THE TOP TEN PRIME NUMBERS

(a catalogue of primal configurations)

from the unpublished collections of R. Ondrejka
assisted by C. Caldwell and H. Dubner

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Introduction

The infinity of prime numbers (or primes) may be categorizied in many ways, as will be seen in the TOP TEN tabular listings or charts. One may divide the primes into two groups: the Mersenne and non-Mersenne types. The former, named after the French friar-mathematician Marin Mersenne (1588-1648), are rather special, as they are generally the world's largest known. Also, they are directly linked with even perfect numbers: $[2^{p-1}.\ (2^p-1)]$; those rare numbers whose proper divisors sum to the above expression. For completeness, all known Mersenne primes (2^P-1) can be found in table 1.A, including the latest and largest one.

The non-Mersenne primes, infinite in number, may be subdivided into palindromic and non-palimdromic classes. The palindromic prime numbers (or palprimes) are thought to be infinite in number, but this is only a conjecture. Of the 20 palprime tables listed, six will be mentioned: (1) the rare repunit primes, R_n, which are a small subclass of the tetradics; (2) the tetradic or 4-way primes: those palprimes which are unchanged when turned upside down or reflected in a mirror; (3) the triadic or 3-way primes; (4) the near repdigit, which are some of the prettiest palprimes, having all like digits except for the center digit; (5) Q-E-D palprimes, those whose digits are all even, except for the end, odd digits; (6) pandigital palprimes are those having all ten (0 to 9) digits represented.

The class of nonpalindromic primes are an infinite and diverse lot. Listing of "The TOP TEN" primorials, factorials, and multifactorials are found in the following pages. These primes are: products of consecutive primes, plus or minus unity; products of the first N consecutive integers, plus or minus one; and generalizations of the factorials, respectively. The famous Fermat primes $(2^{2^n}+1)$ and generalizations of the Fermat primes are charted, along with listings of Cullen primes and Sophie Germain primes. Some primes on a list (like Fibonacci or Cullen) exceed ten in number, and if all are known, are included for completeness; a few lists (like Fermat or repunits), are also included, though lacking the requisite number (10). As in all the lists, the number 1 prime will include its discoverer(s) and date.

A set of primes having many zeros (thousands), or primes with none are reported; as well as primes with long repdigit strings; most leading and ending strings of thousands of like digits. There are tables of "odd" digit primes and odd digit primes, as well as primes having almost all even digits. The digits of primes may be characterized in other ways: primes with all prime digits or all composite digits; all "straight" digits or all "curved" digits, and digits with "holes"; even primes having all digits "square" or all "cube". Tables of absolute primes, alternate-digit primes and antipalindromic primes, among others are here for the asking. Among the 80 odd tables or charts are found: the largest known TOP TEN prime twin pairs; beastly and unholey primes (two entirely different species); undulating primes, unique-period primes, etc.

On the last page is a table of rare primes ranked by rarity. Should anyone having a fast computer, decide to set a new record by finding a larger, rare prime, one should first tackle the "easier" types, like: "B", "C", "G", or "J".

A small glossary follows for those who may be unfamiliar with some of the nomenclature above, or technical terms in the prime listings.

An Unalphabetical Glossary

A **Mersenne Prime**, generally the worlds largest, is of the form $M_p = 2^p - 1$, p always prime.

A **naught-y or naught-iest prime** is one having a very high percentage of naughts or zeros.

A **near-repdigit prime** is one with all like or repeated digits, but one.

A **quasi-repdigit prime** is an all repeating digit prime, except for two digits.

Q-E-D prime: a quasiall-even-digits prime-a prime with even digits and two odd digits.

An **almost-all-even-digits prime**: a prime with even digits and one odd, right-most digit.

A **palindromic prime (or palprime)**, is the same, whether read from left to right or vice versa.

A **tetradic prime** is a 4-way prime: palindromic, as well as the same upside down and mirror reflected.

A **triadic prime** is a 3-way prime: having up-down or vertical mirror symmetry, as well as palindromicity.

A **beastly prime** is a palindrome with 666 in the center, 0's surrounding these digits, and 1 or 7 at the end.

A **non-palindromic beastly prime** will start with 666, followed by 0's, and either a 1 or 7 at the right end.

Pandigital means all 10 digits (0 to 9); almost pandigital means 9 digits (usually zero is the missing digit).

Almost-equi-pandigital means all digits are equal in number, except for one particular digit.

Prime digit primes only have the digits: 2, 3, 5, or 7; composite digit primes have only: 4, 6, 8, or 9.

Holey primes are primes having digits with holes, like the composite digits primes, and can include the zero.

Wholly, holey primes are primes, all of their digits have holes; unholey primes do not have holes in digits.

A **repunit prime**, $R_n = (10^n - 1)/9$, is a prime with all repeated 1's.

A **near-repunit prime** has almost all repeated units, except one.

An **alternate-digit prime** has alternating odd and even digits.

In an **undulating prime number**, the neighboring digits are consistently greater or less than the digits adjacent to them.

In a **smoothly undulating prime (palindromic)**, only two types of digits are involved.

A **Yarborough prime** can have any number of the digits: 2, 3, 4, 5, 6, 7, 8, or 9, only.

A **depression prime** is a palprime having all interior digits repeating, and smaller than its two end digits.

A **plateau prime** is a palprime having all interior digits repeating, and larger than its two end digits.

A **factorial prime** is the product of the first n consecutive integers, plus or minus unity.

A **primorial prime** is the product of the first n consecutive primes, plus or minus unity.

Multifactorial primes $N!_k \pm 1$, are generalizations of the factorial prime:

double factorial primes $(N!\,! \pm 1) = N \cdot (N-2)(N-4)(N-6) \cdots \pm 1$;
triple factorial primes $(N!\,! \pm 1) = N \cdot (N-3)(N-6)(N-9) \ldots$. , etc.

An **odd digit prime** has a single "odd" digit in its decimal representation; an all odd digit prime has all its digits odd.

A **Fermat prime** is of the form $2^{2^N} + 1$; a **generalized Fermat prime** is of the form $b^{2^N} + 1$.

Primes with curved digits are composed only of 0's, 3's, 6's, 8's, or 9's; primes with straight digits only, include 1's, 4's, or 7's.

An **anti-Yarborough prime** can have any number of 1's and 0's only.

An **antipalindromic prime** must have a total even number of digits; and the digits in the first half of the prime must differ from the corresponding digits of the second half, resulting in a coincidence ratio of zero.

A **Cullen prime** is of the form: $C_n = n \cdot 2^n + 1$; A **Woodall prime** is of the form: $W_n = n \cdot 2^n - 1$.

Sub$_{\textbf{script}}$primes are so called because they are usually expressed in their subscriptal notation.

A **Sophie Germain prime** is an odd prime p for which $2p + 1$ is also prime.

A **unique-period prime** (P) is one, whose reciprocal ($1/p$), is a period not shared by any other prime.

An **absolute prime** is one that remains a prime, for all permutations of its digits.

Generalized repunit primes are primes of the form $(b^n - 1)/(b - 1)$ b not equal to 2 or 10.

A **strobogrammatic prime** remains unchanged when turned upside down or rotated 180^0).

A **generalized beastly prime** is a palindrome not limited to only zeros surrounding the infamous "666."

A **"k-tuplet"** is a sequence of k consecutive primes: $q_1\ q_2 \ldots q_k$, with $q_k - q_1$ as small as possible.

Prime twins (p and $p + 2$) are the smallest of these sequences; followed by prime triplets, quadruplets, etc.

A **countdown prime** is one whose leading digits descend: 10 or 9 8 7 6 5 4 3 2 1.

Lucas numbers (L_n) unlike their famous Fibonacci cousins (F_n), are derived initially from the sequence $2, 1, 3, 4, 7, 11, 18, 29, 47$.

An **Invertible prime number** is one that, when turned upside down (revolved 180^0), results in a new different prime. Digits like 0, 1, 6, 8, or 9, must be only used.

A **Nonpalindromic reversible prime** (also known as an emirp), produces a different prime, when all its digits are reversed; .e.g. 13 and 31.

Googolplex, a number impossible to represent fully in decimal, is equal to $10^{10^{10}}$, or ten to the googol power, i.e. one followed by a zeros $[10^{100} zeros]$.

A Googol is a number of 101 digits, or more precisely, one followed by 100 zeros.

Subscriptal digits are sometimes used to show repeated decimal digits; e.g. $13_4 = 13333; (23)_3 = 232323$.

A Titanic Prime is a number having one thousand or more digits; a **Gigantic Prime** has ten thousand or more digits; a **Megaprime** is a prime number having one million or more digits.

Table 1. The TOP TEN Prime Numbers

$[M_p = 2^p - 1; \quad k \cdot 2^N \pm 1]$

		Digits	
1.	$M_{6972593} = 2^{6972593} - 1$	2098960	[N.Hajratwala, etal:1999]
*2.	$M_{3021377} = 2^{3021377} - 1$	909526	
*3.	$M_{2976221} = 2^{2976221} - 1$	895932	
*4.	$M_{1398269} = 2^{1398269} - 1$	420921	
*5.	$M_{1257787} = 2^{1257787} - 1$	378632	
**6.	$48594^{65536} + 1$	307140	
*7.	$M_{859433} = 2^{859433} - 1$	258716	
*8.	$M_{756839} = 2^{756839} - 1$	227832	
***9.	$667071 \cdot 2^{667071} - 1$	200815	
**10.	$1041870^{32768} + 1$	197192	

* Former Mersenne world record holder
** Generalized Fermat prime number
*** Woodall prime number

Table 1. A: The TOP TEN Mersenne Prime Numbers

$[M_p = 2^p - 1]$

		Digits	
1.	$M_{6972593} = 2^{6972593} - 1$	2098960	[N.Hajratwala, etal;1999]
2.	$M_{3021377} = 2^{3021377} - 1$	909526	
3.	$M_{2976221} = 2^{2976221} - 1$	895932	
4.	$M_{1398269} = 2^{1398269} - 1$	420921	
5.	$M_{1257787} = 2^{1257787} - 1$	378632	
6.	$M_{859433} = 2^{859433} - 1$	258716	
7.	$M_{756839} = 2^{756839} - 1$	227832	
8.	$M_{216091} = 2^{216091} - 1$	65050	
9.	$M_{132049} = 2^{132049} - 1$	39751	
10.	$M_{110503} = 2^{110503} - 1$	33265	

[and the rest]

		D			**D**			**D**
11.	M_{86243}	25962	20.	M_{4253}	1281	29.	M_{89}	27
12.	M_{44497}	13395	21.	M_{3217}	969	30.	M_{61}	19
13.	M_{23209}	6987	22.	M_{2281}	687	31.	M_{31}	10
14.	M_{21701}	6533	23.	M_{2203}	664	32.	M_{19}	6
15.	M_{19937}	6002	24.	M_{1279}	386	33.	M_{17}	6
16.	M_{11213}	3376	25.	M_{607}	183	34.	M_{13}	4
17.	M_{9941}	2993	26.	M_{521}	157	35.	M_{7}	3
18.	M_{9689}	2917	27.	M_{127}	39	36.	M_{5}	2
19.	M_{4423}	1332	28.	M_{107}	33	37.	M_{3}	1
						38.	M_{2}	1

Table 1. B: The TOP TEN Non-Mersenne Prime Numbers

		Digits	
*1.	$48954^{65536}+1$	307140	[S.Scott & Y.Gallot:2000]
**2.	$667071 \cdot 2^{667071}-1$	200815	
*3.	$1041870^{32768}+1$	197192	
*4.	$999236^{32768}+1$	196598	
*5.	$524552^{32768}+1$	187427	
*6.	$167176^{32768}+1$	171153	
7.	$169719 \cdot 2^{557557}+1$	167487	
8.	$302627325 \cdot 2^{530101}+1$	159585	
9.	$43541 \cdot 2^{507098}-1$	152657	
10.	$144643 \cdot 2^{498079}-1$	149942	

* Generalized Fermat prime
** Woodall prime

Table 2: The TOP TEN Prime Factors of Fermat Numbers

$$F_m = 2^{2^m} + 1$$

$$[k \cdot 2^n + 1]$$

		Digits	Fermat exp (m)	
1.	$3 \cdot 2^{382449} + 1$	115130	382447	[J. Cosgrove & Y. Gallot:1998]
2.	$3 \cdot 2^{303093} + 1$	91241	303088	
3.	$3 \cdot 2^{213321} + 1$	64217	213319	
4.	$3 \cdot 2^{157169} + 1$	47314	157167	
5.	$57 \cdot 2^{146223} + 1$	44020	146221	
6.	$5 \cdot 2^{125413} + 1$	37754	125410	
7.	$13 \cdot 2^{114296} + 1$	34408	114293	
8.	$39 \cdot 2^{113549} + 1$	34184	113547	
9.	$7 \cdot 2^{95330} + 1$	28699	95328	
10.	$21 \cdot 2^{94801} + 1$	28540	94798	

Table 2. A: The Five Known Fermat Prime Numbers

$$F_m = 2^{2^m} + 1$$

			Actual* Primes	
1.	$F_4 = 2^{2^4} + 1$	=	65537	[P. Fermat: 1640]
2.	$F_3 = 2^{2^3} + 1$	=	257	
3.	$F_2 = 2^{2^2} + 1$	=	17	
4.	$F_2 = 2^{2^1} + 1$	-	5	
5.	$F_0 = 2^{2^0} + 1$	=	3	

* Actual Primes; the next 26 Fermat numbers, F_5 to F_{30} are composite

Table 2. B: The TOP TEN Generalized Fermat Prime Numbers

$[P = b^{2^n} + 1]$

		Digits	
1.	$48594^{2^{16}} + 1$	307140	[S. Scott & Y. Gallot: 2000]
2.	$1041870^{2^{15}} + 1$	197192	
3.	$999236^{2^{15}} + 1$	196598	
4.	$524552^{2^{15}} + 1$	187427	
5.	$167176^{2^{15}} + 1$	171153	
6.	$840796^{2^{14}} + 1$	97071	
7.	$704930^{2^{14}} + 1$	95817	
8.	$656210^{2^{14}} + 1$	95307	
9.	$641762^{2^{14}} + 1$	95149	
10.	$638980^{2^{14}} + 1$	95118	

Table 3. A: The TOP TEN Cullen Primes $C_n = n \cdot 2^n + 1$

	C_n	Digits	
1.	$481899 \cdot 2^{481899} + 1$	145072	[M.Morii & Y.Gallot:1998]
2.	$361275 \cdot 2^{361275} + 1$	108761	
3.	$262419 \cdot 2^{262419} + 1$	79002	
4.	$90825 \cdot 2^{90825} + 1$	27347	
5.	$59656 \cdot 2^{59656} + 1$	17964	
6.	$32469 \cdot 2^{32469} + 1$	9779	
7.	$32292 \cdot 2^{32292} + 1$	9726	
8.	$18496 \cdot 2^{18496} + 1$	5573	
9.	$6611 \cdot 2^{6611} + 1$	1994	
10.	$5795 \cdot 2^{5795} + 1$	1749	
		[and the rest]	
11.	$4713 \cdot 2^{4713} + 1$	1423	
12.	$141 \cdot 2^{141} + 1$	45	
13.	$1 \cdot 2^{1} + 1$	1	

Table 3. B: The TOP TEN Woodall Primes $W_n = n \cdot 2^n - 1$

	W_n	Digits	
1.	$667071 \cdot 2^{667071} - 1$	200815	[M.Toplic & Y.Gallot:2000]
2.	$151023 \cdot 2^{151023} - 1$	45468	
3.	$143018 \cdot 2^{143018} - 1$	43058	
4.	$98726 \cdot 2^{98726} - 1$	29725	
5.	$23005 \cdot 2^{23005} - 1$	6930	
6.	$22971 \cdot 2^{22971} - 1$	6920	
7.	$18885 \cdot 2^{18885} - 1$	5690	
8.	$15822 \cdot 2^{15822} - 1$	4768	
8.	$12379 \cdot 2^{12379} - 1$	3731	
10.	$9531 \cdot 2^{9531} - 1$	2874	

[and the rest]

	W_n	D		W_n	D
11.	$7755 \cdot 2^{7755} - 1$	2339	20.	$123 \cdot 2^{123} - 1$	40
12.	$5312 \cdot 2^{5312} - 1$	1603	21.	$115 \cdot 2^{115} - 1$	37
13.	$822 \cdot 2^{822} - 1$	251	22.	$81 \cdot 2^{81} - 1$	27
14.	$751 \cdot 2^{751} - 1$	229	23.	$75 \cdot 2^{75} - 1$	25
15.	$512 \cdot 2^{512} - 1$	157	24.	$30 \cdot 2^{30} - 1$	11
16.	$462 \cdot 2^{462} - 1$	142	25.	$6 \cdot 2^{6} - 1$	3
17.	$384 \cdot 2^{384} - 1$	119	26.	$3 \cdot 2^{3} - 1$	2
18.	$362 \cdot 2^{362} - 1$	112	27.	$2 \cdot 2^{2} - 1$	1
19.	$249 \cdot 2^{249} - 1$	78			

Table 4: The TOP TEN Known Largest Primes with Total Digits Prime

$[k \cdot 2^n \pm 1]$

		Total Digits	
1.	$43541 \cdot 2^{507098} - 1$	152657	[R. Ballinger & Y. Gallot: 2000]
* 2.	$361275 \cdot 2^{361275} + 1$	108761	
3.	$115947 \cdot 2^{350003} + 1$	105367	
4.	$189453 \cdot 2^{324103} - 1$	97571	
** 5.	$422666^{16384} + 1$	92177	
6.	$144817 \cdot 2^{258857} - 1$	77929	
7.	$15809 \cdot 2^{256640} - 1$	77261	
8.	$892451707 \cdot 2^{239848} + 1$	72211	
9.	$73 \cdot 2^{227334} + 1$	68437	
*** 10.	$3 \cdot 2^{213321} + 1$	64217	

* Cullen prime
** Generalized Fermat prime
*** Fermat factor of $2^{2^{13319}} + 1$

Table 5: The TOP TEN Naughtiest Prime Numbers

[Naught/cifre/zero/egg/oh/0]

		Naughts	Naught%	Total Digits	
* 1.	$105594 \cdot 10^{105994} + 1$	105994	99.994	106000	[Loeh & Gallot: 2000]
2.	$193 \cdot 10^{69004} + 1$	69003	99.994	69007	
3.	$49521 \cdot 10^{49521} + 1$	49520	99.988	49526	
** 4.	$10^{35352} + 2049402 \cdot 10^{17673} + 1$	35346	99.980	35353	
5.	$127 \cdot 10^{31000} + 1$	30999	99.987	31003	
** 6.	$10^{30802} + 1110111 \cdot 10^{15398} + 1$	30795	99.974	30803	
7.	$3 \cdot 10^{27720} + 1$	27719	99.993	27721	
8.	$9964227 \cdot 10^{21244} + 1$	21243	99.96	21251	
9.	$247 \cdot 10^{20006} + 1$	20005	99.98	20009	
10.	$10^{20000} 10^{19536} + 1$	19535	97.68	20000	

* Most consecutive zeros; highest zero %; more zeros than any known prime except M_{38}

** Palindrome

Table 6: The TOP TEN Almost-All-Even-Digits Prime Numbers **

$[K \cdot 10^N + 1; \quad D \cdot R(N) \cdot 10^K + 1, \quad D = 2,\ 4,\ 6,\ 8]$

		Digits	E-D%	
1.	$8 \cdot R(12600) \cdot 10^{3705} + 1$	16305	99.994	[H. Dubner:1997]
*2.	$666 \cdot 10^{14020} + 1$	14023	99.993	
3.	$80602 \cdot 10^{14013} + 1$	14018	99.993	
4.	$4 \cdot R(10200) \cdot 10^{2894} + 1$	13094	99.992	
5.	$2 \cdot R(10200) \cdot 10^{2396} + 1$	12596	99.992	
6.	$6 \cdot R(10200) \cdot 10^{2057} + 1$	12257	99.992	
7.	$8 \cdot R(10080) \cdot 10^{1003} + 1$	11083	99.991	
8.	$4 \cdot R(9240) \cdot 10^{151} + 1$	9391	99.989	
*9.	$666 \cdot 10^{9198} + 1$	9201	99.989	
10.	$4 \cdot R(7560) \cdot 10^{1023} + 1$	8583	99.988	

* Beastly prime (non palindromic)
** All primes discovered by H. Dubner

Table 7: The TOP TEN Quasiall-Even-Digits Prime Numbers

[$Q-E-D$ Primes; 0, 2, 4, 6, 8]

		Digits	E-D%	
**1.	$(10_{14285}80_{14285}1)$	28573	99.993	[D. Heuer:2001]
* 2.	$30_{27719}1$	27721	99.993	
3.	$2470_{20005}1$	20009	99.990	
4.	$10_{13326}20840_{6658}1$	20000	99.990	
** 5.	$(10_{7771}42606240_{7771}1)$	15551	99.98	
*** 6.	$261840_{12090}1$	12096	99.98	
* 7.	$30_{10452}1$	10454	99.98	
8.	$362640_{8061}1$	8067	99.98	
** 9.	$(10_{3525}22202220_{3525}1)$	7059	99.97	
**** 10.	$(10_{2864}6_{15}0_{2864}1)$	5745	99.97	

*	Quasi-repdigit prime
**	Palindrome
***	All even digits represented
****	Generalized beastly palindrome

Table 8: The TOP TEN All Odd Digits Prime Numbers

$[K \cdot 10^N - 1]$

				Digits	
*1.	$10^{50103} - 4 \cdot 10^{50097} - 1$	or	$9_5 59_{50097}$	50103	[P. Carmody:2000]
* 2.	$10^{25000} - 4 \cdot 10^{18479} - 1$	or	$9_{6521} 59_{18479}$	25001	
* 3.	$10^{19999} - 2 \cdot 10^{18038} - 1$	or	$9_{1960} 79_{10838}$	19999	
** 4.	$2 \cdot 10^{19233} - 1$	or	19_{19233}	19234	
** 5.	$6 \cdot 10^{18668} - 1$	or	59_{18668}	18669	
** 6.	$2 \cdot 10^{15749} - 1$	or	19_{15749}	15750	
** 7.	$8 \cdot 10^{11336} - 1$	or	79_{11336}	11337	
*** 8.	$10 \cdot 159795 \cdot R(10080)/R(6) + 1$	or	$(159795)_{1680}1$	10081	
** 9.	$2 \cdot 10^{7517} - 1$	or	19_{7517}	7518	
** 10.	$2 \cdot 10^{5969} - 1$	or	19_{5969}	5970	

* Near-repdigit prime
** Near repdigit string prime
*** Palindrome

Table 9: The Ten Top Primes with Long Repdigit Strings

$[K \cdot 10^N \pm 1]$

		Repdigit String	String %	Total Digits	
* 1.	$105994 \cdot 10^{105994} + 1$	105993	99.993	106000	[G. Loeh & Y. Gallot: 2000]
2.	$193 \cdot 10^{69004} + 1$	69003	99.994	69007	
**3.	$10^{50103} - 4 \cdot 10^{50097} - 1$	50097	99.998	50103	
4.	$49521 \cdot 10^{49521} + 1$	49520	99.988	49526	
*** 5.	$9 \cdot 10^{48051} - 1$	48051	99.998	48052	
***6.	$9 \cdot 10^{41475} - 1$	41475	99.998	41476	
**** 7.	$3 \cdot 10^{33058} - 1$	33058	99.997	33059	
8.	$127 \cdot 10^{31000} + 1$	30999	99.987	31003	
*****9.	$3 \cdot 10^{27720} + 1$	27719	99.993	27721	
**** 10.	$3 \cdot 10^{26044} - 1$	26044	99.996	26045	

*	Most consecutive 0's
**	Most consecutive ending 9's
***	Highest string %
****	Near-repdigit prime
*****	Q-E-D prime

Table 9. A: The TOP TEN Leading Repdigit Prime Numbers

$[D \cdot R(n) \cdot 10^k + 1]$

Digit			Repdigits	String %	Total Digits	
1.	$R(10080) \cdot 10^{2136} + 1$	or $1_{10080}0_{2135}1$	10080	82.51	12216	[1996]
2.	$2R(10200) \cdot 10^{2396} + 1$	or $2_{10200}0_{2395}1$	10200	80.98	12596	[1996]
3.	$3R(10080) \cdot 10^{2286} + 1$	or $3_{10080}0_{2285}1$	10080	81.51	12366	[1996]
4.	$4R(10200) \cdot 10^{2894} + 1$	or $4_{10200}0_{2893}1$	10200	77.90	13094	[1996]
* 5.	$5R(12600) \cdot 10^{68} + 1$	or $5_{12600}0_{67}1$	12600	99.46	12668	[1997]
6.	$6R(10200) \cdot 10^{2057} + 1$	or $6_{10200}0_{2056}1$	10200	83.22	12257	[1996]
7.	$7R(12600) \cdot 10^{381} + 1$	or $7_{12600}0_{380}1$	12600	97.06	12981	[1996]
8.	$8R(12600) \cdot 10^{3705} + 1$	or $8_{12600}0_{3704}1$	12600	77.28	16305	[1997]
**9.	$10^{38500} - 10^{18168} - 1$	or $9_{20332}89_{18168}$	20332	52.81	38501	[2000
*** 9.	$10^{30000} - 10^{13560} - 1$	or $9_{16440}89_{13560}$	16440	54.80	30001	[2000]

* Highest string percentage
** Most leading repdigit
*** Discovered by P. Underwood; all other primes by H. Dubner

Table 9. B: The TOP TEN Internal Repdigit (0) Prime Numbers

$$[K \cdot 10^N + 1]$$

		Repdigit String	String %	Total Digits	
1.	$105994 \cdot 10^{105994} + 1$	105993	99.993	106000	[G. Loeh & Y. Gallot:2000]
*2.	$193 \cdot 10^{69004} + 1$	69003	99.994	69007	
3.	$49521 \cdot 10^{49521} + 1$	49520	99.988	49526	
4.	$127 \cdot 10^{31000} + 1$	30999	99.987	31003	
5.	$3 \cdot 10^{27720} + 1$	27719	99.993	27721	
6.	$9964227 \cdot 10^{21244} + 1$	21243	99.96	21251	
7.	$247 \cdot 10^{20006} + 1$	20005	99.98	20009	
8.	$10^{20000} - 10^{19536} + 1$	19535	97.67	20001	
**9.	$10^{35352} + 204\underline{9}402 \cdot 10^{17673} + 1$	17672	49.99	35353	
10.	$10^{16201} + 37$	16199	99.98	16202	

* Highest string %
** Palindrome

Table 9. B. 1: The TOP TEN Internal Repdigit (nonzero) Primes **

Digit		Repdigits	String %	Total Digits
1	$16671_{10075}094441$	10075	99.90	10085
2	$113882_{10075}108341$	10075	99.89	10086
2	$223072_{10074}1999151$	10074	99.88	10086
3	$643_{7557}2691$	7557	99.92	7563
4	$12896734_{5033}31547711$	5033	99.70	5048
*5	$285_{10078}271$	10078	99.95	10083
6	$26_{6995}39_{54}1_{6996}$	6995	49.80	14047
7	$35047_{10076}42731$	10076	99.91	10085
8	$13965168_{5033}74923721$	5033	99.70	5048
9	$17309_{10076}82691$	10076	99.91	10085

* Most internal repdigits/highest string %
** All discovered by H. Dubner (1997)

Table 9. C: The TOP TEN Ending Repdigit (9) Primes **

$[AB_n; \quad K \cdot 10^n - 1]$

		Repdigit String	String %	Total Digits	
1	$10^{50103} - 4 \cdot 10^{50097} - 1$	50097	99.988	50103	[P. Carmody:2000]
*2.	$9 \cdot 10^{48051} - 1$	48051	99.988	48052	
*3.	$9 \cdot 10^{41475} - 1$	41475	99.998	41476	
*4.	$3 \cdot 10^{33058} - 1$	33058	99.997	33059	
*5.	$3 \cdot 10^{26044} - 1$	26044	99.996	26045	
6.	$10^{30005} - 10^{23906} - 1$	23906	79.67	30006	
7.	$10^{30007} - 10^{22717} - 1$	22717	75.70	30008	
8.	$10^{25000} - 7 \cdot 10^{22632} - 1$	22632	90.52	25001	
9.	$10^{30006} - 10^{21425} - 1$	21425	71.40	30007	
10.	$10^{30002} - 10^{21020} - 1$	21020	70.06	30003	

* Near-repdigit string prime
** Plus three other ending repdigit (1, 3, 7) primes:

Repdigit		Repdigit String	String%	Total Digits
(1)	$26_{6995}39_{54}1_{6996}$	6996	49.80	14047
(3)	$13_{5216}19_{2300}3_{5217}$	5217	40.97	12735
(7)	$2668319_{5694}7331680_{2299}17_{5700}$	5700	41.59	13706

Table 10: The TOP TEN Palindromic Prime Numbers

$[10^A + K \cdot 10^B + 1]$

				Digits	
1.	$10^{35352} + 2049402 \cdot 10^{17673} + 1$	or	$(10_{17672}20494020_{1762}1)$	35353	[H.Dubner :1999]
* 2.	$10^{30802} + 1110111 \cdot 10^{15398} + 1$	or	$(10_{15397}11101110_{15397}1)$	30803	
* 3.	$10^{28572} + 8 \cdot 10^{14286} + 1$	or	$(10_{14285}80_{14285}1)$	28573	
4.	$10^{19390} + 4300034 \cdot 10^{9692} + 1$	or	$(10_{9691}43000340_{9691}1)$	19391	
5.	$10^{16650} + 53735 \cdot 10^{8323} + 1$	or	$(10_{8322}537350_{8322}1)$	16651	
6.	$10^{16360} + 3644463 \cdot 10^{8177} + 1$	or	$(10_{8176}36444630_{8176}1)$	16361	
** 7.	$10^{15640} + 3 \cdot 10^{7820} + 1$	or	$(10_{7819}30_{7819}1)$	15641	
8.	$10^{15550} + 7410147 \cdot 10^{7772} + 1$	or	$(10_{7771}74101470_{7771}1)$	15551	
8.	$10^{15550} + 7105017 \cdot 10^{7772} + 1$	or	$(10_{7771}71050170_{7771}1)$	15551	
*** 8.	$10^{15550} + 4260624 \cdot 10^{7772} + 1$	or	$(10_{7771}42606240_{7771}1)$	15551	
8.	$10^{15550} + 3698963 \cdot 10^{7772} + 1$	or	$(10_{7771}36989630_{7771}1)$	15551	

* Tetradic or 4-way prime
** Triadic or 3-way prime
*** Q-E-D palprime

Table 10. A: The TOP TEN Tetradic Prime Numbers

[4-way Palprimes]

[0, 1, 8]

				Digits	
* 1.	$10^{30802} + 1110111 \cdot 10^{15398} + 1$	or	$(10_{15397}1110111_{15397}1)$	30803	[H.D. :1999]
** 2.	$10^{28572} + 8 \cdot 10^{14286} + 1$	or	$(10_{14285}80_{14285}1)$	28573	
* 3.	$10 \cdot 110101 \cdot R(10080)/R(6) + 1$	or	$(110101)_{1680}1$	10081	
4.	$10^{6906} + 88111881818811188 \cdot 10^{3445} + 1$	or	$(10_{3444}881118818188111880_{3444}1)$	6907	
* 5.	$10^{4840} + 111111111 \cdot 10^{2416} + 1$	or	$(10_{2415}1_{9}0_{2415}1)$	4841	
** 6.	$10^{4186} + 888 \cdot 10^{2092} + 1$	or	$(10_{2091}8880_{2091}1)$	4187	
7.	$10^{3628} + 88111881818811188 \cdot 10^{1806} + 1$	or	$(10_{1805}881118818188111880_{1805}1)$	3629	
8.	$10^{3504} + 88111818881811188 \cdot 10^{1744} + 1$	or	$(10_{1743}881118188818111880_{1743}1)$	3505	
* 9.	$10^{2992} + 111111111 \cdot 10^{1492} + 1$	or	$(10_{1491}1_{9}0_{1491}1)$	2993	
* 10.	$10^{2810} + 1_{5} \cdot 10^{1403} + 1$	or	$(10_{1402}1_{5}0_{1402}1$	2811	

* Anti-Yarborough palprime
** Quasi-even-digit palprime

Table 10. B: The TOP TEN Triadic Prime Numbers *

[3-way Palprimes]

[0, 1, 3, 8]

				Digits	
1.	$10^{15640} + 3 \cdot 10^{7820} + 1$	or	$(10_{7819}30_{7819}1)$	15641	[H.D: 1999]
2.	$10^{11650} + 3 \cdot 10^{5825} + 1$	or	$(10_{5824}30_{5824}1)$	11651	
3.	$10 \cdot 13003 \cdot (10^{9240} - 1)/(10^5 - 1) + 1$	or	$(13003)_{1848}1$	9241	
4.	$10 \cdot 13388833 \cdot (10^{7560} - 1)/(10^8 - 1) + 1$	or	$(13388833)_{945}1$	7561	
5.	$10^{6572} + 3 \cdot 10^{3286} + 1$	or	$(10_{3285}30_{3285}1)$	6573	
6.	$10^{5030} + 11101310111 \cdot 10^{2510} + 1$	or	$(10_{2509}111013101110_{2509}1)$	5031	
7.	$10^{4594} + 3 \cdot 10^{2297} + 1$	or	$(10_{2296}30_{2296}1)$	4595	
8.	$10^{3830} + 3 \cdot 10^{1915} + 1$	or	$(10_{1914}30_{1914}1)$	3831	
9.	$10^{3054} + 131 \cdot 10^{1526} + 1$	or	$(10_{1525}1310_{1525}1)$	3055	
10.	$10^{2976} + 3 \cdot 10^{1488} + 1$	or	$(10_{1487}30_{1487}1)$	2977	

* All discovered by H. Dubner

Table 10. C: The TOP TEN Quasi-Even-Digits Palindromic Prime Numbers

[Q-E-D Palprimes; 0, 2, 4, 6, 8]

				Digits	E-D%	
*** 1.	$10^{28572} + 8 \cdot 10^{14286} + 1$	or	$(10_{14285}80_{14285}1)$	28573	99.99	[D. Heur: 2001]
2.	$10^{15550} + 4260624 \cdot 10^{7772} + 1$	or	$(10_{7771}42606240_{7771}1)$	15551	99.99	
3.	$10^{7058} + 2220222 \cdot 10^{3526} + 1$	or	$(10_{3525}22202220_{3525}1)$	7059	99.97	
* 4.	$10^{5744} + 6_{15} \cdot 10^{2865} + 1$	or	$(10_{2864}6_{15}0_{2864}1)$	5745	99.97	
** 5.	$10^{5250} + 666 \cdot 10^{2624} + 1$	or	$(10_{2623}6660_{2623}1)$	5251	99.96	
** 6.	$10^{4948} + 666 \cdot 10^{2473} + 1$	or	$(10_{2472}6660_{2472}1)$	4949	99.96	
* 7.	$10^{4784} + 6_{15} \cdot 10^{2385} + 1$	or	$(10_{2384}6_{15}0_{2384}1)$	4785	99.96	
*** 8.	$10^{4186} + 888 \cdot 10^{2092} + 1$	or	$(10_{2091}8880_{2091}1)$	4187	99.95	
* 9.	$10^{3322} + 6_{21} \cdot 10^{1651} + 1$	or	$(10_{1650}6_{21}0_{1650}1)$	3323	99.94	
* 10.	$10^{2752} + 6_{15} \cdot 10^{1369} + 1$	or	$(10_{1368}6_{15}0_{1368}1)$	2753	99.93	

* Generalized beastly palindrome
** Beastly palindrome
*** Tetradic or 4-way prime

Table 10. D: The TOP TEN Zero-free Palindromic Primes

[1, 2, 3, 4, 5, 6, 7, 8, 9]

		Digits	
* 1.	$(9_{6768}29_{6768})$	13537	[H.Dubner:1999]
* 2.	$(9_{5876}29_{5876})$	11753	
3.	$(1818535818)_{1008}1$	10081	
** 4.	$(159795)_{1680}1$	10081	
*** 5.	$(13388833)_{945}1$	7561	
* 6.	$(9_{2874}29_{2874})$	5749	
**** 7.	$(1676)_{1170}1$	4681	
* 8.	$(9_{1918}29_{1918})$	3837	
**** 9.	$(1676)_{948}1$	3793	
10.	$(11925291)_{450}1$	3601	

*	Near-repdigit prime
**	All odd digits
***	Triadic prime
****	Alternate digit prime

Table 10. E: The TOP TEN Near-Repdigit Palprimes

$[A_N B A_N]$

			Digits	
1.	$9R(13537) - 7 \cdot 10^{6768}$	or $(9_{6768}29_{6768})$	13537	[H.Dubner: 1999]
2.	$9R(11753) - 7 \cdot 10^{5876}$	or $(9_{5876}29_{5876})$	11753	
3.	$10^{5749} - 7 \cdot 10^{2874} - 1$	or $(9_{2874}29_{2874})$	5749	
4.	$10^{3837} - 7 \cdot 10^{1918} - 1$	or $(9_{1918}29_{1918})$	3837	
* 5.	$10^{3597} - 10^{1798} - 1$	or $(9_{1798}89_{1798})$	3597	
** 6.	$10^{3159} - 8 \cdot 10^{1579} - 1$	or $(9_{1579}19_{1579})$	3159	
** 7.	$10^{3017} - 8 \cdot 10^{1508} - 1$	or $9_{1508}19_{1508})$	3017	
8.	$10^{2631} - 7 \cdot 10^{1315} - 1$	or $(9_{1315}29_{1315})$	2631	
* 9.	$10^{2493} - 10^{1246} - 1$	or $(9_{1246}89_{1246})$	2493	
*** 10.	$10^{2273} - 5 \cdot 10^{1136} - 1$	or $(9_{1136}49_{1136})$	2273	

* All composite digits and curved digits
** All odd digits
*** All composite digits

Table 10. F: The TOP TEN All-Odd Digits Palprimes

[1, 3, 5, 7, or 9]

		Digits	
1.	$(159795)_{1680}1$	10081	[H.Dubner:1996]
* 2.	$9_{1579}19_{1579}$	3159	
3.	$(13919193)_{390}1$	3121	
4.	$(9_{1508}19_{1508})$	3017	
**5.	$(37)_{1441}3$	2883	
*** 6.	$(35_{1973}3)$	1975	
7.	$(19)_{984}1$	1969	
8.	$(37)_{946}3$	1893	
9.	$(15)_{895}1$	1791	
10.	$(1_{874}91_{874})$	1749	

* Largest all odd, near-repdigit palprime
** Largest, smoothly undulating prime with prime digits
*** Plateau prime with prime digits

Table 10. G: The Top Beastly Palindromic Prime Numbers*

$[(10^n + \underline{666}) \cdot 10^{n-2} + 1]$

			Digits	
1.	$(10^{2626} + 666) \cdot 10^{2624} + 1$	or $(10_{2623}6660_{2623}1)$	5251	[H. Dubner: 1988]
2.	$(10^{2475} + 666) \cdot 10^{2473} + 1$	or $(10_{2472}6660_{2472}1)$	4949	
3.	$(10^{611} + 666) \cdot 10^{609} + 1$	or $(10_{608}6660_{608}1)$	1221	
4.	$(10^{509} + 666) \cdot 10^{507} + 1$	or $(10_{506}6660_{506}1)$	1017	
5.	$(10^{45} + 666) \cdot 10^{43} + 1$	or $(10_{42}6660_{42}1)$	89	
6.	$(10^{16} + 666) \cdot 10^{14} + 1$	or $(10_{13}6660_{13}1)$	31	
7.	$(10^{3} + 666) \cdot 10 + 1$	or (16661)	5	

* All discovered by H.Dubner

Table 10. G. 1: The TOP TEN Generalized Beastly Palindromic Primes

$[10\ldots\underline{X666X}\ldots01]$

				Digits	
1.	$10^{9008}+2166612\cdot10^{4501}+1$	or	$(10_{4500}21666120_{4500}1)$	9009	[H.Dubner1990]
2.	$10^{5744}+6_{15}\cdot10^{2865}+1$	or	$(10_{2864}6_{15}0_{2864}1)$	5745	
3.	$10^{4784}+6_{15}\cdot10^{2385}+1$	or	$(10_{2384}6_{15}0_{2384}1)$	4785	
4.	$10^{3322}+6_{21}\cdot10^{1651}+1$	or	$(10_{1650}6_{21}0_{1650}1)$	3323	
5.	$10^{2752}+6_{15}\cdot10^{1369}+1$	or	$(10_{1368}6_{15}0_{1368}1)$	2753	
6.	$10^{2692}+666999666999666\cdot10^{1339}+1$	or	$(10_{1338}6_39_36_39_36_30_{1338}1)$	2693	
7.	$10^{2414}+10536663501\cdot10^{1202}+1$	or	$(10_{1201}105366635010_{1201}1)$	2415	
8.	$10^{2046}+6_{15}\cdot10^{1016}+1$	or	$(10_{1015}6_{15}0_{1015}1)$	2047	
9.	$10^{1888}+6660066600666\cdot10^{938}+1$	or	$(10_{937}66600666006660_{937}1)$	1889	
10.	$10^{1812}+6_{21}\cdot10^{896}+1$	or	$(10_{895}6_{21}0_{895}1)$	1813	

Table 10. H: The TOP TEN Pandigital, Palindromic Prime Numbers*

[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

				Digits	
1.	$10^{4954} + 976543282345679 \cdot 10^{2470} + 1$	or	$(10_{2469}9765432823456790_{2469}1)$	4955	HD:1987
2.	$10^{3826} + 234567989765432 \cdot 10^{1906} + 1$	or	$(10_{1905}2345679897654320_{1905}1)$	3827	
3.	$10^{3802} + 23456789198765432 \cdot 10^{1893} + 1$	or	$(10_{1892}234567891987654320_{1892}1)$	3803	
4.	$10^{3106} + 987654323456789 \cdot 10^{1546} + 1$	or	$(10_{1545}9876543234567890_{1545}1)$	3107	
5.	$10^{2594} + 23456789198765432 \cdot 10^{1289} + 1$	or	$(10_{1288}234567891987654320_{1288}1)$	2595	
6.	$10^{2468} + 23456789198765432 \cdot 10^{1226} + 1$	or	$(10_{1225}234567891987654320_{1225}1)$	2469	
7.	$10^{2220} + 56789123432198765 \cdot 10^{1102} + 1$	or	$(10_{1101}567891234321987651_{1101}1)$	2221	
8.	$10^{1890} + 23456790809765432 \cdot 10^{937} + 1$	or	$(10_{936}234567908097654320_{936}1)$	1891	
9.	$10^{1612} + 23456789298765432 \cdot 10^{798} + 1$	or	$(10_{797}234567892987654320_{797}1)$	1613	
10.	$10^{1522} + 234567989765432 \cdot 10^{754} + 1$	or	$(10_{753}2345679897654320_{753}1)$	1523	

* All discovered by H. Dubner

Table 10. I: The TOP TEN Alternate-Digit Palprimes

[odd-even-odd... -odd]

		Digits	
1.	$(1676)_{1170}1$	4681	[H. Dubner: 1997]
2.	$(1676)_{948}1$	3793	
*3.	$(12)_{989}1$	1979	
**4.	$(1858)_{414}1$	1657	
**5.	$(1838)_{410}1$	1641	
*6.	$(14)_{815}1$	1631	
7.	$(1232)_{402}1$	1609	
*8.	$(12)_{798}1$	1597	
*9.	$(18)_{739}1$	1479	
*10.	$(12)_{699}1$	1399	

* Smoothly undulating
** Undulating

Table 10. I. 1: The TOP TEN Primes w Alternating Unholey/Holey Digits

[1, 2, 3, 5, 7/0, 4, 6, 8, 9]

		Digits	
1.	$(1676)_{1170}1$	4681	[H. Dubner: 1997]
2.	$(1676)_{948}1$	3793	
*3.	$(19)_{984}1$	1969	
**4.	$(1858)_{414}1$	1657	
**5.	$(1838)_{410}1$	1641	
*6.	$(14)_{815}1$	1631	
*7.	$(18)_{739}1$	1479	
*8.	$(16)_{480}1$	961	
9.	$(1474)_{231}1$	925	
**10.	$(1434)_{205}1$	821	

* Smoothly Undulating
** Undulating

Table 10. I. 2: The TOP TEN Primes w. Alternating Straight/Curved Digits

[1, 4, 7 / 3, 6, 8, 9, 0]

		Digits	
1.	$(1676)_{1170}1$	4681	[H. Dubner: 1997]
2.	$(1676)_{948}1$	3793	
*3	$(37)_{1441}3$	2883	
*4.	$(19)_{984}1$	1969	
*5	$(37)_{946}3$	1893	
*6.	$(18)_{739}1$	1479	
*7.	$(16)_{480}1$	961	
*8.	$(37)_{424}3$	849	
*9.	$(37)_{157}3$	315	
*10.	$(16)_{114}1$	229	

* Smoothly undulating

Table 10. I. 3: The TOP TEN Primes with Alternating Prime/Composite Digits

[2, 3, 5, 7 / 4, 6, 8, 9]

		Digits	
1.	$(92)_{97}9$	195	[H. Dubner: 1991]
2.	$(78)_{47}7$	95	
3.	$(38)_{28}3$	57	
4.	$(97)_{22}9$	45	
5.	$(97)_{13}9$	27	
6.	$(78)_{13}7$	27	
7.	$(78)_{10}7$	21	
8.	$(38)_{10}3$	21	
9.	$(95)_{8}9$	17	
10.	$(74)_{8}7$	17	

Table 10. J: The TOP TEN Palprimes w. Composite Digits
&
The TOP TEN Holey Palprimes

[4, 6, 8, 9; 0]

		Digits	Holes	H/D %	
1.	$9_{1798}89_{1798}$	3597	3598	100.03%	[H. Dubner: 1989]
2.	$9_{1246}89_{1246}$	2493	2494	100.04%	
3.	$9_{1136}49_{1136}$	2273	2273	100.00%	
3 A.	$9_{874}8089_{874}$	1751	1753	100.11%	
* 3 B.	$9_{593}400049_{593}$	1191	1191	100.00%	
** 4.	$98_{983}9$	985	1968	199.80%	
5.	$9_{378}89_{378}$	757	758	100.13%	
6.	$9_{104}49_{104}$	209	209	100.00%	
7.	$98_{203}9$	205	408	199.02%	
8.	$(98)_{80}9$	161	241	149.69%	
9.	$(94)_{71}9$	143	143	100.00%	
10.	$98_{113}9$	115	228	198.26%	

* Holey palprime only
** Highest holes/digits percentage

Table 10. K: The TOP TEN Palprimes w. Curved Digits

[0, 3, 6, 8, 9]

		Digits	
* 1.	$9_{1798}89_{1798}$	3597	[H. Dubner: 1989]
* 2.	$9_{1246}89_{1246}$	2493	
* 3.	$98_{983}9$	985	
* 4.	$9_{378}89_{378}$	757	
5.	$38_{631}3$	633	
6.	$38_{289}3$	291	
* 7.	$98_{203}9$	205	
8.	$3_{94}83_{94}$	189	
9.	$3_{85}83_{85}$	171	
* 10.	$(98)_{80}9$	161	

* All composite digits

Table 10. L: The TOP TEN Unholey Palprimes

[1, 2, 3, 5, 7]

		or	Digits
* 1.	$[(17275727273727273727275727)R_{3120}/R_{26}]\cdot 10+1$	$(17275727273727273727275727)_{120}1$	3121 H.D:1992
2.	$[(1(2)_{17}35553(2)_{17})(R_{3120}/R_{40})]\cdot 10+1$	$(1(2)_{17}35553(2)_{17})_{78}1$	3121
**3.	$370\cdot((100^{1441})-1)/99+3$	$(37)_{1441}3$	2883
* 4.	$[(173737573725727257272737573737)R_{2160}/R_{30}]\cdot 10+1$	$(173737573727572727572737573737)_{72}1$	2161
* 5.	$[(173737572727375757372727573737)R_{2160}/R_{30}]\cdot 10+1$	$(173737572727375757372727573737)_{72}1$	2161
* 6.	$[(173727375757572727575757372737)R_{2160}/R_{30}]\cdot 10+1$	$(173727375757572727575757372737)_{72}1$	2161
** 7.	$120\cdot R(1978)/R(2)+1$	$(12)_{989}1$	1979
*** 8.	$32\cdot R(1974)+1$	$35_{1973}3$	1975
**9.	$370\cdot((100^{946})-1)/99+3$	$(37)_{946}3$	1893
** 10.	$150\cdot R(1790)/R(2)+1$	$(15)_{895}1$	1791

* Undulating prime
** Smoothly undulating prime
*** Largest prime with prime digits

Table 10. M: The TOP TEN Invertible Palprime Pairs

	[0, 1, 6, 8, 9]	Digits	
1A.	$(10_{1137}8808810818089808180188088 0_{1137}1)$	2301	H. Dubner: 2000
1B.	$(10_{1137}88088108180868081801880880_{1137}1)$	2301	
2A.	$(10_{1038}8011111810898018111110 80_{1038}1)$	2101	
2B.	$(10_{1038}80111118108680181111108 0_{1038}1)$	2101	
3A.	$(10_{748}80088008181918180088008 0_{748}1)$	1521	
3B.	$(10_{748}80088008181618180088008 0_{748}1)$	1521	
4A.	$(10_{742}18180101800898008101081810_{742}1)$	1511	
4B.	$(10_{742}18180101800868008101081810_{742}1)$	1511	
5A.	$(10_{736}8101880180118981108108810180_{736}1)$	1501	
5B.	$(10_{736}8101880180118681108108810180_{736}1)$	1501	
6A.	$(10_{735}1000880100818191818001088000 10_{735}1)$	1501	
6B.	$(10_{735}100088010081816181800108800010_{735}1)$	1501	
7A.	$(10_{685}8080088088810090018880880080 80_{685}1)$	1401	
7B.	$(10_{685}808008808881006001888088008080_{685}1)$	1401	
8A.	$(10_{685}181188011110189810111108811810_{685}1)$	1401	
8B.	$(10_{685}181188011110186810111108811810_{685}1)$	1401	
9A.	$(10_{685}111110888080189810808880111110_{685}1)$	1401	
9B.	$(10_{685}111110888080186810808880111110_{685}1)$	1401	
10A.	$(10_{685}100080108088089808880801080001 0_{685}1)$	1401	
10B.	$(10_{685}100080108088086808880801080001 0_{685}1)$	1401	

Table 10. N: The TOP TEN Smoothly Undulating Palprimes

$[AB_N A]$

		Digits	
1.	$(37)_{1441}3$	2883	[L.C. Noll: 1997]
2.	$(12)_{989}1$	1979	
3.	$(19)_{984}1$	1969	
4.	$(37)_{946}3$	1893	
5.	$(15)_{895}1$	1791	
6.	$(14)_{815}1$	1631	
7.	$(12)_{798}1$	1597	
8.	$(18)_{739}1$	1479	
9.	$(12)_{699}1$	1399	
10.	$(16)_{480}1$	961	

Table 10. O: The TOP TEN Palprimes w. Prime Digits

[2, 3, 5, 7]

		Digits	
* 1.	$(37)_{1441}3$	2883	[L.C. Noll:1997]
** 2.	$35_{1973}3$	1975	
* 3.	$(37)_{946}3$	1893	
*** 4.	$32_{893}3$	895	
* 5.	$(37)_{424}3$	849	
***** 6.	$(2_P + 1)$	727	
** 7.	$35_{725}3$	727	
*** 8.	$72_{723}7$	725	
**** 9.	$7_{253}57_{253}$	507	
** 10.	$35_{461}3$	463	

*	Smoothly undulating prime
**	Plateau prime
***	Depression prime
****	Near-repdigit prime
*****	Undulating prime: to prove a prime (p) to be of the Sophie Germain type, $(2p+1)$ must also be found prime (H.Dubner: 1999)

$(2p+1)$=

7272727232323272323232723272327272327232727272327232323272723232323232
3232323232323232323232323232323232323232323232323232323232323232323232
3232323232323232323232323232323232323232323232323232323232323232323232
3232323232323232323232323232323232323232323232323232323232323232323232
3232323232323232323232323232323232323232323232323232323232323232323232
3232323232323232323232323232323232323232323232323232323232323232323232
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3232323232323232323232323232323232323232323232323232323232323232323232
3232323232323232323232323232323232323232323232323232323232323232323232
3232323232323232323232323232323232323232323232727232323272327272723272327272327232
723272323232723232327272727

Table 10. P: The TOP TEN Palindromic Quasi-Repdigit Prime Numbers

(AB_nA)

		Repdigits	Repd. %	
1.	$35_{1973}3$	1973	99.90	[C.Rivera:1997]
2.	$13_{1469}1$	1469	99.86	
3.	$17_{1001}1$	1001	99.80	
4.	$98_{983}9$	983	99.80	
5.	$32_{893}3$	893	99.78	
6.	$18_{883}1$	883	99.77	
7.	$19_{729}1$	729	99.73	
8.	$35_{725}3$	725	99.72	
9.	$72_{723}7$	723	99.72	
10.	$38_{631}3$	631	99.68	

Table 10. P. 1: The TOP TEN $P^{latea}u$ Prime Numbers

$(AB_nA), \quad A < B$

		Repdigits	Repd. %	
1.	$35_{1973}3$	1973	99.90	[C.Rivera:1997]
2.	$13_{1469}1$	1469	99.86	
3.	$17_{1001}1$	1001	99.80	
4.	$18_{883}1$	883	99.77	
5.	$19_{729}1$	729	99.73	
6.	$35_{725}3$	725	99.72	
7.	$38_{631}3$	631	99.68	
8.	$78_{565}7$	565	99.65	
9.	$15_{561}1$	561	99.64	
10.	$34_{491}3$	491	99.59	

Table 10. P. 2: The TOP TEN $D_{epressio}n$ Prime Numbers

$[\ (AB_nA), \quad A > B\ ]$

		Repdigits	Repd. %	
1.	$98_{983}9$	983	99.80	[R. Carr, etal: 2000]
2.	$32_{893}3$	893	99.78	
3.	$72_{723}7$	723	99.72	
4.	$31_{599}3$	599	99.67	
5.	$76_{573}7$	573	99.65	
6.	$74_{483}7$	483	99.59	
7.	$76_{453}7$	453	99.56	
8.	$75_{421}7$	421	99.53	
9.	$75_{349}7$	349	99.43	
10.	$31_{341}3$	341	99.42	

Table 10. Q: The TOP TEN Palprimes w. Straight Digits

[1, 4, 7]

		Digits	
1.	$(14)_{815}1$	1631	[C. Rivera:1997]
* 2.	R_{1031}	1031	
3.	$17_{1001}1$	1003	
4.	$(1474)_{231}1$	925	
5.	$(14)_{291}1$	583	
6.	$74_{483}7$	485	
7.	$(14)_{239}1$	479	
8.	$17_{365}1$	367	
9.	R_{317}	317	
10.	$(14)_{138}1$	277	

* Largest known repunit prime: $(10^{1031} - 1)/9$

Table 10. R: The Five Repunit Primes Known *

[$R_n = (10^n - 1)/9 = 1_n$]

				Digits	
1.	$R_{1031} = (10^{1031} - 1)/9$	or	1_{1031}	1031	[H.C. Williams & H.Dubner:1985]
2.	$R_{317} = (10^{317} - 1)/9$	or	1_{317}	317	
3.	$R_{23} = (10^{23} - 1)/9$	or	1_{23}	23	
4.	$R_{19} = (10^{19} - 1)/9$	or	1_{19}	19	
5.	$R_2 = (10^2 - 1)/9$	or	1_2	2	

* All other repunits up to R(49080) are composite

Table 10. S: The TOP TEN Known Palindromic Primes in Arithmetic Progression

	27 Digits	
1.	742 950 290 879 090 978 092 059 247	[H.Dubner, T.Forbes, M.Toplic, etal: 1999]
2.	742 950 290 878 080 878 092 059 247	
3.	742 950 290 877 070 778 092 059 247	
4.	742 950 290 876 060 678 092 059 247	
5.	742 950 290 875 050 578 092 059 247	
6.	742 950 290 874 040 478 092 059 247	
7.	742 950 290 873 030 378 092 059 247	
8.	742 950 290 872 020 278 092 059 247	
9.	742 950 290 871 010 178 092 059 247	
10.	742 950 290 870 000 078 092 059 247	

Common difference = 1 010 100 000 000 000

Table 11: The TOP TEN Primes with Square Digits

[0, 1, 4, 9]

		Digits	
* 1.	$10_{15397}11101110_{15397}1$	30803	[H.Dubner:1999]
** 2.	19_{19233}	19234	
** 3.	49_{16131}	16132	
** 4.	49_{15796}	15797	
** 5.	19_{15749}	15750	
6.	$4_{10200}0_{2893}1$	13094	
7.	$1_{10080}0_{2135}1$	12216	
8.	$9_{10080}0_{850}1$	10931	
9.	$190_{10146}1$	10149	
10.	$4_{9240}0_{150}1$	9391	

* Tetradic or 4-way prime
** Near repdigit string prime

Table 12: The TOP TEN Prime Numbers w. Cube Digits **

[0, 1, 8]

		Digits	
* 1.	$(10_{15397}11101110_{15397}1)$	30803	[H. Dubner:1999]
* 2.	$(10_{14285}80_{14285}1$	28573	
3.	$8_{12600}0_{3704}1$	16305	
4.	$1_{10080}0_{2135}1$	12216	
5.	$8_{10080}0_{1002}1$	11083	
* 6.	$(110101)_{1680}1$	10081	
7.	$1_{6300}0_{2137}1$	8438	
* 8.	$(10_{3444}881118818188111880_{3444}1)$	6907	
9.	$1_{2700}0_{3155}1$	5856	
10.	$1_{2502}0_{2611}1$	5114	

* Tetradic or 4-way prime
** All discovered by H. Dubner

Table 13: The TOP TEN Anti-Yarborough Primes
with 1' s and 0' s Digits **

		Digits	
* 1.	$(10_{15397}11101110_{15397}1)$	30803	[H. Dubner:1999]
2.	$1_{10080}0_{2135}1$	12216	
* 3.	$(110101)_{1680}1$	10081	
4.	$1_{6300}0_{2137}1$	8438	
5.	$1_{2700}0_{3155}1$	5856	
6.	$1_{2502}0_{2611}1$	5114	
7.	$1_{2502}0_{2501}1$	5004	
* 8.	$(10_{2415}1_{9}0_{2415}1)$	4841	
9.	$1_{3120}0_{210}1$	3331	
10.	$1_{2062}0_{1051}1$	3114	

* Tetradic or 4-way prime
** All discovered by H. Dubner

Table 14: The TOP TEN Yarborough Prime Numbers

and

The TOP TEN Zero-Free Primes

[2, 3, 4, 5, 6, 7, 8, 9; 1]

				Digits	
*1.	$10^{50103} - 4 \cdot 10^{50097} - 1$	or	$9_5(5)9_{50097}$	50103	[P. Carmody:2000]
**2.	$9 \cdot 10^{48051} - 1$	or	$(8)9_{48051}$	48052	
**3.	$9 \cdot 10^{41475} - 1$	or	$(8)9_{14175}$	41476	
*4.	$10^{38500} - 10^{18168} - 1$	or	$9_{20332}(8)9_{18168}$	38501	
**5.	$3 \cdot 10^{33058} - 1$	or	$(2)9_{33058}$	33059	
*6.	$10^{30007} - 10^{22717} - 1$	or	$9_{7290}(8)9_{22717}$	30008	
*7.	$10^{30006} - 10^{21425} - 1$	or	$9_{8581}(8)9_{21425}$	30007	
*8.	$10^{30005} - 10^{23906} - 1$	or	$9_{6099}(8)9_{23906}$	30006	
*9.	$10^{30004} - 10^{16623} - 1$	or	$9_{13380}(8)9_{16623}$	30004	
*9.	$10^{30004} - 10^{17794} - 1$	or	$9_{12209}(8)9_{17794}$	30004	
*9.	$10^{30003} - 10^{16681} - 1$	or	$9_{13322}(8)9_{16681}$	30004	
*9.	$10^{30003} - 10^{17640} - 1$	or	$9_{12363}(8)9_{17604}$	30004	

* Near-repdigit prime
** Near-repdigit string prime
() The “Odd” digit of that prime

Table 15: The TOP TEN Prime Twins

$[K \cdot 2^N \pm 1]$

		Digits	
1.	$1807318575 \cdot 2^{98305} \pm 1$	29603	[D. Underbakke, P. Carmody: 2001]
2.	$665551035 \cdot 2^{80025} \pm 1$	24099	
3.	$1693965 \cdot 2^{66443} \pm 1$	20008	
4.	$83475759 \cdot 2^{64955} \pm 1$	19562	
5.	$4648619711505 \cdot 2^{60000} \pm 1$	18075	
6.	$2409110779845 \cdot 2^{60000} \pm 1$	18075	
7.	$2230907354445 \cdot 2^{48000} \pm 1$	14462	
8.	$871892617365 \cdot 2^{48000} \pm 1$	14462	
9.	$361700055 \cdot 2^{39020} \pm 1$	11755	
10.	$835335 \cdot 2^{39014} \pm 1$	11751	

Table 15. A: The TOP TEN Prime Triplets

[$k-$ tuplets, $k=3$]

			Digits	
1.	p-1, p+1, p+5	$1852468459 \cdot 4999\#/35$	2141	[H. Rosenthal & P. Jobling:2001]
2.	p-1, p+1, p+5	$1042334284 \cdot 4999\#/35$	2141	
3.	p-1, p+1, p+5	$177299114 \cdot 4999\#/35$	2140	
4.	p-1, p-1, p+5	$1279378536 \cdot 4993\#/35$	2137	
5.	p-1, p+1, p+5	$508157676 \cdot 4993\#/35$	2137	
6.	p-1, p+1, p+5	$122194876 \cdot 4983\#/35$	2136	
7.	p-1, p+1, p+5	$1855266543 \cdot 4987\#/35$	2134	
8.	p-1, p+1, p+5	$167761138 \cdot 4987\#/35$	2134	
9.	p-5, p-1, p+1	$871453243 \cdot 4987\#/35$	2134	
10.	p-1, p+1, p+5	$388838923 \cdot 4987\#/35$	2133	

$p\# = 2 \cdot 3 \cdot 5 \cdot 7 \cdot 11 \ldots p$

Table 15. B: The Top K-tuplets of Primes

$[k > 3]$

[Prime Quadruplets, Quintuplets, Sextuplets, etc.]

			Digits	
1.	4-tuplets: p-7, p-5, p-1, p+1	$P = 8954571083387140525(2^{3423} - 2^{1141}) - 6 \cdot 2^{1141}$	1050	[T. Forbes: 1999]
2.	p-7, p-5, p-1, p+1	$P = 2494743292874191523 5(2^{3363} - 21121) - 6 \cdot 2^{1121}$	1032	
3.	p-7, p-5, p-1, p+1	$P = 1729337840358961879 0(2^{3363} - 2^{1121}) - 6 \cdot 2^{1121}$	1032	
4.	p-7, p-5, p-1, p+1	$P = 1198474720423108296 0(2^{3363} - 2^{1121}) - 6 \cdot 2^{1121}$	1032	
5.	p-7, p-5, p-1, p+1	$P = 3510160221387831655(2^{3363} - 2^{1121}) - 6 \cdot 2^{1121}$	1031	
6.	p-7, p-5, p-1, p+1	$P = 331426625784936325(2^{3363} - 2^{1121}) - 6 \cdot 2^{1121}$	1030	
7.	p-7, p-5, p-1, p+1	$P = 769128959566368 85(2^{3279} - 2^{1093}) - 6 \cdot 2^{1093}$	1004	
8.	5-tuplets: p, p+4, p+6, p+10, p+12	$P = 3242281037 \cdot 900\# + 1867$	384	[M. Bell: 2000]
* 9.	6-tuplets: p, p+4, p+6, p+10, p+12, p+16	$p = 97953153175 \cdot 670\# + 16057$	290	[M.Bell, etal: 2001]
* 10.	7-tuplets: p, p+2, p+8, p+12, p+14, p+18, p+20	$P = 60922342070 \cdot 350\# + 5639$	152	[M.Bell: 2001]

* $p^{\#} = 2 \cdot 3 \cdot 5 \cdot 7 \cdot 11 \ldots p$

Table 16. A: The TOP TEN Near Repdigit Prime Numbers AB_n

[Streak or String Primes: ABBBBBBBB. . .B]

				Repdigits	
*1.	$9 \cdot 10^{48051} - 1$	or	89_{48051}	48051	[H. Dubner & Y. Gallot: 2000]
* 2.	$9 \cdot 10^{41475} - 1$	or	89_{41475}	41475	
3.	$3 \cdot 10^{33058} - 1$	or	29_{33058}	33058	
4.	$3 \cdot 10^{26044} - 1$	or	29_{26044}	26044	
** 5.	$2 \cdot 10^{19233} - 1$	or	19_{19233}	19233	
** 6.	$6 \cdot 10^{18668} - 1$	or	59_{18668}	18668	
* 7.	$5 \cdot 10^{16131} - 1$	or	49_{16131}	16131	
* 8.	$5 \cdot 10^{15796} - 1$	or	49_{15796}	15796	
** 9.	$2 \cdot 10^{15749} - 1$	or	19_{15749}	15749	
** 10.	$8 \cdot 10^{11336} - 1$	or	79_{11336}	11336	

* All composite digits
** All odd digits

Table 16. B: The TOP TEN Near-Repdigit Prime Numbers $A_{n-k-1}BA_k$

				Digits	
1.	$10^{50103} - 4 \cdot 10^{50097} - 1$	or	$9_5 5 9_{50097}$	50103	[P. Carmody: 2000]
2.	$10^{38500} - 10^{18168} - 1$	or	$9_{20332} 8 9_{18168}$	38501	
3.	$10^{30007} - 10^{22717} - 1$	or	$9_{7290} 8 9_{22717}$	30008	
4.	$10^{30006} - 10^{21425} - 1$	or	$9_{8581} 8 9_{21225}$	30007	
5.	$10^{30005} - 10^{23906} - 1$	or	$9_{6099} 8 9_{23906}$	30006	
6.	$10^{30004} - 10^{16623} - 1$	or	$9_{13380} 8 9_{16623}$	30004	
7.	$10^{30004} - 10^{17794} - 1$	or	$9_{12209} 8 9_{17794}$	30004	
8.	$10^{30003} - 10^{16681} - 1$	or	$9_{13322} 8 9_{16681}$	30004	
9.	$10^{30003} - 10^{17640} - 1$	or	$9_{12363} 8 9_{17640}$	30004	
10.	$10^{30002} - 10^{21020} - 1$	or	$9_{8982} 8 9_{21020}$	30003	

Table 16. C: The TOP TEN Near Repdigit Prime Numbers $A_n B$

$[A_N B]$

[Streak or string primes: . . .AAAAAAAAAB]

				Repdigits	Repd %	
1.	$30 \cdot R(1917) + 1$	or	$3_{1917}1$	1917	99.95	[C. Rivera: 1997]
2.	$30 \cdot R(1731) + 1$	or	$3_{1731}1$	1731	99.94	
3.	$90 \cdot R(1656) + 1$	or	$9_{1656}1$	1656	99.94	
4.	$60 \cdot R(1599) + 1$	or	$6_{1599}1$	1599	99.94	
5.	$20 \cdot R(1493) + 1$	or	$2_{1493}1$	1493	99.93	
6.	$80 \cdot R(1421) + 7$	or	$8_{1421}7$	1421	99.93	
7.	$80 \cdot R(1418) + 1$	or	$8_{1418}1$	1418	99.93	
8.	$70 \cdot R(1368) + 1$	or	$7_{1368}1$	1368	99.93	
9.	$60 \cdot R(1363) + 7$	or	$6_{1363}7$	1363	99.93	
10.	$20 \cdot R(1216) + 3$	or	$2_{1216}3$	1216	99.92	

Table 16. D: The TOP TEN Near-Repunit Prime Numbers

$[1_{n-k-1}01_k\ ]$

				Digits	
1.	$R(179) \cdot 10^{1485} + R(1484)$	or	$1_{179}01_{1484}$	1664	[C. Rivera: 1997]
2.	$R(396) \cdot 10^{686} + R(685)$	or	$1_{396}01_{685}$	1082	
3.	$R(359) \cdot 10^{721} + R(720)$	or	$1_{359}01_{720}$	1080	
4.	$R(370) \cdot 10^{632} + R(631)$	or	$1_{370}01_{631}$	1002	
5.	$R(29) \cdot 10^{973} + R(972)$	or	$1_{29}01_{972}$	1002	
6.	$R(741) \cdot 10^{260} + R(261)$	or	$1_{740}21_{260}$	1001	
7.	$R(534) - 10^{178}$	or	$1_{355}01_{178}$	534	
8.	$R(381) - 10^{127}$	or	$1_{253}01_{127}$	381	
9.	$R(332) - 10^{111}$	or	$1_{220}01_{111}$	332	
10.	$R(282) - 10^{188}$	or	$1_{93}01_{188}$	282	

Table 17: The TOP TEN Quasi-Repdigit Prime Numbers

$[k \cdot 10^n + 1]$

				Repdigits	Repd. %	
* 1.	$3 \cdot 10^{27720} + 1$	or	$30_{27719}1$	27719	99.99	[J. Liddle & Y. Gallot: 2000]
* 2.	$3 \cdot 10^{10453} + 1$	or	$30_{10452}1$	10452	99.98	
** 3.	$6 \cdot 10^{4426} + 1$	or	$60_{4425}1$	4425	99.95	
** 4.	$6 \cdot 10^{2629} + 1$	or	$60_{2628}1$	2628	99.92	
* 5.	$3 \cdot 10^{2620} + 1$	or	$30_{2619}1$	2619	99.92	
** 6.	$6 \cdot 10^{2236} + 1$	or	$60_{2235}1$	2235	99.91	
* 7.	$7 \cdot 10^{2196} + 1$	or	$70_{2195}1$	2195	99.91	
*** 8.	$32 \cdot R(1974) + 1$	or	$35_{1973}3$	1973	99.90	
* 9.	$3 \cdot 10^{1900} + 1$	or	$30_{1899}1$	1899	99.89	
**** 10.	$12 \cdot R(1470) - 1$	or	$13_{1469}1$	1469	99.86	

* Quasi-even-digits prime
** Almost-all-even-digits prime
*** Plateau palindrome with all prime digits
**** Plateau palindrome

Table 18: The TOP TEN Factorial Prime Numbers

$$[N!\ \pm 1\ = 1 \times 2 \times 3 \times 4 \ldots N \pm 1]$$

	$N!\ \pm\ 1$	Digits	
1.	$6917! - 1$	23560	[C. Caldwell & Y.Gallot: 1998]
2.	$6380! + 1$	21507	
3.	$3610! - 1$	11277	
4.	$3507! - 1$	10912	
5.	$1963! - 1$	5614	
6.	$1477! + 1$	4042	
7.	$974! - 1$	2490	
8.	$872! + 1$	2188	
9.	$546! - 1$	1260	
10.	$469! - 1$	1051	

Table 18. A: The TOP TEN Factorial -Plus-One Primes

$[N! + 1 = 1 \times 2 \times 3 \times \ \ldots \ N + 1]$

	$N! + 1$	Digits	
1.	$6380! + 1$	21507	[C. Caldwell & Y. Gallot:1998]
2.	$1477! + 1$	4042	
3.	$872! + 1$	2188	
4.	$427! + 1$	940	
5.	$399! + 1$	867	
6.	$340! + 1$	715	
7.	$320! + 1$	665	
8.	$154! + 1$	272	
9.	$116! + 1$	191	
10.	$77! + 1$	114	

[and the rest]

	$N! + 1$	Digits		$N! + 1$	Digits
11.	$73! + 1$	106	15.	$11! + 1$	8
12.	$41! + 1$	50	16.	$3! + 1$	1
13.	$37! + 1$	44	17.	$2! + 1$	1
14.	$27! + 1$	29	18.	$1! + 1$	1

Table 18. B: The TOP TEN Factorial -Minus-One Primes

$[N! - 1 = 1 \times 2 \times 3 \times \ \dots \ N - 1]$

	$N! - 1$	Digits	
1.	$6917! - 1$	23560	[C. Caldwell & Y. Gallot: 1998]
2.	$3610! - 1$	11277	
3.	$3507! - 1$	10912	
4.	$1963! - 1$	5614	
5.	$974! - 1$	2490	
6.	$546! - 1$	1260	
7.	$469! - 1$	1051	
8.	$379! - 1$	815	
9.	$324! - 1$	675	
10.	$166! - 1$	298	

[and the rest]

	$N! - 1$	Digits		$N! - 1$	Digits
11.	$94! - 1$	147	17.	$12! - 1$	9
12.	$38! - 1$	45	18.	$7! - 1$	4
13.	$33! - 1$	37	19.	$6! - 1$	3
14.	$32! - 1$	36	20.	$4! - 1$	2
15.	$30! - 1$	33	21.	$3! - 1$	1
16.	$14! - 1$	11			

Table 19: The TOP TEN Primes of Alternating Sums of Factorials

$[A_n = n! - (n-1)! + (n-2)! - + \cdots - (-1)^n 1!]$

		Digits	
1.	$160! - 159! + 158! - ... - 3! + 2! - 1!$	285	[W.Keller:
2.	$105! - 104! + 103! - ... + 3! - 2! + 1!$	169	
3.	$61! - 60! + 59! - ... + 3! - 2! + 1!$	84	
4.	$59! - 58! + 57! - ... + 3! - 2! + 1!$	81	
5.	$41! - 40! + 39! - ... + 3! - 2! + 1!$	50	
6.	$19! - 18! + 17! - ... + 3! - 2! + 1!$	18	
7.	$15! - 14! + 13! - ... + 3! - 2! + 1!$	13	
8.	$10! - 9! + 8! - ... - 3! + 2! - 1!$	7	
9.	$8! - 7! + 6! - 5! + 4! - 3! + 2! - 1!$	5	
10.	$7! - 6! + 5! - 4! + 3! - 2! + 1!$	4	

[and the rest]

11.	$6! - 5! + 4! - 3! + 2! - 1!$	3
12.	$5! - 4! + 3! - 2! + 1!$	3
13.	$4! - 3! + 2! - 1!$	2
14.	$3! - 2! + 1!$	1

Table 20: The TOP TEN Primorial Prime Numbers

$$[P^{\#} \pm 1 = 2 \times 3 \times 5 \times 7 \times \ldots P \pm 1]$$

		Digits	
1.	$145823^{\#} + 1$	63142	[Anderson & Robinson: 2000]
2.	$42209^{\#} + 1$	18241	
3.	$24029^{\#} + 1$	10387	
4.	$23801^{\#} + 1$	10273	
5.	$18523^{\#} + 1$	8002	
6.	$15877^{\#} - 1$	6845	
7.	$13649^{\#} + 1$	5862	
8.	$13033^{\#} - 1$	5610	
9.	$11549^{\#} + 1$	4951	
10.	$6569^{\#} - 1$	2811	

Table 20. A: The TOP TEN Primorial-Plus-One Primes

$[P^{\#} + 1 = 2 \times 3 \times 5 \times \ldots P + 1]$

		Digits	
1.	$145823^{\#} + 1$	63142	[Anderson & Robinson: 2000]
2.	$42209^{\#} + 1$	18241	
3.	$24029^{\#} + 1$	10387	
4.	$23801^{\#} + 1$	10273	
5.	$18523^{\#} + 1$	8002	
6.	$13649^{\#} + 1$	5862	
7.	$11549^{\#} + 1$	4951	
8.	$4787^{\#} + 1$	2038	
9.	$4547^{\#} + 1$	1939	
10.	$3229^{\#} + 1$	1368	

[and the rest]

11.	$2657^{\#} + 1$	1115	
12.	$1021^{\#} + 1$	428	
13.	$1019^{\#} + 1$	425	
14.	$379^{\#} + 1$	154	
15.	$31^{\#} + 1$	12	
16.	$11^{\#} + 1$	4	
17.	$7^{\#} + 1$	3	
18.	$5^{\#} + 1$	2	
19.	$3^{\#} + 1$	1	
20.	$2^{\#} + 1$	1	

Table 20. B: The TOP TEN Primorial-Minus-One Primes

$$[P^{\#} - 1 = 2x3x5x7x \ldots P - 1]$$

		Digits	
1.	$15877^{\#} - 1$	6845	[C. Caldwell & H. Dubner: 1992]
2.	$13033^{\#} - 1$	5610	
3.	$6569^{\#} - 1$	2811	
4.	$4583^{\#} - 1$	1953	
5.	$4297^{\#} - 1$	1844	
6.	$4093^{\#} - 1$	1750	
7.	$2377^{\#} - 1$	1007	
8.	$2053^{\#} - 1$	866	
9.	$1873^{\#} - 1$	790	
10.	$991^{\#} - 1$	413	

[and the rest]

11.	$337^{\#} - 1$	136	
12.	$317^{\#} - 1$	131	
13.	$89^{\#} - 1$	35	
14.	$41^{\#} - 1$	15	
15.	$13^{\#} - 1$	5	
16.	$11^{\#} - 1$	4	
17.	$5^{\#} - 1$	2	
18.	$3^{\#} - 1$	1	

Table 21: The TOP TEN Multifactorial Prime Numbers

$[N!_k \pm 1]$

		Digits	
1.	$34706!!! - 1$	47505	[S. Harvey: 2000]
2.	$34626!!! - 1$	47384	
3.	$32659!!! + 1$	44416	
4.	$69114!_7 - 1$	43519	
5.	$28565!!! + 1$	38295	
6.	$61467!_7 - 1$	38238	
7.	$54481!_7 - 1$	33485	
8.	$24753!!! + 1$	32671	
9.	$23109!!! - 1$	30272	
10.	$41990!_6 - 1$	29318	

Table 21. A: The TOP TEN Double Factorial Prime Numbers

$$[N\ !! \pm 1 = N \cdot (N-2)\ (N-4)\ (N-6)\ \ldots\ (2) \pm 1]$$

		Digits	
1.	$9682!! - 1$	17196	[B. deWater: 1999]
2.	$8670!! - 1$	15191	
3.	$6404!! - 1$	10800	
4.	$3476!! - 1$	5402	
5.	$2328!! - 1$	3416	
6.	$888!! - 1$	1118	
7.	$842!! - 1$	1051	
8.	$728!! - 1$	886	
9.	$518!! + 1$	593	
10.	$214!! - 1$	205	

Table 21. B: The TOP TEN Triple Factorial Prime Numbers

$$[N\ !!! \pm 1 = N \cdot (N-3)\ (N-6)\ (N-9) \cdots \pm 1]$$

		Digits	
1.	$34706!!! - 1$	47505	[S. Harvey: 2000]
2.	$34626!!! - 1$	47384	
3.	$32659!!! + 1$	44416	
4.	$28565!!! + 1$	38295	
5.	$24753!!! + 1$	32671	
6.	$23109!!! - 1$	30272	
7.	$22326!!! + 1$	29135	
8.	$21725!!! + 1$	28265	
9.	$18037!!! + 1$	22981	
10.	$16681!!! + 1$	21065	

Table 21. C: The TOP TEN Quadruple Factorial Prime Numbers

$$[N\ !!!! \pm 1 = N \cdot (N-4)\ (N-8)\ (N-12)\ \ldots\ \pm 1]$$

		Digits	
1.	27780!!!! − 1	27848	[S. Harvey: 2000]
2.	25938!!!! − 1	25809	
3.	22726!!!! − 1	22287	
4.	19978!!!! − 1	19313	
5.	14614!!!! + 1	13632	
6.	12778!!!! − 1	11733	
7.	6586!!!! + 1	5575	
8.	5920!!!! − 1	4943	
9.	5680!!!! + 1	4717	
10.	5612!!!! + 1	4653	

Table 21. D: The TOP TEN Quintuple Factorial Prime Numbers

$$[N\ !!!!! \pm 1 = N \cdot (N-5)\ (N-10)\ (N-15)\ \cdots \pm 1]$$

		Digits	
1.	22753!!!!! − 1	17854	[B. deWater: 2000]
2.	21092!!!!! − 1	16412	
3.	12415!!!!! − 1	9090	
4.	12144!!!!! − 1	8868	
5.	11915!!!!! + 1	8681	
6.	10448!!!!! − 1	7493	
7.	10232!!!!! + 1	7320	
8.	9992!!!!! − 1	7128	
9.	9382!!!!! + 1	6641	
10.	9202!!!!! + 1	6498	

Table 21. E: The TOP TEN Sextuple Factorial Prime Numbers

$$[N!_6 \pm 1 = N(N-6)\,(N-12)\,(N-18)\,\cdots \pm 1]$$

		Digits	
1.	$41990!_6 - 1$	29318	[R. Ballinger: 2000]
2.	$38618!_6 - 1$	26730	
3.	$29882!_6 - 1$	20129	
4.	$25848!_6 - 1$	17141	
5.	$25336!_6 - 1$	16764	
6.	$21906!_6 - 1$	14264	
7.	$21432!_6 - 1$	13922	
8.	$12798!_6 + 1$	7837	
9.	$12760!_6 + 1$	7811	
10.	$11250!_6 + 1$	6784	

Table 21. F: The TOP TEN Septuple Factorial Prime Numbers

$$[N!_7 \pm 1 = N(N-7)\,(N-14)\,(N-21)\,\cdots \pm 1]$$

		Digits	
1.	$69144!_7 - 1$	43519	[R. Dohmen: 2000]
2.	$61467!_7 - 1$	38238	
3.	$54481!_7 - 1$	33485	
4.	$45811!_7 - 1$	27664	
5.	$43328!_7 - 1$	26015	
6.	$40707!_7 - 1$	24284	
7.	$31386!_7 - 1$	18218	
8.	$27430!_7 - 1$	15693	
9.	$26598!_7 - 1$	15166	
10.	$24014!_7 - 1$	13540	

Table 22: The TOP TEN Primes with Composite Digits

and

The TOP TEN Holey Primes

[4, 6, 8, 9; 0]

		Digits	Holes	
1.	$8 9_{48051}$	48052	48053	[H. Dubner & Y. Gallot: 2000]
2.	$8 9_{41475}$	41476	41477	
3.	$9_{20332} 8 9_{18168}$	38051	38052	
4.	$9_{7290} 8 9_{22717}$	30008	30009	
5.	$9_{8581} 8 9_{21425}$	30007	30008	
6.	$9_{6099} 8 9_{23906}$	30006	30007	
7.	$9_{13380} 8 9_{16623}$	30004	30005	
7.	$9_{12209} 8 9_{17794}$	30004	30005	
7.	$9_{13322} 8 9_{16681}$	30004	30005	
7.	$9_{12363} 8 9_{17640}$	30004	30005	

Table 23: The TOP TEN Undulating Prime Numbers

		or	Digits	
*1.	$10 \cdot 1704060407 \cdot R(12600)/R(10) + 1$	$(1704060407)_{1260}1$	12601	[HD: 1997]
*2.	$10 \cdot 1506484605 \cdot R_{9240}/R_{10} + 1$	$(1506484605)_{924}1$	9241	
*3.	$[(17275727273727273727275727) \cdot R_{3120}/R_{26}] \cdot 10 + 1$	$(17275727273727273727275727)_{120}1$	3121	
**4.	$(72323252323272325252)(10^{3120} - 1)/(10^{20} - 1) + 1$	$(72323252323272325252)_{156} + 1$	3120	
**5.	$(72323232723232525252)(10^{3120} - 1)/(10^{20} - 1) + 1$	$(72323232723232525252)_{156} + 1$	3120	
***6.	$370 \cdot ((100^{1441}) - 1)/99 + 3$	$(37)_{1441}3$	2883	
*7.	$[(173737573727572727572737573737)R_{2160}/R30] \cdot 10 + 1$	$(173737573727572727572737573737)_{72}1$	2161	
*8.	$[(173737572727375757372727573737)R_{2160}/R_{30}] \cdot 10 + 1$	$(173737572727375757372727573737)_{72}1$	2161	
*9.	$[(173727375757572727575757372737)R_{2160}/R_{30}] \cdot 10 + 1$	$(173727375757572727575757372737)_{72}1$	2161	
**10.	$(723232523232327272)(10^{2160} - 1)/(10^{18} - 1) + 1$	$(723232523232327272)_{120} + 1$	2160	
**10.	$(523232525252327272)(10^{2160} - 1)/(10^{18} - 1) + 1$	$(523232525252327272)_{120} + 1$	2160	

* Palindrome
** Anti-palindrome with prime digits
*** Smoothly undulating palindrome with prime digits

Table 24: The TOP TEN Primes with Curved Digits

[0, 3, 6, 8, 9]

		Digits	
1.	89_{48051}	48052	[H. Dubner & Y. Gallot: 2000]
2.	89_{41475}	41476	
3.	$9_{20332}89_{18168}$	38501	
4.	$9_{7290}89_{22717}$	30008	
5.	$9_{8581}89_{21425}$	30007	
6.	$9_{6099}89_{23906}$	30006	
7.	$9_{13380}89_{16623}$	30004	
7.	$9_{12209}89_{17794}$	30004	
7.	$9_{13322}89_{16681}$	30004	
7.	$9_{12363}89_{17640}$	30004	

Table 25: The TOP TEN Sophie Germain Primes

$[P = k \cdot 2^n - 1\ ;\ p = k\# \pm 1]$

		Digits	
1.	$109433307 \cdot 2^{66452} - 1$	20013	[Underbakke, Jobling, Gallot: 2001]
2.	$984798015 \cdot 2^{66444} - 1$	20011	
3.	$3714089895285 \cdot 2^{60000} - 1$	18075	
4.	$18131 \cdot 22817\# - 1$	9853	
5.	$18458709 \cdot 2^{32611} - 1$	9825	
6.	$415365 \cdot 2^{30052} - 1$	9053	
7.	$1051054917 \cdot 2^{25000} - 1$	7535	
8.	$885817959 \cdot 2^{24711} - 1$	7448	
9.	$1392082887 \cdot 2^{24680} - 1$	7439	
10.	$14516877 \cdot 2^{24176} - 1$	7285	

$$p\# = 2 \cdot 3 \cdot 5 \cdot 7 \cdot 11 \ldots\ p$$

Table 26: The TOP TEN Anti-Palindromic Prime Numbers

$[D \cdot R_n \cdot 10^n \pm 1 \ \& \ k \cdot R_n / R_a + 1]$

		or	Digits	
**1.	$2 \cdot R_{3038} \cdot 10^{3038} + 1$	$2_{3038}0_{3037}1$	6076	H. D: 1990
**2.	$6 \cdot R_{2476} \cdot 10^{2476} + 1$	$6_{2476}0_{2475}1$	4952	
3.	$5 \cdot R_{2093} \cdot 10^{2093} + 1$	$5_{2093}0_{2092}1$	4186	
*4.	$(72323252323272325252)(10^{3120} - 1)/(10^{20} - 1) + 1$	$(72323252323272325252)_{156} + 1$	3120	
*5.	$(72323232723232525252)(10^{3120} - 1)/(10^{20} - 1) + 1$	$(72323232723232525252)_{156} + 1$	3120	
*6.	$(723232523232327272)(10^{2160} - 1)/(10^{18} - 1) + 1$	$(723232523232327272)_{120} + 1$	2160	
*7.	$(523232525252327272)(10^{2160} - 1)/(10^{18} - 1) + 1$	$(523232525252327272)_{120} + 1$	2160	
*8.	$(523232325232525252)(10^{2160} - 1)/(10^{18} - 1) + 1$	$(523232325232525252)_{120} + 1$	2160	
9.	$4 \cdot R(975) \cdot 10^{975} - 1$	$4_{974}39_{975}$	1950	
10.	$3 \cdot R(835) \cdot 10^{835} + 1$	$3_{835}0_{834}1$	1670	

* Undulating prime digits
** Almost all even digits

Table 27: The TOP TEN Generalized Repunit Primes *

[$(b^n - 1) / (b - 1)$; $b \neq 2$ or 10]

		Digits	
1.	$(7568^{3361} - 1)/7567$	13034	[A. Steward: 2001]
2.	$(8854^{2521} - 1)/8853$	9947	
3.	$(7147^{2161} - 1)/7146$	8325	
4.	$(5701^{2161} - 1)/5700$	8113	
5.	$(4411^{2161} - 1)/4410$	7873	
6.	$(3709^{2161} - 1)/3708$	7710	
7.	$(6878^{1801} - 1)/6877$	6908	
8.	$(675065^{1153} - 1)/675064$	6716	
9.	$(402^{2521} - 1)/401$	6563	
10.	$(5507^{1621} - 1)/5506$	6061	

* Excluding Mersenne and repunit primes

Table 28: The TOP TEN Strobogrammatic Primes (nonpalindromic)

[0, 1, 6, 8, 9]

		Digits	
1.	$10_{2709}6669990_{2709}1$	5426	[H. Dubner: 1996]
2.	$10_{2301}6890_{2301}1$	4607	
3.	$6_{1527}19_{1527}$	3055	
4.	$10_{1313}9996660_{1313}1$	2634	
5.	$10_{1295}9996660_{1295}1$	2598	
6.	$10_{899}66689990_{899}1$	1807	
7.	$10_{801}99906660_{801}1$	1611	
8.	$10_{773}6890_{773}1$	1551	
9.	$10_{754}66609990_{754}1$	1517	
10.	$6_{685}19_{685}$	1371	

Table 29: The TOP TEN Beastly Primes (nonpalindromic) *

[$\underline{666} \cdot 10^n + 1 = \underline{666}0000 \; \ldots \; 0001$]

		or	Digits	
1.	$666 \cdot 10^{14020} + 1$	$6660_{14019}1$	14023	[H. Dubner: 2000]
2.	$666 \cdot 10^{9198} + 1$	$6660_{9197}1$	9201	
3.	$666 \cdot 10^{4741} + 1$	$6660_{4740}1$	4744	
4.	$666 \cdot 10^{3076} + 1$	$6660_{3075}1$	3079	
5.	$666 \cdot 10^{2928} + 1$	$6660_{2927}1$	2931	
6.	$666 \cdot 10^{1592} + 1$	$6660_{1591}1$	1595	
7.	$666 \cdot 10^{718} + 1$	$6660_{717}1$	721	
8.	$666 \cdot 10^{619} + 1$	$6660_{618}1$	622	
9.	$666 \cdot 10^{580} + 1$	$6660_{579}1$	583	
10.	$666 \cdot 10^{373} + 1$	$6660_{372}1$	376	

[and the rest]

11.	$666 \cdot 10^{48} + 1$	$6660_{47}1$	51
12.	$666 \cdot 10^{30} + 1$	$6660_{29}1$	33
13.	$666 \cdot 10^{12} + 1$	$6660_{11}1$	15
14.	$666 \cdot 10^{10} + 1$	$6660_{9}1$	13
15.	$666 \cdot 10^{2} + 1$	66601	5
16.	$666 \cdot 10 + 1$	6661	4

* All discovered by H. Dubner

Table 30: The TOP TEN Sub $_{script}$ Prime Numbers *

		Digits	
1.	$1_{1000}2_{1000}3_{1000}4_{1000}5_{1000}6_{1000}7_{1000}8_{1000}9_{1000}0_{6645}1$	15646	[H. Dubner: 2000]
2.	$1_{1000}2_{1000}3_{1000}4_{1000}5_{1000}6_{1000}7_{1000}8_{1000}9_{1000}0_{3339}1$	12340	
3.	$1_{1}2_{2}3_{4}4_{8}5_{16}6_{32}7_{64}8_{128}9_{4220}$	4475	
4.	$2_{2}3_{4}4_{8}5_{16}6_{32}7_{64}8_{128}9_{256}0_{3207}1$	3718	
5.	$1_{111}2_{111}3_{111}4_{111}5_{111}6_{111}7_{111}8_{111}9_{111}0_{1917}1$	2917	
6.	$1_{111}2_{111}3_{111}4_{111}5_{111}6_{111}7_{111}8_{111}9_{111}0_{1667}1$	2667	
7.	$1_{1}2_{2}3_{4}4_{8}5_{16}6_{32}7_{64}8_{128}9_{2145}$	2400	
8.	$1_{1}2_{2}3_{4}4_{8}5_{16}6_{32}7_{64}8_{128}9_{1866}$	2121	
9.	$1_{50}2_{50}3_{50}4_{50}5_{50}6_{50}7_{50}8_{50}9_{50}0_{1255}1$	1706	
10.	$1_{50}2_{50}3_{50}4_{50}5_{50}6_{50}7_{50}8_{50}9_{50}0_{1065}1$	1516	

* All discovered by H. Dubner

Table 31: The TOP TEN Unholey Primes

[1, 2, 3, 5, 7]

		or	Digits
*1.	$[(17275727273727273727275727) \cdot R_{3120}/R_{26}] \cdot 10 + 1$	$(17275727273727273727275727)_{120}1$	3121 HD:1992
**2.	$[(1(2)_{17}35553(2)_{17})(R_{3120}/R_{40})] \cdot 10 + 1$	$(1(2)_{17}35553(2)_{17})_{78}1$	3121
***3.	$(72323252323272325252)(10^{3120} - 1)/(10^{20} - 1) + 1$	$(72323252323272325252)_{156} + 1$	3120
***4.	$(72323232723232525252)(10^{3120} - 1)/(10^{20} - 1) + 1$	$(72323232723232525252)_{156} + 1$	3120
*5.	$370 \cdot ((100^{1441}) - 1)/99 + 3$	$(37)_{1441}3$	2883
*6.	$[(173737573727572727572737573737)R_{2160}/R_{30}] \cdot 10 + 1$	$(173737573727572727572737573737)_{72}1$	2161
*7.	$[(173737572727375757372727573737)R_{2160}/R_{30}] \cdot 10 + 1$	$(173737572727375757372727573737)_{72}1$	2161
*8.	$[(173727375757572727575757372737)R_{2160}/R_{30}] \cdot 10 + 1$	$(173727375757572727575757372737)_{72}1$	2161
****9.	$(752275532)(10^{2160} - 1)/(10^{9} - 1) + 1$	$(752275532)_{240} + 1$	2160
***10.	$(723232523232327272)(10^{2160} - 1)/(10^{18} - 1) + 1$	$(723232523232327272)_{120} + 1$	2160
****10.	$(575253222)(10^{2160} - 1)/(10^{9} - 1) + 1$	$(575253222)_{240} + 1$	2160

* Undulating and palindromic
** Palindromic
*** Undulating anti-palindromic with all prime digits
**** All prime digits

Table 32: The TOP TEN Prime Numbers with Prime Digits

[2, 3, 5, 7]

		or	Digits
*1.	$(72323252323272325252)(10^{3120}-1)/(10^{20}-1)+1$	$(72323252323272325252)_{156}+1$	3120 HD:1992
*2.	$(72323232723232525252)(10^{3120}-1)/(10^{20}-1)+1$	$(72323232723232525252)_{156}+1$	3120
**3.	$370 \cdot ((100^{1441})-1)/99+3$	$(37)_{1441}3$	2883
4.	$(752275532)(10^{2160}-1)/(10^{9}-1)+1$	$(752275532)_{240}+1$	2160
*5.	$(723232523232327272)(10^{2160}-1)/(10^{18}-1)+1$	$(723232523232327272)_{120}+1$	2160
6.	$(575253222)(10^{2160}-1)/(10^{9}-1)+1$	$(575253222)_{240}+1$	2160
*7.	$(523232525252327272)(10^{2160}-1)/(10^{18}-1)+1$	$(523232525252327272)_{120}+1$	2160
*8.	$(523232325232525252)(10^{2160}-1)/(10^{18}-1)+1$	$(523232325232525252)_{120}+1$	2160
***9.	$(323232727272327272)(10^{2160}-1)/(10^{18}-1)+1$	$(323232727272327272)_{120}+1$	2160
10.	$(323222)(10^{2160}-1)/(10^{6}-1)+1$	$(323222)_{360}+1$	2160

* Anti-palindromic with undulating digits
** Undulating digits and palindrome
*** Undulating digits

Table 33: The TOP TEN Lucas Prime Numbers

$[\ L_n = \underline{2},\ 1,\ \underline{3},\ 4,\ \underline{7},\ \underline{11},\ 18,\ \underline{29},\ \underline{47},\ \ldots\ ]$

		Digits	
1.	L(35449)	7909	[B. DeWater: 2001]
2.	L(14449)	3020	
3.	L(10691)	2235	
4.	L(8467)	1770	
5.	L(7741)	1618	
6.	L(5851)	1223	
7.	L(4793)	1002	
8.	L(4787)	1001	
9.	L(1361)	285	
10.	L(1097)	230	

[and the rest]

11.	L(863)	181	24.	L(37)	8
12.	L(617)	129	25.	L(31)	7
13.	L(613)	129	26.	L(19)	4
14.	L(503)	106	27.	L(17)	4
15.	L(353)	74	28.	L(16)	4
16.	L(313)	66	29.	L(13)	3
17.	L(113)	24	30.	L(11)	3
18.	L(79)	17	31.	L(8)	2
19.	L(71)	15	32.	L(7)	2
20.	L(61)	13	33.	L(5)	2
21.	L(53)	12	34.	L(4)	1
22.	L(47)	10	35.	L(2)	1
23.	L(41)	9	36.	L(0)	1

Table 34: The TOP TEN Prime Fibonacci Numbers

$[F_n = 1,\ 1,\ \underline{2},\ \underline{3},\ \underline{5},\ 8,\ \underline{13},\ 21,\ 34,\ \ldots]$

		Digits	
1.	F(9677)	2023	[B. deWater: 2000]
2.	F(9311)	1946	
3.	F(5387)	1126	
4.	F(4723)	987	
5.	F(2971)	621	
6.	F(571)	119	
7.	F(569)	119	
8.	F(509)	107	
9.	F(449)	94	
10.	F(433)	91	

[and the rest]

		D			D
11.	F(431)	90	19.	F(23)	5
12.	F(359)	75	20.	F(17)	4
13.	F(137)	29	21.	F(13)	3
14.	F(131)	28	22.	F(11)	2
15.	F(83)	17	23.	F(7)	2
16.	F(47)	10	24.	F(5)	1
17.	F(43)	9	25.	F(4)	1
18.	F(29)	6	26.	F(3)	1

Table 35: The TOP TEN Countdown Prime Numbers

[10 or 9 8 7 6 5 4 3 2 1]

		Digits	
1.	$9876543210_{2002}1$	2012	[C. Rivera: 1997]
2.	$(987654321)_{10}0_{1515}1$	1606	
3.	$(987654321)_{10}0_{1388}1$	1479	
4.	$(987654321)_{10}0_{1291}1$	1382	
5.	$(9876543210)_{10}0_{1222}1$	1323	
*6.	$(1098765432)_{131}1098765433$	1320	
7.	$(987654321)_{10}0_{979}1$	1070	
**8.	$(10987654321234567890)_{42}1$	841	
9.	$(9876543210)_{38}1$	381	
10.	$(9876543210)_{9}1$	91	

* Antipalindrome
** Almost-equi-pandigital palindrome

Table 36: The TOP TEN Reversible Primes (nonpalindromic)

[10_{xxx}"$REVERSE$"$0_{xxx}1$]

		Digits	
1.	$10_{850}20471010_{850}1$	1709	[H. Dubner: 1997]
2.	$10_{849}74408010_{849}1$	1707	
3.	$10_{749}26149310_{749}1$	1507	
4.	$10_{747}83012010_{747}1$	1503	
5.	$10_{600}40544310_{600}1$	1209	
6.	$10_{503}28886010_{503}1$	1015	
7.	$10_{502}40982210_{502}1$	1013	
8.	$10_{500}16338110_{500}1$	1009	
* 9.	$10_{496}959260987654320_{495}1$	1007	
10.	$10_{496}40100210_{496}1$	1001	

* Pandigital

Table 37: The TOP TEN Primes with Straight Digits

[1, 4, 7]

		Digits	
* 1.	$(14)_{815}1$	1631	[C. Rivera: 1997]
** 2.	$7_{1368}1$	1369	
** 3.	$7_{1066}1$	1067	
*** 4.	R_{1031} or 1_{1031}	1031	
5.	$17_{1001}1$	1003	
** 6.	$7_{924}1$	925	
* 7.	$(1474)_{231}1$	925	
* 8.	$(14)_{291}1$	583	
** 9.	17_{510}	511	
* 10.	$74_{483}7$	485	

* Palindrome
** Near repdigit prime
*** Repunit palindrome

Table 38: The TOP TEN Primes with Largest Unique Periods

		or	Period	Digits
1.	$10_{125}9_{249}89_{124}89_{125}0_{249}10_{124}1$		3750	1001
* 2.	$(10^{1132}+1)/10001$	$(99990000)_{141}+1$	2264	1128
3.	$(10_{12}9_{23}89_{12}0_{23})_5 0 (9_{23}89_{12}0_{23}10_{12})_5+1$		2232	721
* 4.	$(10^{922}+1)/(101)$	$(9900)_{230}+1$	1844	920
5.	$(100999899000)_{25}0(999899000100)_{25}+1$		1812	601
6.	$(10_4 9_7 89_4 0_7)_{12}0(9_7 89_4 0_7 10_4)_{12}+1$		1752	577
* 7.	$(9_{39}0_{78})_4(9_{78}0_{39})_4+1$		1521	936
** 8.	$(10^{641}+1)/11$	$(90)_{320}+1$	1282	640
* 9.	$(10^{586}+1)/101$	$(9900)_{146}+1$	1172	584
*** 10.	R_{1031}	1_{1031}	1031	1031

* Antipalindromic
** Undulating and antipalindromic
*** Largest known repunit

Table 39: The TOP TEN Absolute Prime Numbers

		Digits	
1.	R_{1031}	1031	(H. C. Williams & H. Dubner: 1985]
2.	R_{317}	317	
3.	R_{23}	23	
4.	R_{19}	19	
* 5.	991	3	
* 6.	919	3	
* 7.	733	3	
* 8.	373	3	
* 9.	337	3	
* 10.	311	3	

* Actual Primes

[and the rest]

Actual Primes			
11.	199	19.	31
12.	131	20.	17
13.	113	21.	13
14.	97	22.	11
15.	79	23.	7
16.	73	24.	5
17.	71	25.	3
18.	37	26.	2

Table 40: the TOP TEN Consecutive Primes in Arithmetic Progression

[P, P+210, P+420, P+630, P+840, P+1050, P+1260, P+1470, P+1680, P+1890]

1.	P + 1890	= 100	99697 24697 14247 63778 66555 87969 84032 95095 24689 19004 18036 03417 75890 43417 03348 88215 90672 31609
2.	P + 1680	= 100	99697 . . . . 31399.
3.	P + 1470	= 100	99697 . . . . 31189.
4.	P + 1260	= 100	99697 . . . . 30979.
5.	P + 1050	= 100	99697 . . . . 30769.
6.	P + 840	= 100	99697 . . . . 30559.
7.	P + 630	= 100	99697 . . . . 30349.
8.	P + 420	= 100	99697 . . . . 30139.
9.	P + 210	= 100	99697 . . . . 29929.
10.	P	= 100	99697 24697 14247 63778 66555 87969 84032 95093 24589 19004 18036 03417 75890 43417 03348 88215 90672 29719

Discovered in 1998 by M. Toplic etal, these 93-digit primes have a common difference of 210.

Table 41: The TOP TEN Known Prime Factors of Googolplex Plus One

[Googolplex $+1 = 10^{10^{100}} + 1 = 10^{1000000000000000000000000000000000000-}$

$^{0000000000000000000000000000000000000000000000000000000000000000} + 1$]

		Digits	
1.	$370791604769783808 \cdot 10^{63} + 1$	81	[R. Harley: 1994]
2.	$1569410615122383454863336 \cdot 10^{48} + 1$	72	
3.	$353433491556781785088 \cdot 10^{50} + 1$	71	
4.	$325123864299130847232 \cdot 10^{42} + 1$	63	
5.	$830103483316929822722 \cdot 10^{41} + 1$	61	
6.	$8019958276735747672058735099904 \cdot 10^{21} + 1$	52	
7.	$493333612765059415097397477376 \cdot 10^{21} + 1$	51	
8.	$98231572083407610249634223245754368 \cdot 10^{8} + 1$	43	
9.	$73994152028165749791270453116928 \cdot 10^{11} + 1$	43	
10.	$4951760157141521099596496896 \cdot 10^{14} + 1$	42	

Table 42: Ten Types of "Rare" Prime Numbers

		Number Known
A.	Generalized Fermat Prime (or Depression Prime) of the type: $10^{2^n}+1;\ n=1.$	(1)
B.	Sequential prime of the type: $(1234567890)_n1\ ;\ n=17,56.$	(2)
C.	Almost-equipandigital prime of the type: $(12345678901098765432)_n1;$ $n=6,\ 16.$	(2)
D.	Type: $n^{n^n}+1;\ n=1,\ 2.$	(2)
E.	Type: $n^n+1;\ n=1,\ 2,\ 4.$	(3)
F.	Wilson primes (p): 5, 13, 563; $(p-1)!+1$ divisible by p^2.	(3)
G.	Near repdigit type: $8_n9\ ;\ n=1,\ 13,\ 16,\ 34.$	(4)
H.	Fermat primes: $2^{2^n}+1\ ;\ n=0,\ 1,\ 2,\ 3,\ 4.$	(5)
I.	Repunit primes: R(n): n = 2, 19, 23, 317, 1031.	(5)
J.	Beastly palindrome of the the type: $(10^n+666)\cdot 10^{n-2}+1\ ;$ n = 3, 16, 45, 509, 611, 2475, 2626.	(7)