<http://members.shaw.ca/johnhendricksmath>

1	10	18	5	21
22	7	24	9	3
14	20	13	6	12
23	17	2	19	4
5	11	8	16	25

A MAGIC SQUARE OF ORDER 5
WITH INLAID MAGIC DIAMOND OF ORDER 3

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WHAT IS A MAGIC SQUARE?

One boy said, "It's that thing that adds up." It is often thought of as a number puzzle. Historically, it goes back some 5.000 years when the first one was made using 9 numbers. People ever since have made bigger and more complicated ones. But, today, they are the entrance to similar but higher dimensional cubes and hypercubes which are really complicated and most interesting. Rows and columns must all sum the magic sum and diagonals must too, for squares.

The magic square shown at the top uses the numbers 1, 2, 3, …., 25. All regular magic squares use the consecutive numbers 1, 2, 3,…, m^2 where m is called the order. The whole square above, sums 65. The magic sum S is given by $S=m.(1+m^2)/2$ for regular squares.. The shaded area depicts an inlaid magic diamond, which sums 39. Numbers are not consecutive but all different.

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WHAT IS A MAGIC SQUARE?

With a variety if pandiagonal magic sub-squares

Orders 4, 5, 6, 7 and 9

76	14	22	17	19	15	9	5	7	2	12	4	573	565	575	570	572	568	562	558	560	555	11	553
313	251	243	248	246	250	256	260	258	263	253	261	316	324	314	319	317	321	327	331	329	334	254	336
505	59	304	383	234	236	370	222	224	363	373	69	525	510	40	524	34	198	352	445	274	116	515	49
385	179	544	308	54	143	476	534	123	469	58	189	405	164	394	150	400	442	284	102	208	349	395	169
433	131	418	414	306	191	416	171	421	188	184	141	453	30	520	44	514	112	205	346	452	270	443	121
337	227	466	464	56	291	551	61	546	138	136	237	357	404	154	390	160	356	438	280	109	202	347	217
193	371	376	140	426	71	301	531	176	462	226	381	213	512	147	407	42	277	106	212	342	448	203	361
97	467	130	174	536	541	51	311	66	428	472	477	117	402	37	272	507	167	210	339	200	359	107	457
145	419	178	474	181	411	186	431	296	128	424	429	165	287	527	162	397	32	440	119	450	99	155	409
25	539	64	133	548	459	126	68	479	294	538	549	45	157	392	27	287	522	354	195	344	215	35	529
265	299	229	219	368	366	232	380	378	239	298	309	285	47	282	517	152	387	104	455	114	435	275	289
73	491	483	488	486	490	496	500	498	503	493	501	93	85	95	90	92	88	82	78	80	75	83	481
504	86	502	497	499	495	489	485	487	482	492	484	76	84	74	79	77	81	87	91	89	94	494	96
312	278	307	543	65	417	461	367	190	218	132	292	268	273	194	343	341	207	355	353	214	204	302	288
552	38	63	305	547	365	415	465	122	180	238	532	28	33	269	523	434	101	43	454	108	519	542	48
432	158	545	67	303	463	369	413	228	142	170	412	148	159	163	526	386	156	266	46	389	393	422	168
480	110	177	221	127	310	530	60	427	471	377	460	100	111	113	41	401	31	391	516	439	441	470	120
384	206	125	175	225	50	300	550	375	425	475	364	196	201	437	271	146	276	406	281	115	351	374	216
240	350	223	129	173	540	70	290	473	379	423	220	340	447	403	36	161	521	151	511	149	105	230	360
144	446	430	458	372	187	231	137	297	533	55	124	436	399	103	506	286	396	166	26	449	153	134	456
192	398	362	420	478	135	185	235	53	295	537	172	388	513	444	29	118	451	509	98	283	39	182	408
2	518	468	382	410	233	139	183	535	57	293	52	508	348	358	209	211	345	197	199	338	279	62	528
241	323	262	257	259	255	249	245	247	242	252	244	333	325	335	330	332	328	322	318	320	315	326	264
24	566	3	8	6	10	16	20	18	23	13	21	556	564	554	559	557	561	567	571	569	574	563	1

Can you find at least 24 magic squares in the diagram above?