/13	-26 9/13	5 4/13	-4 9/13	-68 9/13	38 4/13	59 4/13	-25 9/13	6 4/13	-5 9/13	-69 9/13	39 4/13	58 4/13	-24 9/13	7 4/13	-6 9/13	-70 9/13	40 4/13	57 4/13	-23 9/13	8 4/13	-289 9/13	21
-288 9/13	-186 9/13	124 4/13	-131 9/13	133 4/13	165 4/13	-99 9/13	-185 9/13	123 4/13	-132 9/13	134 4/13	166 4/13	-100 9/13	-184 9/13	122 4/13	-133 9/13	135 4/13	167 4/13	-101 9/13	-183 9/13	121 4/13	-134 9/13	136 4/13	168 4/13	-102 9/13	290 4/13	21
289 4/13	197 4/13	-218 9/13	-250 9/13	-227 9/13	220 4/13	284 4/13	198 4/13	-217 9/13	-249 9/13	-228 9/13	219 4/13	283 4/13	199 4/13	-216 9/13	-248 9/13	-229 9/13	218 4/13	282 4/13	200 4/13	-215 9/13	-247 9/13	-230 9/13	217 4/13	281 4/13	-287 9/13	21
301 4/13	-278 9/13	265 4/13	248 4/13	233 4/13	-263 9/13	-199 9/13	-277 9/13	266 4/13	247 4/13	234 4/13	-264 9/13	-200 9/13	-276 9/13	267 4/13	246 4/13	235 4/13	-265 9/13	-201 9/13	-275 9/13	268 4/13	245 4/13	236 4/13	-266 9/13	-202 9/13	-299 9/13	21
327 4/13	184 4/13	-167 9/13	152 4/13	-150 9/13	-118 9/13	105 4/13	183 4/13	-168 9/13	151 4/13	-149 9/13	-117 9/13	106 4/13	182 4/13	-169 9/13	150 4/13	-148 9/13	-116 9/13	107 4/13	181 4/13	-170 9/13	149 4/13	-147 9/13	-115 9/13	108 4/13	-325 9/13	21
-326 9/13	88 4/13	73 4/13	-54 9/13	-39 9/13	24 4/13	-86 9/13	87 4/13	74 4/13	-53 9/13	-40 9/13	23 4/13	-85 9/13	86 4/13	75 4/13	-52 9/13	-41 9/13	22 4/13	-84 9/13	85 4/13	76 4/13	-51 9/13	-42 9/13	21 4/13	-83 9/13	328 4/13	21
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-249 10/13	165 3/13	150 3/13	22 3/13	37 3/13	101 3/13	-9 10/13	164 3/13	151 3/13	23 3/13	36 3/13	100 3/13	-8 10/13	163 3/13	152 3/13	24 3/13	35 3/13	99 3/13	-7 10/13	162 3/13	153 3/13	25 3/13	34 3/13	98 3/13	-6 10/13	405 3/13	2021
406 3/13	69 3/13	5 3/13	118 3/13	133 3/13	54 3/13	86 3/13	68 3/13	4 3/13	119 3/13	132 3/13	55 3/13	87 3/13	67 3/13	3 3/13	120 3/13	131 3/13	56 3/13	88 3/13	66 3/13	2 3/13	121 3/13	130 3/13	57 3/13	89 3/13	-250 10/13	2021
-251 10/13	-105 10/13	197 3/13	-58 10/13	214 3/13	246 3/13	-26 10/13	-104 10/13	196 3/13	-59 10/13	215 3/13	247 3/13	-27 10/13	-103 10/13	195 3/13	-60 10/13	216 3/13	248 3/13	-28 10/13	-102 10/13	194 3/13	-61 10/13	217 3/13	249 3/13	-29 10/13	407 3/13	2021
408 3/13	278 3/13	-137 10/13	-169 10/13	-154 10/13	293 3/13	357 3/13	279 3/13	-136 10/13	-168 10/13	-155 10/13	292 3/13	356 3/13	280 3/13	-135 10/13	-167 10/13	-156 10/13	291 3/13	355 3/13	281 3/13	-134 10/13	-166 10/13	-157 10/13	290 3/13	354 3/13	-252 10/13	2021
-253 10/13	-197 10/13	346 3/13	321 3/13	314 3/13	-190 10/13	-126 10/13	-196 10/13	347 3/13	320 3/13	315 3/13	-191 10/13	-127 10/13	-195 10/13	348 3/13	319 3/13	316 3/13	-192 10/13	-128 10/13	-194 10/13	349 3/13	318 3/13	317 3/13	-193 10/13	-129 10/13	409 3/13	2021
410 3/13	257 3/13	-94 10/13	225 3/13	-69 10/13	-37 10/13	186 3/13	256 3/13	-95 10/13	224 3/13	-68 10/13	-36 10/13	187 3/13	255 3/13	-96 10/13	223 3/13	-67 10/13	-35 10/13	188 3/13	254 3/13	-97 10/13	222 3/13	-66 10/13	-34 10/13	189 3/13	-254 10/13	2021
-255 10/13	161 3/13	154 3/13	26 3/13	33 3/13	97 3/13	-5 10/13	160 3/13	155 3/13	27 3/13	32 3/13	96 3/13	-4 10/13	159 3/13	156 3/13	28 3/13	31 3/13	95 3/13	-3 10/13	158 3/13	157 3/13	29 3/13	30 3/13	94 3/13	-2 10/13	411 3/13	2021
412 3/13	65 3/13	1 3/13	122 3/13	129 3/13	58 3/13	90 3/13	64 3/13	3/13	123 3/13	128 3/13	59 3/13	91 3/13	63 3/13	- 10/13	124 3/13	127 3/13	60 3/13	92 3/13	62 3/13	-1 10/13	125 3/13	126 3/13	61 3/13	93 3/13	-256 10/13	2021
-257 10/13	-101 10/13	193 3/13	-62 10/13	218 3/13	250 3/13	-30 10/13	-100 10/13	192 3/13	-63 10/13	219 3/13	251 3/13	-31 10/13	-99 10/13	191 3/13	-64 10/13	220 3/13	252 3/13	-32 10/13	-98 10/13	190 3/13	-65 10/13	221 3/13	253 3/13	-33 10/13	413 3/13	2021
414 3/13	282 3/13	-133 10/13	-165 10/13	-158 10/13	289 3/13	353 3/13	283 3/13	-132 10/13	-164 10/13	-159 10/13	288 3/13	352 3/13	284 3/13	-131 10/13	-163 10/13	-160 10/13	287 3/13	351 3/13	285 3/13	-130 10/13	-162 10/13	-161 10/13	286 3/13	350 3/13	-258 10/13	2021
-234 10/13	-246 10/13	401 3/13	-244 10/13	399 3/13	-242 10/13	397 3/13	-240 10/13	395 3/13	-238 10/13	393 3/13	-236 10/13	415 3/13	-247 10/13	389 3/13	-232 10/13	387 3/13	-230 10/13	385 3/13	-228 10/13	383 3/13	-226 10/13	381 3/13	-224 10/13	379 3/13	391 3/13	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 6 are magic squares with equal magic sums. These sums are given by

$$[S_{6\times 6} : S_{26\times 26} := 21] := \frac{63}{13}$$

$$[S_{6\times 6} : S_{26\times 26} := 441] := \frac{1323}{13}$$

$$[S_{6\times 6} : S_{26\times 26} := 2021] := \frac{6063}{13}.$$

1.19.4 Forth Type

																										21
-312 9/13	325 4/13	-322 9/13	323 4/13	-320 9/13	321 4/13	-318 9/13	319 4/13	-316 9/13	317 4/13	-314 9/13	315 4/13	-336 9/13	326 4/13	-310 9/13	311 4/13	-308 9/13	309 4/13	-306 9/13	307 4/13	-304 9/13	305 4/13	-302 9/13	303 4/13	-300 9/13	313 4/13	21
-298 9/13	-144 9/13	122 4/13	11 4/13	-273 9/13	-15 9/13	281 4/13	164 4/13	-138 9/13	-193 9/13	75 4/13	58 4/13	-224 9/13	-62 9/13	232 4/13	213 4/13	-91 9/13	-167 9/13	97 4/13	36 4/13	-250 9/13	-40 9/13	258 4/13	187 4/13	-113 9/13	300 4/13	21
299 4/13	-18 9/13	284 4/13	161 4/13	-135 9/13	-153 9/13	131 4/13	2 4/13	-264 9/13	-67 9/13	237 4/13	208 4/13	-86 9/13	-200 9/13	82 4/13	51 4/13	-217 9/13	-41 9/13	259 4/13	186 4/13	-112 9/13	-178 9/13	108 4/13	25 4/13	-239 9/13	-297 9/13	21
-296 9/13	-285 9/13	23 4/13	134 4/13	-156 9/13	-126 9/13	152 4/13	269 4/13	-3 9/13	-236 9/13	70 4/13	87 4/13	-205 9/13	-79 9/13	201 4/13	220 4/13	-50 9/13	-262 9/13	48 4/13	109 4/13	-179 9/13	-101 9/13	175 4/13	246 4/13	-28 9/13	298 4/13	21
297 4/13	-123 9/13	149 4/13	272 4/13	-6 9/13	-276 9/13	14 4/13	143 4/13	-165 9/13	-74 9/13	196 4/13	225 4/13	-55 9/13	-229 9/13	63 4/13	94 4/13	-212 9/13	-100 9/13	174 4/13	247 4/13	-29 9/13	-251 9/13	37 4/13	120 4/13	-190 9/13	-295 9/13	21
-294 9/13	17 4/13	-279 9/13	-162 9/13	140 4/13	146 4/13	-120 9/13	-9 9/13	275 4/13	64 4/13	-230 9/13	-211 9/13	93 4/13	195 4/13	-73 9/13	-56 9/13	226 4/13	42 4/13	-256 9/13	-185 9/13	115 4/13	169 4/13	-95 9/13	-34 9/13	252 4/13	296 4/13	21
295 4/13	155 4/13	-129 9/13	- 9/13	266 4/13	20 4/13	-282 9/13	-159 9/13	137 4/13	202 4/13	-80 9/13	-49 9/13	219 4/13	69 4/13	-235 9/13	-206 9/13	88 4/13	180 4/13	-106 9/13	-23 9/13	241 4/13	43 4/13	-257 9/13	-184 9/13	114 4/13	-293 9/13	21
-292 9/13	128 4/13	-150 9/13	-267 9/13	5 4/13	287 4/13	-21 9/13	-132 9/13	158 4/13	81 4/13	-199 9/13	-218 9/13	52 4/13	238 4/13	-68 9/13	-85 9/13	207 4/13	103 4/13	-173 9/13	-244 9/13	30 4/13	264 4/13	-46 9/13	-107 9/13	181 4/13	294 4/13	21
293 4/13	278 4/13	-12 9/13	-141 9/13	167 4/13	125 4/13	-147 9/13	-270 9/13	8 4/13	231 4/13	-61 9/13	-92 9/13	214 4/13	76 4/13	-194 9/13	-223 9/13	57 4/13	253 4/13	-35 9/13	-118 9/13	192 4/13	102 4/13	-172 9/13	-245 9/13	31 4/13	-291 9/13	21
-290 9/13	-191 9/13	73 4/13	60 4/13	-226 9/13	-64 9/13	234 4/13	211 4/13	-89 9/13	-168 9/13	98 4/13	35 4/13	-249 9/13	-39 9/13	257 4/13	188 4/13	-114 9/13	-145 9/13	123 4/13	10 4/13	-272 9/13	-14 9/13	280 4/13	165 4/13	-139 9/13	292 4/13	21
291 4/13	-65 9/13	235 4/13	210 4/13	-88 9/13	-202 9/13	84 4/13	49 4/13	-215 9/13	-42 9/13	260 4/13	185 4/13	-111 9/13	-177 9/13	107 4/13	26 4/13	-240 9/13	-19 9/13	285 4/13	160 4/13	-134 9/13	-152 9/13	130 4/13	3 4/13	-265 9/13	-289 9/13	21
-288 9/13	-238 9/13	72 4/13	85 4/13	-203 9/13	-77 9/13	199 4/13	222 4/13	-52 9/13	-261 9/13	47 4/13	110 4/13	-180 9/13	-102 9/13	176 4/13	245 4/13	-27 9/13	-284 9/13	22 4/13	135 4/13	-157 9/13	-127 9/13	153 4/13	268 4/13	-2 9/13	290 4/13	21
289 4/13	-76 9/13	198 4/13	223 4/13	-53 9/13	-227 9/13	61 4/13	96 4/13	-214 9/13	-99 9/13	173 4/13	248 4/13	-30 9/13	-252 9/13	38 4/13	119 4/13	-189 9/13	-122 9/13	148 4/13	273 4/13	-7 9/13	-277 9/13	15 4/13	142 4/13	-164 9/13	-287 9/13	21
301 4/13	66 4/13	-232 9/13	-209 9/13	91 4/13	193 4/13	-71 9/13	-58 9/13	228 4/13	41 4/13	-255 9/13	-186 9/13	116 4/13	170 4/13	-96 9/13	-33 9/13	251 4/13	16 4/13	-278 9/13	-163 9/13	141 4/13	147 4/13	-121 9/13	-8 9/13	274 4/13	-299 9/13	21
327 4/13	204 4/13	-82 9/13	-47 9/13	217 4/13	67 4/13	-233 9/13	-208 9/13	90 4/13	179 4/13	-105 9/13	-24 9/13	242 4/13	44 4/13	-258 9/13	-183 9/13	113 4/13	154 4/13	-128 9/13	-1 9/13	267 4/13	21 4/13	-283 9/13	-158 9/13	136 4/13	-325 9/13	21
-326 9/13	79 4/13	-197 9/13	-220 9/13	54 4/13	240 4/13	-70 9/13	-83 9/13	205 4/13	104 4/13	-174 9/13	-243 9/13	29 4/13	263 4/13	-45 9/13	-108 9/13	182 4/13	129 4/13	-151 9/13	-266 9/13	4 4/13	286 4/13	-20 9/13	-133 9/13	159 4/13	328 4/13	21
329 4/13	229 4/13	-59 9/13	-94 9/13	216 4/13	78 4/13	-196 9/13	-221 9/13	55 4/13	254 4/13	-36 9/13	-117 9/13	191 4/13	101 4/13	-171 9/13	-246 9/13	32 4/13	279 4/13	-13 9/13	-140 9/13	166 4/13	124 4/13	-146 9/13	-271 9/13	9 4/13	-327 9/13	21
-328 9/13	-169 9/13	99 4/13	34 4/13	-248 9/13	-38 9/13	256 4/13	189 4/13	-115 9/13	-143 9/13	121 4/13	12 4/13	-274 9/13	-16 9/13	282 4/13	163 4/13	-137 9/13	-192 9/13	74 4/13	59 4/13	-225 9/13	-63 9/13	233 4/13	212 4/13	-90 9/13	330 4/13	21
331 4/13	-43 9/13	261 4/13	184 4/13	-110 9/13	-176 9/13	106 4/13	27 4/13	-241 9/13	-17 9/13	283 4/13	162 4/13	-136 9/13	-154 9/13	132 4/13	1 4/13	-263 9/13	-66 9/13	236 4/13	209 4/13	-87 9/13	-201 9/13	83 4/13	50 4/13	-216 9/13	-329 9/13	21
-330 9/13	-260 9/13	46 4/13	111 4/13	-181 9/13	-103 9/13	177 4/13	244 4/13	-26 9/13	-286 9/13	24 4/13	133 4/13	-155 9/13	-125 9/13	151 4/13	270 4/13	-4 9/13	-237 9/13	71 4/13	86 4/13	-204 9/13	-78 9/13	200 4/13	221 4/13	-51 9/13	332 4/13	21
333 4/13	-98 9/13	172 4/13	249 4/13	-31 9/13	-253 9/13	39 4/13	118 4/13	-188 9/13	-124 9/13	150 4/13	271 4/13	-5 9/13	-275 9/13	13 4/13	144 4/13	-166 9/13	-75 9/13	197 4/13	224 4/13	-54 9/13	-228 9/13	62 4/13	95 4/13	-213 9/13	-331 9/13	21
-332 9/13	40 4/13	-254 9/13	-187 9/13	117 4/13	171 4/13	-97 9/13	-32 9/13	250 4/13	18 4/13	-280 9/13	-161 9/13	139 4/13	145 4/13	-119 9/13	-10 9/13	276 4/13	65 4/13	-231 9/13	-210 9/13	92 4/13	194 4/13	-72 9/13	-57 9/13	227 4/13	334 4/13	21
335 4/13	178 4/13	-104 9/13	-25 9/13	243 4/13	45 4/13	-259 9/13	-182 9/13	112 4/13	156 4/13	-130 9/13	4/13	265 4/13	19 4/13	-281 9/13	-160 9/13	138 4/13	203 4/13	-81 9/13	-48 9/13	218 4/13	68 4/13	-234 9/13	-207 9/13	89 4/13	-333 9/13	21
-334 9/13	105 4/13	-175 9/13	-242 9/13	28 4/13	262 4/13	-44 9/13	-109 9/13	183 4/13	127 4/13	-149 9/13	-268 9/13	6 4/13	288 4/13	-22 9/13	-131 9/13	157 4/13	80 4/13	-198 9/13	-219 9/13	53 4/13	239 4/13	-69 9/13	-84 9/13	206 4/13	336 4/13	21
337 4/13	255 4/13	-37 9/13	-116 9/13	190 4/13	100 4/13	-170 9/13	-247 9/13	33 4/13	277 4/13	-11 9/13	-142 9/13	168 4/13	126 4/13	-148 9/13	-269 9/13	7 4/13	230 4/13	-60 9/13	-93 9/13	215 4/13	77 4/13	-195 9/13	-222 9/13	56 4/13	-335 9/13	21
-311 9/13	-323 9/13	324 4/13	-321 9/13	322 4/13	-319 9/13	320 4/13	-317 9/13	318 4/13	-315 9/13	316 4/13	-313 9/13	338 4/13	-324 9/13	312 4/13	-309 9/13	310 4/13	-307 9/13	308 4/13	-305 9/13	306 4/13	-303 9/13	304 4/13	-301 9/13	302 4/13	314 4/13	21
21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

441																											
-296 7/13	341 6/13	-306 7/13	339 6/13	-304 7/13	337 6/13	-302 7/13	335 6/13	-300 7/13	333 6/13	-298 7/13	331 6/13	-320 7/13	342 6/13	-294 7/13	248 6/13	-208 7/13	-46 7/13	74 6/13	91 6/13	-177 7/13	-122 7/13	180 6/13	-257 7/13	27 6/13	297 6/13	138 6/13	-128 7/13
441	329 6/13	-284 7/13	-97 7/13	203 6/13	319 6/13	-286 7/13	321 6/13	-288 7/13	323 6/13	-290 7/13	325 6/13	-292 7/13	327 6/13	-294 7/13	229 6/13	-75 7/13	-234 7/13	52 6/13	113 6/13	-151 7/13	274 6/13	-24 7/13	316 6/13	-282 7/13
441	-284 7/13	339 6/13	-305 7/13	340 6/13	-307 7/13	441																					
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
-295 7/13	353 6/13	-318 7/13	351 6/13	-316 7/13	349 6/13	-314 7/13	347 6/13	-312 7/13	345 6/13	-310 7/13	343 6/13	317 6/13	305 6/13	-272 7/13	307 6/13	-274 7/13	309 6/13	-276 7/13	311 6/13	-278 7/13	313 6/13	-280 7/13	315 6/13	-282 7/13	317 6/13	-284 7/13	319 6/13
441	330 6/13	318 6/13	-285 7/13	320 6/13	-287 7/13	322 6/13	-289 7/13	324 6/13	-291 7/13	326 6/13	-293 7/13	328 6/13	-308 7/13	354 6/13	-297 7/13	332 6/13	-299 7/13	293 6/13	4 6/13	-126 7/13	184 6/13	142 6/13	-132 7/13	-253 7/13	23 6/13	246 6/13	-44 7/13	-77 7/13	231 6/13	93 6/13	-179 7/13	-206 7/13	72 6/13	-319 7/13	441
441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441

																								2021
-235 10/13	402 3/13	-245 10/13	400 3/13	-243 10/13	398 3/13	-241 10/13	396 3/13	-239 10/13	394 3/13	-237 10/13	392 3/13	-259 10/13	403 3/13	-233 10/13	388 3/13	-231 10/13	386 3/13	-229 10/13	384 3/13	-227 10/13	382 3/13	-225 10/13	380 3/13	-223 10/13	390 3/13	2021
-221 10/13	-67 10/13	199 3/13	88 3/13	-196 10/13	61 3/13	358 3/13	241 3/13	-61 10/13	-116 10/13	152 3/13	135 3/13	-147 10/13	14 3/13	309 3/13	290 3/13	-14 10/13	-90 10/13	174 3/13	113 3/13	-173 10/13	36 3/13	335 3/13	264 3/13	-36 10/13	377 3/13	2021
376 3/13	58 3/13	361 3/13	238 3/13	-58 10/13	-76 10/13	208 3/13	79 3/13	-187 10/13	9 3/13	314 3/13	285 3/13	-9 10/13	-123 10/13	159 3/13	128 3/13	-140 10/13	35 3/13	336 3/13	263 3/13	-35 10/13	-101 10/13	185 3/13	102 3/13	-162 10/13	-220 10/13	2021
-219 10/13	-208 10/13	100 3/13	211 3/13	-79 10/13	-49 10/13	229 3/13	346 3/13	73 3/13	-159 10/13	147 3/13	164 3/13	-128 10/13	-2 10/13	278 3/13	297 3/13	26 3/13	-185 10/13	125 3/13	186 3/13	-102 10/13	-24 10/13	252 3/13	323 3/13	48 3/13	375 3/13	2021
374 3/13	-46 10/13	226 3/13	349 3/13	70 3/13	-199 10/13	91 3/13	220 3/13	-88 10/13	2 3/13	273 3/13	302 3/13	21 3/13	-152 10/13	140 3/13	171 3/13	-135 10/13	-23 10/13	251 3/13	324 3/13	47 3/13	-174 10/13	114 3/13	197 3/13	-113 10/13	-218 10/13	2021
-217 10/13	94 3/13	-202 10/13	-85 10/13	217 3/13	223 3/13	-43 10/13	67 3/13	352 3/13	141 3/13	-153 10/13	-134 10/13	170 3/13	272 3/13	3 3/13	20 3/13	303 3/13	119 3/13	-179 10/13	-108 10/13	192 3/13	246 3/13	-18 10/13	42 3/13	329 3/13	373 3/13	2021
372 3/13	232 3/13	-52 10/13	76 3/13	343 3/13	97 3/13	-205 10/13	-82 10/13	214 3/13	279 3/13	-3 10/13	27 3/13	296 3/13	146 3/13	-158 10/13	-129 10/13	165 3/13	257 3/13	-29 10/13	53 3/13	318 3/13	120 3/13	-180 10/13	-107 10/13	191 3/13	-216 10/13	2021
-215 10/13	205 3/13	-73 10/13	-190 10/13	82 3/13	364 3/13	55 3/13	-55 10/13	235 3/13	158 3/13	-122 10/13	-141 10/13	129 3/13	315 3/13	8 3/13	-8 10/13	284 3/13	180 3/13	-96 10/13	-167 10/13	107 3/13	341 3/13	30 3/13	-30 10/13	258 3/13	371 3/13	2021
370 3/13	355 3/13	64 3/13	-64 10/13	244 3/13	202 3/13	-70 10/13	-193 10/13	85 3/13	308 3/13	15 3/13	-15 10/13	291 3/13	153 3/13	-117 10/13	-146 10/13	134 3/13	330 3/13	41 3/13	-41 10/13	269 3/13	179 3/13	-95 10/13	-168 10/13	108 3/13	-214 10/13	2021
-213 10/13	-114 10/13	150 3/13	137 3/13	-149 10/13	12 3/13	311 3/13	288 3/13	-12 10/13	-91 10/13	175 3/13	112 3/13	-172 10/13	37 3/13	334 3/13	265 3/13	-37 10/13	-68 10/13	200 3/13	87 3/13	-195 10/13	62 3/13	357 3/13	242 3/13	-62 10/13	369 3/13	2021
368 3/13	11 3/13	312 3/13	287 3/13	-11 10/13	-125 10/13	161 3/13	126 3/13	-138 10/13	34 3/13	337 3/13	262 3/13	-34 10/13	-100 10/13	184 3/13	103 3/13	-163 10/13	57 3/13	362 3/13	237 3/13	-57 10/13	-75 10/13	207 3/13	80 3/13	-188 10/13	-212 10/13	2021
-211 10/13	-161 10/13	149 3/13	162 3/13	-126 10/13	- 10/13	276 3/13	299 3/13	24 3/13	-184 10/13	124 3/13	187 3/13	-103 10/13	-25 10/13	253 3/13	322 3/13	49 3/13	-207 10/13	99 3/13	212 3/13	-80 10/13	-50 10/13	230 3/13	345 3/13	74 3/13	367 3/13	2021
366 3/13	3/13	275 3/13	300 3/13	23 3/13	-150 10/13	138 3/13	173 3/13	-137 10/13	-22 10/13	250 3/13	325 3/13	46 3/13	-175 10/13	115 3/13	196 3/13	-112 10/13	-45 10/13	225 3/13	350 3/13	69 3/13	-200 10/13	92 3/13	219 3/13	-87 10/13	-210 10/13	2021
378 3/13	143 3/13	-155 10/13	-132 10/13	168 3/13	270 3/13	5 3/13	18 3/13	305 3/13	118 3/13	-178 10/13	-109 10/13	193 3/13	247 3/13	-19 10/13	43 3/13	328 3/13	93 3/13	-201 10/13	-86 10/13	218 3/13	224 3/13	-44 10/13	68 3/13	351 3/13	-222 10/13	2021
404 3/13	281 3/13	-5 10/13	29 3/13	294 3/13	144 3/13	-156 10/13	-131 10/13	167 3/13	256 3/13	-28 10/13	52 3/13	319 3/13	121 3/13	-181 10/13	-106 10/13	190 3/13	231 3/13	-51 10/13	75 3/13	344 3/13	98 3/13	-206 10/13	-81 10/13	213 3/13	-248 10/13	2021
-249 10/13	156 3/13	-120 10/13	-143 10/13	131 3/13	317 3/13	6 3/13	-6 10/13	282 3/13	181 3/13	-97 10/13	-166 10/13	106 3/13	340 3/13	31 3/13	-31 10/13	259 3/13	206 3/13	-74 10/13	-189 10/13	81 3/13	363 3/13	56 3/13	-56 10/13	236 3/13	405 3/13	2021
406 3/13	306 3/13	17 3/13	-17 10/13	293 3/13	155 3/13	-119 10/13	-144 10/13	132 3/13	331 3/13	40 3/13	-40 10/13	268 3/13	178 3/13	-94 10/13	-169 10/13	109 3/13	356 3/13	63 3/13	-63 10/13	243 3/13	201 3/13	-69 10/13	-194 10/13	86 3/13	-250 10/13	2021
-251 10/13	-92 10/13	176 3/13	111 3/13	-171 10/13	38 3/13	333 3/13	266 3/13	-38 10/13	-66 10/13	198 3/13	89 3/13	-197 10/13	60 3/13	359 3/13	240 3/13	-60 10/13	-115 10/13	151 3/13	136 3/13	-148 10/13	13 3/13	310 3/13	289 3/13	-13 10/13	407 3/13	2021
408 3/13	33 3/13	338 3/13	261 3/13	-33 10/13	-99 10/13	183 3/13	104 3/13	-164 10/13	59 3/13	360 3/13	239 3/13	-59 10/13	-77 10/13	209 3/13	78 3/13	-186 10/13	10 3/13	313 3/13	286 3/13	-10 10/13	-124 10/13	160 3/13	127 3/13	-139 10/13	-252 10/13	2021
-253 10/13	-183 10/13	123 3/13	188 3/13	-104 10/13	-26 10/13	254 3/13	321 3/13	50 3/13	-209 10/13	101 3/13	210 3/13	-78 10/13	-48 10/13	228 3/13	347 3/13	72 3/13	-160 10/13	148 3/13	163 3/13	-127 10/13	-1 10/13	277 3/13	298 3/13	25 3/13	409 3/13	2021
410 3/13	-21 10/13	249 3/13	326 3/13	45 3/13	-176 10/13	116 3/13	195 3/13	-111 10/13	-47 10/13	227 3/13	348 3/13	71 3/13	-198 10/13	90 3/13	221 3/13	-89 10/13	1 3/13	274 3/13	301 3/13	22 3/13	-151 10/13	139 3/13	172 3/13	-136 10/13	-254 10/13	2021
-255 10/13	117 3/13	-177 10/13	-110 10/13	194 3/13	248 3/13	-20 10/13	44 3/13	327 3/13	95 3/13	-203 10/13	-84 10/13	216 3/13	222 3/13	-42 10/13	66 3/13	353 3/13	142 3/13	-154 10/13	-133 10/13	169 3/13	271 3/13	4 3/13	19 3/13	304 3/13	411 3/13	2021
412 3/13	255 3/13	-27 10/13	51 3/13	320 3/13	122 3/13	-182 10/13	-105 10/13	189 3/13	233 3/13	-53 10/13	77 3/13	342 3/13	96 3/13	-204 10/13	-83 10/13	215 3/13	280 3/13	-4 10/13	28 3/13	295 3/13	145 3/13	-157 10/13	-130 10/13	166 3/13	-256 10/13	2021
-257 10/13	182 3/13	-98 10/13	-165 10/13	105 3/13	339 3/13	32 3/13	-32 10/13	260 3/13	204 3/13	-72 10/13	-191 10/13	83 3/13	365 3/13	54 3/13	-54 10/13	234 3/13	157 3/13	-121 10/13	-142 10/13	130 3/13	316 3/13	7 3/13	-7 10/13	283 3/13	413 3/13	2021
414 3/13	332 3/13	39 3/13	-39 10/13	267 3/13	177 3/13	-93 10/13	-170 10/13	110 3/13	354 3/13	65 3/13	-65 10/13	245 3/13	203 3/13	-71 10/13	-192 10/13	84 3/13	307 3/13	16 3/13	-16 10/13	292 3/13	154 3/13	-118 10/13	-145 10/13	133 3/13	-258 10/13	2021
-234 10/13	-246 10/13	401 3/13	-244 10/13	399 3/13	-242 10/13	397 3/13	-240 10/13	395 3/13	-238 10/13	393 3/13	-236 10/13	415 3/13	-247 10/13	389 3/13	-232 10/13	387 3/13	-230 10/13	385 3/13	-228 10/13	383 3/13	-226 10/13	381 3/13	-224 10/13	379 3/13	391 3/13	2021
2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021

In this case, the blocks of order 8 are magic squares with equal magic sums. These sums are given by

$$[S_{8\times 8} : S_{26\times 26} := 21] := \frac{63}{26}$$

$$[S_{8\times 8} : S_{26\times 26} := 441] := \frac{1323}{26}$$

$$[S_{8\times 8} : S_{26\times 26} := 2021] := \frac{6063}{26}.$$

2 Author's Contributions to Magic Squares

The **item-wise** author's work on magic squares is as follows:

1. ***Digital Numbers*** *Magic Squares - [9, 10, 11, 12, 13, 14, 41];*
2. ***Block-Wise Construction*** *of* ***Bimagic Squares*** *- [15];*
3. *Connections with* ***Genetic Tables*** *and* ***Shannon's entropy*** *- [16];*
4. ***Selfie*** *and* ***Palindromic-type*** *Magic Squares - [17, 32, 41];*
5. ***Intervally Distributed*** *and* ***Block-Wise*** *Magic Squares - [18, 19, 20, 32];*
6. ***Multi-digits*** *and* ***Number Patterns*** *Magic Squares - [21, 31];*
7. ***Perfect Square Sum*** *Magic Squares with* ***Uniformity***, ***Minimum Sum*** *and* ***Pythagorean Triples*** *- [22, 23];*
8. ***Block-Wise*** *Constructions of Magic and Bimagic Squares - [24, 25, 26, 27, 30, 33, 35];*
9. ***Magic Crosses:*** *Repeated and Non Repeated Entries - [28];*
10. *Representations of* ***Letters*** *and* ***Numbers*** *With Equal Sums Magic Squares of Orders 4 and 6 - [29].*
11. ***Bordered*** *Magic Squares - [36, 37, 38, 39, 40].*
12. ***Block-Bordered*** *Magic Squares - [49, 50, 51, 55].*
13. ***2-Digits*** *Magic and Bimagic Squares - [42, 43, 44, 45, 46, 47, 48, 52, 53, 54].*

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