

Title: 11-Golden Pattern  
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**Abstract:** This paper develops the divisibility of the so-called **Simple Primes numbers-11** (1 to 11), the discovery of a pattern to infinity, the demonstration of the Inharmonics that are 2,3,5,7 and 11 and the harmony of 1. The discovery of infinite harmony represented in fractal numbers and patterns. This is a family before the prime numbers.  
 The simple prime numbers-11 are known as the **13-rough numbers**.

**Keywords:** Golden Pattern, 13-Rough number, divisibility, Prime number, composite number.

### Simple Prime Number-11

In order to understand how simple Primes numbers work in this text, the approach is partial, only use divisible digits from 1 to 11. For a number to be considered Simple Prime number-11 by dividing it by 2, 3, 4, 5, 6, 7, 8, 9,10,11 must give a decimal result.

Simple Prime numbers-11 are those that are only divisible by themselves and by unity. Those that can be divided by other numbers from (2 to 11) are called Simple composite number-11

Positive integers that have no prime factors less than 13.

Simple Prime Number  $\in \mathbb{Z}$

The simple prime numbers-11 maintain equivalent proportions in the positive numbers and also in the negative numbers.

In this paper the demonstrations are made with numbers  $\in \mathbb{N}$

### Introduction

This work is the continuation of the **Golden Pattern** papers published in <http://vixra.org/abs/1801.0064>, in which the discovery of a pattern for simple prime numbers has been demonstrated (For a number to be considered Simple Prime number-7 by dividing it by 2, 3, 4, 5, 6, 7, 8, 9, must give a decimal result.). If it resulted in integers numbers, it would be simple composite number-7.

Reference [A008364](#) The On-Line Encyclopedia of Integer Sequences

In this paper we continue to develop demonstrations in which it is easy to see and with very simple accounts that the simple prime numbers of the 11-Golden Pattern maintain impressive proportions and equivalences.

All the numbers are kept in a precise order, forming equivalent sums and developing an infinite harmony.

### Special cases

In this text the N ° 2, 3, 5, 7 and 11 are not Simple Prime number-11. The calculations and proportions prove it and its reductions also. We can observe in the table that these numbers are simple composite number-11 since in the following patterns they work in that way.

The number 1 is a Simple prime number-11. It is a number that generates balance and harmony, it is a necessary number, it is the first number of the pattern, but it is also the representative of the first number of each pattern to infinity.

Graph 3 and 4 of this paper demonstrate this.

Reference [A008365](#) The On-Line Encyclopedia of Integer Sequences

The 1 is Simple Prime Number, since the subsequent reductions in the Patterns to infinity in its place always reduce to 1 and maintain a precise equivalence and proportions.

6931 = 1 This is the first Number of Pattern 2

13861 = 1 This is the first Number of Pattern 3

The sums of the digits of these examples is 1.

6+9+3+1=19 =1+9=10 =1+0= 1

1+3+8+6+1=19 =1+9=10 =1+0= 1

### Construction of the 11-Golden Pattern

The product of the prime numbers up to number 11 inclusive, multiplied by 3, generates a result that indicates how many numbers there are in the 11-Golden Pattern. (The number 3 arises from the 3 different reductions that occur in each of its sequences: in  $A=6 * n + 1$  (reductions 1,4,7) in  $B=6 * n-1$  (reductions 2,5,8)

#### **Example**

$(2*3*5*7*11)*3 = 2310*3 = \mathbf{6930}$

### 11-Golden Pattern

The pattern found is from 1 to 6930. It repeats itself to infinity respecting that proportion every 6930 numbers. The 11-Golden Pattern is formed by a rectangle of 6 columns x 1155 rows.

The simple prime numbers-11 fall in only two columns in the one of the 1 (Column A) and the one of the 5 (column B) They are painted yellow. The rest of the columns are simple composite numbers-11. These are painted by red color.











In each Sector there are 480 simple prime numbers-11. And in the Total Pattern there is the triple, Then there are 1440 Simple Primes numbers-11.  
Nps= Simple Prime Numbers-11

In columns A there are composite numbers greater than 3 and simple prime numbers under the sequence  $6 * n + 1$   
In column B there are composite numbers greater than 3 and simple prime numbers under the sequence  $6 * n - 1$

Throughout this text we will work with these two columns mainly.

### 1) Addition Simple Primes Number-11 by Sector.

Nps= Simple Prime Numbers-11

$$\text{Sector 1 } \sum_{Nps \geq 1}^{2310} 480 \text{ Simple prime numbers} - 11 = 554.400$$

$$\text{Sector 2 } \sum_{Nps \geq 2311}^{4620} 480 \text{ Simple prime numbers} - 11 = 1.663.200 \quad \text{Difference } 1.108.800$$

$$\text{Sector 3 } \sum_{Nps \geq 4621}^{6930} 480 \text{ Simple prime numbers} - 11 = 2.772.000 \quad \text{Difference } 1.108.800$$

#### Total

$$11 - \text{Golden Pattern } \sum_{Nps \geq 1}^{6930} 1440 \text{ Simple Prime numbers} - 11 = 4.989.600$$

#### Conclusion 1

Each SECTOR is multiple x3, x5 with respect to the first. Also to infinity if we are adding 2310 next numbers (x7, x9, x11, etc.)

The Diff.1.108.800 are repeated for every 2310 numbers. The difference is equal to the sum of **simple prime number-11 of Sector 1** by two.

The total is equal to the sum of **simple prime number-11 of Sector 1** by 9.

$$\text{Total} = 4.989.600 = 554.400 * 9$$

### 2) Addition of Composite numbers-11 by Sector (only composite numbers divisible by numbers greater than 3, column A, B)

Nc= Composite Numbers-11

$$\text{Sector 1 } \sum_{Nc \geq 1}^{2310} 290 \text{ Composite numbers} - 11 = 334.950$$

$$\text{Sector 2 } \sum_{Nc \geq 2311}^{4620} 290 \text{ Composite numbers} - 11 = 1.004.850 \quad \text{Difference } 669.900$$

$$\text{Sector 3 } \sum_{Nc \geq 4621}^{6930} 290 \text{ Composite numbers} - 11 = 1.674.750 \quad \text{Difference } 669.900$$

#### Total

$$11 - \text{Golden Pattern } \sum_{Nc \geq 1}^{6930} 870 \text{ Composite numbers} - 11 = 3.014.550$$

#### Conclusion 2

Each SECTOR is multiple x3, x5 with respect to the first. Also to infinity if we are adding 2310 next numbers (x7, x9, x11, etc.).

The Diff.669.900 are repeated for every 2310 numbers. The difference is equal to the sum of **simple composite number-11 of Sector 1** by 2.

The total is equal to the sum of **simple composite number-11 of Sector 1** by 9.

Total =3.014.550=334.950\*9

### 11-Golden Pattern , Simple Prime number-11

We can observe how the numbers are arranged in two columns, to the left the simple prime numbers-11 are reduced to combinations of 1,4,7 (column A) and to the right to combinations of 2,5,8 (column B). The reductions are formed by the sum of their digits.

This pattern works every 6930 numbers. This works to infinity. If we started from 6931 we would obtain the following table up to 13860 in which we would find that the locations of the yellow colors (simple prime numbers-11) and red (Simple composite numbers-11) coincide in 100% of the cases.

The 11-Golden pattern keeps the colors in the same location and also the numbers match their reductions.

#### Example

1=1

6931=6+9+3+1=19, 1+9=10, 1+0=1

Red: Reduction (sum of the digits of simple prime numbers-11)

Reduced Table of the 11-Golden Pattern of 1 to 6930

Reduced Table of the next Pattern of 6931 to 13860.

Red	11-Golden Pattern to 1050						Red	Red	Next Pattern to 7980						Red
1	1	2	3	4	5	6		1	6931	6932	6933	6934	6935	6936	
	7	8	9	10	11	12			6937	6938	6939	6940	6941	6942	
4	13	14	15	16	17	18	8	4	6943	6944	6945	6946	6947	6948	8
1	19	20	21	22	23	24	5	1	6949	6950	6951	6952	6953	6954	5
	25	26	27	28	29	30	2		6955	6956	6957	6958	6959	6960	2
4	31	32	33	34	35	36		4	6961	6962	6963	6964	6965	6966	
1	37	38	39	40	41	42	5	1	6967	6968	6969	6970	6971	6972	5
7	43	44	45	46	47	48	2	7	6973	6974	6975	6976	6977	6978	2
	49	50	51	52	53	54	8		6979	6980	6981	6982	6983	6984	8
	55	56	57	58	59	60	5		6985	6986	6987	6988	6989	6990	5
7	61	62	63	64	65	66		7	6991	6992	6993	6994	6995	6996	
4	67	68	69	70	71	72	8	4	6997	6998	6999	7000	7001	7002	8
1	73	74	75	76	77	78		1	7003	7004	7005	7006	7007	7008	
7	79	80	81	82	83	84	2	7	7009	7010	7011	7012	7013	7014	2
	85	86	87	88	89	90	8		7015	7016	7017	7018	7019	7020	8
	91	92	93	94	95	96			7021	7022	7023	7024	7025	7026	
7	97	98	99	100	101	102	2	7	7027	7028	7029	7030	7031	7032	2
4	103	104	105	106	107	108	8	4	7033	7034	7035	7036	7037	7038	8
1	109	110	111	112	113	114	5	1	7039	7040	7041	7042	7043	7044	5
	115	116	117	118	119	120			7045	7046	7047	7048	7049	7050	
	121	122	123	124	125	126			7051	7052	7053	7054	7055	7056	
1	127	128	129	130	131	132	5	1	7057	7058	7059	7060	7061	7062	5
	133	134	135	136	137	138	2		7063	7064	7065	7066	7067	7068	2
4	139	140	141	142	143	144		4	7069	7070	7071	7072	7073	7074	
	145	146	147	148	149	150	5		7075	7076	7077	7078	7079	7080	5
7	151	152	153	154	155	156		7	7081	7082	7083	7084	7085	7086	
4	157	158	159	160	161	162		4	7087	7088	7089	7090	7091	7092	
1	163	164	165	166	167	168	5	1	7093	7094	7095	7096	7097	7098	5
7	169	170	171	172	173	174	2	7	7099	7100	7101	7102	7103	7104	2
	175	176	177	178	179	180	8		7105	7106	7107	7108	7109	7110	8
1	181	182	183	184	185	186		1	7111	7112	7113	7114	7115	7116	
	187	188	189	190	191	192	2		7117	7118	7119	7120	7121	7122	2
4	193	194	195	196	197	198	8	4	7123	7124	7125	7126	7127	7128	8
1	199	200	201	202	203	204		1	7129	7130	7131	7132	7133	7134	
	205	206	207	208	209	210			7135	7136	7137	7138	7139	7140	
4	211	212	213	214	215	216		4	7141	7142	7143	7144	7145	7146	
	217	218	219	220	221	222	5		7147	7148	7149	7150	7151	7152	5
7	223	224	225	226	227	228	2	7	7153	7154	7155	7156	7157	7158	2
4	229	230	231	232	233	234	8	4	7159	7160	7161	7162	7163	7164	8
	235	236	237	238	239	240	5		7165	7166	7167	7168	7169	7170	5
7	241	242	243	244	245	246		7	7171	7172	7173	7174	7175	7176	
4	247	248	249	250	251	252	8	4	7177	7178	7179	7180	7181	7182	8
	253	254	255	256	257	258	5		7183	7184	7185	7186	7187	7188	5
	259	260	261	262	263	264	2		7189	7190	7191	7192	7193	7194	2
	265	266	267	268	269	270	8		7195	7196	7197	7198	7199	7200	8
1	271	272	273	274	275	276		1	7201	7202	7203	7204	7205	7206	
7	277	278	279	280	281	282	2	7	7207	7208	7209	7210	7211	7212	2
4	283	284	285	286	287	288		4	7213	7214	7215	7216	7217	7218	
1	289	290	291	292	293	294	5	1	7219	7220	7221	7222	7223	7224	5
	295	296	297	298	299	300	2		7225	7226	7227	7228	7229	7230	2



1	301	302	303	304	305	306		1	7231	7232	7233	7234	7235	7236	
7	307	308	309	310	311	312	5	1	7237	7238	7239	7240	7241	7242	5
	313	314	315	316	317	318	2	7	7243	7244	7245	7246	7247	7248	2
	319	320	321	322	323	324	8		7249	7250	7251	7252	7253	7254	8
7	325	326	327	328	329	330			7255	7256	7257	7258	7259	7260	
4	331	332	333	334	335	336		7	7261	7262	7263	7264	7265	7266	
	337	338	339	340	341	342		4	7267	7268	7269	7270	7271	7272	
	343	344	345	346	347	348	5		7273	7274	7275	7276	7277	7278	5
7	349	350	351	352	353	354	2	7	7279	7280	7281	7282	7283	7284	2
	355	356	357	358	359	360	8		7285	7286	7287	7288	7289	7290	8
1	361	362	363	364	365	366		1	7291	7292	7293	7294	7295	7296	
7	367	368	369	370	371	372		7	7297	7298	7299	7300	7301	7302	
4	373	374	375	376	377	378	8	4	7303	7304	7305	7306	7307	7308	8
1	379	380	381	382	383	384	5	1	7309	7310	7311	7312	7313	7314	5
	385	386	387	388	389	390	2		7315	7316	7317	7318	7319	7320	2
4	391	392	393	394	395	396		4	7321	7322	7323	7324	7325	7326	
1	397	398	399	400	401	402	5	1	7327	7328	7329	7330	7331	7332	5
7	403	404	405	406	407	408		7	7333	7334	7335	7336	7337	7338	
4	409	410	411	412	413	414		4	7339	7340	7341	7342	7343	7344	
	415	416	417	418	419	420	5		7345	7346	7347	7348	7349	7350	5
7	421	422	423	424	425	426		7	7351	7352	7353	7354	7355	7356	
	427	428	429	430	431	432	8		7357	7358	7359	7360	7361	7362	8
1	433	434	435	436	437	438	5	1	7363	7364	7365	7366	7367	7368	5
7	439	440	441	442	443	444	2	7	7369	7370	7371	7372	7373	7374	2
	445	446	447	448	449	450	8		7375	7376	7377	7378	7379	7380	8
	451	452	453	454	455	456			7381	7382	7383	7384	7385	7386	
7	457	458	459	460	461	462	2	7	7387	7388	7389	7390	7391	7392	2
4	463	464	465	466	467	468	8	4	7393	7394	7395	7396	7397	7398	8
	469	470	471	472	473	474			7399	7400	7401	7402	7403	7404	
	475	476	477	478	479	480	2		7405	7406	7407	7408	7409	7410	2
4	481	482	483	484	485	486		4	7411	7412	7413	7414	7415	7416	
1	487	488	489	490	491	492	5	1	7417	7418	7419	7420	7421	7422	5
7	493	494	495	496	497	498		7	7423	7424	7425	7426	7427	7428	
4	499	500	501	502	503	504	8	4	7429	7430	7431	7432	7433	7434	8
	505	506	507	508	509	510	5		7435	7436	7437	7438	7439	7440	5
	511	512	513	514	515	516			7441	7442	7443	7444	7445	7446	
	517	518	519	520	521	522	8		7447	7448	7449	7450	7451	7452	8
1	523	524	525	526	527	528	5	1	7453	7454	7455	7456	7457	7458	5
7	529	530	531	532	533	534	2	7	7459	7460	7461	7462	7463	7464	2
	535	536	537	538	539	540			7465	7466	7467	7468	7469	7470	
1	541	542	543	544	545	546		1	7471	7472	7473	7474	7475	7476	
7	547	548	549	550	551	552	2	7	7477	7478	7479	7480	7481	7482	2
	553	554	555	556	557	558	8		7483	7484	7485	7486	7487	7488	8
1	559	560	561	562	563	564	5	1	7489	7490	7491	7492	7493	7494	5
	565	566	567	568	569	570	2		7495	7496	7497	7498	7499	7500	2
4	571	572	573	574	575	576		4	7501	7502	7503	7504	7505	7506	
1	577	578	579	580	581	582		1	7507	7508	7509	7510	7511	7512	
	583	584	585	586	587	588	2		7513	7514	7515	7516	7517	7518	2
4	589	590	591	592	593	594	8	4	7519	7520	7521	7522	7523	7524	8
	595	596	597	598	599	600	5		7525	7526	7527	7528	7529	7530	5
7	601	602	603	604	605	606		7	7531	7532	7533	7534	7535	7536	
4	607	608	609	610	611	612	8	4	7537	7538	7539	7540	7541	7542	8
1	613	614	615	616	617	618	5	1	7543	7544	7545	7546	7547	7548	5
7	619	620	621	622	623	624		7	7549	7550	7551	7552	7553	7554	
	625	626	627	628	629	630	8		7555	7556	7557	7558	7559	7560	8
1	631	632	633	634	635	636		1	7561	7562	7563	7564	7565	7566	
	637	638	639	640	641	642	2		7567	7568	7569	7570	7571	7572	2
4	643	644	645	646	647	648	8	4	7573	7574	7575	7576	7577	7578	8
	649	650	651	652	653	654	5		7579	7580	7581	7582	7583	7584	5
	655	656	657	658	659	660	2		7585	7586	7587	7588	7589	7590	2
4	661	662	663	664	665	666		4	7591	7592	7593	7594	7595	7596	
1	667	668	669	670	671	672		1	7597	7598	7599	7600	7601	7602	
7	673	674	675	676	677	678	2	7	7603	7604	7605	7606	7607	7608	2
	679	680	681	682	683	684	8		7609	7610	7611	7612	7613	7614	8
	685	686	687	688	689	690	5		7615	7616	7617	7618	7619	7620	5
7	691	692	693	694	695	696		7	7621	7622	7623	7624	7625	7626	
4	697	698	699	700	701	702	8	4	7627	7628	7629	7630	7631	7632	8
1	703	704	705	706	707	708		1	7633	7634	7635	7636	7637	7638	
7	709	710	711	712	713	714	2	7	7639	7640	7641	7642	7643	7644	2
	715	716	717	718	719	720	8		7645	7646	7647	7648	7649	7650	8

7	721	722	723	724	725	726		7651	7652	7653	7654	7655	7656	
4	727	728	729	730	731	732	2	7657	7658	7659	7660	7661	7662	2
1	733	734	735	736	737	738		7663	7664	7665	7666	7667	7668	
4	739	740	741	742	743	744	5	7669	7670	7671	7672	7673	7674	5
1	745	746	747	748	749	750		7675	7676	7677	7678	7679	7680	
4	751	752	753	754	755	756		7681	7682	7683	7684	7685	7686	
1	757	758	759	760	761	762	5	7687	7688	7689	7690	7691	7692	5
4	763	764	765	766	767	768	2	7693	7694	7695	7696	7697	7698	2
1	769	770	771	772	773	774	8	7699	7700	7701	7702	7703	7704	8
4	775	776	777	778	779	780	5	7705	7706	7707	7708	7709	7710	5
1	781	782	783	784	785	786		7711	7712	7713	7714	7715	7716	
4	787	788	789	790	791	792		7717	7718	7719	7720	7721	7722	
1	793	794	795	796	797	798	5	7723	7724	7725	7726	7727	7728	5
7	799	800	801	802	803	804		7729	7730	7731	7732	7733	7734	
1	805	806	807	808	809	810	8	7735	7736	7737	7738	7739	7740	8
7	811	812	813	814	815	816		7741	7742	7743	7744	7745	7746	
4	817	818	819	820	821	822	2	7747	7748	7749	7750	7751	7752	2
1	823	824	825	826	827	828	8	7753	7754	7755	7756	7757	7758	8
7	829	830	831	832	833	834		7759	7760	7761	7762	7763	7764	
4	835	836	837	838	839	840	2	7765	7766	7767	7768	7769	7770	2
7	841	842	843	844	845	846		7771	7772	7773	7774	7775	7776	
4	847	848	849	850	851	852	5	7777	7778	7779	7780	7781	7782	5
1	853	854	855	856	857	858	2	7783	7784	7785	7786	7787	7788	2
7	859	860	861	862	863	864	8	7789	7790	7791	7792	7793	7794	8
4	865	866	867	868	869	870		7795	7796	7797	7798	7799	7800	
1	871	872	873	874	875	876		7801	7802	7803	7804	7805	7806	
7	877	878	879	880	881	882	8	7807	7808	7809	7810	7811	7812	8
4	883	884	885	886	887	888	5	7813	7814	7815	7816	7817	7818	5
1	889	890	891	892	893	894	2	7819	7820	7821	7822	7823	7824	2
7	895	896	897	898	899	900	8	7825	7826	7827	7828	7829	7830	8
4	901	902	903	904	905	906		7831	7832	7833	7834	7835	7836	
1	907	908	909	910	911	912	2	7837	7838	7839	7840	7841	7842	2
7	913	914	915	916	917	918		7843	7844	7845	7846	7847	7848	
4	919	920	921	922	923	924	5	7849	7850	7851	7852	7853	7854	5
1	925	926	927	928	929	930	2	7855	7856	7857	7858	7859	7860	2
7	931	932	933	934	935	936		7861	7862	7863	7864	7865	7866	
4	937	938	939	940	941	942	5	7867	7868	7869	7870	7871	7872	5
1	943	944	945	946	947	948	2	7873	7874	7875	7876	7877	7878	2
7	949	950	951	952	953	954	8	7879	7880	7881	7882	7883	7884	8
4	955	956	957	958	959	960		7885	7886	7887	7888	7889	7890	
1	961	962	963	964	965	966		7891	7892	7893	7894	7895	7896	
7	967	968	969	970	971	972	8	7897	7898	7899	7900	7901	7902	8
4	973	974	975	976	977	978	5	7903	7904	7905	7906	7907	7908	5
1	979	980	981	982	983	984	2	7909	7910	7911	7912	7913	7914	2
7	985	986	987	988	989	990	8	7915	7916	7917	7918	7919	7920	8
4	991	992	993	994	995	996		7921	7922	7923	7924	7925	7926	
1	997	998	999	1000	1001	1002		7927	7928	7929	7930	7931	7932	
7	1003	1004	1005	1006	1007	1008	8	7933	7934	7935	7936	7937	7938	8
4	1009	1010	1011	1012	1013	1014	5	7939	7940	7941	7942	7943	7944	5
1	1015	1016	1017	1018	1019	1020	2	7945	7946	7947	7948	7949	7950	2
7	1021	1022	1023	1024	1025	1026		7951	7952	7953	7954	7955	7956	
4	1027	1028	1029	1030	1031	1032	5	7957	7958	7959	7960	7961	7962	5
1	1033	1034	1035	1036	1037	1038	2	7963	7964	7965	7966	7967	7968	2
7	1039	1040	1041	1042	1043	1044		7969	7970	7971	7972	7973	7974	
4	1045	1046	1047	1048	1049	1050	5	7975	7976	7977	7978	7979	7980	5

Graph table 2

Reference [A008365](#) The On-Line Encyclopedia of Integer Sequences

### 3) Simple Prime Numbers-11 by Pattern

Nps= Simple Prime Numbers-11

$$\text{Golden Pattern} - 11 \sum_{Nps \geq 1}^{6930} 1440 \text{ Simple Prime numbers} - 11$$

$$\text{Pattern 2} \sum_{Nps \geq 1}^{13.860} 2880 \text{ Simple Prime numbers} - 11$$

$$\text{Pattern 3} \sum_{Nps \geq 1}^{20790} 4320 \text{ Simple Prime Numbers} - 11$$

### Conclusion 3

It is repeated to infinity every 6930 numbers. The 11-Golden Pattern is multiplied by x2, x3, x4, x5, etc. with respect to the following patterns.

### 4) Addition Simple Primes Numbers-11 by Pattern

Nps= Simple Prime Numbers-11

$$11 - \text{Golden Pattern} \sum_{Nps \geq 1}^{6930} = 4.989.600$$

$$\text{Pattern 2} \sum_{Nps \geq 6931}^{13860} = 14.968.800$$

Difference with the **11 – Golden Pattern** is x3

$$\text{Pattern 3} \sum_{Nps \geq 13861}^{20790} = 24.948.000$$

Difference with the **11 – Golden Pattern** is x5

### Conclusion 4

The model continues to multiply and is repeated to infinity every 6930 numbers. (Odd Multiples for totals, x3, x5, x7,x9, etc.)  
The Difference with the previous value in all cases is 9.979.200.

The model continues to multiply and is repeated to infinity every 6930 numbers. (Odd Multiples for totals, x3, x5, x7,x9, etc.)

**Difference with the previous value in all cases is 9.979.200.** The Difference are repeated for every 6930 numbers.

The difference is equal to the sum of simple prime number-5 of 5-Golden Pattern by two.

### 5) Addition Simple Primes Numbers-11 by Pattern in total

Nps= Simple Prime Numbers-11

$$1440 \text{ simple prime number in } 11 - \text{Golden Pattern} \sum_{Nps \geq 1}^{6930} = 4.989.600$$

$$2880 \text{ simple prime number} - 11 \text{ to Pattern 2} \sum_{Nps \geq 1}^{13860} = 19.958.400$$

Difference with the **11 – Golden Pattern** is x 4

$$4320 \text{ simple prime number} - 11 \text{ to Pattern 3} \sum_{Nps \geq 1}^{20790} = 44.906.400$$

Difference with the **11 – Golden Pattern** is x 9

$$5760 \text{ simple prime number} - 11 \text{ to Pattern 4} \sum_{Nps \geq 1}^{27720} = 79.833.600$$

Difference with the **11 – Golden Pattern** is x 16

$$7200 \text{ simple prime number} - 11 \text{ to Pattern 5} \sum_{Nps \geq 1}^{34650} = 124.740.000$$

Difference with the **11 – Golden Pattern** is x 25

### Conclusion 5

The model continues to multiply and is repeated to infinity every 6930 numbers. (Odd Multiples for totals, x4, x9, x16, x25, etc.).

The differences work with the formula  $x^2$

Example

$$11\text{-Golden Pattern } 1^2 = 1$$

$$\text{Pattern 2} = 2^2 = 4$$

$$\text{Pattern 3} = 3^2 = 9$$

$$\text{Pattern 4} = 4^2 = 16$$

$$\text{Pattern 5} = 5^2 = 25$$

### 6) Addition of Composite numbers-11 by Pattern (only composite numbers divisible by numbers greater than 3)

$N_c =$  Composite Numbers-11

$$11 - \text{Golden Pattern } \sum_{N_c \geq 1}^{6930} 870 \text{ composite number} - 11 = 3.014.550$$

$$\text{Pattern 2 } \sum_{N_c \geq 6931}^{13860} 870 \text{ composite number} - 11 = 9.043.650$$

Difference with the 11 – Golden Pattern is x3

$$\text{Pattern 3 } \sum_{N_c \geq 13861}^{20790} 870 \text{ composite number} - 11 = 15.072.750$$

Difference with the 11 – Golden Pattern is x5

### Conclusion 6

There is also a difference between each Pattern of 6.029.100, these is equal to the sum of the numbers composite-11 by 2.

We could keep multiplying, x7, x9, x11, etc. To infinity every 6930 more numbers.

### 7) Addition of composite Numbers-11 by Pattern in total, (only composite numbers divisible by numbers greater than 3)

$N_c =$  Composite Numbers-11

$$870 \text{ Composite number in } 11 - \text{Golden Pattern } \sum_{N_c \geq 1}^{6930} = 3.014.550$$

$$1740 \text{ Composite number} - 11 \text{ to Pattern 2 } \sum_{N_c \geq 1}^{13860} = 12.058.200$$

Difference with the **11 – Golden Pattern** is x 4

$$2610 \text{ Composite number} - 11 \text{ to Pattern 3 } \sum_{N_c \geq 1}^{20790} = 27.130.950$$

Difference with the **11 – Golden Pattern** is x 9

### Conclusion 7

The number of composite number-11 is related to the next pattern every 870 more numbers.

The model continues to multiply and is repeated to infinity every 6930 numbers. (Odd Multiples for totals, x4, x9, x16, x25, etc.).

The differences work with the formula  $x^2$

Example

$$\text{Golden Pattern } 1^2 = 1$$

$$\text{Pattern 2} = 2^2 = 4$$

$$\text{Pattern 3} = 3^2 = 9$$

$$\text{Pattern 4} = 4^2 = 16$$

$$\text{Pattern 5} = 5^2 = 25$$

### Demonstration 1

#### Formula to get simple prime number-11

Example and demonstration of the formula is divided into 2 columns.

On the left we will calculate the simple prime number-11 located in (A), on the right we will calculate the prime numbers located in (B).

$$P_{11}(A) = S. \text{Prime numbers} - 11 \text{ in column}(A)$$

$$Z = \text{numbers} \geq 0$$

$$P_{11}(B) = S. \text{Prime numbers} - 11 \text{ in column}(B)$$

$$Z = \text{numbers} \geq 0$$

$P_{11(A)} = (6 * n \begin{matrix} n \geq 0 \\ n \neq 4+5*Z \\ n \neq 1+7*Z \\ n \neq 9+11*Z \end{matrix} + 1)$ <p><math>n \neq 1,4,8,9,14,15,19,20,22, \dots</math></p> <p>Using values correct for: <math>n = 0,2,3,5,6,7,10,11,12,13, \dots</math></p> <p>We get the following Simple prime numbers-11.</p> $P_{11(A)} = 1,13,19,31,37,43,61,67,73,79,97, \dots$	$P_{11(B)} = (6 * n \begin{matrix} n > 2 \\ n \neq 6+5*Z \\ n \neq 6+7*Z \\ n \neq 13+11*Z \end{matrix} - 1)$ <p><math>n \neq 6,11,13,16,20,21,22, \dots</math></p> <p>Using correct values for <math>n = 3,4,5,7,8,9,10,12,14,15, \dots</math></p> <p>We get the following Simple prime numbers-11.</p> $P_{11(B)} = 17,23,29,41,47,53,59,71,83,89,101, \dots$
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The formula for calculating the Simple Prime numbers-11 is based on Zeolla Gabriel's paper on how to obtain prime numbers. <http://vixra.org/abs/1801.0093>  
 Reference [A008365](#) The On-Line Encyclopedia of Integer Sequences

Demonstration 2

Formula to get simple composite number-11

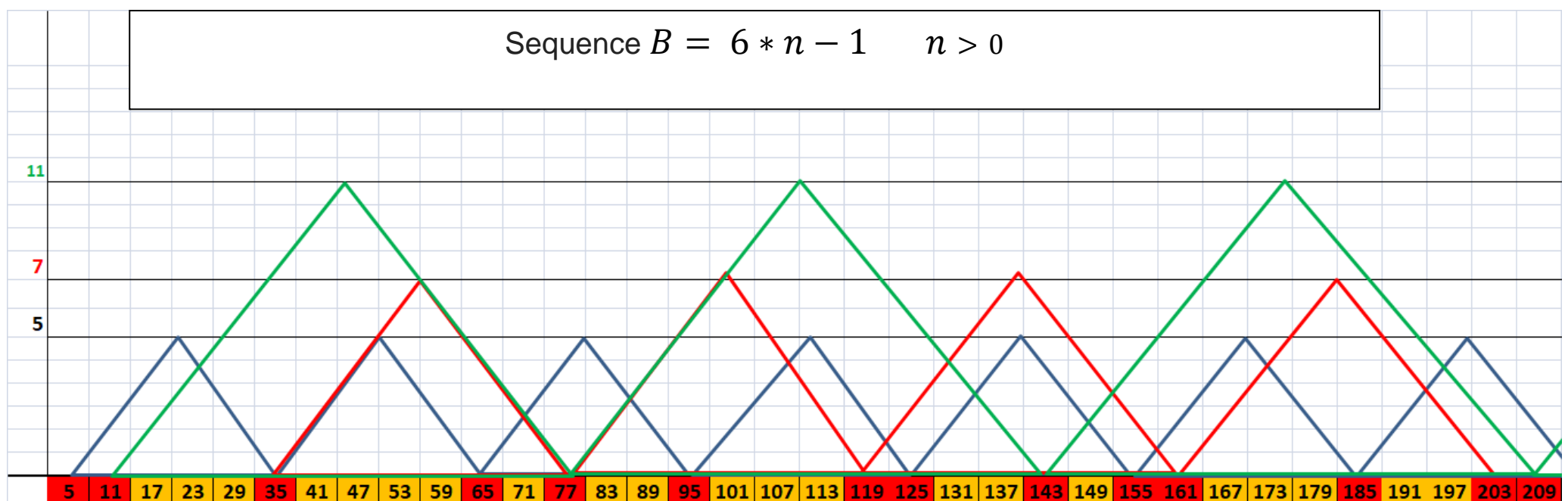
Example and demonstration of the formula is divided into 2 columns.

On the left we will calculate the simple composite number-11 located in (A), on the right we will calculate the composite numbers located in (B).

$Nc_{11(A)} = S. Composite numbers - 11$ <p>in column(A)  <math>Z = numbers \geq 0</math></p>	$Nc_{11(B)} = S. Composite numbers - 11$ <p>in column (B)  <math>Z = numbers \geq 0</math></p>
$Nc_{11(A)} = (6 * n \begin{matrix} n=4+5*Z \\ n=1+7*Z \\ n=9+11*Z \end{matrix} + 1)$ <p><math>n = 1,4,8,9,14,15,20, \dots</math></p> <p>We get the following S. Composite numbers-11.</p> $Nc_{11(A)} = 7,25,49,55,85,91,115,121, \dots$	$Nc_{11(B)} = (6 * n \begin{matrix} n=2 \\ n=1+5*Z \\ n=6+7*Z \\ n=13+11*Z \end{matrix} - 1)$ <p><math>n = 1,2,6,11,13,16,20, \dots</math></p> <p>We get the following S. Composite numbers-11.</p> $Nc_{11(B)} = 5,11,35,65,77,95,119, \dots$

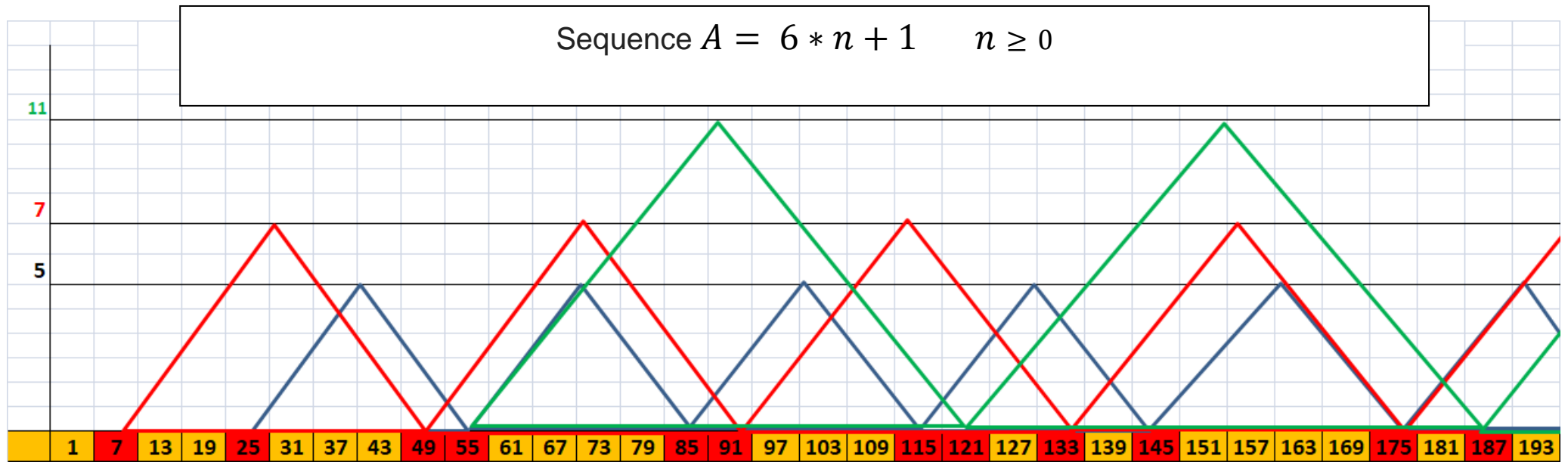
Graphics

In the vertices of the triangles on the line are the composite numbers-11. The rest are Simple Prime numbers-11  
 The base triangles 5 form composite numbers multiples of 5.  
 The base triangles 7 form the numbers composite of multiples of 7.  
 The base triangles 11 form the numbers composite of multiples of 11.



Graphic 3

Reference [A016969](#) (The On-line Enciclopedia of integers sequences)



Graphic 4

Reference [A016921](https://oeis.org/A016921) (The On-line Enciclopedia of integers sequences)

### Final conclusion

The 11-Golden Pattern is the confirmation of an order to infinity in equilibrium, each column is in harmony and balance with the other, the demonstration of the inharmony of 2, 3, 5, 7 and 11 is very great. The number 1 is necessary and generates balance. Simple Prime Numbers-11 are a family prior to the Classical Prime Numbers.

The sum of the composite numbers-11 and the simple prime numbers-11 demonstrate incredible proportions that indicate that they have a fractal behavior.

The reductions of the Golden Pattern are infinitely repeated every 6930 numbers.

The proportions of the 11-Golden pattern are exactly equal and proportional to the 7-golden pattern (<http://vixra.org/abs/1801.0064>), and other patterns with different prime numbers.

The formula for obtaining the simple Prime numbers-11 works successfully, we only have to condition (n) to obtain the expected results.

I can affirm that there are infinite different patterns with prime divisors, which maintain a great harmony between columns A, B, they are always in balance, they present infinite proportions, fractal symmetries, All patterns have the same procedure. They are all different and they are very linked.

This Paper is extracted from my book The Golden Pattern II  
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