Polynomials Generating Prime Numbers

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Abstract

In the Ulam spiral, there are places where prime numbers appear continuously on line. Integers are arranged in a square spiral in the Ulam spiral. I thought that if integers are arranged differently, other continuous prime numbers would appear. Therefore, I arrange integers in the angles of 45, 90, 135, 180, 225, 270, 315, 153, 160 degrees, etc.. Then, prime numbers appeared continuously on line. I found many polynomials generating 19 to 6 consecutive prime numbers.

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1 Introduction

I was interested in prime numbers looking at the Ulam spiral, I analyzed it myself. And I learned that Euler's polynomial generating prime numbers is simple and great. I thought that other polynomials generating prime numbers may be found in other arrangements, I investigate. I found many polynomials generating 19 to 6 consecutive prime numbers, and I collect the results.

These algebraic polynomials have the property that for n = 0, 1, …, m-1 value of the polynomial, eventually in module, are m primes.

2 Polynomials generating prime numbers

2.1 The Ulam spiral

In the Ulam spiral, there are places where prime numbers appear continuously on line. I noticed that there are places where prime numbers appear continuously in a certain pattern in the Ulam spiral, although they do not appear continuously on line. They are two polynomials, $P(n) = 4n^2 + 2n + 41$ and $P(n) = 4n^2 + 6n + 43$, generates 20 primes, see Figure 2.1. Each value is a value obtained by skipping one of Euler prime numbers. When the values of the two polynomials are inserted alternately, the values are the same as values of Euler prime numbers, see Figure 2.1.

2.2 Polynomial generating prime numbers 1

Integers are arranged in a square spiral in the Ulam spiral, but I thought that if integers are arranged differently, other continuous prime numbers would appear. Therefore, I arrange integers in the angles of 45, 90, 135, 180, 225, 270, 315, 153, 160 degrees, etc., using a computer. Then, prime numbers appeared continuously on line.

In 180 degrees arrangement, see Figure 2.2, 29 prime numbers appear continuously. It was prime numbers of Legendre polynomial [1798], $P(n) = 2n^2 + 29$, generates 29 primes: 29, 31, 37, 47, 61, 79, 101, 127, 157, 191, 229, 271, 317, 367, 421, 479, 541, 607, 677, 751, 829, 911, 997, 1087, 1181, 1279, 1381, 1487, 1597 .

2.3 Polynomial generating prime numbers 2

In 135 degrees arrangement, see Figure 2.3, 29 prime numbers appear continuously. It was prime numbers of Brox polynomial [2006], $P(n) = 6n^2 - 342n + 4903$ (or $6n^2 + 6n + 31$), generates 29 primes: 4903, 4567, 4243, 3931, 3631, 3343, 3067, 2803, 2551, 2311, 2083, 1867, 1663, 1471, 1291, 1123, 967, 823, 691, 571, 463, 367, 283, 211, 151, 103, 67, 43, 31 . Also, in Figure 2.3, prime numbers of polynomials, $P(n) = 6n^2 + 6n + p$, p are lucky numbers p = 5, 7, 11, 17, 31, are clearly appeared. In addition, prime numbers of polynomials, $P(n) = 6n^2 + p$, p are lucky numbers p = 5, 7, 13, 17, are clearly appeared.

2.4 Polynomial generating prime numbers 3

In 270 degrees arrangement, see Figure 2.4, 22 prime numbers appear continuously. It was prime numbers of Frame polynomial [2018], $P(n) = 3n^2 + 3n + 23$, generates 22 primes: 23, 29, 41, 59, 83, 113, 149, 191, 239, 293, 353, 419, 491, 569, 653, 743, 839, 941, 1049, 1163, 1283, 1409 .

2.5 Euler's polynomial generating prime numbers

In 90 degrees arrangement, see Figure 2.5 and the hexagonal 90 degrees arrangement, see Figure 2.6 (illustrated as a rectangle for simplification in Figure 2.6), 40 prime numbers appear continuously. It was prime numbers of Euler's polynomial, $P(n) = n^2 + n + 41$, generates 40 primes. Also, prime numbers of polynomial, $P(n) = n^2 + n + p$, p are Euler's lucky numbers p = 3, 5, 11, 17, 41, are clearly appeared.

3 New polynomials generating prime numbers

Integers are arranged in the Ulam spiral, but I thought that other polynomials generating prime numbers may be found in other arrangements. I arrange integers in the angles of 45, 90, 135, 180, 225, 270, 315, 153, 160 degrees, etc., using a computer. I mark the prime numbers. Then, prime numbers appeared continuously on line. I found many polynomials generating prime numbers. The generating appearance of prime numbers are diagonal, vertical, and horizontal lines and evenly spaced.

Most polynomials are prime even when n is -1 to -n (or -n+1),excludes the polynomials of Section 3.4, 3,6, 3.10.3, 3.10.5, 3.10.6, from 3.10.9 to 3.10.13, 3.10.15 .

3.1 New polynomial generating prime numbers 1

When integers are arranged in 160 degrees arrangement, see Figure 3.1, continuous prime numbers appear. The produce of polynomial is as follows.

379			379	n=0
	130			
509		20	509=379+130	n=1
			=379+130x1	
	150			
659		20	659=(379+130)+(130+20)	n=2

	170		=379+130x2+20x1	
829		20	829=(379+130)+(130+20)+(130+20+20)	n=3
	190		=379+130x3+20x3	
1019		20	1019=(379+130)+(130+20)+(130+20+20)+(130+20+20+20)	n=4
	210		=379+130x4+20x6	
1229		20	1229=(379+130)+(130+20)+(130+20+20)+(130+20+20+20)	n=5
	230		+(130+20+20+20+20)=379+130x5+20x10	
1459			1459= ・ ・ ・ ・ ・	

$f(n)=379+130n+20xn(n-1)/2=379+130n+10n^2-10n$

$=10n^2+120n+379$

This polynomial is prime numbers even if n = -1 to -6, so I insert n=n-6,

$f(n)=10(n-6)^2+120(n-6)+379=10n^2-10x2x6n+10x6x6+120n-120x6+379$

$=10n^2-120n+360+120n-720+379=10n^2+19$

This is polynomial generating 19 prime numbers.

$P(n) = 10n^2 + 19$, generates 19 primes: 19, 29, 59, 109, 179, 269, 379, 509, 659, 829, 1019, 1229, 1459, 1709, 1979, 2269, 2579, 2909, 3259 .

3.2 New polynomial generating prime numbers 2

When integers are arranged in 153 degrees arrangement, see Figure 3.2, continuous prime numbers appear. The produce of polynomial is as follows.

79			79	n=0
	24			
103		4	103=79+24	n=1
	28		=79+24x1	
131		4	131=(79+24)+(24+4)	n=2
	32		=79+24x2+4x1	
163		4	163=(79+24)+(24+4)+(24+4+4)	n=3
	36		=79+24x3+4x3	
199		4	199=(79+24)+(24+4)+(24+4+4)+(24+4+4+4)	n=4
	40		=79+24x4+4x6	
239		4	239=(79+24)+(24+4)+(24+4+4)+(24+4+4+4)	n=5
	44		+(24+4+4+4+4)=79+24x5+4x10	
283			283= ・ ・ ・ ・ ・	

This polynomial is prime numbers even if n = -1 to -5, so I insert n=n-5,

$f(n)=2(n-5)^2+22(n-5)+79=2n^2-2x2x5n+2x5x5+22n-22x5+79=2n^2-20n+50+22n-110+79$

$=2n^2+2n+19$

This is polynomial generating 18 prime numbers.

$P(n) = 2n^2 + 2n + 19$, generates 18 primes: 19, 23, 31, 43, 59, 79, 103, 131, 163, 199, 239, 283, 331, 383, 439, 499, 563, 631 .

3.3 New polynomial generating prime numbers 3

When integers are arranged in 135 degrees arrangement, see Figure 3.3, continuous prime numbers appear. The produce of polynomial is as follows.

233			233	n=0
	78			
311		12	311=233+78	n=1
			=233+78x1	
	90			
401		12	401=(233+78)+(78+12)	n=2
	102		=233+78x2+12x1	
503		12	503=(233+78)+(78+12)+(78+12+12)	n=3
	114		=233+78x3+12x3	
617		12	617=(233+78)+(78+12)+(78+12+12)+(78+12+12+12)	n=4
	126		=233+78x4+12x6	
743		12	743=(233+78)+(78+12)+(78+12+12)+(78+12+12+12)	n=5
	138		+(78+12+12+12+12)=233+78x5+12x10	
881			1459= · · · · ·	

$f(n)=233+78n+12xn(n-1)/2=233+78n+6n^2-6n=6n^2+72n+233$

This polynomial is prime numbers even if n = -1 to -6, so I insert n=n-6,

$f(n)=6(n-6)^2+72(n-6)+233=6n^2-6x2x6n+6x6x6+72n-72x6+233=6n^2-72n+216+72n-432$

$+233=6n^2+17$

This is polynomial generating 17 prime numbers.

$P(n) = 6n^2 + 17$, generates 17 primes: 17, 23, 41, 71, 113, 167, 233, 311, 401, 503, 617, 743, 881, 1031, 1193, 1367, 1553 .

3.4 New polynomial generating prime numbers 4

When integers are arranged in 6 by 6 arrangement, see Figure 3.4, continuous prime numbers appear. The produce of polynomial is as follows.

59			59	n=0
	90			
149		54	149=59+90	n=1
	144		=59+90x1	
293		54	293=(59+90)+(90+54)	n=2
	198		=59+90x2+54x1	
491		54	491=(59+90)+(90+54)+(90+54+54)	n=3
	252		=59+90x3+54x3	
743		54	743=(59+90)+(90+54)+(90+54+54)+(90+54+54+54)	n=4
	306		=59+90x4+54x6	
1049		54	1229=(59+90)+(90+54)+(90+54+54)+(90+54+54+54)	n=5
	360		+(90+54+54+54+54)=59+90x5+54x10	
1409			1409=・・・・・	

$f(n)=59+90n+54xn(n-1)/2=59+90n+27n^2-27n=27n^2+63n+59$

This polynomial is prime numbers even if n = -1 to -8, so I insert n=n-8,

$f(n)=27(n-8)^2+63(n-8)+59=27n^2-27x2x8n+27x8x8+63n-63x8+59$

$=27n^2-432n+1728+63n-504+59=27n^2-369n+1283$

This is polynomial generating 16 prime numbers.

$P(n) = 27n^2 - 369n + 1283$, generates 16 primes: 1283, 941, 653, 419, 239, 113, 41, 23, 59, 149, 293, 491, 743, 1049, 1409, 1823 .

3.5 New polynomial generating prime numbers 5

When integers are arranged in 135 degrees arrangement, see Figure 3.5, continuous prime numbers appear. Since the method of obtaining the polynomial is the same as the method described above, so it will be omitted below.

This is polynomial generating 15 prime numbers.

$P(n) = 6n^2 + 6n + 17$, generates 15 primes: 17, 29, 53, 89, 137, 197, 269, 353, 449, 557, 677, 809, 953, 1109, 1277 .

$P(n) = 6n^2 + 6n + 17$, generates 15 primes: 17, 29, 53, 89, 137, 197, 269, 353, 449, 557, 677, 809, 953, 1109, 1277 .

3.6 New polynomial generating prime numbers 6

When integers are arranged in Hexagonal Spiral arrangement, see Figure 3.6 (illustrated as a rectangle for simplification in Figure 3.6), continuous prime numbers appear.

This is polynomial generating 14 prime numbers.

$P(n) = 3n^2 + 33n + 31$, generates 14 primes: 31, 67, 109, 157, 211, 271, 337, 409, 487, 571, 661, 757, 859, 967 .

3.7 New polynomial generating prime numbers 7

When integers are arranged in 135 degrees arrangement, see Figure 3.7, continuous prime numbers appear.

This is polynomial generating 13 prime numbers.

$P(n) = 6n^2 + 13$, generates 13 primes: 13, 19, 37, 67, 109, 163, 229, 307, 397, 499, 613, 739, 877 .

3.8 New polynomial generating prime numbers 8

When integers are arranged in 160 degrees arrangement, see Figure 3.8, continuous prime numbers appear.

This is polynomial generating 13 prime numbers.

$P(n) = 10n^2 + 13$, generates 13 primes: 13, 23, 53, 103, 173, 263, 373, 503, 653, 823, 1013, 1223, 1453 .

3.9 New polynomial generating prime numbers 9

When integers are arranged in 6 by 6 arrangement, see Figure 3.9, continuous prime numbers appear.

This is polynomial generating 10 prime numbers.

$P(n) = 3n^2 + 3n + 11$, generates 10 primes: 11, 17, 29, 47, 71, 101, 137, 179, 227, 281 .

3.10 Other new polynomials generating prime numbers

I found many polynomials generating 9 or less consecutive polynomials. The details of diagrams are omitted.

3.10.1 $P(n) = 6n^2 + 6n + 11$, generates 9 primes: 11, 23, 47, 83, 131, 191, 263, 347, 443 .

3.10.2 $P(n) = 14n^2 + 14n + 13$, generates 9 primes: 13, 41, 97, 181, 293, 433, 601, 797, 1021 .

3.10.3 $P(n) = 14n^2 + 42n + 17$, generates 9 primes: 17, 73, 157, 269, 409, 577, 773, 997, 1249 .

3.10.4 $P(n) = 10n^2 + 10n + 11$, generates 8 primes: 11, 31, 71, 131, 211, 311, 431, 571 .

3.10.5 $P(n) = 12n^2 + 138n + 449$, generates 8 primes: 449, 599, 773, 971, 1193, 1439, 1709, 2003 .

3.10.6 $P(n) = 16n^2 + 34n + 17$, generates 8 primes: 17, 67, 149, 263, 409, 587, 797, 1039 .

3.10.7 $P(n) = 6n^2 + 7$, generates 7 primes: 7, 13, 31, 61, 103, 157, 223 .

3.10.8 $P(n) = 10n^2 + 7$, generates 7 primes: 7, 17, 47, 97, 167, 257, 367 .

3.10.9 $P(n) = 14 n^2 + 56n + 43$, generates 7 primes: 43, 113, 211, 337, 491, 673, 883 .

3.10.10 $P(n) = 3n^2 + 27n + 73$, generates 6 primes: 73, 103, 139, 181, 229, 283 .

3.10.11 $P(n) = 12n^2 + 174n + 691$, generates 6 primes: 691, 877, 1087, 1321, 1579, 1861 .

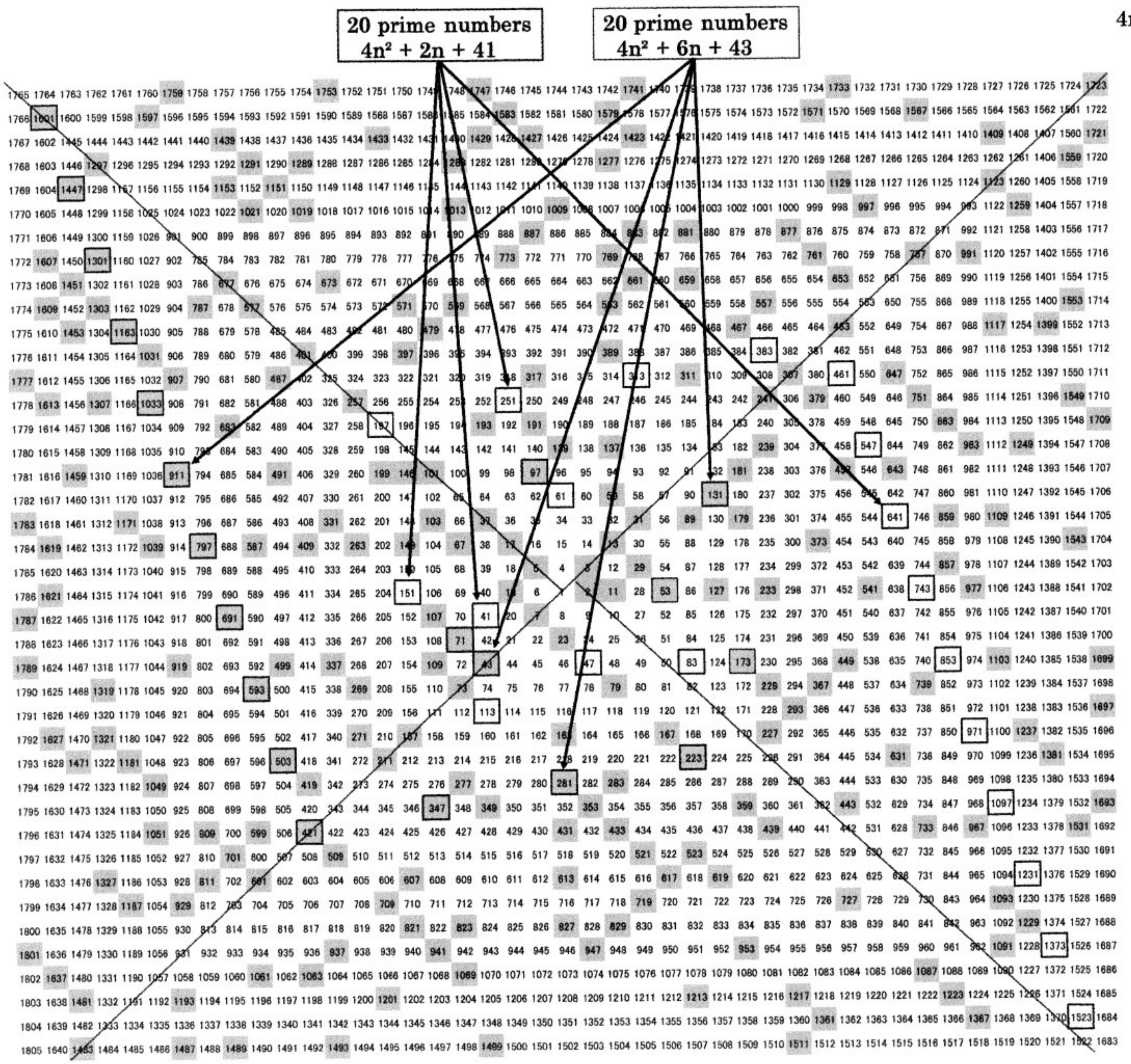
3.10.12 $P(n) = 24n^2 + 42n + 17$, generates 6 primes: 17, 83, 197, 359, 569, 827 .

3.10.13 $P(n) = 27n^2 + 39n + 13$, generates 6 primes: 13, 79, 199, 373, 601, 883 .

3.10.14 $P(n) = 36n^2 + 36n + 7$, generates 6 primes: 7, 79, 223, 439, 727, 1087 .

3.10.15 $P(n) = 48n^2 + 180n + 181$, generates 6 primes: 181, 409, 733, 1153, 1669, 2281 .

Figure 2.1: The Ulam Spiral



Euler's prime numbers

$4n^2 + 2n + 41$	$4n^2 + 6n + 43$	$n^2 + n + 41$
41		41
	43	43
47		47
	53	53
61		61
	71	71
83		83
	97	97
113		113
	131	131
151		151
	173	173
197		197
	223	223
251		251
	281	281
313		313
	347	347
383		383
	421	421
461		461
	503	503
547		547
	593	593
641		641
	691	691
743		743
	797	797
853		853
	911	911
971		971
	1033	1033
1097		1097
	1163	1163
1231		1231
	1301	1301
1373		1373
	1447	1447
1523		1523
	1601	1601

Figure 2.2: 180 degrees Arrangement   Legendre Polynomial

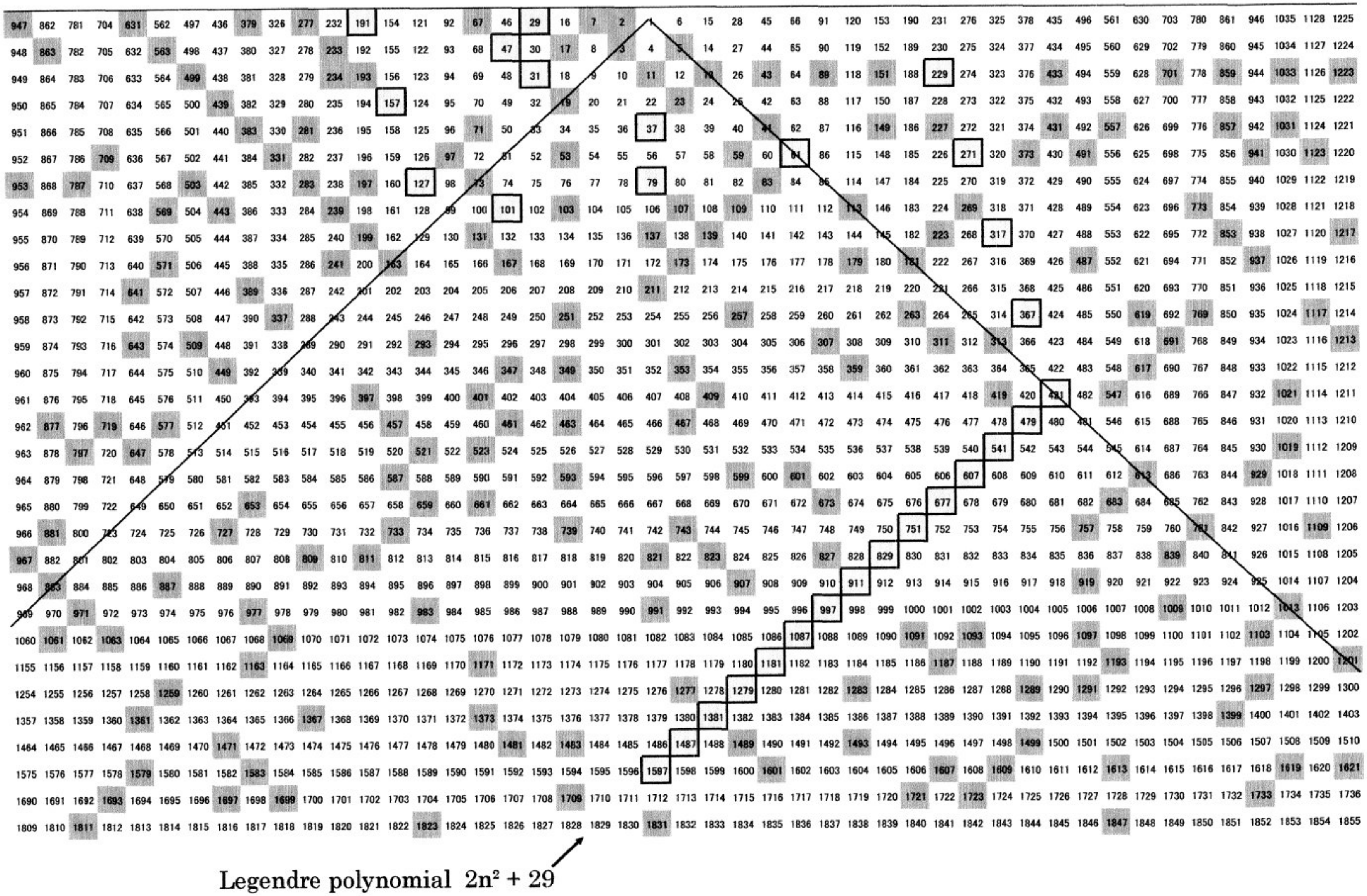


Figure 2.3: 135 degrees Arrangement Brox Polynomial

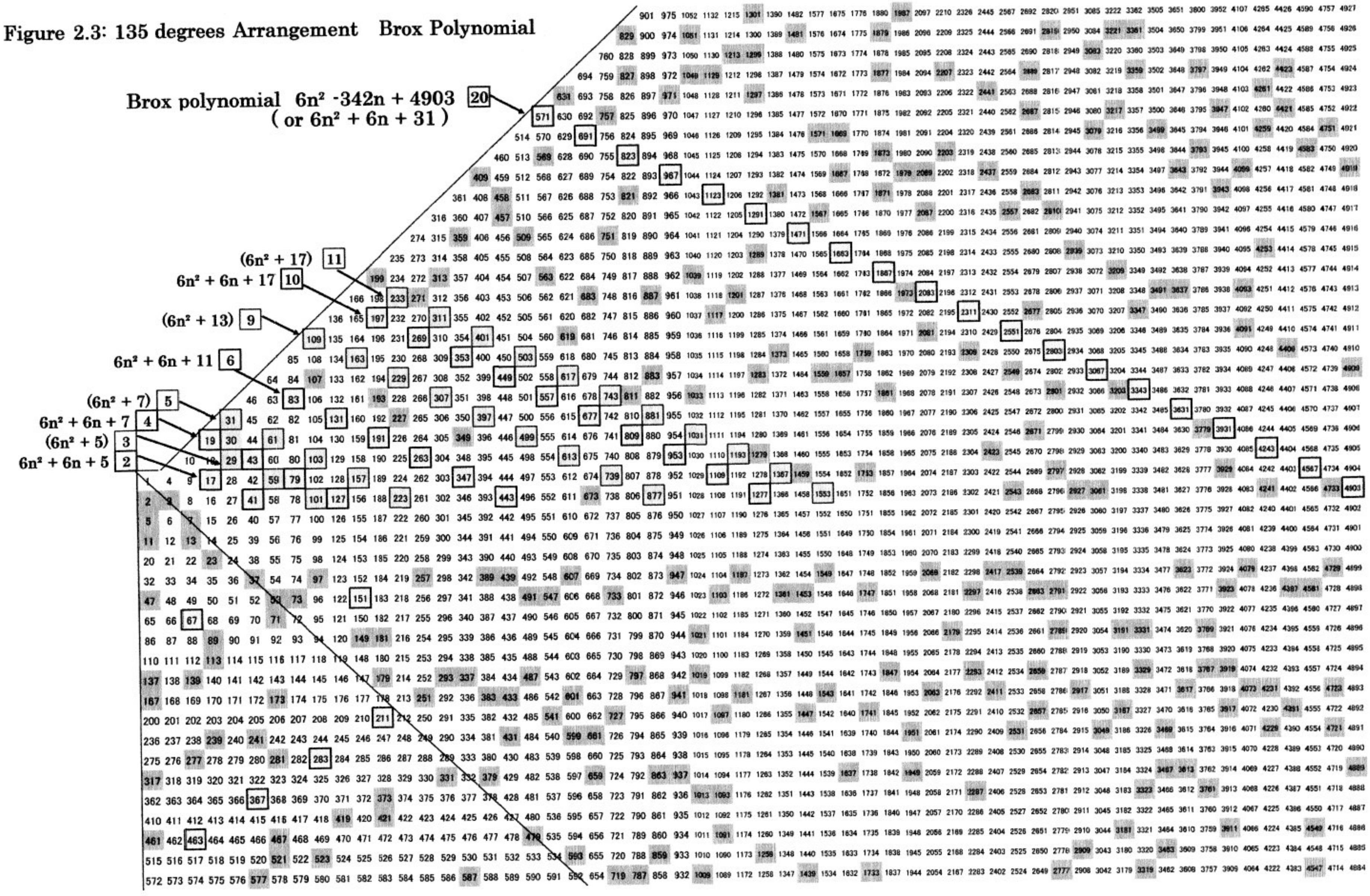


Figure 2.4: 270 degrees Arrangement　Frame Polynomial

Frame polynomial $3n^2 + 3n + 23$

																								280	279	278	277	276	275	274	273	272	271
																								225	224	223	222	221	220	219	218	217	270
																								176	175	174	173	172	171	170	169	216	269
																								133	132	131	130	129	128	127	168	215	268
																								96	95	94	93	92	91	126	167	214	267
																								65	64	63	62	61	90	125	166	213	266
																								40	39	38	37	60	89	124	165	212	265
																								21	20	19	36	59	88	123	164	211	264
																								8	7	18	35	58	87	122	163	210	263
1681	1542	1409	1282	1161	1046	937	834	737	646	561	482	409	342	281	226	177	134	97	66	41	22	9	2	1	6	17	34	57	86	121	162	209	262
1682	1543	1410	1283	1162	1047	938	835	738	647	562	483	410	343	282	227	178	135	98	67	42	23	10	3	4	5	16	33	56	85	120	161	208	261
1683	1544	1411	1284	1163	1048	939	836	739	648	563	484	411	344	283	228	179	136	99	68	43	24	11	12	13	14	15	32	55	84	119	160	207	260
1684	1545	1412	1285	1164	1049	940	837	740	649	564	485	412	345	284	229	180	137	100	69	44	25	26	27	28	29	30	31	54	83	118	159	206	259
1685	1546	1413	1286	1165	1050	941	838	741	650	565	486	413	346	285	230	181	138	101	70	45	46	47	48	49	50	51	52	53	82	117	158	205	258
1686	1547	1414	1287	1166	1051	942	839	742	651	566	487	414	347	286	231	182	139	102	71	72	73	74	75	76	77	78	79	80	81	116	157	204	257
1687	1548	1415	1288	1167	1052	943	840	743	652	567	488	415	348	287	232	183	140	103	104	105	106	107	108	109	110	111	112	113	114	115	156	203	256
1688	1549	1416	1289	1168	1053	944	841	744	653	568	489	416	349	288	233	184	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	202	255
1689	1550	1417	1290	1169	1054	945	842	745	654	569	490	417	350	289	234	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	254
1690	1551	1418	1291	1170	1055	946	843	746	655	570	491	418	351	290	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253
1691	1552	1419	1292	1171	1056	947	844	747	656	571	492	419	352	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310
1692	1553	1420	1293	1172	1057	948	845	748	657	572	493	420	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373
1693	1554	1421	1294	1173	1058	949	846	749	658	573	494	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442
1694	1555	1422	1295	1174	1059	950	847	750	659	574	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517
1695	1556	1423	1296	1175	1060	951	848	751	660	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598

Figure 2.5: 90 degrees Arrangement Euler's Polynomial

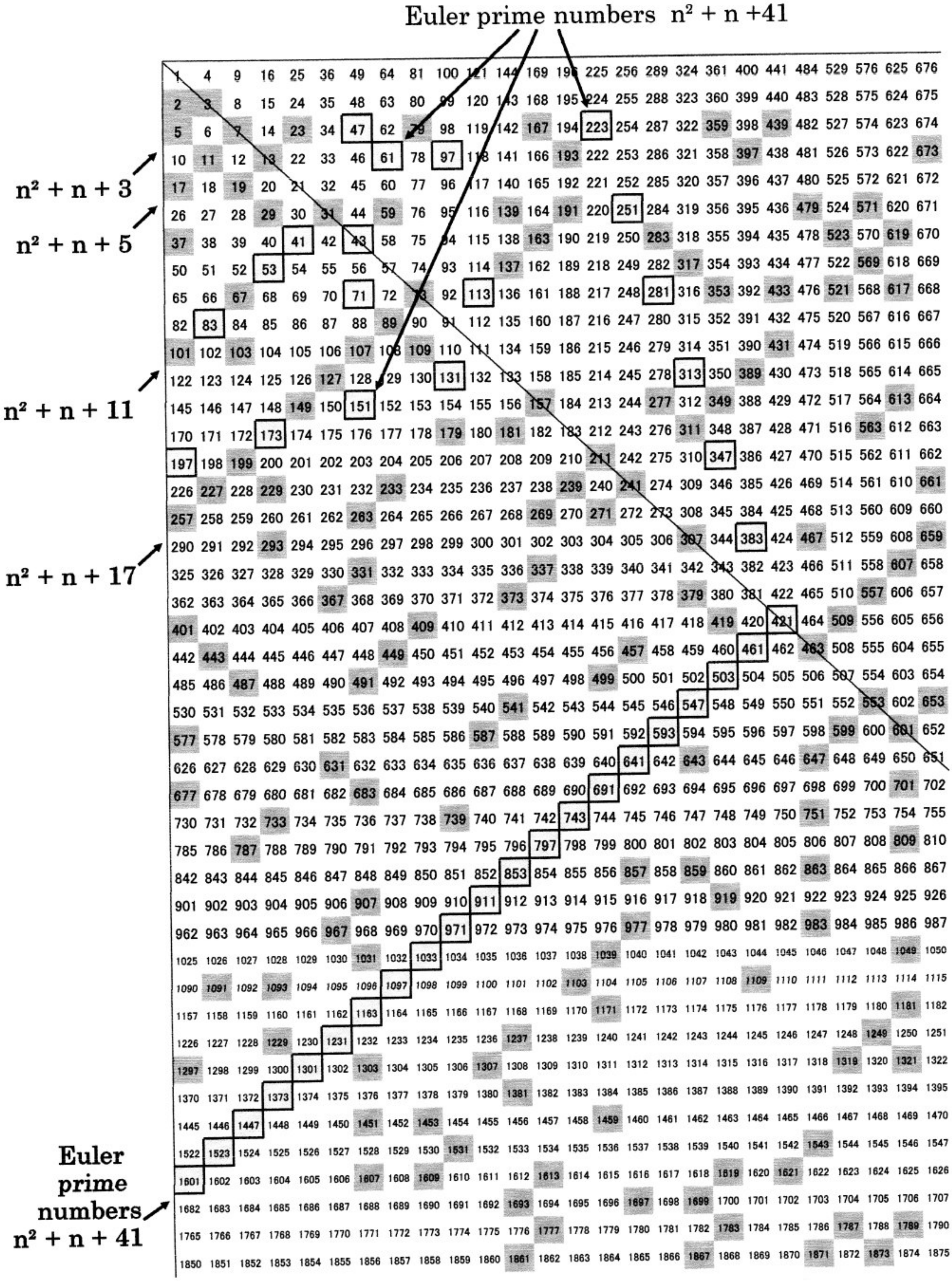
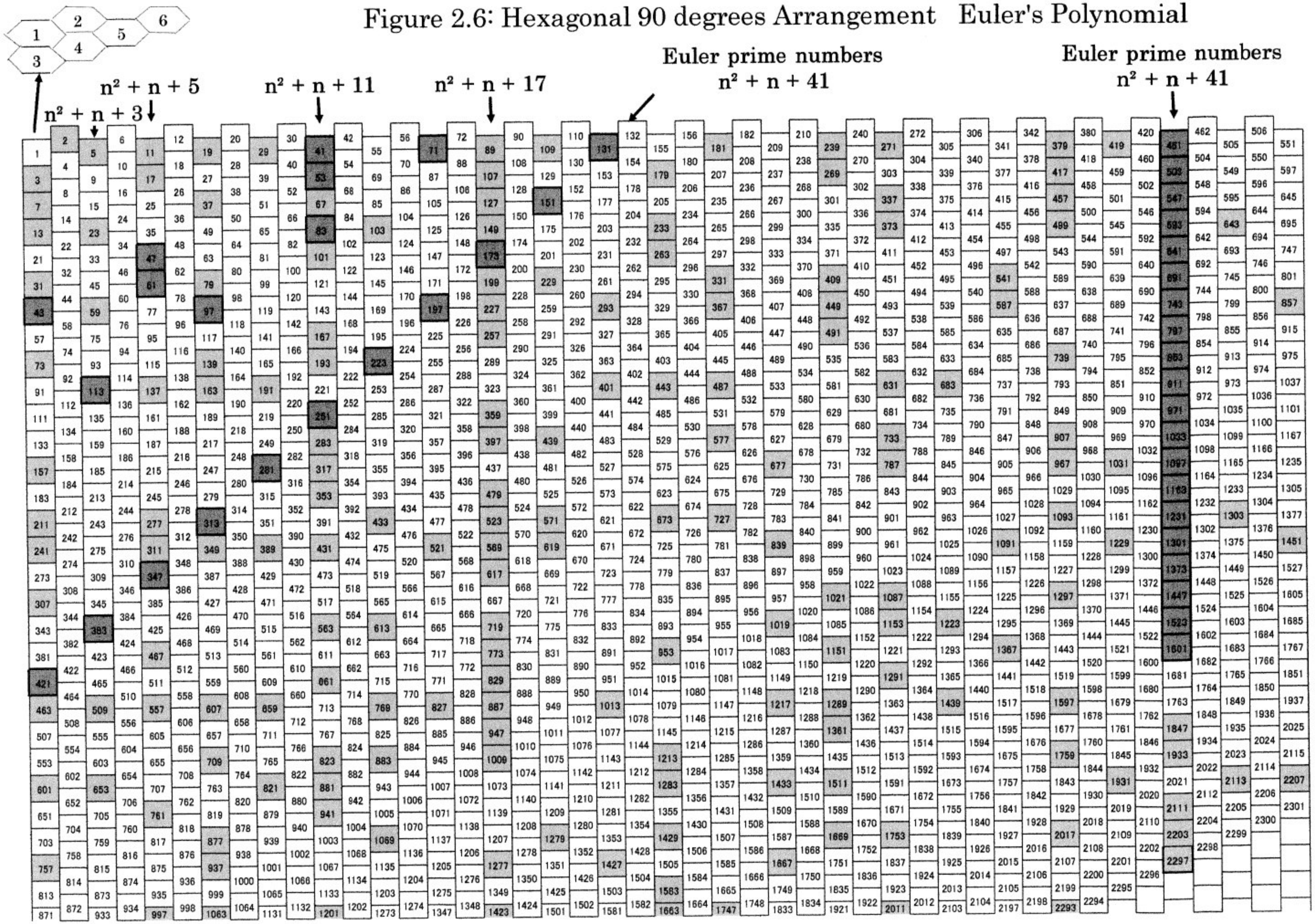


Figure 2.6: Hexagonal 90 degrees Arrangement Euler's Polynomial



Figere 3.1: 160 degrees Arrangement

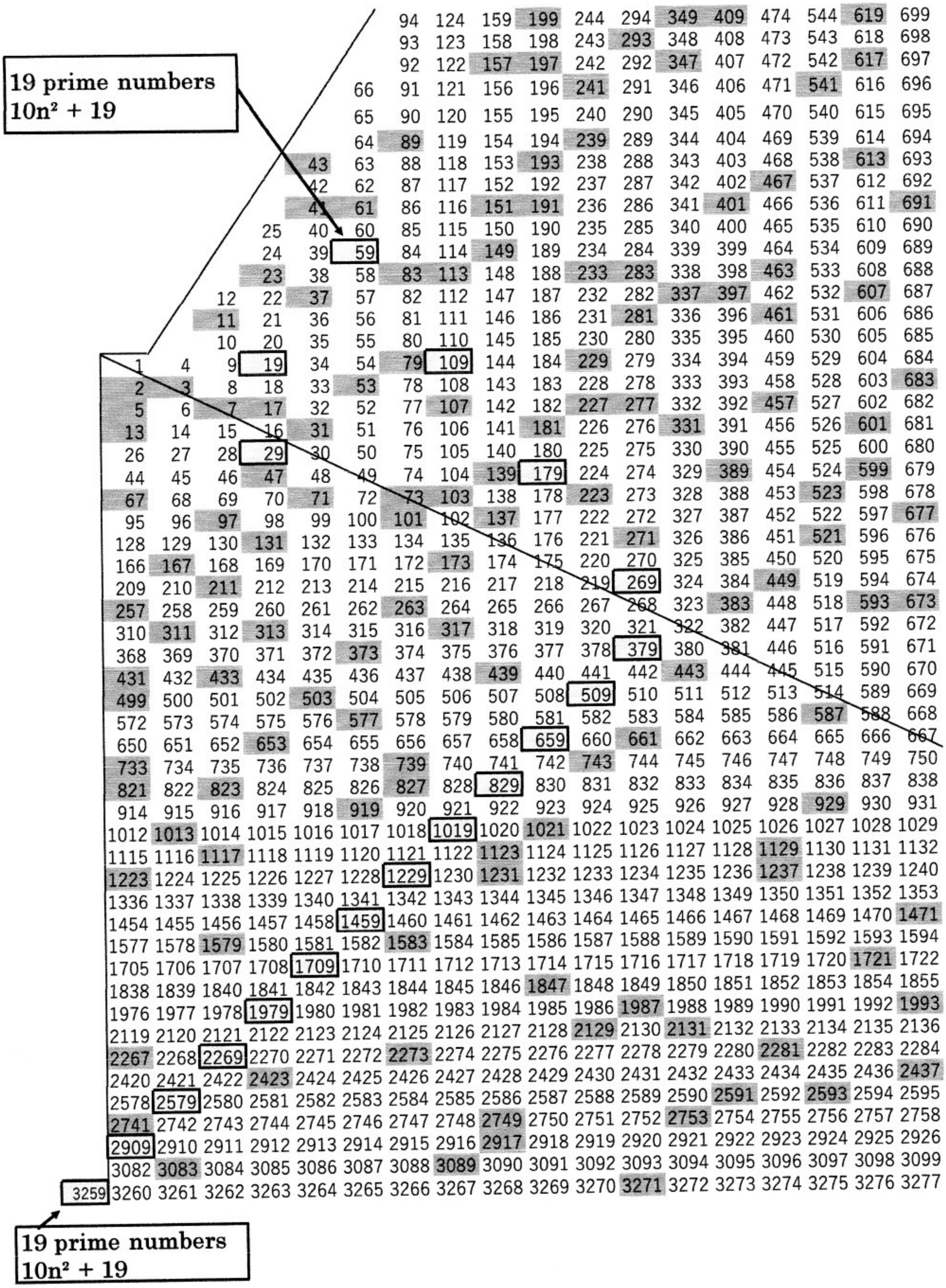


Figure 3.2: 153 degrees Arrangement

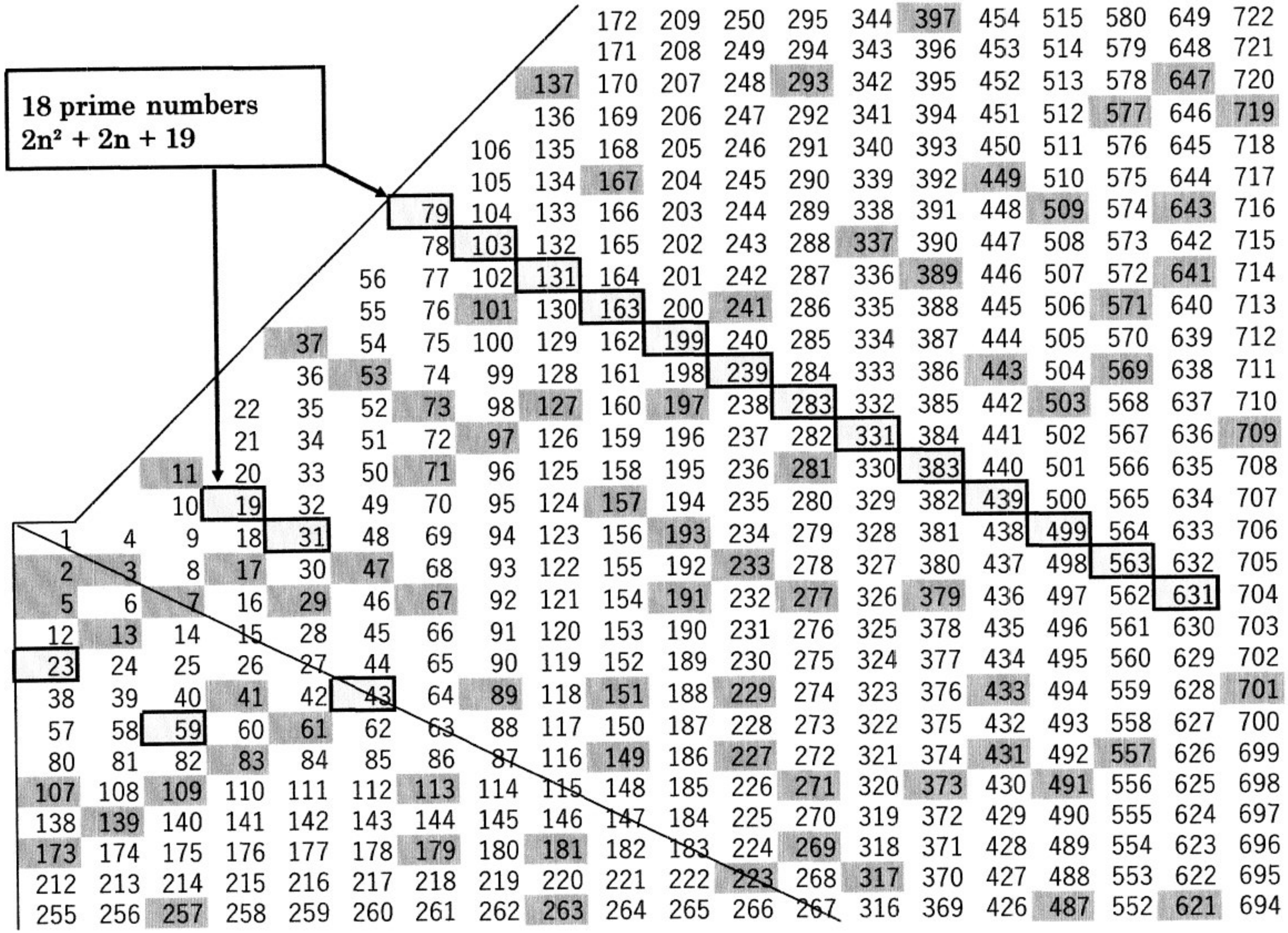


Figure 3.3: 135 degrees Arrangement

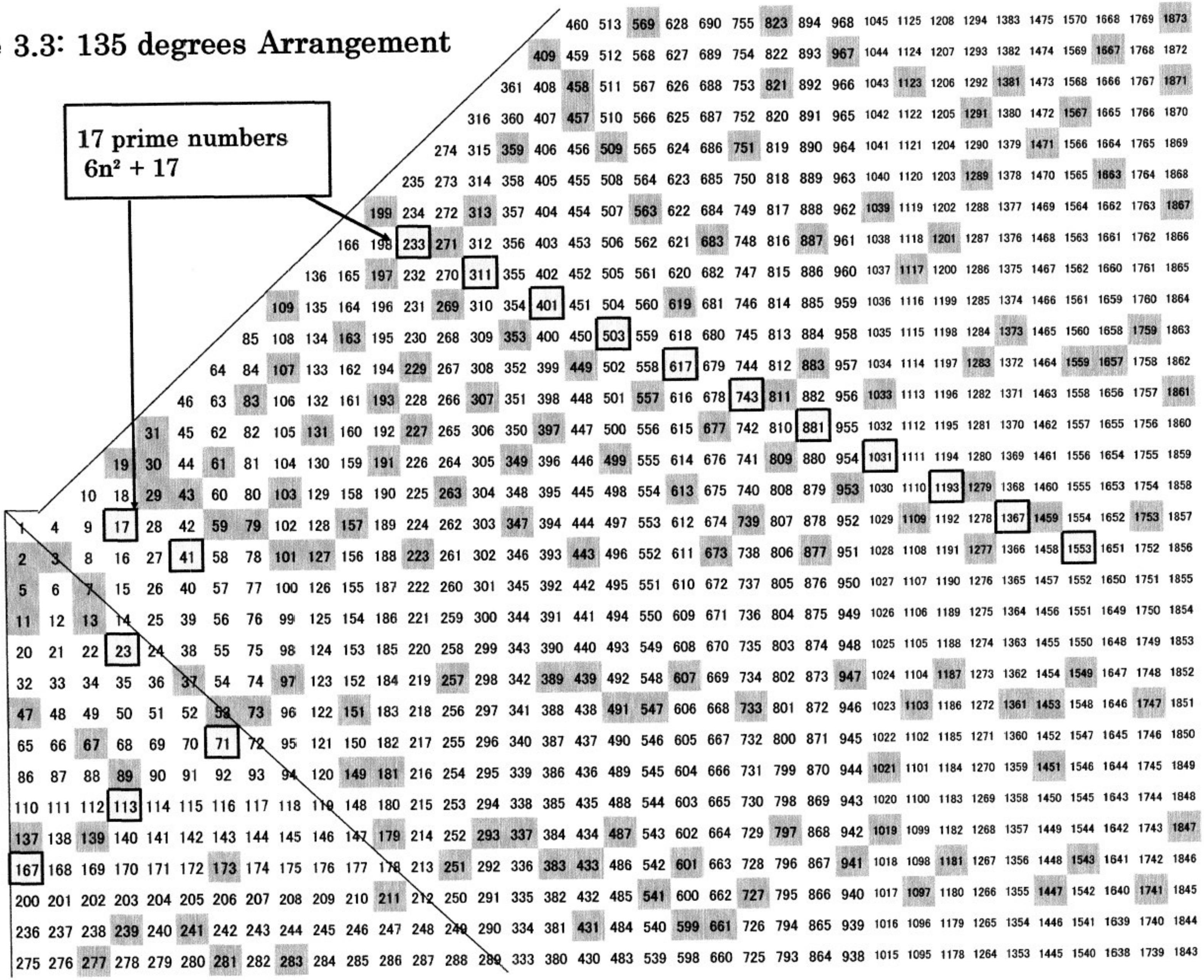


Figure 3.4: 6 by 6 Arrangement

16 prime numbers
$27n^2 - 369n + 1283$

1	2	3	4	5	6																								
7	8	9	10	11	12	13	14	15	16	17	18																		
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36												
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60						
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156
169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198
217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246
271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300
331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360
397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426
469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498
547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576
631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660
721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750
817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846
919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948
1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056
1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170
1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290
1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416
1519	1520	1521	1522	1523	1524	1525	1526	1527	1528	1529	1530	1531	1532	1533	1534	1535	1536	1537	1538	1539	1540	1541	1542	1543	1544	1545	1546	1547	1548
1657	1658	1659	1660	1661	1662	1663	1664	1665	1666	1667	1668	1669	1670	1671	1672	1673	1674	1675	1676	1677	1678	1679	1680	1681	1682	1683	1684	1685	1686
1801	1802	1803	1804	1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	1816	1817	1818	1819	1820	1821	1822	1823	1824	1825	1826	1827	1828	1829	1830
1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136

Figure 3.5: 135 degrees Arrangement

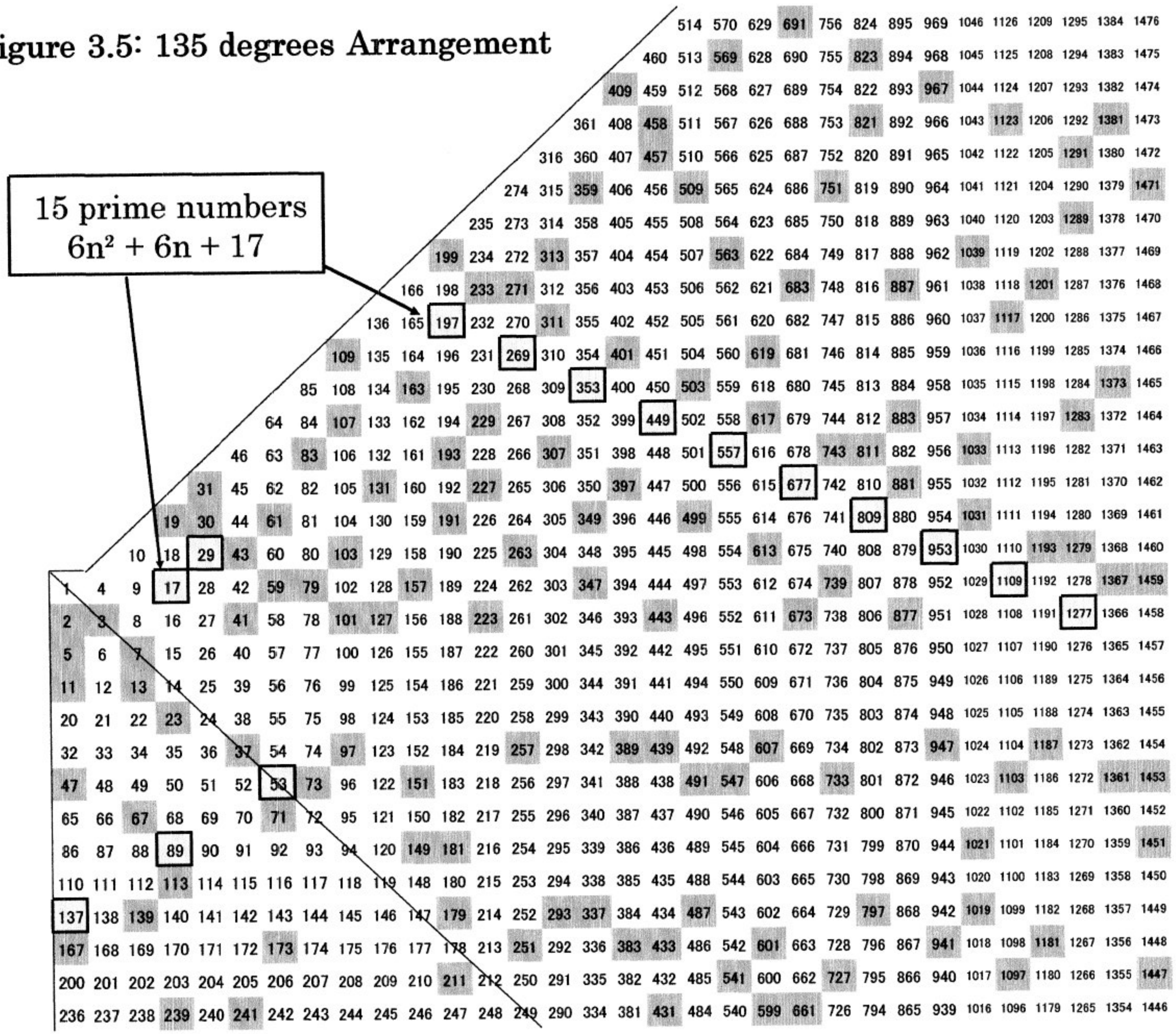


Figure 3.6 : Hexagonal Spiral Arrangement

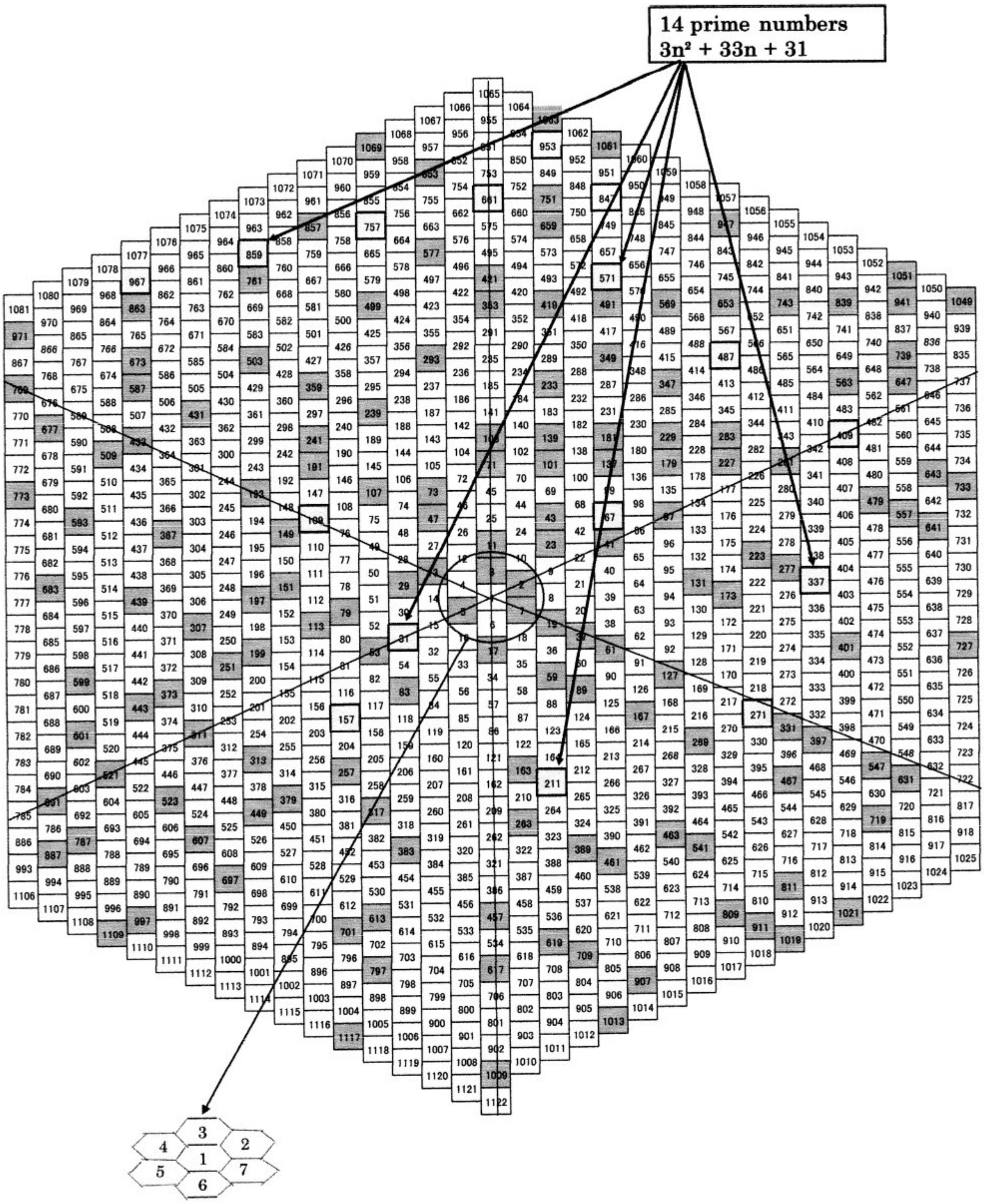


Figure 3.7: 135 degrees Arrangement

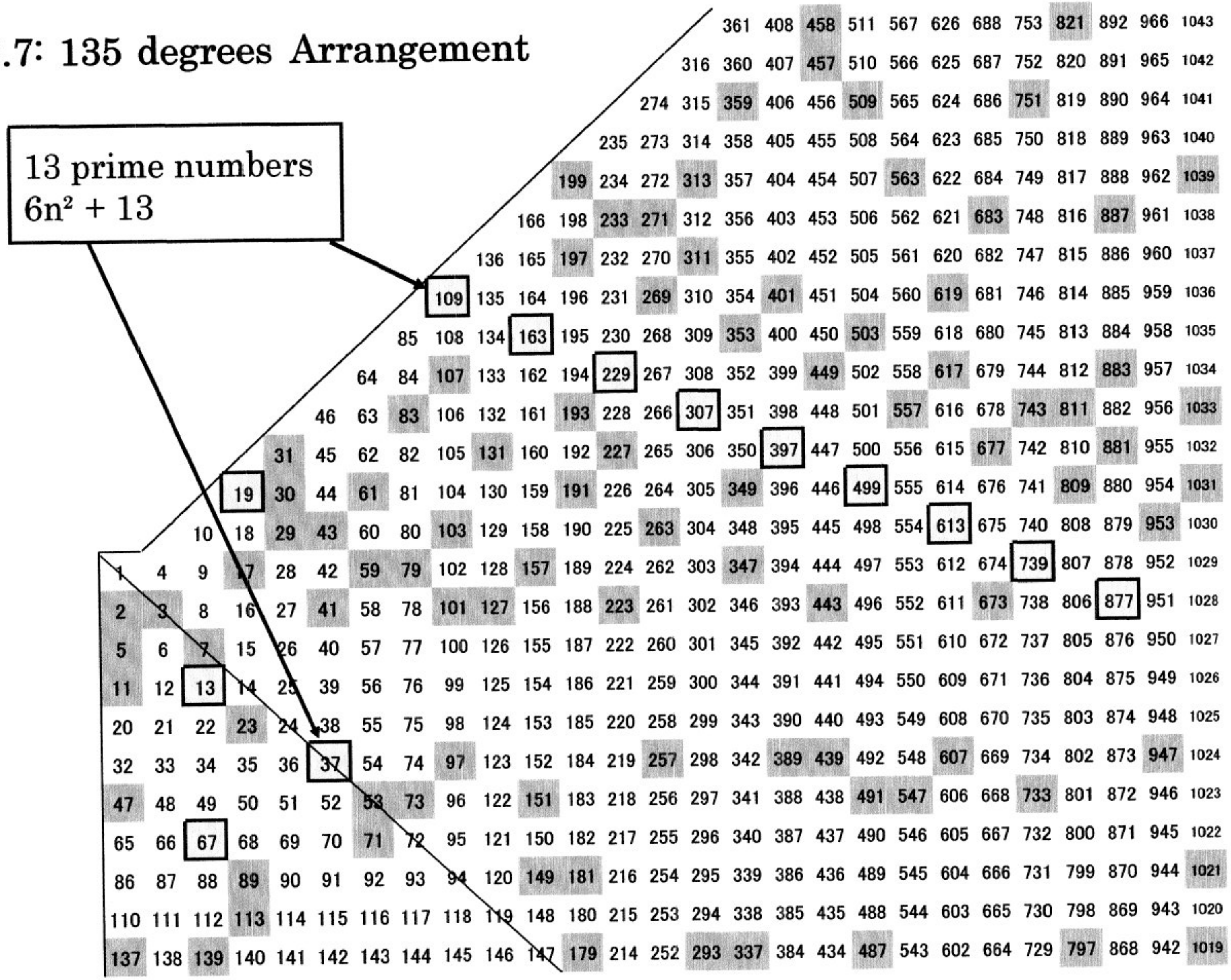


Figure 3.8: 160 degrees Arrangement

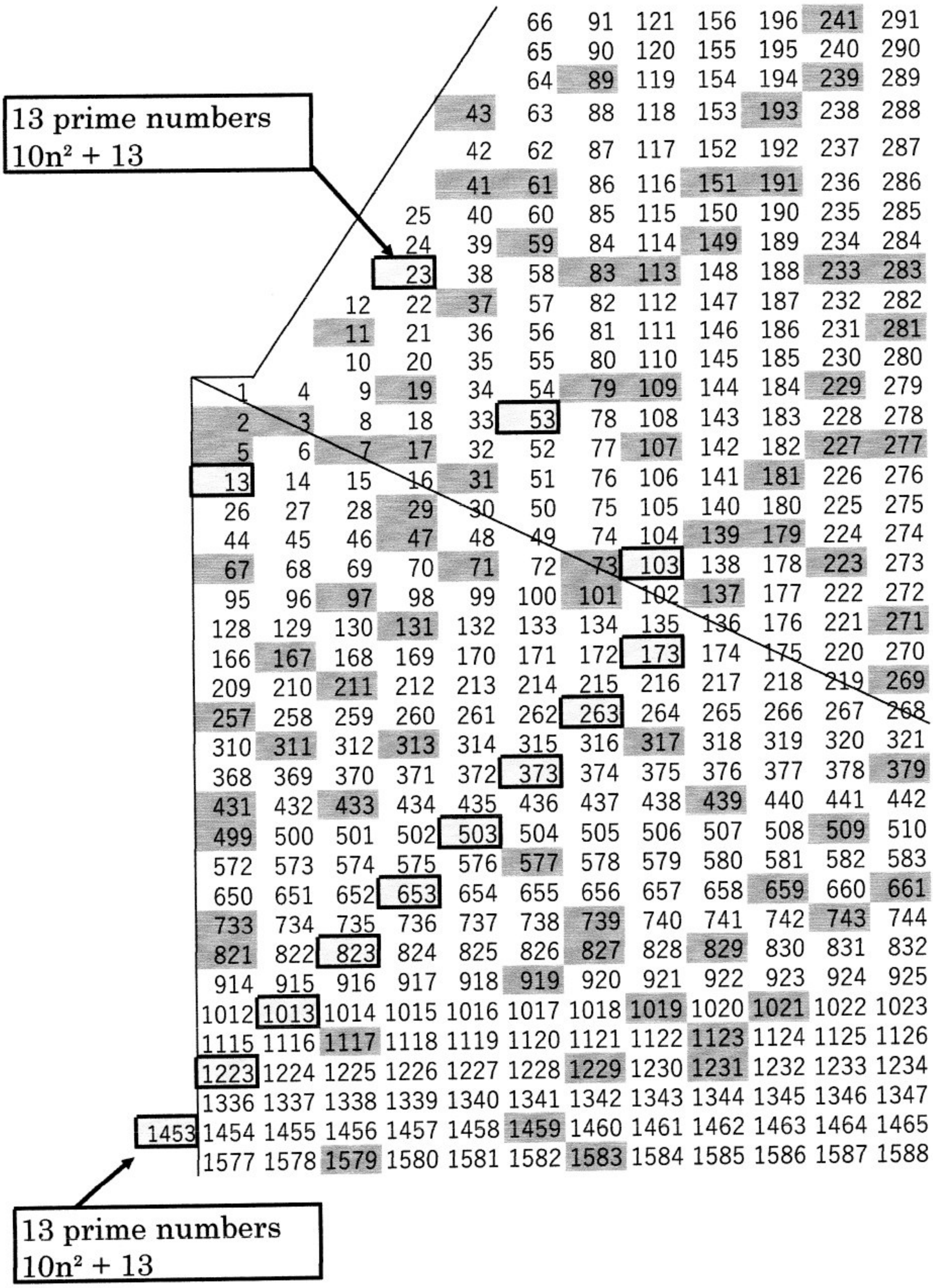


Figure 3.9: 6 by 6 Arrangement

10 prime numbers
$3n^2 + 3n + 11$

(Frame polynomial
$3n^2 + 3n + 23$)

1	2	3	4	5	6																								
7	8	9	10	11	12	13	14	15	16	17	18																		
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36												
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60						
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156
169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198
217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246
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331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360
397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426
469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498
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721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750
817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846
919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948
1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056

5 Consideration

It is expected that polynomials generating prime numbers may be found by devising other arrangements or by arranging up to large integers by the method described in this research work etc..

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