Table 148: Square-Perimeters_3

How many MPS (z^2) does it take to fill a SQUARE with 4z=P perimeters? & $(z^2 + z)/2 = PN = xz = (MPS+Mp)/2$											
p	Mersenne Primes $= 2^p-1 = (2^{n+1}) -1 = z$	$2^{p-1} = 2^n = x$	x-1 =y	∑•x/2 =PN =xz	Perimeter (P)=4PN/x =4z =P	number of Perimeters =x/4 =N	Mersenne Prime Square (MPS) $=z^2$	# of MPS (nP=PN) =xn/4=N^2 =#	Equals Exp. Power of 2	$(z^2 + z)/2$ =∑•x/2 =PN =xz	Square Area, $s^2 = N^2z^2$ =A
2	$2^2-1=4-1=3$	$2^1=2$	2-1=1	6 •1=6	4 • 3=12	2 ÷ 4 = 0.5	$3^2 = 9$	$0.5^2 = 0.25$		6 •1=6	$0.25•3^2=9$
3	7	4	3	28	28	1	49	1	2^0	28	49
4	15	8	7	120	60	2	225	4	2^2	120	900
5	31	16	15	496	124	4	961	16	2^4	496	15376
6	63	32	31	2016	252	8	3969	64	2^6	2016	254016
7	127	64	63	8128	508	16	16129	256	2^8	8128	4129024
8	255	128	127	32640	1020	32	65025	1024	2^{10}	32640	66585600
9	511	256	255	130816	2044	64	261121	4096	2^{12}	130816	1069551616
10	1023	512	511	523776	4092	128	1046529	16384	2^{14}	523776	17146331136
11	2047	1024	1023	2096128	8188	256	4190209	65536	2^{16}	2096128	274609537024
12	4095	2048	2047	8386560	16380	512	16769025	262144	2^{18}	8386560	395899289600
13	8191	4096	4095	33550336	32764	1024	67092481	1048576	2^{20}	33550336	70351565357056
14	16383	8192	8191	134209536	65532	2048	268402689	4194304	2^{22}	134209536	1125762472083460
15	32767	16384	16383	536854528	131068	4096	1073676289	16777216	2^{24}	536854528	18013299014631400
16	65535	32768	32767	2147450880	262140	8192	4294836225	67108864	2^{26}	2147450880	88221580125798000
17	131071	65536	65535	8589869056	524284	16384	17179607041	268435456	2^{28}	8589869056	4611615649951650000
18	262143	131072	131071	34359607296	1048572	32768	68718952449	1073741824	2^{30}	34359607296	73786413345958500000
19	524287	262144	262143	137438691328	2097148	65536	274876858369	4294967296	2^{32}	137438691328	11805871171220800000000
20	1048575	524288	524287	549755289600	4194300	131072	1099509530625	17179869184	2^{34}	549755289600	18889429902698700000000
21	2097151	1048576	1048575	2199022206976	8388604	262144	4398042316801	68719476736	2^{36}	2199022206976	302231166673350000000000
22	4194303	2097152	2097151	8796090925056	16777212	524288	17592177655809	274877906944	2^{38}	8796090925056	48357009726157800000000000
23	8388607	4194304	4194303	35184367894528	33554428	1048576	70368727400449	1099511627776	2^{40}	35184367894528	77371234008593000000000000
24	16777215	8388608	8388607	140737479966720	67108860	2097152	28147494315622	4398046511104	2^{42}	140737479966720	1237939891711430000000000000
25	33554431	16777216	16777215	562949936644096	134217724	4194304	1125899839733761	17592186044416	2^{44}	562949936644096	19807039447974500000000000000
26	67108863	33554432	33554431	2251799780130816	268435452	8388608	4503599493152769	70368744177664	2^{46}	2251799780130816	316912640612324000000000000000
27	134217727	67108864	67108863	9007199187632128	536870908	16777216	18014398241046529	281474976710656	2^{48}	9007199187632128	5070602325355050000000000000000
28	268435455	134217728	134217727	36028796884746240	1073741820	33554432	72057593501057025	1125899906842624	2^{50}	36028796884746240	81129637810143800000000000000000
29	536870911	268435456	268435455	144115187807420416	2147483644	67108864	288230375077969921	4503599627370496	2^{52}	144115187807420416	12980742097980000000000000000000
30	1073741823	536870912	536870911	576460751766552576	4294967292	134217728	1152921502459363329	18014398509481984	2^{54}	576460751766552576	20769187395453700000000000000000
31	2147483647	1073741824	1073741823	2305843008139952128	8589934588	268435456	4611686014132420609	72057594037927936	2^{56}	2305843008139952128	33230699863674400000000000000000000
32	4294967295	2147483648	2147483647	9223372034707292160	17179869180	536870912	18446744065119617025	288230376151711744	2^{58}	9223372034707292160	53169119806637800000000000000000000
33	8589934591	4294967296	4294967295	36893488143124135936	34359738364	1073741824	73786976277658337281	1152921504606846976	2^{60}	36893488143124135936	85070591710427600000000000000000000000
34	17179869183	8589934592	8589934591	147573952581086478336	68719476732	2147483648	295147905144993087489	4611686018427387904	2^{62}	147573952581086478336	13611294675253000000000000000000000000000
35	34359738367	17179869184	17179869183	590295810341525782528	137438953468	4294967296	1180591620648691826689	18446744073709551616	2^{64}	590295810341525782528	21778071481672400000000000000000000000000000
36	68719476735	34359738368	34359738367	2361183241400462868480	274877906940	8589934592	4722366482732206260225	73786976294838206464	2^{66}	2361183241400462868480	34844914371690000000000000000000000000000000000
37	137438953471	68719476736	68719476735	9444732965670570950656	549755813884	17179869184	18889465931203702947841	295147905179352825856	2^{68}	9444732965670570950656	55751862995515300000000000000000000000000000000
38	274877906943	137438953472	137438953471	37778931862819722756096	1099511627772	34359738368	75557863725364567605249	1180591620717411303424	2^{70}	37778931862819722756096	89202980793473500000000000000000000000000000000
39	549755813887	274877906944	274877906943	151115727451553768931328	2199023255548	68719476736	302231454902557782048769	4722366482869645213696	2^{72}	151115727451553768931328	14272476927007700000000000000000000000000000000
40	1099511627775	549755813888	549755813887	604462909806764831539200	4398046511100	137438953472	1208925819612430151450625	18889465931478580854784	2^{74}	604462909806764831539200	22835963083253800000000000000000000000000000000
41	2199023255551	1099511627776	1099511627775	2417851639228158837784576	8796093022204	274877906944	4835703278454118652313601	7555786372591423419136	2^{76}	2417851639228158837784576	36537540933239300000000000000000000000000000000
42	4398046511103	2199023255552	2199023255551	9671406556914834374393856	17592186044412	549755813888	19342813113825270702276609	3022314549036572936765 44	2^{78}	9671406556914834374393856	58460065493209500000000000000000000000000000000
43	8796093022207	4398046511104	4398046511103	38685626227663735544086528	35184372088828	1099511627776	77371252455318674995150849	1208925819614629174706176	2^{80}	38685626227663735544086528	93536104789156500000000000000000000000000000000
44	17592186044415	8796093022208	8796093022207	154742504910663738269368320	70368744177664	2199023255552	309485009821309884352692225	4835703278458516698824704	2^{82}	154742504910663738269368320	14965776766266700000000000000000000000000000000
45	35184372088831	17592186044416	17592186044415	618970019642672545263517696	140737488355328	4398046511104	1237940039285309906154946561	19342813113834066795298816	2^{84}	618970019642672545263517696	23945242826028200000000000000000000000000000000
46	70368744177663	35184372088832	35184372088831	2475880078570725365426159616	281474976710656	8796093022208	4951760157141380362108141569	7737125245533626718195264	2^{86}	2475880078570725365426159616	38312388521646100000000000000000000000000000000
47	140737488355327	70368744177664	70368744177663	9903520314282971830448816128	562949953421312	17592186044416	19807040628565802923409276929	3094850098213450687247810 56	2^{88}	9903520314282971830448816128	61299821634634700000000000000000000000000000000
48	281474976710655	140737488355328	140737488355327	39614081257132028059283619840	1125899906842624	35184372088832	7922816251426377464359052 5025	1237940039285380274899124224	2^{90}	39614081257132028059283619840	98079714615416200000000000000000000000000000000
49	562949953421311	281474976710656	281474976710655	158456325028528393712111190016	2251799813685244	70368744177664	3169126500570562244742689587 21	4951760157141521099596496896	2^{92}	158456325028528393712111190016	15692754338466600000000000000000000000000000000
50	1125899906842623	562949953421312	562949953421311	633825300114114137798398181376	4503599627370492	140737488355328	12676506002282271496968895201 29	1980704062856608439838598758 4	2^{94}	633825300114114137798398181376	25108406941546700000000000000000000000000000000
p	Mersenne Primes $= 2^p-1 = (2^{n+1}) -1 = z$	$2^{p-1} = 2^n = x$	x-1 =y	∑•x/2 =PN =xz	Perimeter (P)=4PN/x =4z =P	number of Perimeters =x/4 =N	Mersenne Prime Square (MPS) $=z^2$	# of MPS (nP=PN) =xn/4=N^2 =#	Equals Exp. Power of 2	$(z^2 + z)/2$ =∑•x/2 =PN =xz	Square Area, $s^2 = N^2z^2$ =A

Table 148: Perimeters (P): P=4PN/x=4xz/x=4z PN=xP/4=#P/N where # (of MPS)=x/4•N (number of P)=xN/4=n^2 x=4#/N N=4#/x=PN/P z=P/4, and remember x=(z+1)/2 x_next=z+1 y_next=z.
Ex: z=31 4z=4•31=124=P x=(z+1)/2=16 PN=xz=16•31=496 N=PN/P=496/124=4 #=xN/4=N^2=4^2 =16. Knowing x, then $x^2/4^2$ =#. Note that $(z^2 + z)/2 = PN = xz = (MPS+Mp)/2$.
See Tables 146,147,149.

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