

Table159_PN_factors_Divisors_Colors

Perfect Numbers (PN): PNFactors (Divisors) -1 and Divisors -1								Color #s			
The PNF is calculated from 2p-1. The actual # of Factors(Divisors) =PNF# ONLY with TRUE Active Mp-PN								Equals "p"		Equals PNF#=2p-1	
line#	p	x	z=Mp, value	xz=PN, value	PNF# =2p-1	# of Factors -1	Factors (Divisors)	# Center Colors	# Vertical Columns	# Vertical Color Bars	Total # of Colors (Areas)
1	2	2	3	6	3	3	1, 2, 3	2	2	3	3
2	3	4	7	28	5	5	1, 2, 4, 7, 14	3	3	5	5
3	4	8	15	120	7	15	1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 24, 30, 40, 60	4	4	7	7
4	5	16	31	496	9	9	1, 2, 4, 8, 16, 31, 62, 124, 248	5	5	9	9
5	6	32	63	2016	11	36	1, 2, 3, 4, 6, 7, 8, 9, 12, 14, 16, 18, 21, 24, 28, 32, 36, 42, 48, 56, 63, 72, 84, 96, 112, 126, 144, 168, 224, 252, 288, 336, 504, 672, 1008	6	6	11	11
6	7	64	127	8128	13	13	1, 2, 4, 8, 16, 32, 64, 127, 254, 508, 1016, 2032, 4064	7	7	13	13
7	8	128	255	32640	15	64	1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 17, 20, 24, 30, 32, 34, 40, 48, 51, 60, 64, 68, 80, 85, 96, 102, 120, 128, 136, 160, 170, 192, 204, 240, 255, 272, 320, 340, 384, 408, 480, 510, 544, 640, 680, 816, 960, 1020, 1088, 1360, 1632, 1920, 2040, 2176, 2720, 3264, 4080, 5440, 6528, 8160, 10880, 16320	8	8	15	15
8	9	256	511	130816	17	36	1, 2, 4, 7, 8, 14, 16, 28, 32, 56, 64, 73, 112, 128, 146, 224, 256, 292, 448, 511, 584, 896, 1022, 1168, 1792, 2044, 2336, 4088, 4672, 8176, 9344, 16352, 18688, 32704, 65408	9	9	17	17
9	10	512	1023	523776	19	80	1, 2, 3, 4, 6, 8, 11, 12, 16, 22, 24, 31, 32, 33, 44, 48, 62, 64, 66, 88, 93, 96, 124, 128, 132, 176, 186, 192, 248, 256, 264, 341, 352, 372, 384, 496, 512, 528, 682, 704, 744, 768, 992, 1023,.....16896, 21824, 23808, 32736, 43648, 47616, 65472, 87296, 130944, 174592, 261888	10	10	19	19
10	11	1024	2047	2096128	21	44	1, 2, 4, 8, 16, 23, 32, 46, 64, 89, 92, 128, 178, 184, 256, 356, 368, 512, 712, 736, 1024, 1424, 1472, 2047, 2848, 2944, 4094, 5696, 5888, 8188, 11392, 11776, 16376, 22784, 23552, 32752, 45568, 65504, 91136, 131008, 262016, 524032, 1048064, 2096128	11	11	21	21
11	12	2048	4095	8386560	23	288	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 18, 20, 21, 24, 26, 28, 30, 32, 35, 36, 39, 40, 42, 45, 48, 52, 56, 60, 63, 64, 65, 70, 72, 78, 80, 84, 90, 91, 96, 104, 105, 112, 117, 120, 126, 128, 130, 140, 144, 156, 160, 168, 180, 182, 192, 195, 208, 210, 224, 234, 240, 252, 256, 260, 273, 280, 288, 312, 315, 320, 336, 360, 364, 384, 390, 416, 420, 448, 455, 468, 480, 504, 512, 520, 546, 560, 576, 585, 624, 630, 640, 672, 720, 728, 768, 780, 819, 832, 840, 896, 910, 936, 960, 1008, 1024, 1198080, 1397760, 1677312, 2096640, 2795520, 4193280	12	12	23	23
12	13	4096	8191	33550336	25	25	1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8191, 16382, 32764, 65528, 131056, 262112, 524224, 1048448, 2096896, 4193792, 8387584, 16775168	13	13	25	25
13	14	8192	16383	134209536	27	112	1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 43, 48, 64, 86, 96, 127, 128, 129, 172, 192, 254, 256, 258, 344, 381, 384, 508, 512, 516, 688, 762, 768, 1016, 1024, 5592064, 8388096, 11184128, 16776192, 22368256, 33552384, 44736512, 67104768	14	14	27	27
14	15	16384	32767	536854528	29	120	1, 2, 4, 7, 8, 14, 16, 28, 31, 32, 56, 62, 64, 112, 124, 128, 151, 217, 224, 248, 256, 302, 434, 448, 496, 512, 604, 868, 896, 992, 1024, 9586688, 16776704, 17317888, 19173376, 33553408, 38346752, 67106816, 76693504, 134213632, 268427264	15	15	29	29
15	16	32768	65535	2147450880	31	256	1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 17, 20, 24, 30, 32, 34, 40, 48, 51, 60, 64, 68, 80, 85, 96, 102, 120, 128, 136, 160, 170, 192, 204, 240, 255, 256, 257, 272, 320, 340, 384, 408, 480, 510, 512, 514, 544, 640, 680, 768, 771, 816, 960, 1020, 1024, 429490176, 536862720, 715816960, 1073725440	16	16	31	31
16	17	65536	131071	8589869056	33	33	1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536, 131071, 262142, 524284, 1048568, 2097136, 4194272, 8388544, 16777088, 33554176, 67108352, 134216704, 268433408, 536866816, 1073733632, 2147467264, 4294934528	17	17	33	33
17	18	131072	262143	34359607296	35	576	1, 2, 3, 4, 6, 7, 8, 9, 12, 14, 16, 18, 19, 21, 24, 27, 28, 32, 36, 38, 42, 48, 54, 56, 57, 63, 64, 72, 73, 76, 84, 96, 108, 112, 114, 126, 128, 133, 144, 146, 152, 168, 171, 189, 192, 216, 219, 224, 228, 252, 256, 266, 288, 292, 304, 336, 342, 378, 384, 399, 432, 438, 448, 456, 504, 511, 512, 513, 532, 576, 584, 608, 657, 672, 684, 756, 768, 798, 864, 876, 896, 912, 1008, 1022,..... 4294950912, 4908515328, 5726601216, 8589901824, 11453202432, 17179803648	18	18	35	35
18	19	262144	524287	137438691328	37	37	1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536, 131072, 262144, 524287, 1048574, 2097148, 4194296, 8388592, 16777184, 33554368, 67108736, 134217472, 268434944, 536869888, 1073739776, 2147479552, 4294959104, 8589918208, 17179836416, 34359672832, 68719345664	19	19	37	37
19	31	1073741824	2147483647	23058430081 39952128	61	61	1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536, 131072, 262144, 524288, 1048576, 2097152, 4194304, 8388608, 16777216, 33554432, 67108864, 134217728, 268435456, 536870912, 1073741824, 2147483647, 4294967294, 8589934588, 17179869176, 34359738352, 68719476704,2251799812636672, 4503599625273344, 9007199250546688, 18014398501093376, 36028797002186752, 72057594004373504, 144115188008747008, 288230376017494016, 576460752034988032, 1152921504069976064	31	31	61	61
20	61	115292150 460684697 6	230584300 921369395 1	26584559915 69831744654 69261595384 2176	121	121	1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536, 131072, 262144, 332306998946228968081836576994230272, 664613997892457936163673153988460544, 1329227995784915872327346307976921088	61	61	121	121
21	89	309485009 821345068 724781056	618970019 642690137 449562111	19156194260 82361072947 93378084303 63813099732 1548169216	177	177	1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536, 131072, 262144, 524288, 2394524282602951341184917226053795476637 4665193521152, 4789048565205902682369834452107590953274 9330387042304, 9578097130411805364739668904215181906549 8660774084608	89	89	177	177
22	107	811296384 146066816 957890051 44064	162259276 829213363 391578010 288127	13164036458 56964833723 97534604587 22910223472 31838694311 7783728128	213	213	1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536, 131072, 262144, 524288, 1645504557321206042154969182557340363777 934039798367889722966016, 3291009114642412084309938365114680727555 868079596735779445932032, 6582018229284824168619876730229361455111 736159193471558891864064	107	107	213	213
23	127	850705917 302346158 658436518 579420528 64	170141183 460469231 731687303 715884105 727	14474011154 66452442794 63731260859 88481573677 49147483588 90663543491 31199152128	253	253	1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536, 131072, 262144, 524288, 3618502788666131106986593281521497120393 419372868708972266588587282799788032, 7237005577332262213973186563042994240786 838745737417944533177174565599576064	127	127	253	253

Table159_PN_factors_Divisors_Colors
 Both non-Active "container" and TRUE, Active Mersenne Prime (Mp), Perfect Number (PN) and prime (p) values are shown. The TRUE are in BLUE.
 The # of Factors-1=the # of divisors, not counting the number itself. The TRUE, Active PNs are defined, by definition, as composed solely of multiples of Mersenne Primes.
 The PNF is calculated from 2p-1.
 The actual # of Factors(Divisors) = PNF# ONLY with TRUE Active Mp-PN. The RED highlights show that the actual number of factors (divisors) -1 of the non-Active "containers" exceed their PNF.
 We see that "p" plays a pivotal role: 2^{p-1} = x, 2^p - 1 = z, and p = both # of Center Colors & Vertical Columns, while 2p - 1 = PNF = # of ALL Color Areas (Bars). See images for best reference.
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