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Computation of All the Amicable Pairs Below 10^{10}

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Abstract. An efficient exhaustive numerical search method for amicable pairs is described. With the aid of this method all 1427 amicable pairs with smaller member below 10^{10} have been computed, more than 800 pairs being new. This extends previous exhaustive work below 10^8 by H. Cohen. In three appendices (contained in the supplements section of this issue), various statistics are given, including an ordered list of all the gcd's of the 1427 amicable pairs below 10^{10} (which may be useful in further amicable pair research). Suggested by the numerical results, a theorem of Borho and Hoffmann for constructing APs has been extended.

1. Introduction. Let $\sigma(m)$ denote the sum of all the divisors of m, including 1 and m. An *amicable* pair (AP) is a pair of positive integers (m, n), $m < n$, such that $\sigma(m) = \sigma(n) = m + n$. We note that m is *abundant* (since $\sigma(m) > 2m$) and that n is *deficient* (since $\sigma(n) < 2n$). The smallest AP is

$$(220, 284) = (2^2 5.11, 2^2 71).$$

In order to check whether or not a given positive integer m is the smaller member of an amicable pair, it seems necessary, at first sight, to compute $\sigma(m)$ and $n := \sigma(m) - m$, to check whether $n > m$ (i.e., whether m is abundant), and, if so, to compute $\sigma(n)$ and compare $\sigma(m)$ with $\sigma(n)$. This involves one or two complete factorizations, in case m is deficient or abundant, respectively. However, a closer look reveals that it is often possible to find out whether a given number m is deficient (hence cannot be the smaller member of an AP) without the need to factorize it completely. Moreover, once $\sigma(m)$ and n $(= \sigma(m) - m)$ have been computed, it is often possible to discover that $\sigma(n) \neq \sigma(m)$ without the need to factorize n completely.

These considerations have guided the design of an efficient exhaustive numerical AP search algorithm, the details of which are given in Section 2. With the aid of this algorithm we have extended Cohen's exhaustive list of all 236 APs with smaller member below 10^8 [4] to all 1427 APs with smaller member below 10^{10}. Of these, 601 have been published earlier [6], [7]. The other 826 seem to be new, and are published here for the first time (9 of them have been communicated to the author already in 1983 and 1984 by Woods (2), Borho (2) and Lee (5)). Section 3 presents details of the computations together with several tables collected from this search. Moreover, a result of Borho and Hoffmann for constructing APs is extended, as was suggested by the numerical tables.

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In Appendix I, we present the complete list of all 1427 APs with smaller member below 10^{10} ordered according to the size of the smaller members of the pairs. Appendix II displays the same list with a different ordering, viz., according to the various occurring types (defined in Section 3). Finally, Appendix III tabulates all the greatest common divisors of the 1427 APs, in increasing order, together with their frequencies of occurrence, and, for each gcd g, the rank numbers of all the APs (m, n) for which $\gcd(m, n) = g$.

2. Check Whether a Given m is the Smaller Member of an AP. Let p_i be the ith prime, $P_{ij} := \prod_{k=i}^{i+j-1} p_k$, $Q_{ij} := \prod_{k=i}^{i+j-1} p_k/(p_k - 1)$. We start with the following lemma which gives an upper bound for $\sigma(m)/m$.

LEMMA 2.1. *If m only has prime divisors $\geqslant p_i$ $(i \geqslant 1)$ and if $m < P_{i,j+1}$ $(j \geqslant 1)$ then $\sigma(m)/m < Q_{ij}$.*

Proof. Since $m < P_{i,j+1} = p_i p_{i+1} \cdots p_{i+j}$, and since any prime divisor of m is $\geqslant p_i$, it follows that m has at most j different prime divisors $\geqslant p_i$ (otherwise we would have $m \geqslant p_i p_{i+1} \cdots p_{i+j} = P_{i,j+1}$). This implies that

$$\frac{\sigma(m)}{m} = \prod_{p^e \| m} \frac{p^{e+1} - 1}{p^e(p-1)} = \prod_{p^e \| m} \frac{p - p^{-e}}{p - 1} < \prod_{p | m} \frac{p}{p-1} \leqslant \prod_{k=i}^{i+j-1} \frac{p_k}{p_k - 1} = Q_{ij}. \quad \square$$

In the algorithm below, this lemma is invoked very frequently. Therefore, we require a precomputed table of P- and Q-values, large enough so that the values needed can be found quickly by simple table look-ups.

Now we describe an efficient algorithm to check whether a given positive integer m belongs to an AP (m, n) with $m < n$. This algorithm is based on the observation that when, for given γ and N, we want to verify one of the relations $\sigma(N)/N > \gamma$, $= \gamma$, $< \gamma$, and when the primes $2, 3, \ldots, p$ have been tried as divisors of N, it may be possible

(i) to detect, with Lemma 2.1, whether $\sigma(N)/N < \gamma$ by using the information that the *unfactored* portion of N only has prime divisors $> p$, and

(ii) to detect whether $\sigma(N)/N > \gamma$ by using the *factored* portion of N.

In this way, much unnecessary factorization time may be avoided. The price to pay for this gain lies in the time needed to consult the P- and Q-tables used in Lemma 2.1. In the algorithm, the index $i_{\max}$ is the maximum value of i for which Lemma 2.1 is invoked. In order to restrict this table look-up time, $i_{\max}$ should not be chosen too large. The optimal value of $i_{\max}$ also depends on the actual implementation of the algorithm (cf. Section 3).

Algorithm to Check Whether m is the Smaller Member of an AP.

Step 1. (Find out whether m is abundant; in this step, keep $m = m_1 m_2$ where $\gcd(m_1, m_2) = 1$, m_1 is the factored and m_2 is the unfactored portion of m, $\alpha := \sigma(m_1)/m_1$; start with $m_1 := 1$, $m_2 := m$, $\alpha := 1$.)

Start factoring m by trial dividing m_2 by the primes $p_1, p_2, \ldots \leqslant m_2^{1/2}$. In case a prime power divisor p_{i-1}^e $(e \geqslant 1)$ of m_2 has been found, update m_1, m_2 and α $(m_1 := m_1 p_{i-1}^e, m_2 := m/m_1, \alpha := \alpha \cdot \sigma(p_{i-1}^e)/p_{i-1}^e)$. After the trial division with p_{i-1} (whether or not p_{i-1} divides m_2): if $\alpha < 2$ and $4 \leqslant i \leqslant i_{\max}$, check whether m

is possibly deficient as follows: by inspecting the P-table find the smallest value of j ($=: j^*$) such that $m_2 < P_{i,j+1}$; if $\alpha Q_{i,j^*} < 2$, then STOP (because, in that case, m is deficient: by Lemma 2.1 we have $\sigma(m_2)/m_2 < Q_{ij^*}$ so that

$$\frac{\sigma(m)}{m} = \frac{\sigma(m_1)}{m_1} \cdot \frac{\sigma(m_2)}{m_2} = \alpha \frac{\sigma(m_2)}{m_2} < \alpha Q_{ij^*} < 2).$$

If $\alpha \geqslant 2$, or $i < 4$ or $i > i_{\max}$, the deficiency check on m is left out. After the complete factorization of m (and simultaneous computation of $\sigma(m)$): if $m < \sigma(m) - m =: n$ (i.e., m is abundant), go to Step 2, otherwise STOP.

End of Step 1

Step 2. (Given m, $\sigma(m)$ and $n = \sigma(m) - m$, check whether $\sigma(n) = \sigma(m)$; during the factorization of n try to exclude those m for which $\sigma(n) \neq \sigma(m)$ as early as possible by testing whether $\sigma(n)/n \neq \beta$ where $\beta = \sigma(m)/n$; in this step, keep $n = n_1 n_2$, where $\gcd(n_1, n_2) = 1$, n_1 is the factored and n_2 the unfactored portion of n, $\alpha := \sigma(n_1)/n_1$; start with $n_1 := 1$, $n_2 := n$, $\alpha := 1$.)

Start factoring n by trial dividing n_2 by the primes $p_1, p_2, \ldots \leqslant n_2^{1/2}$. In case a prime power divisor p_{i-1}^e ($e \geqslant 1$) of n_2 has been found, update n_1, n_2 and α: if the updated α satisfies $\alpha > \beta$, then STOP (because, in that case, we have

$$\frac{\sigma(n)}{n} = \frac{\sigma(n_1)}{n_1} \frac{\sigma(n_2)}{n_2} \geqslant \frac{\sigma(n_1)}{n_1} = \alpha > \beta = \frac{\sigma(m)}{n},$$

so that $\sigma(n) \neq \sigma(m)$). After the trial division with p_{i-1} (whether or not p_{i-1} divides n_2): if $4 \leqslant i \leqslant i_{\max}$ check whether $\sigma(n)/n < \beta$ as follows: by inspecting the P-table find the smallest value of j ($=: j^*$) such that $n_2 < P_{i,j+1}$. If $\alpha Q_{i,j^*} < \beta$, then STOP (because, in that case, $\sigma(n)/n < \beta$: by Lemma 2.1 we have $\sigma(n_2)/n_2 < Q_{i,j^*}$ so that

$$\frac{\sigma(n)}{n} = \frac{\sigma(n_1)}{n_1} \cdot \frac{\sigma(n_2)}{n_2} = \alpha \frac{\sigma(n_2)}{n_2} < \alpha Q_{i,j^*} < \beta).$$

If $i < 4$ or $i > i_{\max}$, the check on $\sigma(n)/n < \beta$ is omitted. After the complete factorization of n (and simultaneous computation of $\sigma(n)$): check whether $\sigma(n) = \sigma(m)$. If so, (m, n) is an AP.

End of Step 2

3. Computing All the APs Below 10^{10}. In order to compute all the APs (m, n) with $m < n$ and $10^8 < m \leqslant 10^{10}$ (thus extending H. Cohen's computations reported in [4]), we distinguish between $m \equiv 0 \pmod 6$ (the easy case), and $m \not\equiv 0 \pmod 6$ (the hard case).

If $m \equiv 0 \pmod 6$ and $n = \sigma(m) - m$ is *even*, then (m, n) cannot be an AP [5]. Therefore, n should be *odd*. In that case, we have [6] $m = 2^\mu M^2$, $n = N^2$, with $\mu \in \mathbb{N}$, M and N being odd. For all the numbers $m = 2^\mu M^2$ with $3 | M$ and $10^8 < m \leqslant 10^{10}$, we computed $n := \sigma(m) - m$ and checked whether n was a perfect square. Not a single such case was found. Computer time was about 6 CPU seconds.

For all $m \not\equiv 0 \pmod 6$ with $10^8 < m \leqslant 10^{10}$ we used the algorithm of Section 2 to find all APs in this range. The optimal choice of $i_{\max}$ for our FORTRAN-implementation on a CYBER 750 was about 75. This value was chosen to be fixed for the whole range. The speed-up factor of our program was about 15, compared with a straightforward program which, given m, computes $\sigma(m)$ and, if $n := \sigma(m) - m > m$, computes $\sigma(n)$. A slight increase of the speed was obtained as follows. In Step 1, in case a prime (power) factor of m_2 was found and m_1 and $\sigma(m_1)$ (among others) were updated, it was checked whether *both* m_1 *and* $\sigma(m_1)$ were divisible by one of the primitive abundant numbers $20 = 2^2 5$, $28 = 2^2 7$, $70 = 2.5.7$ and $88 = 2^3 11$. If so, the algorithm was stopped since this implied that also m and $\sigma(m)$, hence also $n = \sigma(m) - m$ were divisible by this abundant number, so that both m and n were abundant. This is impossible for an AP (m, n).

The total time to cover the range $10^8 < m \leqslant 10^{10}$ was about 1000 (low priority) CPU hours, spent in the last seven months of 1984.

The total number of APs (m, n) found with $m < n$ and $10^8 < m \leqslant 10^{10}$ was 1191. In Appendix I (of the supplements section) all the APs with smaller member $\leqslant 10^{10}$ are given (including the 236 APs with smaller member $\leqslant 10^8$). For each pair we list the decimal representation and the prime factorization of the members, a rank number, a code (letter plus digit) referring to the discoverer, and the type of the pair (defined below). For example, pair #1427 reads as follows:

1427	9967523980	2E2.257.5.17.37.3083
R9 42	12890541236	2E2.257.107.117191.

Table 1 gives the meaning of the codes, and their frequencies of occurrence. Extensive information about the sources of the pairs with code L1 is given in the survey paper [6].

There are 1015 pairs with even members and 412 with odd members. The minimal and maximal values of m/n are 0.6979 and 0.999858 for the APs #567 and #1010, respectively.

Let $A(x)$ be the number of APs (m, n) with $m < n$ and $m \leqslant x$. From the list of APs with $m \leqslant 10^8$, Bratley et al. [3] concluded that for $x \leqslant 10^8$, $A(x)$ is approximately proportional to $x^{1/2}/\ln(x)$. In Table 2 we give, for $x = k.\,10^9$ $(1 \leqslant k \leqslant 10)$: $A(x)$, $A(x)\ln(x)/x^{1/2}$, $A(x)(\ln(x))^2/x^{1/2}$ and $A(x)(\ln(x))^3/x^{1/2}$. From these figures we may draw the conclusion that for $x \leqslant 10^{10}$, $A(x)$ is approximately proportional to $x^{1/2}/(\ln(x))^3$.

TABLE 1

Status list of the first 1427 *APs* (m, n), $m < n$, *with* $m \leqslant 10^{10}$

code	#APs	references and remarks
L1	508	[6]
R2	1	[9] (#1056)
W1	73	sent to the author by D. Woods on June 29, 1982 and published in [7]
R3	19	found by the author with the methods described in [8], and published in [7]
W2	1	sent in by D. Woods on Feb. 16, 1983 (#330)
R6	1	found by the author in May, 1983 (#1375)
W3	1	sent in by D. Woods on July 11, 1983 (#1050)
L2	5	sent in by E. J. Lee in July, 1984 (##778, 860, 894, 1241, 1261)
B4	2	sent in by W. Borho on Nov. 2, 1984 (##809, 1393)
R9	816	found by the author during the systematic search described in this paper

TABLE 2

Comparison of $A(x)$ with $x^{1/2}/(\ln(x))^i$, $i = 1, 2, 3$

$x/10^9$	$A(x)$	$A(x)\ln(x)/x^{1/2}$	$A(x)(\ln(x))^2/x^{1/2}$	$A(x)(\ln(x))^3/x^{1/2}$
1	586	0.3840	7.958	164.9
2	762	0.3649	7.815	167.4
3	898	0.3578	7.807	170.4
4	1009	0.3527	7.799	172.4
5	1100	0.3474	7.759	173.3
6	1185	0.3444	7.755	174.6
7	1256	0.3403	7.715	174.9
8	1317	0.3358	7.656	174.6
9	1377	0.3327	7.625	174.8
10	1427	0.3286	7.566	174.2

We define an AP (m, n), $m < n$, to be a *regular amicable pair of type* (i, j), if $(m, n) = (gM, gN)$, where $g = \gcd(m, n)$, $\gcd(g, M) = \gcd(g, N) = 1$, M and N are squarefree, and the numbers of prime factors of M and N are i and j, respectively. Other pairs are called *irregular* or *exotic*. There are 1082 regular and 345 irregular APs with smaller member $\leqslant 10^{10}$. It is easy to see that there are no regular pairs of type $(1, j)$, $j \geqslant 1$: let g be the gcd of such an AP, so that $(m, n) = (gp, gN)$ where p is a prime and $\gcd(g, p) = \gcd(g, N) = 1$. We have $m < n$, hence $p < N$. By definition, $\sigma(gp) = \sigma(gN)$, implying that $p + 1 = \sigma(N)$. Since, for any $N \in \mathbb{N}$, $\sigma(N) > N$, this implies that $p + 1 > N$, a contradiction. We note that in this argument N need not be squarefree.

In Table 3 we give the frequency distribution of the various types among the first 1082 regular APs. We note that there are relatively few regular APs of type $(i, 1)$, $i \geqslant 2$, and of type (i, j) with $i < j$.

In [7] the total number of known APs with smaller member $\leqslant 10^{10}$ was 601 (these are the APs belonging to the first four codes in Table 1). Among them were 104 irregular APs, i.e., 17.3%. Comparing this figure with the 345 irregular APs in our *complete* list of APs with smaller member $\leqslant 10^{10}$, i.e., 24.2%, we see that relatively many irregular APs were found in our systematic search.

In Appendix II (of the supplements section) we present lists of all the 1082 regular APs arranged according to their types, together with a list of the 345 exotic APs. This appendix may be useful for searches of APs of a special type.

The regular pairs of type $(i, 1)$, $i \geqslant 2$, play an important role as "mother" pairs in methods to generate new APs from given pairs. In [8] a substantial part of the new APs found there was constructed from such mother pairs. In [1], Borho and Hoffmann have partially generalized the methods from [8] by introducing the concept of a *breeder*: a breeder is a pair of positive integers (a_1, a_2) such that the equations

$$a_1 + a_2 x = \sigma(a_1) = \sigma(a_2)(x + 1)$$

TABLE 3

Frequency distribution of the first 1082 *regular APs*

of type (i, j), $i \geqslant 2$, $j \geqslant 1$

$i =$	$j =$	1	2	3	4	5	row totals
2		20	67	21	4	0	112
3		16	271	280	24	0	591
4		1	78	201	63	2	345
5		0	6	18	7	3	34
column totals		37	422	520	98	5	1082

have a positive integer solution x. If x is a prime, then (a_1, a_2x) is an amicable pair. For certain breeders, called "special" breeders, Borho and Hoffmann formulate the following

THEOREM 1 [1]. *Let* (a_1, a_2) *be a special breeder, i.e.,* $a_1 = au$, $a_2 = a$, *with* $\gcd(a, u) = 1$. *Take any factorization of* $C := \sigma(u)(u + \sigma(u) - 1)$ *into two different factors* D_1, D_2 $(C = D_1D_2)$. *Then, if the numbers* $s_i = D_i + \sigma(u) - 1$, *for* $i = 1, 2$, *and also* $q = u + s_1 + s_2$ *are primes not dividing* a, *then* (auq, as_1s_2) *is an amicable pair.* □

Regular APs of type $(i, 1)$, $i \geqslant 2$, are of the form (au, ap), p prime, and the numbers (au, a) are special breeders which generally produce many APs with the above theorem.

In our list of 1427 APs we found a few APs, e.g., #647 and #955, which suggested that the condition $\gcd(a, u) = 1$ in Theorem 1 may be dropped. In fact, we have

THEOREM 2. *Let* (au, a) *be a breeder, i.e., there exists a positive integer* x *such that* $au + ax = \sigma(au) = \sigma(a)(x + 1)$. *Take any factorization of* $C := (x + 1)(x + u)$ *into two different factors* D_1, D_2 $(C = D_1D_2)$. *Then, if the numbers* $s_i = D_i + x$, *for* $i = 1$, 2, *and also* $q = u + s_1 + s_2$ *are primes not dividing* a, *then* (auq, as_1s_2) *is an amicable pair.* □

The proof of this theorem is left to the reader.

If $\gcd(a, u) = 1$, then $\sigma(au) = \sigma(a)\sigma(u)$, so that $x = \sigma(u) - 1$ and Theorem 2 reduces to Theorem 1. As an example, AP #955 gives the breeder (au, a) with $a = 3.5.7.19$ and $u = 7.29.47.181$. Theorem 2 yields 16 new APs with this breeder as input.

It is known [5] that most even APs have a pair sum which is $\equiv 0 \pmod 9$. Our search proves that indeed Poulet's pair #503: $(2^4 331.19.6619, 2^4 331.199.661)$ is the smallest exceptional pair. All known exceptional pairs had members $\equiv 7 \pmod 9$ and a pair sum $\equiv 5 \pmod 9$. In our search, we found two even APs with pair sum $\equiv 3 \pmod 9$, viz., the (irregular) pairs:

$$\#577\colon 2^4\begin{cases} 19^2 103.1627 \\ 3847.16763 \end{cases} \quad \text{and} \quad \#874\colon 2^2 19\begin{cases} 13^2 37.43.139 \\ 41.151.6709. \end{cases}$$

TABLE 4

The 17 *APs among the first* 1427, *whose pair sum is* $\not\equiv 0 \pmod 9$

	even members	odd members
regular	#503, type (2,2) #1031, type (2,2) #1081, type (2,2)	#899, type (3,2) #1057, type (2,2) #1158, type (3,2)
irregular	##577, 874	##7, 38, 78, 113, 256, 440, 1083, 1175, 1380

TABLE 5

All (37) *pairs from the first* 1427 *APs having the same pair sum*

rank numbers		pair sum	prime decomposition of the pair sum, i.e., exponents belonging to the primes 2	3	5	7	11	13	17	19	23	29	31	37
32	35	1296000	7	4	3									
105	109	20528640	9	6	1		1							
137	138	37739520	10	4	1	1		1						
172	173	75479040	11	4	1	1		1						
272	276	321408000	10	4	3								1	
282	286	348364800	13	5	2	1								
350	351	556839360	6	6	1	1	1						1	
347	355	579156480	9	5	1	2				1				
373	375	638668800	12	4	2	1	1							
368	377	661893120	12	5	1	1				1				
395	399	761177088	10	5		1				1	1			
411	415	796340160	6	5	1	2	1			1				
427	433	883872000	8	4	3		1						1	
462	476	1181174400	7	5	2	2							1	
486	491	1282417920	8	5	1	1				1			1	
574	582	2068416000	9	5	3	1				1				
626	630	2395008000	10	5	3	1	1							
653	665	2682408960	12	5	1	2	1							
695	697	3155023872	11	4		1	1	1		1				
717	730	3599769600	13	4	2	1							1	
751	753	4049740800	10	6	2	1							1	
798	807	4606156800	13	3	2	2			1					
786	787	4716601344	13	2		1		1		1				1
824	840	5094835200	10	7	2	1		1						
940	941	6824563200	9	3	2	2		1					1	
926	952	6897623040	13	7	1	1	1							
997	998	7925299200	11	5	2	2		1						
1012	1019	8273664000	11	5	3	1				1				
1069	1097	10027929600	12	5	2			1					1	
1124	1142	11195712000	9	3	3		1			1			1	
1147	1150	11416204800	9	4	2	1	2	1						
1143	1181	12098211840	12	5	1		1	1	1					
1232	1233	13473008640	10	5	1	2		1	1					
1254	1265	14341017600	12	4	2	1		1		1				
1249	1255	14478912000	9	5	3	2				1				
1272	1278	15058068480	10	5	1	2		1		1				
1410	1425	19926466560	14	5	1	1	1	1						

These are the first two examples of APs of the form described in [5, Theorem I, case (b)] (also cf. the remarks immediately following Table I in [5]). Table 4 gives the rank numbers of the 17 APs with smaller member $\leqslant 10^{10}$ whose pair sum is $\not\equiv 0 \pmod 9$, divided into even and odd pairs, and regular and irregular pairs.

Another question, suggested by Professor C. Pomerance, is whether pairs, triples, quadruples, etc. of APs exist having the *same pair sum*. Among the first 1427 APs, we found 37 such pairs of APs, but no such triples, quadruples, etc. Table 5 gives the rank numbers of these pairs of APs, and the prime factorization of their pair sums. The pair sums only have prime divisors $\leqslant 37$. In 30 of the 37 cases at least one member of the pair was found during the exhaustive search described in the present paper.

In Appendix III (of the supplements section) we tabulate all the greatest common divisors of the first 1427 APs, ordered according to their size, with frequencies, and with the rank numbers of all the APs corresponding to a given gcd. This might be useful in further searches for special APs, and in searches for so-called *isotopic* APs (cf., [6, p. 83]). For example, new APs, isotopic with APs from the list of 1427 APs, are obtained by replacing the common factor $3^3 5$ in ##882 and 1087 by $3^2 7.13$, by replacing the common factor $3^3 5^3$ in #1205 by $3^2 5^2 31$, and by replacing the common factor $3^3 5^2 31$ in ##717 and 1228 by $3^6 5.23.137.547.1093$, and by $3^{10} 5.23.107.3851$.

In [8], we have presented methods to find new APs from known APs. By applying these methods to the new APs among the first 1427 APs, we have found 117 new APs (with smaller member $> 10^{10}$). The new APs were found mainly from mother pairs having a relatively simple structure, like those of type $(i, 1)$, $i > 1$. They will be published in a forthcoming report [2], together with many other new amicable pairs.

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Supplement to Computation of All the Amicable Pairs Below 10^{10}

By H. J. J. te Riele

Appendix I

The first 1427 APs

```
    1 220 2E2.5.11     3D
L1 21 284 2E2.71
    2 1184 2E5.37
L1 X  1210 2.5.11E2
    3 2620 2E2.5.131
L1 22 2924 2E2.17.43
    4 5020 2E2.5.251
L1 22 5564 2E2.13.107
    5 6232 2E3.19.41
L1 X  6368 2E5.199
    6 10744 2E3.17.79
L1 22 10856 2E3.23.59
    7 12285 3E3.5.7.13
L1 X  14595 3.5.7.139
    8 17296 2E4.23.47
L1 21 18416 2E4.1151
    9 63020 2E2.23.5.137
L1 21 76084 2E2.23.827
   10 66928 2E4.47.89
L1 22 66992 2E4.53.79
   11 67095 3E3.5.7.71
L1 22 71145 3E3.5.17.31
   12 69615 3E2.7.13.5.17
L1 21 87633 3E2.7.13.107
   13 79750 2.5E3.11.29
L1 X  88730 2.5.19.467
   14 100485 3E2.5.7.11.29
L1 32 124155 3E2.5.31.89
   15 122265 3E2.5.13.11.19
L1 21 139815 3E2.5.13.239
   16 122368 2E9.239
L1 X  123152 2E4.43.179
   17 141664 2E5.19.233
L1 X  153176 2E3.41.467
   18 142310 2.5.7.19.107
L1 32 168730 2.5.47.359
   19 171856 2E4.23.467
L1 22 176336 2E4.103.107
   20 176272 2E4.23.479
L1 22 180848 2E4.89.127
   21 185368 2E3.17.29.47
L1 32 203432 2E3.59.431
   22 196724 2E2.11.17.263
L1 22 202444 2E2.11.43.107
   23 280540 2E2.5.13E2.83
L1 X  365084 2E2.107.853
   24 308620 2E2.5.13.1187
L1 32 389924 2E2.43.2267
   25 319550 2.7.5E2.11.83
L1 X  430402 2.7.71.433
   26 356408 2E3.13.23.149
L1 32 399592 2E3.199.251
   27 437456 2E4.19.1439
L1 22 455344 2E4.149.191
   28 469028 2E2.7E2.2393
L1 X  486178 2.7E2.11E2.41
   29 503056 2E4.23.1367
L1 22 514736 2E4.53.607
   30 522405 3E2.5.13.19.47
L1 22 525915 3E2.5.13.29.31
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   31 600392 2E3.13.23.251     6D
L1 32 669688 2E3.97.863
   32 609928 2E3.11.29.239
L1 32 686072 2E3.191.449
   33 624184 2E3.11.41.173
L1 32 691256 2E3.71.1217
   34 635624 2E3.11.31.233
L1 32 712216 2E3.127.701
   35 643336 2E3.29.47.59
L1 32 652664 2E3.17.4799
   36 667964 2E2.11.17.19.47
L1 43 783556 2E2.31.71.89
   37 726104 2E3.17.19.281
L1 32 796696 2E3.53.1879
   38 802725 3.5E2.7.11.139
L1 X  863835 3.5.7.19.433
   39 879712 2E5.37.743
L1 X  901424 2E4.53.1063
   40 898216 2E3.11.59.173
L1 32 980984 2E3.47.2609
   41  947835 3E3.5.7.17.59
L1 32 1125765 3E3.5.31.269
   42  998104 2E3.17.41.179
L1 32 1043096 2E3.23.5669
   43 1077890 2.5.11.41.239
L1 33 1099390 2.5.17.29.223
   44 1154450 2.5E2.11.2099
L1 22 1189150 2.5E2.17.1399
   45 1156870 2.5.11.13.809
L1 32 1292570 2.5.19.6803
   46 1175265 3E2.7E2.13.5.41
L1 21 1438983 3E2.7E2.13.251
   47 1185376 2E5.17.2179
L1 X  1286744 2E3.41.3923
   48 1280565 3E2.5.13.11.199
L1 22 1340235 3E2.5.13.29.79
   49 1328470 2.5.11.13.929
L1 X  1483850 2.5E2.59.503
   50 1358595 3E2.5.19.7.227
L1 22 1486845 3E2.5.19.37.47
   51 1392368 2E4.17.5119
L1 22 1464592 2E4.239.383
   52 1466150 2.5E2.7.59.71
L1 X  1747930 2.5.47.3719
   53 1468324 2E2.11.13.17.151
L1 43 1749212 2E2.37.53.223
   54 1511930 2.5.7.21599
L1 23 1598470 2.5.19.47.179
   55 1669910 2.5.11.17.19.47
L1 42 2062570 2.5.239.863
   56 1798875 3E3.5E3.13.41
L1 X  1870245 3E2.5.13.23.139
   57 2082464 2E5.59.1103
L1 22 2090656 2E5.79.827
   58 2236570 2.5.7.89.359
L1 33 2429030 2.5.23.59.179
   59 2652728 2E3.13.23.1109
L1 32 2941672 2E3.71.5179
   60 2723792 2E4.37.43.107
L1 32 2874064 2E4.263.683
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L1 43 3077354 2.7.19.23.503
   62 2739704 2E3.11.163.191
L1 32 2928136 2E3.31.11807
   63 2802416 2E4.17.10303
L1 22 2947216 2E4.167.1103
   64 2803580 2E2.5.13.41.263
L1 42 3716164 2E2.503.1847
   65 3276856 2E3.11.23.1619
L1 32 3721544 2E3.647.719
   66 3606850 2.5E2.31.13.179
L1 X  3892670 2.5.31.29.433
   67 3786904 2E3.11.23.1871
L1 32 4300136 2E3.467.1151
   68 3805264 2E4.29.59.139
L1 32 4006736 2E4.179.1399
   69 4238984 2E3.17.71.439
L1 33 4314616 2E3.23.131.179
   70 4246130 2.5.7.60659
L1 23 4488910 2.5.23.29.673
   71 4259750 2.5E3.11.1549
L1 X  4445050 2.5E2.19.4679
   72 4482765 3E2.5.19.7E2.107
L1 X  5120595 3E2.5.19.53.113
   73 4532710 2.7.5.13.17.293
L1 42 6135962 2.7.71.6173
   74 4604776 2E3.11E2.67.71
L1 X  5162744 2E3.113.5711
   75 5123090 2.5.7.163.449
L1 33 5504110 2.5.19.59.491
   76 5147032 2E3.11.23.2543
L1 32 5843048 2E3.383.1907
   77 5232010 2.7.5.41.1823
L1 X  5799542 2.7E2.23.31.83
   78 5357625 3.7.13.5E3.157
L1 X  5684679 3E2.7.13.11.631
   79 5385310 2.5.7.107.719
L1 33 5812130 2.5.17.179.191
   80 5459176 2E3.17.137.293
L1 X  5495264 2E5.83.2069
   81 5726072 2E3.11.31.2099
L1 32 6369928 2E3.79.10079
   82 5730615 3E3.5.11.17.227
L1 33 6088905 3E3.5.23.37.53
   83 5864660 2E2.5.17.47.367
L1 42 7489324 2E2.53.35327
   84 6329416 2E3.23.41.839
L1 33 6371384 2E3.19.167.251
   85 6377175 3E2.5E2.7.4049
L1 22 6680025 3E2.5E2.11.2699
   86 6955216 2E4.19.137.167
L1 31 7418864 2E4.463679
   87 6993610 2.5.13.23.2339
L1 22 7158710 2.5.13.53.1039
   88 7275532 2E2.11.37.41.109
L1 X  7471508 2E2.11E2.43.359
   89 7288930 2.11.5.23.43.67
L1 43 8221598 2.11.7.197.271
   90 7489112 2E3.17.53.1039
L1 33 7674088 2E3.23.179.233
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   92 7677248 2E6.139.863
L1 22 7684672 2E6.167.719
   93 7800544 2E5.43.5669
L1 X  7916696 2E3.17.58211
   94 7850512 2E4.37.89.149
L1 X  8052488 2E3.29.61.569
   95 8262136 2E3.17.79.769
L1 33 8369864 2E3.29.43.839
   96 8619765 3.5.11.7.17.439
L1 33 9627915 3.5.11.23.43.59
   97  8666860 2E2.5.23.83.227
L1 43 10638356 2E2.47.71.797
   98  8754130 2.5.7.11.11369
L1 32 10893230 2.5.757.1439
   99  8826070 2.5.11.19.41.103
L1 43 10043690 2.5.31.179.181
  100 9071685 3E2.5.31.7.929
L1 22 9498555 3E2.5.31.11.619
  101 9199496 2E3.29.19.2087
L1 22 9592504 2E3.29.173.239
  102  9206925 3.5E2.7.13.19.71
L1 X  10791795 3.5.7.79.1301
  103 9339704 2E3.11.211.503
L1 33 9892936 2E3.47.83.317
  104 9363584 2E7.191.383
L1 21 9437056 2E7.73727
  105  9478910 2.5.7.19.7127
L1 33 11049730 2.5.71.79.197
  106  9491625 3E2.5E3.13.11.59
L1 X  10950615 3E2.5.13.18719
  107  9660950 2.5E2.13.89.167
L1 X  10025290 2.5.11.91139
  108  9773505 3E2.5.7.19.23.71
L1 43 11791935 3E2.5.31.79.107
  109 10254970 2.5.11.53.1759
L1 22 10273670 2.5.11.59.1583
  110 10533296 2E4.19.34649
L1 X  10949704 2E3.29.109.433
  111 10572550 2.5E2.31.19.359
L1 22 10854650 2.5E2.31.47.149
  112 10596368 2E4.29.41.557
L1 X  11199112 2E3.53.61.433
  113 10634085 3E4.7.11E2.5.31
L1 X  14084763 3.7.11E2.23.241
  114 10992735 3E2.5.13.19.23.43
L1 32 12070305 3E2.5.13.47.439
  115 11173460 2E2.5.53.83.127
L1 43 13212076 2E2.31.47.2267
  116 11252648 2E3.11.71.1801
L1 33 12101272 2E3.67.107.211
  117 11498355 3E4.5.11.29.89
L1 21 12024045 3E4.5.11.2699
  118 11545616 2E4.19.163.233
L1 32 12247504 2E4.491.1559
  119 11693290 2.7.5.167047
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  120 11905504 2E5.13.28619
L1 X  13337336 2E3.107.15581
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  122 12707704 2E3.17.41.43.53
L1 42 14236136 2E3.107.16631
  123 13671735 3.5.19.7E2.11.89
L1 X  15877065 3.5.19.17.29.113
  124 13813150 2.5E2.13.79.269
L1 33 14310050 2.5E2.29.71.139
  125 13921528 2E3.19.67.1367
L1 22 13985672 2E3.19.101.911
  126 14311688 2E3.17.47.2239
L1 33 14718712 2E3.23.167.479
  127 14426230 2.7.5.13.83.191
L1 43 18087818 2.7.31.71.587
  128 14443730 2.5.7E3.4211
L1 X  15882670 2.5.19.179.467
  129 14654150 2.5E2.7.149.281
L1 32 16817050 2.5E2.179.1879
  130 15002464 2E5.37.12671
L1 22 15334304 2E5.227.2111
  131 15363832 2E3.11.71.2459
L1 33 16517768 2E3.53.163.239
  132 15938055 3E2.5.7.19.2663
L1 33 17308665 3E2.5.11.73.479
  133 16137628 2E2.13.23.103.131
L1 33 16150628 2E2.13.31.43.233
  134 16871582 2.7E2.19.13.17.41
L1 32 19325698 2.7E2.19.97.107
  135 17041010 2.7.5.31.7853
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  137 17754165 3E2.5.13.11.31.89
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  138 17844255 3E2.5.13.11.47.59
L1 32 19895265 3E2.5.13.71.479
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  140 18056312 2E3.17.103.1289
L1 33 18166888 2E3.19.107.1117
  141 18194715 3E2.5.7.11.59.89
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  143 20014808 2E3.11.79.2879
L1 33 21457192 2E3.47.149.383
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  146 21448630 2.5.7.131.2339
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  147 22227075 3E3.5E2.13.17.149
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  148 22249552 2E4.13.41.2609
L1 X  25325528 2E3.587.5393
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L1 42 25775368 2E3.1439.2239
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  152 23389695 3E3.5.7.53.467
L1 33 25132545 3E3.5.17.47.233
  153 23628940 2E2.5.37E2.863
L1 X  27428276 2E2.17.251.1607
  154 24472180 2E2.5.17.167.431
L1 43 30395276 2E2.47.107.1511
  155 25596544 2E7.311.643
L1 X  25640096 2E5.67.11959
  156 25966832 2E4.29.191.293
L1 32 26529808 2E4.47.35279
  157 26090325 3E2.5E2.17.19.359
L1 33 26138475 3E2.5E2.11.59.179
  158 28118032 2E4.47.139.269
L1 33 28128368 2E4.59.83.359
  159 28608424 2E3.13.139.1979
L1 33 29603576 2E3.23.349.461
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L1 32 32174506 2.7.13.17.10399
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L1 33 34860248 2E3.97.167.269
  164 32205616 2E4.17.167.709
L1 31 34352624 2E4.2147039
  165 32642324 2E2.11.13.149.383
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L1 32 40105845 3E2.5.13.179.383
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  175 35472592 2E4.43.47.1097
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  176 37363095 3E2.7.11.5.41.263
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L1 32 39202605 3E2.5.13.19.3527
  179 38400512 2E9.179.419
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  183 38807968 2E5.37.73.449
L1 X  40912232 2E3.37.89.1553
  184 43096904 2E3.17.41.59.131
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  185 44139856 2E4.29.251.379
L1 33 44916944 2E4.83.149.227
  186 45263384 2E3.17.59.5641
L1 33 46137016 2E3.19.433.701
  187 46237730 2.7.5.11E2.53.103
L1 X  61319902 2.7.83.113.467
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  190 46555250 2.5E3.7.37.719
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  191 46991890 2.5.29.11.14731
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  204 66595130 2.5.31.7.30689
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  205 66854710 2.5.17.13E3.179
L1 X  71946890 2.5.17.83.5099
  206 67729064 2E3.13.431.1511
L1 33 69439576 2E3.23.107.3527
  207 67738268 2E2.19.13.17.37.109
L1 42 79732132 2E2.19.263.3989
  208 68891992 2E3.13.23.83.347
L1 42 78437288 2E3.587.16703
  209 71015260 2E2.5.23.263.587
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L1 43 78057370 2.5.17.359.1279
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  213 74055952 2E4.23.61.3299
L1 32 78166448 2E4.197.24799
  214 74386305 3E2.5.7.17.29.479
L1 43 87354495 3E2.5.19.71.1439
  215 74769345 3E3.5.7E2.89.127
L1 X  82824255 3E3.5.17.151.239
  216 75171808 2E5.53.127.349
L1 32 77237792 2E5.479.5039
  217 75226888 2E3.11.59.14489
L1 33 81265112 2E3.53.137.1399
  218 78088504 2E3.13.31.53.457
L1 42 88110536 2E3.167.65951
  219 78447010 2.5.17.19.149.163
L1 43 80960990 2.5.11.491.1499
  220 79324875 3E2.5E3.7E2.1439
L1 X  87133365 3E2.5.11.103.1709
  221 80422335 3E3.5.7.85103
L1 23 82977345 3E3.5.11.71.787
  222  82633005 3E2.7.13.5.17.1187
L1 32 104177619 3E2.7.13.131.971
  223 83135650 2.5E2.13.79.1619
L1 33 85603550 2.5E2.19.251.359
  224  84521745 3E3.5.7.11.47.173
L1 42 107908335 3E3.5.383.2087
  225 84591405 3E3.5.17.29.31.41
L1 43 89590995 3E3.5.13.71.719
  226 86158220 2E2.5.41.105071
L1 33 99188788 2E2.23.43.25073
  227  87998470 2.5.7.29.67.647
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1374	8971549180	2E2.5.11.2963.13763
R9 X	11589884804	2E2.151.211E2.431
1375	8975660265	3E2.5.13.11.47.59.503
R6 43	10045057815	3E2.5.13.107.383.419
1376	8990017384	2E3.17.59.1120391
R9 34	9160333016	2E3.37.53.103.5669
1377	8996364572	2E2.17.29.13.89.3943
R9 32	9788118628	2E2.17.29.1019.4871
1378	9006915928	2E3.17.59.317.3541
R9 43	9240051272	2E3.19.1931.31481
1379	9008575485	3.5.7.13.17.23.16879
R9 43	10592750595	3.5.7.127.269.2953
1380	9018517725	3E4.5E2.7.349.1823
R9 X	10138589475	3.5E2.7.19311599

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 1381  9029724795 3E2.7.13.5.31.83.857
R9 43 11118146949 3E2.7.13.71.263.727
 1382 9054843104 2E5.67.383.11027
L1 32 9086834464 2E5.71.3999487
 1383 9070949152 2E5.53.83.64439
R9 32 9343940768 2E5.971.300719
 1384  9075291470 2.7E2.5.23.43.61.307
R9 X  11614384306 2.7.41.113.241.743
 1385 9083125275 3.5E2.7.19.139.6551
R9 33 9115709925 3.5E2.7.29.47.12739
 1386 9086970310 2.5.53.11.83.89.211
R9 43 9607155770 2.5.53.17.719.1483
 1387 9097736655 3.5.7E2.19.47.83.167
R9 32 9435270705 3.5.7E2.19.587.1151
 1388 9100969376 2E5.79.113.31859
R9 33 9204512224 2E5.179.227.7079
 1389  9136521225 3E3.5E2.13.17.73.839
R9 43 10287235575 3E3.5E2.59.97.2663
 1390  9153086085 3E2.5.13.11.37E2.1039
R9 X  10021735035 3E2.5.13.47.389.937
 1391 9159365024 2E5.53.241.22409
L1 X  9290429416 2E3.17.4157.16433
 1392  9160950225 3.5E2.19.7.17.89.607
R9 44 10380656175 3.5E2.19.37.47.59.71
 1393 9173012056 2E3.13.8689.10151
B4 33 9353372744 2E3.19.281.218987
 1394  9205801010 2.5.7E3.109.24623
R9 X  10296406990 2.5.37.53.191.2749
 1395 9225491168 2E5.83.151.23003
R9 33 9278558368 2E5.113.251.10223
 1396 9251688032 2E5.67.179.24107
R9 33 9338472928 2E5.101.1229.2351
 1397 9257732715 3.5.7.11.347.23099
L1 22 9263662485 3.5.7.11.449.17863
 1398 9262239250 2.5E3.11.1783.1889
R9 X  9673564910 2.5.17.47.181.6689
 1399  9271316500 2E2.5E3.53.271.1291
R9 X  11451453932 2E2.47.101.683.883
 1400 9286443650 2.5E2.11.59.419.683
R9 44 9949825150 2.5E2.53.113.149.223
 1401 9294561770 2.5.13.29.53.181.257
R9 42 9874755670 2.5.13.701.108359
 1402 9303632390 2.5.13.29.113.21839
R9 33 9518953210 2.5.13.59.359.3457
 1403 9307840630 2.11.5.43.313.6287
R9 44 9457161098 2.11.7.17.523.6907
 1404 9344815064 2E3.13.59.659.2311
R9 44 9881776936 2E3.67.79.109.2141
 1405  9357224877 3E2.7E3.13.11E2.41.47
R9 X  10162493523 3E5.7E3.13.83.113
 1406  9374110636 2E2.11.19.53.83.2549
R9 54 10058113364 2E2.13.47.269.15299
 1407  9408690824 2E3.13.41.59.149.251
R9 53 10595069176 2E3.167.1259.6299
 1408 9449054312 2E3.19.71.139.6299
R9 44 9602145688 2E3.29.59.179.3919
 1409 9490622048 2E5.61.4861999
L1 X  9500349952 2E9.4079.4549
 1410  9535950765 3E2.5.11.23.31.41.659
R9 43 10390515795 3E2.5.11.127.197.839
 1411  9549021568 2E7.37.101.19963
R9 X  10182996752 2E4.9043.70379
 1412 9581473976 2E3.19.59.1068407
W1 23 9649870024 2E3.19.151.593.709
 1413 9616775744 2E6.83.317.5711
W1 32 9760750144 2E6.2351.64871
 1414  9703910930 2.7.17.5.47.173501
L1 32 11882513902 2.7.17.1223.40823
 1415  9723053488 2E4.23.89.307.967
R9 43 10240668752 2E4.263.461.5279
 1416  9766111856 2E4.17.137.262079
L1 32 10415096464 2E4.12959.50231
 1417  9818506568 2E3.13E2.29.179.1399
R9 X  10933693432 2E3.89.1049.14639
 1418 9834780285 3E2.5.11.19.139.7523
L1 22 9884118915 3E2.5.11.19.569.1847
 1419  9836011130 2.5.11.17.79.139.479
R9 54 11065876870 2.5.31.107.149.2239
 1420  9844469775 3E2.5E2.7.23.29.9371
R9 X  11910566385 3E2.5.19.991.14057
 1421  9852159848 2E3.31.23.433.3989
R9 33 10096563352 2E3.31.61.251.2659
 1422  9875558210 2.5.29.7.233.20879
R9 33 11231616190 2.5.29.239.347.467
 1423  9880655085 3E2.5.7.17.233.7919
R9 X  10935385875 3E2.5E3.19.431.1187
 1424  9881488304 2E4.29.47.109.4157
R9 42 10535954896 2E4.5279.124739
 1425  9883587230 2.5.11.47.191.10009
R9 33 10042879330 2.5.11.127.571.1259
 1426 9958985128 2E3.19.103.197.3229
R9 33 9994662872 2E3.19.113.659.883
 1427  9967523980 2E2.257.5.17.37.3083
R9 42 12890541236 2E2.257.107.117191
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Appendix II

The first 1427 APs ordered according to the various occurring types

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AMICABLE PAIRS OF TYPE (2,1):

    1 220 2E2.5.11
L1 21 284 2E2.71
    8 17296 2E4.23.47
L1 21 18416 2E4.1151
    9 63020 2E2.23.5.137
L1 21 76084 2E2.23.827
   12 69615 3E2.7.13.5.17
L1 21 87633 3E2.7.13.107
   15 122265 3E2.5.13.11.19
L1 21 139815 3E2.5.13.239
   46 1175265 3E2.7E2.13.5.41
L1 21 1438983 3E2.7E2.13.251
  104 9363584 2E7.191.383
L1 21 9437056 2E7.73727
  117 11498355 3E4.5.11.29.89
L1 21 12024045 3E4.5.11.2699
  162 31536855 3E2.5.7.53.1889
L1 21 32148585 3E2.5.7.102059
  291 175032884 2E2.13.17.389.509
L1 21 175826716 2E2.13.17.198899
  297 183408615 3E2.5.13.19.29.569
L1 21 190055385 3E2.5.13.19.17099
  303 196421715 3E2.5.19.37.7.887
L1 21 224703405 3E2.5.19.37.7103
  460 536637465 3E2.7E2.13.97.5.193
L1 21 646745463 3E2.7E2.13.97.1163
  629 1191953763 3E2.7E2.11.13.41.461
L1 21 1223611389 3E2.7E2.11.13.19403
  640 1225052829 3E4.7.11.29.13.521
L1 21 1321639011 3E4.7.11.29.7307
  792 2172649216 2E8.257.33023
L1 21 2181168896 2E8.8520191
  888 2935281375 3E3.5E3.13.149.449
L1 21 2961518625 3E3.5E3.13.67499
 1030 4149106335 3E4.5.11E3.43.179
L1 21 4268776545 3E4.5.11E3.7919
 1191 6066248175 3E2.5E2.13.31.149.449
L1 21 6120471825 3E2.5E2.13.31.67499
 1219 6370495978 2.7E2.19.23.11.13523
L1 21 6950103062 2.7E2.19.23.162287

TOTAL NUMBER:   20
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AMICABLE PAIRS OF TYPE (3,1):

   86 6955216 2E4.19.137.167
L1 31 7418864 2E4.463679
  151 23358248 2E3.37.23.47.73
L1 31 25233112 2E3.37.85247
  164 32205616 2E4.17.167.709
L1 31 34352624 2E4.2147039
  196 52695376 2E4.17.151.1283
L1 31 56208368 2E4.3513023
  270 147366765 3E2.7E2.13.5.53.97
L1 31 182028483 3E2.7E2.13.31751
  312 205843365 3E2.7E2.13.5.43.167
L1 31 254264283 3E2.7E2.13.44351
  390 347263216 2E4.17.137.9319
L1 31 370414064 2E4.23150879
  446 492275992 2E3.131.13.23.1571
R9 31 553544168 2E3.131.528191
  648 1254255550 2.5E2.23.19.137.419
R9 31 1333078850 2.5E2.23.1159199
  661 1309651310 2.5.11.29.571.719
R9 31 1359071890 2.5.11.12355199
  753 1957374968 2E3.31.17.107.4339
L1 31 2092365832 2E3.31.8436959
  782 2115211995 3E3.5.13.17.31.2287
R9 31 2312891685 3E3.5.13.1317887
  979 3693013664 2E5.41.131.21487
L1 31 3812143072 2E5.119129471
 1009 3986534090 2.5.929.7.11.5573
L1 31 4971106870 2.5.929.535103
 1228 6562770525 3E3.5E2.31.17.19.971
R9 31 7322055075 3E3.5E2.31.349919
 1300 7696871576 2E3.19.53.127.7523
R9 31 7904894824 2E3.19.52005887

TOTAL NUMBER:   16
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AMICABLE PAIRS OF TYPE (4,1):

  779 2099442345 3.5.7.11.13.37.3779
L1 41 2533809495 3.5.7.24131519

TOTAL NUMBER:    1
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AMICABLE PAIRS OF TYPE (2,2):

    3 2620 2E2.5.131
L1 22 2924 2E2.17.43
    4 5020 2E2.5.251
L1 22 5564 2E2.13.107
    6 10744 2E3.17.79
L1 22 10856 2E3.23.59
   10 66928 2E4.47.89
L1 22 66992 2E4.53.79
   11 67095 3E3.5.7.71
L1 22 71145 3E3.5.17.31
   19 171856 2E4.23.467
L1 22 176336 2E4.103.107
   20 176272 2E4.23.479
L1 22 180848 2E4.89.127
   22 196724 2E2.11.17.263
L1 22 202444 2E2.11.43.107
   27 437456 2E4.19.1439
L1 22 455344 2E4.149.191
   29 503056 2E4.23.1367
L1 22 514736 2E4.53.607
   30 522405 3E2.5.13.19.47
L1 22 525915 3E2.5.13.29.31
   44 1154450 2.5E2.11.2099
L1 22 1189150 2.5E2.17.1399
   48 1280565 3E2.5.13.11.199
L1 22 1340235 3E2.5.13.29.79
   50 1358595 3E2.5.19.7.227
L1 22 1486845 3E2.5.19.37.47
   51 1392368 2E4.17.5119
L1 22 1464592 2E4.239.383
   57 2082464 2E5.59.1103
L1 22 2090656 2E5.79.827
   63 2802416 2E4.17.10303
L1 22 2947216 2E4.167.1103
   85 6377175 3E2.5E2.7.4049
L1 22 6680025 3E2.5E2.11.2699
   87 6993610 2.5.13.23.2339
L1 22 7158710 2.5.13.53.1039
   92 7677248 2E6.139.863
L1 22 7684672 2E6.167.719
  100 9071685 3E2.5.31.7.929
L1 22 9498555 3E2.5.31.11.619
  101 9199496 2E3.29.19.2087
L1 22 9592504 2E3.29.173.239
  109 10254970 2.5.11.53.1759
L1 22 10273670 2.5.11.59.1583
  111 10572550 2.5E2.31.19.359
L1 22 10854650 2.5E2.31.47.149
  125 13921528 2E3.19.67.1367
L1 22 13985672 2E3.19.101.911
  130 15002464 2E5.37.12671
L1 22 15334304 2E5.227.2111
  139 17908064 2E5.53.10559
L1 22 18017056 2E5.79.7127
  149 22508145 3E3.5.11.23.659
L1 22 23111055 3E3.5.11.79.197
  197 56055872 2E6.79.11087
L1 22 56598208 2E6.383.2309

  204 66595130 2.5.31.7.30689
L1 22 74624390 2.5.31.59.4091
  230 90437150 2.5E2.23.19.4139
L1 22 94372450 2.5E2.23.137.599
  233 95629904 2E4.67.37.2411
L1 22 97580944 2E4.67.227.401
  236 97041735 3E2.5.7.71.4339
L1 22 97945785 3E2.5.7.239.1301
  242 109410345 3E4.5.11.41.599
L1 22 110132055 3E4.5.11.59.419
  254 131483835 3E2.5.7.71.5879
L1 22 132692805 3E2.5.7.223.1889
  260 136549413 3E2.7.11.13.23.659
L1 22 140207067 3E2.7.11.13.79.197
  337 256948065 3E3.5.11.23.7523
L1 22 263110815 3E3.5.11.53.3343
  341 265192208 2E4.131.23.5501
L1 22 275148208 2E4.131.251.523
  369 305363984 2E4.43.89.4987
L1 22 306962896 2E4.43.173.2579
  478 595858064 2E4.37.179.5623
L1 22 596654896 2E4.37.239.4217
  495 651016665 3E2.5.13.19.37.1583
L1 22 663576615 3E2.5.13.19.227.263
  503 666030256 2E4.331.19.6619
L1 22 696630544 2E4.331.199.661
  520 749380864 2E8.383.7643
L1 22 750555392 2E8.1567.1871
  528 766292835 3.5.7.11.503.1319
L1 22 766512285 3.5.7.11.769.863
  530 770805945 3E2.7.13.41.5.4591
L1 22 914053959 3E2.7.13.41.163.167
  556 902335744 2E8.383.9203
L1 22 903709952 2E8.1151.3067
  641 1237888448 2E6.73.264959
L1 22 1252205632 2E6.479.40847
  689 1525222575 3E3.5E2.17.23.5779
L1 22 1571007825 3E3.5E2.17.79.1733
  695 1558818261 3E2.7.11.13.23.7523
L1 22 1596205611 3E2.7.11.13.53.3343
  708 1666611045 3E4.5.11E2.71.479
L1 22 1670433435 3E4.5.11E2.89.383
  718 1750776704 2E7.137.99839
L1 22 1762592896 2E7.2879.4783
  729 1786492785 3.5.7.11.293.5279
L1 22 1790052495 3.5.7.11.1231.1259
  755 1974754485 3E4.5.11E2.59.683
L1 22 1987985835 3E4.5.11E2.113.359
  787 2152573605 3E2.7.13.37.5.14207
L1 22 2564027739 3E2.7.13.37.191.443
  994 3865930695 3E2.5.11.29.43.6263
L1 22 3873366585 3E2.5.11.29.47.5741
 1031 4150593232 2E4.43.61.98899
L1 22 4213181968 2E4.43.859.7129
 1052 4377991936 2E8.293.58367
L1 22 4390866176 2E8.3583.4787
 1057 4429428675 3.5E2.7.19.167.2659
L1 22 4436670525 3.5E2.7.19.239.1861
 1081 4796703664 2E4.43.67.104059
L1 22 4855069456 2E4.43.373.18919

 1090 4893008692 2E2.11.109.13.78479
L1 22 5259164108 2E2.11.109.839.1307
 1183 5983596512 2E5.79.227.10427
L1 22 5999426848 2E5.79.631.3761
 1199 6143533695 3E4.5.13.17.68639
L1 22 6414291585 3E4.5.13.71.17159
 1224 6478496595 3E2.5.17.19.23.19379
L1 22 6582073005 3E2.5.17.19.37.12239
 1236 6722173575 3E2.5E2.13E2.17.10399
L1 22 7083639225 3E2.5E2.13E2.311.599
 1259 7074650624 2E9.947.14591
L1 22 7076729344 2E9.1367.10111
 1397 9257732715 3.5.7.11.347.23099
L1 22 9263662485 3.5.7.11.449.17863
 1418 9834780285 3E2.5.11.19.139.7523
L1 22 9884118915 3E2.5.11.19.569.1847

TOTAL NUMBER:   67

AMICABLE PAIRS OF TYPE (3,2):

   14 100485 3E2.5.7.11.29
L1 32 124155 3E2.5.31.89
   18 142310 2.5.7.19.107
L1 32 168730 2.5.47.359
   21 185368 2E3.17.29.47
L1 32 203432 2E3.59.431
   24 308620 2E2.5.13.1187
L1 32 389924 2E2.43.2267
   26 356408 2E3.13.23.149
L1 32 399592 2E3.199.251
   31 600392 2E3.13.23.251
L1 32 669688 2E3.97.863
   32 609928 2E3.11.29.239
L1 32 686072 2E3.191.449
   33 624184 2E3.11.41.173
L1 32 691256 2E3.71.1217
   34 635624 2E3.11.31.233
L1 32 712216 2E3.127.701
   35 643336 2E3.29.47.59
L1 32 652664 2E3.17.4799
   37 726104 2E3.17.19.281
L1 32 796696 2E3.53.1879
   40 898216 2E3.11.59.173
L1 32 980984 2E3.47.2609
   41  947835 3E3.5.7.17.59
L1 32 1125765 3E3.5.31.269
   42  998104 2E3.17.41.179
L1 32 1043096 2E3.23.5669
   45 1156870 2.5.11.13.809
L1 32 1292570 2.5.19.6803
   59 2652728 2E3.13.23.1109
L1 32 2941672 2E3.71.5179
   60 2723792 2E4.37.43.107
L1 32 2874064 2E4.263.683
   62 2739704 2E3.11.163.191
L1 32 2928136 2E3.31.11807
   65 3276856 2E3.11.23.1619
L1 32 3721544 2E3.647.719
   67 3786904 2E3.11.23.1871
L1 32 4300136 2E3.467.1151
   68 3805264 2E4.29.59.139
L1 32 4006736 2E4.179.1399
   76 5147032 2E3.11.23.2543
L1 32 5843048 2E3.383.1907
   81 5726072 2E3.11.31.2099
L1 32 6369928 2E3.79.10079
   91 7577350 2.5E2.11.23.599
L1 32 8493050 2.5E2.59.2879
   98  8754130 2.5.7.11.11369
L1 32 10893230 2.5.757.1439
  114 10992735 3E2.5.13.19.23.43
L1 32 12070305 3E2.5.13.47.439
  118 11545616 2E4.19.163.233
L1 32 12247504 2E4.491.1559
  121 12397552 2E4.23.59.571
L1 32 13136528 2E4.359.2287
  129 14654150 2.5E2.7.149.281
L1 32 16817050 2.5E2.179.1879
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134 16871582 2.7E2.19.13.17.41
L1 32 19325698 2.7E2.19.97.107
137 17754165 3E2.5.13.11.31.89
L1 32 19985355 3E2.5.13.127.269
138 17844255 3E2.5.13.11.47.59
L1 32 19895265 3E2.5.13.71.479
147 22227075 3E3.5E2.13.17.149
L1 32 24644925 3E3.5E2.29.1259
156 25966832 2E4.29.191.293
L1 32 26529808 2E4.47.35279
160 30724694 2.7.13.11.103.149
L1 32 32174506 2.7.13.17.10399
168 34256222 2.7.11.13.71.241
L1 32 35997346 2.7.11.23.10163
172 35361326 2.7.13.11.17.1039
L1 32 40117714 2.7.13.53.4159
173 35373195 3E2.5.13.11.23.239
L1 32 40105845 3E2.5.13.179.383
175 35472592 2E4.43.47.1097
L1 32 36415664 2E4.53.42943
176 37363095 3E2.7.11.5.41.263
L1 32 45663849 3E2.7.11.131.503
178 37848915 3E2.5.13.23.29.97
L1 32 39202605 3E2.5.13.19.3527
181 38663950 2.5E2.13.17.3499
L1 32 43362050 2.5E2.59.14699
200 58580540 2E2.23.5.347.367
L1 32 70507972 2E2.23.521.1471
203 63717615 3E2.5.13.17.43.149
L1 32 66011985 3E2.5.13.19.5939
213 74055952 2E4.23.61.3299
L1 32 78166448 2E4.197.24799
216 75171808 2E5.53.127.349
L1 32 77237792 2E5.479.5039
222 82633005 3E2.7.13.5.17.1187
L1 32 104177619 3E2.7.13.131.971
229 89477984 2E5.59.83.571
L1 32 92143456 2E5.1637.1759
232 93837808 2E4.19.83.3719
L1 32 99899792 2E4.1399.4463
234 95791430 2.7.17.5.101.797
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 1324 8135645416 2E3.19.41.911.1433
W1 32 8342735384 2E3.19.1367.40151
 1331 8260626368 2E6.103.211.5939
L1 32 8371943872 2E6.857.152639
 1332 8263107788 2E2.23.47.13.17.8647
L1 32 9310735156 2E2.23.47.83.25943
 1334 8275510971 3E2.7E2.13.19.17.41.109
R9 32 8978525829 3E2.7E2.13.19.139.593
 1338 8307557128 2E3.269.13.23.12911
R9 32 9263092472 2E3.269.127.33893
 1339 8315723650 2.5E2.31.13.139.2969
W1 32 9008167550 2.5E2.31.659.8819
 1341 8367278048 2E5.59.79.56099
L1 32 8597361952 2E5.439.611999
 1351 8508405465 3E2.5.7.79.181.1889
R3 32 8663076135 3E2.5.7.1871.14699
 1358 8645093145 3E5.5.13.23.53.449
R9 32 9186830055 3E5.5.13.599.971
 1377 8996364572 2E2.17.29.13.89.3943
R9 32 9788118628 2E2.17.29.1019.4871
 1382 9054843104 2E5.67.383.11027
L1 32 9086834464 2E5.71.3999487
 1383 9070949152 2E5.53.83.64439
R9 32 9343940768 2E5.971.300719
 1387 9097736655 3.5.7E2.19.47.83.167
R9 32 9435270705 3.5.7E2.19.587.1151
 1413 9616775744 2E6.83.317.5711
W1 32 9760750144 2E6.2351.64871
 1414  9703910930 2.7.17.5.47.173501
L1 32 11882513902 2.7.17.1223.40823
 1416  9766111856 2E4.17.137.262079
L1 32 10415096464 2E4.12959.50231

TOTAL NUMBER:  271
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AMICABLE PAIRS OF TYPE (4,2):

   55 1669910 2.5.11.17.19.47
L1 42 2062570 2.5.239.863
   64 2803580 2E2.5.13.41.263
L1 42 3716164 2E2.503.1847
   73 4532710 2.7.5.13.17.293
L1 42 6135962 2.7.71.6173
   83 5864660 2E2.5.17.47.367
L1 42 7489324 2E2.53.35327
  122 12707704 2E3.17.41.43.53
L1 42 14236136 2E3.107.16631
  144 20022328 2E3.17.23.37.173
L1 42 22823432 2E3.1367.2087
  150 22608632 2E3.19.23.29.223
L1 42 25775368 2E3.1439.2239
  171 35115795 3E3.5.11.13.17.107
L1 42 43266285 3E3.5.53.6047
  174 35390008 2E3.19.23.53.191
L1 42 39259592 2E3.71.69119
  207 67738268 2E2.19.13.17.37.109
L1 42 79732132 2E2.19.263.3989
  208 68891992 2E3.13.23.83.347
L1 42 78437288 2E3.587.16703
  218 78088504 2E3.13.31.53.457
L1 42 88110536 2E3.167.65951
  224  84521745 3E3.5.7.11.47.173
L1 42 107908335 3E3.5.383.2087
  298 186753688 2E3.11.41.191.271
L1 42 208059752 2E3.83.313343
  301 190888155 3E2.5.17.19.23.571
R9 42 194594085 3E2.5.7.617759
  310 204134385 3.5.7.13.17.19.463
L1 42 244869135 3.5.7.383.6089
  317 214748488 2E3.17.19.41.2027
L1 42 245201912 2E3.3041.10079
  362 300120652 2E2.17.13.23.29.509
L1 42 347620148 2E2.17.179.28559
  394 357197302 2.7.11.17.19.43.167
R9 42 409205258 2.7.11.863.3079
  400 362700728 2E3.13.19.173.1061
R9 42 413408872 2E3.811.63719
  404 373305350 2.5E2.11.19.139.257
R9 42 432893050 2.5E2.859.10079
  438 465605192 2E3.13.23.61.3191
R9 42 531830968 2E3.6271.10601
  447 494495768 2E3.13.23.61.3389
R9 42 564811432 2E3.5039.14011
  453 519257296 2E4.29.83.97.139
R9 42 552549104 2E4.881.39199
  498 659084504 2E3.13.23.61.4517
L1 42 752700136 2E3.3347.28111
  507 681709490 2.5.7.11.929.953
L1 42 851406670 2.5.2879.29573
  519 728921270 2.5.7.11.929.1019
L1 42 910259530 2.5.2447.37199
  552 877324936 2E3.29.47.61.1319
R3 42 890419064 2E3.17.6547199
  569  949308932 2E2.19.11.13.113.773
R9 42 1126001788 2E2.19.3191.4643
  574  965615992 2E3.11.23.349.1367
R9 42 1102800008 2E3.3359.41039
  591 1016475064 2E3.11.23.349.1439
R9 42 1160804936 2E3.2999.48383
  599 1047784504 2E3.13.23.101.4337
R9 42 1182294536 2E3.167.884951
  614 1100526075 3E3.5E2.11.19.29.269
R9 42 1310033925 3E3.5E2.809.2399
  667 1335474855 3E2.5.13.11.37.71.79
R9 42 1532728665 3E2.5.13.431.6079
  688 1518524175 3.5E2.7.19.41.47.79
R9 42 1681271025 3.5E2.7.139.23039
  711 1689026570 2.7E2.5.11.41.7643
R9 42 2263716406 2.7E2.1567.14741
  713 1699746184 2E3.23.41.233.967
R3 42 1725115256 2E3.17.12684671
  727 1785186728 2E3.13.17.787.1283
R9 42 2039387032 2E3.6047.42157
  732 1812992710 2.5.17.23.29.59.271
R9 42 1994136890 2.5.17.599.19583
  737 1860630824 2E3.13.17.691.1523
R9 42 2125787416 2E3.9341.28447
  739 1862890150 2.5E2.11.19.89.2003
R9 42 2162745050 2.5E2.1439.30059
  767 2037127365 3E2.7.13.5.23.43.503
R9 42 2612381499 3E2.7.13.1511.2111
  809 2298420670 2.7.5.13.197.12821
B4 42 2819711426 2.7.17.11847527
  814 2332981816 2E3.11.23.283.4073
R9 42 2665327304 2E3.6983.47711
  841 2517082425 3E3.5E2.11.13.89.293
R9 42 2995064775 3E3.5E2.587.7559
  850 2631762064 2E4.29.53.103.1039
R9 42 2800033136 2E4.809.216319
  854 2672087608 2E3.17.29.37.18311
L1 42 2964345992 2E3.71.5218919
  869 2796129128 2E3.13.17.887.1783
R9 42 3192116632 2E3.1997.199807
  889 2944703025 3E3.5E2.11.17.41.569
R9 42 3467386575 3E3.5E2.151.34019
  927 3276399555 3E2.5.13.11.29.97.181
R9 42 3735288765 3E2.5.13.179.35671
  939 3393478725 3.5E2.7.13.47.71.149
R9 42 3806060475 3.5E2.7.1049.6911
  962 3513278192 2E4.41.43.59.2111
R9 42 3746257168 2E4.7919.29567
  972 3647562568 2E3.13.17.839.2459
R9 42 4163429432 2E3.1721.302399
  980 3710119780 2E2.227.5.17.53.907
R9 42 4741427996 2E2.227.71.73547
 1006 3963477872 2E4.41.43.71.1979
R9 42 4203499408 2E4.359.731807
 1036 4210837424 2E4.23.109.113.929
R9 42 4465839376 2E4.359.777479
 1042 4282854730 2.5.7.11.761.7309
R9 42 5342485430 2.5.1087.491489
 1045 4313390445 3E2.7.13.5.23.41.1117
R9 42 5531592339 3E2.7.13.1031.6551
 1068 4604839810 2.5.19.17.37.53.727
R9 42 5075347070 2.5.19.151.176903
 1078 4771436296 2E3.11.23.271.8699
R9 42 5451411704 2E3.7649.89087
 1079 4784209576 2E3.19.23.29.47189
L1 42 5408830424 2E3.197.3431999
 1095 4937340976 2E4.37.47.61.2909
R9 42 5264327504 2E4.5471.60139
 1143 5513127795 3E2.5.17.7.29.131.271
R9 42 6585084045 3E2.5.17.1087.7919
 1154 5619401456 2E4.29.79.83.1847
R9 42 5929859344 2E4.191.1940399
 1174 5885347545 3E3.5.7.11.257.2203
R9 42 7215933735 3E3.5.47.1137263
 1192 6067647728 2E4.29.41.313.1019
R9 42 6442489072 2E4.449.896783
 1205 6200951625 3E3.5E3.11.19.59.149
R9 42 7277448375 3E3.5E3.719.2999
 1217 6353438175 3E3.5E2.7.29.199.233
R9 42 7574241825 3E3.5E2.1151.9749
 1220 6386741384 2E3.37.23.71.73.181
R3 42 6878699896 2E3.37.701.33151
 1230 6589526450 2.5E2.13.23.29.15199
R9 42 7659561550 2.5E2.11969.12799
 1252 6908106488 2E3.19.23.223.8861
L1 42 7384527112 2E3.31.29776319
 1256 6999092624 2E4.19.149.191.809
R9 42 7464267376 2E4.20249.23039
 1264 7131782710 2.5.17.13.89.101.359
R9 42 7858790090 2.5.17.1223.37799
 1279 7390033144 2E3.13.17.491.8513
R9 42 8443963496 2E3.11351.92987
 1317 7983560655 3E2.5.17.7.29.101.509
R9 42 9545098545 3E2.5.17.2447.5099
 1401 9294561770 2.5.13.29.53.181.257
R9 42 9874755670 2.5.13.701.108359
 1424  9881488304 2E4.29.47.109.4157
R9 42 10535954896 2E4.5279.124739
 1427  9967523980 2E2.257.5.17.37.3083
R9 42 12890541236 2E2.257.107.117191

TOTAL NUMBER:   78
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AMICABLE PAIRS OF TYPE (5,2):

  323 227443340 2E2.5.17.43.47.331
R9 52 302651764 2E2.1187.63743
  604 1067740245 3E3.5.11.13.19.41.71
R9 52 1370813355 3E3.5.2687.3779
  776 2084019740 2E2.5.11.107.223.397
R9 52 2768701924 2E2.647.1069823
  921 3202734465 3E3.5.7.17.31.59.109
R9 52 4096337535 3E3.5.439.69119
  969 3604491345 3.5.7.13.23.29.37.107
R9 52 4338226095 3.5.7.809.51071
 1316  7961973140 2E2.5.11.67.727.743
R9 52 10600838764 2E2.1637.1618943

TOTAL NUMBER:    6
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AMICABLE PAIRS OF TYPE (2,3):

   54 1511930 2.5.7.21599
L1 23 1598470 2.5.19.47.179
   70 4246130 2.5.7.60659
L1 23 4488910 2.5.23.29.673
  145 20308995 3E3.5.7.21491
L1 23 20955645 3E3.5.17.23.397
  193 48641584 2E4.29.104831
L1 23 48852176 2E4.47.167.389
  221 80422335 3E3.5.7.85103
L1 23 82977345 3E3.5.11.71.787
  235 96304845 3.5.7E2.13.10079
L1 23 96747315 3.5.7E2.23.59.97
  239 103034776 2E3.13.990719
L1 23 105016424 2E3.29.47.9631
  322 226540432 2E4.23.615599
L1 23 231465968 2E4.59.359.683
  329 245618415 3E2.5.19.7.41039
W1 23 266560785 3E2.5.19.31.89.113
  415 397287345 3.5.7E2.13.41579
W1 23 399052815 3.5.7E2.17.109.293
  588 1002372250 2.5E3.11.364499
L1 23 1044659750 2.5E3.29.89.1619
  624 1141149196 2E2.11.19.1365011
W1 23 1152070964 2E2.11.43.53.11489
  707 1662154065 3E2.5.13.11.258299
L1 23 1722609135 3E2.5.13.29.59.1721
  865 2766512710 2.5.13.29.733823
W1 23 2781196730 2.5.13.53.103.3919
  987 3787638940 2E2.37.5.5118431
W1 23 4381378532 2E2.37.43.73.9431
 1018 4053148088 2E3.79.11.583019
W1 23 4342339912 2E3.79.107.157.409
 1072 4671243424 2E5.43.3394799
W1 23 4739142176 2E5.229.263.2459
 1210 6262961888 2E5.41.4773599
W1 23 6367983712 2E5.179.1019.1091
 1267 7194869650 2.5E2.19.43.176129
W1 23 7219609550 2.5E2.19.109.113.617
 1369 8902642875 3.5E3.7.17.199499
L1 23 9023629125 3.5E3.7.29.113.1049
 1412 9581473976 2E3.19.59.1068407
W1 23 9649870024 2E3.19.151.593.709

TOTAL NUMBER:    21
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AMICABLE PAIRS OF TYPE (3,3):

   43 1077890 2.5.11.41.239
L1 33 1099390 2.5.17.29.223
   58 2236570 2.5.7.89.359
L1 33 2429030 2.5.23.59.179
   69 4238984 2E3.17.71.439
L1 33 4314616 2E3.23.131.179
   75 5123090 2.5.7.163.449
L1 33 5504110 2.5.19.59.491
   79 5385310 2.5.7.107.719
L1 33 5812130 2.5.17.179.191
   82 5730615 3E3.5.11.17.227
L1 33 6088905 3E3.5.23.37.53
   84 6329416 2E3.23.41.839
L1 33 6371384 2E3.19.167.251
   90 7489112 2E3.17.53.1039
L1 33 7674088 2E3.23.179.233
   95 8262136 2E3.17.79.769
L1 33 8369864 2E3.29.43.839
   96 8619765 3.5.11.7.17.439
L1 33 9627915 3.5.11.23.43.59
  103 9339704 2E3.11.211.503
L1 33 9892936 2E3.47.83.317
  105  9478910 2.5.7.19.7127
L1 33 11049730 2.5.71.79.197
  116 11252648 2E3.11.71.1801
L1 33 12101272 2E3.67.107.211
  124 13813150 2.5E2.13.79.269
L1 33 14310050 2.5E2.29.71.139
  126 14311688 2E3.17.47.2239
L1 33 14718712 2E3.23.167.479
  131 15363832 2E3.11.71.2459
L1 33 16517768 2E3.53.163.239
  132 15938055 3E2.5.7.19.2663
L1 33 17308665 3E2.5.11.73.479
  133 16137628 2E2.13.23.103.131
L1 33 16150628 2E2.13.31.43.233
  135 17041010 2.7.5.31.7853
L1 33 19150222 2.7.13.43.2447
  136 17257695 3.5.7.13.47.269
L1 33 17578785 3.5.7.23.29.251
  140 18056312 2E3.17.103.1289
L1 33 18166888 2E3.19.107.1117
  143 20014808 2E3.11.79.2879
L1 33 21457192 2E3.47.149.383
  146 21448630 2.5.7.131.2339
L1 33 23030090 2.5.19.53.2287
  152 23389695 3E3.5.7.53.467
L1 33 25132545 3E3.5.17.47.233
  157 26090325 3E2.5E2.17.19.359
L1 33 26138475 3E2.5E2.11.59.179
  158 28118032 2E4.47.139.269
L1 33 28128368 2E4.59.83.359
  159 28608424 2E3.13.139.1979
L1 33 29603576 2E3.23.349.461
  163 31818952 2E3.11.41.8819
L1 33 34860248 2E3.97.167.269
  167 33501825 3E2.5E2.7.89.239
L1 33 36136575 3E2.5E2.19.79.107

  169 34364912 2E4.43.199.251
L1 33 34380688 2E4.47.131.349
  170 34765731 3E2.7.13.11.17.227
L1 33 36939357 3E2.7.13.23.37.53
  180 38637016 2E3.11.359.1223
L1 33 40678184 2E3.29.271.647
  182 38783992 2E3.13.37.10079
L1 33 41654408 2E3.47.139.797
  185 44139856 2E4.29.251.379
L1 33 44916944 2E4.83.149.227
  186 45263384 2E3.17.59.5641
L1 33 46137016 2E3.19.433.701
  189 46521405 3E3.5.7.19.2591
L1 33 53011395 3E3.5.31.53.239
  192 48639032 2E3.13.29.16127
L1 33 52967368 2E3.59.293.383
  195 50997596 2E2.13.19.71.727
L1 33 51737764 2E2.13.23.181.239
  202 63560025 3E3.5E2.17.29.191
L1 33 65003175 3E3.5E2.23.53.79
  206 67729064 2E3.13.431.1511
L1 33 69439576 2E3.23.107.3527
  211 72958556 2E2.11.19.197.443
L1 33 74733604 2E2.11.53.73.439
  212 73032872 2E3.11.71.11689
L1 33 78469528 2E3.59.83.2003
  217 75226888 2E3.11.59.14489
L1 33 81265112 2E3.53.137.1399
  223 83135650 2.5E2.13.79.1619
L1 33 85603550 2.5E2.19.251.359
  226 86158220 2E2.5.41.105071
L1 33 99188788 2E2.23.43.25073
  231 91996816 2E4.29.331.599
L1 33 93259184 2E4.79.89.829
  240 104887448 2E3.19.71.9719
L1 33 105064552 2E3.23.47.12149
  244 114944072 2E3.17.19.44483
R3 33 125269528 2E3.53.439.673
  248 116654896 2E4.23.359.883
L1 33 120115664 2E4.101.239.311
  258 134312152 2E3.13.127.10169
L1 33 139057448 2E3.23.223.3389
  262 137424188 2E2.11.19.89.1847
R9 33 141993412 2E2.11.59.83.659
  275 155797390 2.5.7.863.2579
L1 33 165195890 2.5.23.29.24767
  279 162936904 2E3.13.719.2179
R9 33 166679096 2E3.19.839.1307
  281 165323696 2E4.37.97.2879
R9 33 167155024 2E4.59.113.1567
  288 169884784 2E4.29.109.3359
R9 33 173843216 2E4.71.199.769
  295 181088985 3.5.7.11.83.1889
R9 33 184694055 3.5.7.13.269.503
  296 182702024 2E3.19.53.22679
L1 33 184713976 2E3.17.719.1889
  307 201168592 2E4.29.491.883
L1 33 203314448 2E4.67.89.2131
  318 216392216 2E3.19.53.26861
L1 33 218772184 2E3.17.659.2441

  326 238238864 2E4.41.47.7727
R9 33 244730224 2E4.97.137.1151
  328 242182930 2.5.11.19.115877
L1 33 258410030 2.5.17.61.24919
  338 258904646 2.7.13.11.79.1637
L1 33 269448634 2.7.13.23.59.1091
  339 260231192 2E3.13.659.3797
Li 33 266171608 2E3.19.593.2953
  345 271048340 2E2.5.17.797201
L1 33 331636372 2E2.41.73.27701
  351 275631376 2E4.43.53.7559
R9 33 281207984 2E4.83.107.1979
  354 281499435 3E3.5.7.89.3347
L1 33 297034965 3E3.5.17.29.4463
  355 285627615 3.5.7E2.13.167.179
R9 33 293528865 3.5.7E2.29.47.293
  358 287793350 2.5E2.13.41.10799
L1 33 302793850 2.5E2.23.251.1049
  361 295824376 2E3.19.53.36721
L1 33 299072024 2E3.17.601.3659
  365 302424784 2E4.53.71.5023
L1 33 303107888 2E4.47.107.3767
  379 319904235 3E4.5.7.19.5939
R9 33 370086165 3E4.5.43.79.269
  381 323401712 2E4.23.431.2039
R3 33 332270608 2E4.101.127.1619
  385 332573392 2E4.29.431.1663
R9 33 335955248 2E4.47.191.2339
  388 343175404 2E2.11.13.379.1583
R9 33 364682516 2E2.11.131.151.419
  401 364182075 3E4.5E2.17.71.149
R9 33 365012325 3E4.5E2.19.53.179
  402 370032676 2E2.17.13.19.22031
R9 33 407256284 2E2.17.67.71.1259
  407 382170512 2E4.41.83.7019
R9 33 385592848 2E4.59.97.4211
  413 395378272 2E5.103.139.863
R9 33 397151648 2E5.181.191.359
  417 404185672 2E3.11.1877.2447
L1 33 423336248 2E3.31.101.16901
  423 425948050 2.5E2.11.269.2879
R9 33 441853550 2.5E2.19.479.971
  426 427448510 2.5.17.19.59.2243
R9 33 445018690 2.5.17.67.89.439
  428 429035596 2E2.11.17.43.13339
R3 33 458447924 2E2.11.173.229.263
  429 430848592 2E4.29.67.13859
R9 33 445657808 2E4.131.149.1427
  433 438452624 2E4.29.179.5279
L1 33 445419376 2E4.47.499.1187
  434 439232624 2E4.37.53.13999
L1 33 451335376 2E4.89.151.2099
  435 442480816 2E4.19.971.1499
R9 33 461479184 2E4.179.269.599
  441 471696190 2.5.7.23.292979
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TOTAL NUMBER: 280

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TOTAL NUMBER: 201

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R9 53 2146121470 2.5.107.199.10079
843 2551781890 2.5.7.19.61.71.443
R9 53 3156424190 2.5.431.739.991
877 2848466620 2E2.5.17.31.131.2063
R9 53 3742595396 2E2.257.431.8447
931 3331018845 3E2.7.5.11.17.193.293
R9 53 4356521379 3E2.7.23.41.73331
1026 4123833752 2E3.17.53.61.83.113
R9 53 4532487208 2E3.71.227.35153
1062 4522539070 2.5.7.17.73.79.659
R9 53 5604923330 2.5.593.739.1279
1111 5131883330 2.5.7.17.103.149.281
R9 53 6270843070 2.5.107.1879.3119
1119 5221345844 2E2.11.13.19.353.1361
R9 53 6118775116 2E2.17.9439.9533
1218 6356368136 2E3.17.23.103.109.181
R9 53 7135510264 2E3.131.2027.3359
1240 6764433170 2.5.11.23.47.163.349
R9 53 7518523630 2.5.19.383.103319
1257 7035981610 2.5.7.53.109.127.137
R9 53 8073097430 2.5.29.197.141311
1350 8508118180 2E2.5.17.37.307.2203
R9 53 10993367516 2E2.131.167.125627
1354 8534619752 2E3.17.23.71.83.463
R9 53 9650022808 2E3.347.503.6911
1407 9408690824 2E3.13.41.59.149.251
R9 53 10595069176 2E3.167.1259.6299
```

TOTAL NUMBER: 18

AMICABLE PAIRS OF TYPE (2,4):

```
177 37784810 2.7.5.539783
L1 24 39944086 2.7.13.41.53.101
375 316293016 2E3.13.3041279
R9 24 322375784 2E3.41.71.109.127
484 606235455 3E3.5.7.641519
R9 24 625482945 3E3.5.19.43.53.107
685 1502495085 3.7E2.13.5.157247
R9 24 1509118611 3.7E2.13.11.17.41.103
```

TOTAL NUMBER: 4

AMICABLE PAIRS OF TYPE (3,4):

```
274 155578180 2E2.5.223.34883
R9 34 172610492 2E2.23.41.67.683
348 274638460 2E2.5.1693.8111
R9 34 302514116 2E2.17.43.307.337
357 287250632 2E3.17.127.16631
R9 34 287551288 2E3.31.53.131.167
416 400250565 3E4.11.5.13.6911
R9 34 442792251 3E4.11.17.23.31.41
479 596668490 2.5.11.41.132299
R9 34 603557110 2.5.13.53.251.349
490 637756665 3.5.7.13.59.7919
R9 34 639580935 3.5.7.29.41.47.109
502 665113060 2E2.5.31.1072763
R9 34 776681756 2E2.23.107.257.307
525 761197736 2E3.13.1151.6359
L1 34 777413464 2E3.41.47.211.239
570 950850140 2E2.5.1091.43577
R9 34 1047811252 2E2.17.41.233.1613
665 1327395368 2E3.13.1511.8447
R9 34 1355013592 2E3.41.43.191.503
871 2808979976 2E3.11.2393.13339
R9 34 2939492824 2E3.37.137.173.419
876 2847780584 2E3.11.557.58099
R9 34 2987783416 2E3.53.61.331.349
909 3065342660 2E2.5.9743.15731
R9 34 3372946876 2E2.13.107.347.1747
1043 4288758056 2E3.11.4513.10799
R9 34 4486457944 2E3.47.73.149.1097
1101 5001083252 2E2.11.19.1583.3779
R9 34 5057950348 2E2.11.59.107.131.139
1152 5607553016 2E3.13.149.361871
R9 34 5791414984 2E3.41.59.139.2153
1159 5715251290 2.5.7.53.1540499
R9 34 6263676710 2.5.23.89.157.1949
1176 5907430305 3E3.5.7.151.41399
R9 34 6174745695 3E3.5.17.31.229.379
1207 6249563650 2.5E2.11.449.25307
R9 34 6460113950 2.5E2.29.89.113.443
1208 6255734650 2.5E2.11.1487.7649
R9 34 6447916550 2.5E2.29.61.269.271
1302 7720248712 2E3.11.2819.31121
R9 34 8077278488 2E3.37.107.181.1409
1329 8237044408 2E3.17.47.1288649
R9 34 8463859592 2E3.43.53.109.4259
1357 8628307636 2E2.13.17.79.123551
R9 34 8807350604 2E2.13.31.131.179.233
1376 8990017384 2E3.17.59.1120391
R9 34 9160333016 2E3.37.53.103.5669
```

TOTAL NUMBER: 24

AMICABLE PAIRS OF TYPE (4,4):

```
165 32642324 2E2.11.13.149.383
L1 44 35095276 2E2.17.47.79.139
286 169335790 2.5.13.19.179.383
L1 44 179029010 2.5.23.59.79.167
294 180038452 2E2.11.19.31.6947
R9 44 193486028 2E2.23.29.47.1543
299 186878110 2.5.17.19.47.1231
R9 44 196323170 2.5.23.41.109.191
332 251302370 2.5.11.23.71.1399
R9 44 271244830 2.5.29.59.83.191
420 407641130 2.5.13.17.139.1327
R9 44 435691990 2.5.23.59.97.331
437 460122410 2.5.11.29.97.1487
R9 44 484817110 2.5.19.71.83.433
448 504555070 2.5.17.19.31.5039
R9 44 540539330 2.5.23.71.79.419
458 526552472 2E3.19.71.97.503
R9 44 540314728 2E3.41.83.89.223
476 586188070 2.5.13.41.71.1549
R9 44 594986330 2.5.19.29.83.1301
493 643006485 3E3.5.11.41.59.179
R9 44 663361515 3E3.5.23.29.53.139
505 677781140 2E2.5.227.337.443
R9 44 759308332 2E2.17.73.151.1013
534 802162790 2.5.11.13.167.3359
R9 44 904824730 2.5.47.89.97.223
546 856305272 2E3.23.29.383.419
R9 44 885518728 2E3.47.59.179.223
617 1112824370 2.5.7.59.227.1187
R9 44 1227440590 2.5.37.43.179.431
646 1249677032 2E3.23.67.167.607
R9 44 1250808088 2E3.31.37.271.503
746 1900066455 3E2.7.5.17.23.15427
R9 44 2258828649 3E2.7.11.83.173.227
756 1978830070 2.7.5.23.97.12671
R9 44 2313024266 2.7.31.41.43.3023
759 1990129570 2.5.11.13.431.3229
R9 44 2229439070 2.5.37.67.139.647
777 2091376035 3E2.5.7.29.179.1279
R9 44 2221711965 3E2.5.11.59.127.599
790 2158256590 2.7.5.17.151.12011
R9 44 2574279218 2.7.37.41.53.2287
795 2220015735 3E3.5.7.79.131.227
R9 44 2402729865 3E3.5.31.37.59.263
807 2282361092 2E2.11.19.239.11423
R9 44 2323795708 2E2.13.23.127.15299
822 2410351540 2E2.5.83.887.1637
R9 44 2721279692 2E2.17.73.293.1871
826 2428035470 2.5.7.53.359.1823
R9 44 2677997170 2.5.29.71.113.1151
835 2482324910 2.5.13.23.41.20249
R9 44 2661499090 2.5.17.149.179.587
836 2484011608 2E3.13.151.367.431
R9 44 2590502312 2E3.37.127.137.503
848 2614326776 2E3.17.61.79.3989
R9 44 2729081224 2E3.37.107.199.433
855 2682405256 2E3.19.107.131.1259
R9 44 2706362744 2E3.31.53.109.1889
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 859 2710902590 2.5.11.23.397.2699
R9 44 2859823810 2.5.17.59.239.1193
 947 3425919050 2.5E2.17.103.109.359
R9 44 3468282550 2.5E2.29.59.71.571
 953 3443251432 2E3.23.29.127.5081
R9 44 3582105368 2E3.43.83.109.1151
 981 3715799048 2E3.13.53.223.3023
R9 44 3965644792 2E3.71.97.167.431
 983 3737773292 2E2.31.11.61.167.269
R9 44 3821742868 2E2.31.17.53.79.433
 998 3900906009 3E2.7.13.11.41.59.179
R9 44 4024393191 3E2.7.13.23.29.53.139
1001 3925579070 2.5.7.89.191.3299
R9 44 4285876930 2.5.19.199.263.431
1008 3980355350 2.5E2.17.59.139.571
R9 44 4062879850 2.5E2.23.131.149.181
1023 4104095930 2.5.11.47.139.5711
R9 44 4186986310 2.5.13.89.101.3583
1040 4280119305 3.5.7.11.59.107.587
R9 44 4498673655 3.5.7.31.53.89.293
1064 4570182110 2.5.13.23.479.3191
R9 44 4696321570 2.5.17.37.127.5879
1093 4911038510 2.5.7.149.479.983
R9 44 5291073490 2.5.29.31.409.1439
1104 5048426630 2.5.13.23.563.2999
R9 44 5184789370 2.5.17.31.349.2819
1117 5200086344 2E3.17.269.307.463
R9 44 5218198456 2E3.19.131.503.521
1132 5403806252 2E2.13.17.239.25577
L1 44 5424895828 2E2.11.23.521.10289
1141 5502084136 2E3.17.199.263.773
R9 44 5532059864 2E3.31.53.89.4729
1144 5546461305 3.7.11.5.47.83.1231
R9 44 5898483591 3.7.11.13.17.43.2687
1170 5849277512 2E3.13.179.223.1409
R9 44 6089474488 2E3.41.59.419.751
1185 5992992495 3E3.5.7.71.179.499
R9 44 6448607505 3E3.5.19.47.149.359
1194 6104216464 2E4.59.107.223.271
R9 44 6135000176 2E4.101.127.167.179
1200 6146662545 3E2.5.17.19.53.79.101
R9 44 6226508655 3E2.5.17.29.59.67.71
1213 6287302312 2E3.19.29.881.1619
R9 44 6572257688 2E3.41.89.149.1511
1235 6718067096 2E3.13.59.79.13859
R9 44 7252812904 2E3.83.131.199.419
1255 6960968212 2E2.19.11.37.139.1619
R9 44 7517943788 2E2.19.53.83.113.199
1258 7072796115 3E2.5.7.11.709.2879
R9 44 8238666285 3E2.5.19.79.283.431
1272 7317585748 2E2.19.11.71.113.1091
R9 44 7740482732 2E2.19.37.53.167.311
1356 8575844056 2E3.13.71.347.3347
R9 44 9040528424 2E3.53.61.431.811
1363 8804881305 3E3.5.11.37.191.839
R9 44 8845601895 3E3.5.13.29.151.1151
1373 8960679970 2.5.11.41.683.2909
R9 44 9096591710 2.5.17.37.71.20369
1392  9160950225 3.5E2.19.7.17.89.607
R9 44 10380656175 3.5E2.19.37.47.59.71
```

```
1400 9286443650 2.5E2.11.59.419.683
R9 44 9949825150 2.5E2.53.113.149.223
1403 9307840630 2.11.5.43.313.6287
R9 44 9457161098 2.11.7.17.523.6907
1404 9344815064 2E3.13.59.659.2311
R9 44 9881776936 2E3.67.79.109.2141
1408 9449054312 2E3.19.71.139.6299
R9 44 9602145688 2E3.29.59.179.3919
```

TOTAL NUMBER: 63

AMICABLE PAIRS OF TYPE (5,4):

```
 811 2310786764 2E2.11.13.19.149.1427
R9 54 2727197236 2E2.29.79.139.2141
 920 3188153956 2E2.13.17.31.317.367
R9 54 3417616796 2E2.11.137.211.2687
 937 3381430228 2E2.11.19.41.47.2099
R3 54 3731017772 2E2.23.31.89.14699
1322 8077248916 2E2.11.19.59.83.1973
R9 54 8637003884 2E2.17.23.1879.2939
1368 8894283788 2E2.13.17.113.269.331
R9 54 9131961652 2E2.11.41.107.47309
1406  9374110636 2E2.11.19.53.83.2549
R9 54 10058113364 2E2.13.47.269.15299
1419  9836011130 2.5.11.17.79.139.479
R9 54 11065876870 2.5.31.107.149.2239
```

TOTAL NUMBER: 7

AMICABLE PAIRS OF TYPE (4,5):

```
 586  996088412 2E2.11.17.151.8819
R9 45 1030959268 2E2.23.37.41.83.89
 852 2655265756 2E2.11.13.199.23327
R9 45 2831479844 2E2.29.41.47.53.239
```

TOTAL NUMBER: 2

AMICABLE PAIRS OF TYPE (5,5):

```
 278 161088158 2.7.11.17.37.1663
R9 55 166706530 2.5.23.31.103.227
 316 211319745 3.7.5.13.23.53.127
R9 55 234587199 3.7.11.17.31.41.47
1365 8834761364 2E2.11.13.83.379.491
R9 55 9633895276 2E2.23.37.97.163.179
```

TOTAL NUMBER: 3

EXOTIC AMICABLE PAIRS:

```
  2 1184 2E5.37
L1 X  1210 2.5.11E2
  5 6232 2E3.19.41
L1 X  6368 2E5.199
  7 12285 3E3.5.7.13
L1 X  14595 3.5.7.139
 13 79750 2.5E3.11.29
L1 X  88730 2.5.19.467
 16 122368 2E9.239
L1 X  123152 2E4.43.179
 17 141664 2E5.19.233
L1 X  153176 2E3.41.467
 23 280540 2E2.5.13E2.83
L1 X  365084 2E2.107.853
 25 319550 2.7.5E2.11.83
L1 X  430402 2.7.71.433
 28 469028 2E2.7E2.2393
L1 X  486178 2.7E2.11E2.41
 38 802725 3.5E2.7.11.139
L1 X  863835 3.5.7.19.433
 39 879712 2E5.37.743
L1 X  901424 2E4.53.1063
 47 1185376 2E5.17.2179
L1 X  1286744 2E3.41.3923
 49 1328470 2.5.11.13.929
L1 X  1483850 2.5E2.59.503
 52 1466150 2.5E2.7.59.71
L1 X  1747930 2.5.47.3719
 56 1798875 3E3.5E3.13.41
L1 X  1870245 3E2.5.13.23.139
 66 3606850 2.5E2.31.13.179
L1 X  3892670 2.5.31.29.433
 71 4259750 2.5E3.11.1549
L1 X  4445050 2.5E2.19.4679
 72 4482765 3E2.5.19.7E2.107
L1 X  5120595 3E2.5.19.53.113
 74 4604776 2E3.11E2.67.71
L1 X  5162744 2E3.113.5711
 77 5232010 2.7.5.41.1823
L1 X  5799542 2.7E2.23.31.83
 78 5357625 3.7.13.5E3.157
L1 X  5684679 3E2.7.13.11.631
 80 5459176 2E3.17.137.293
L1 X  5495264 2E5.83.2069
 88 7275532 2E2.11.37.41.109
L1 X  7471508 2E2.11E2.43.359
 93 7800544 2E5.43.5669
L1 X  7916696 2E3.17.58211
 94 7850512 2E4.37.89.149
L1 X  8052488 2E3.29.61.569
102  9206925 3.5E2.7.13.19.71
L1 X  10791795 3.5.7.79.1301
106  9491625 3E2.5E3.13.11.59
L1 X  10950615 3E2.5.13.18719
107  9660950 2.5E2.13.89.167
L1 X  10025290 2.5.11.91139
110 10533296 2E4.19.34649
L1 X  10949704 2E3.29.109.433
```

```
112 10596368 2E4.29.41.557
L1 X  11199112 2E3.53.61.433
113 10634085 3E4.7.11E2.5.31
L1 X  14084763 3.7.11E2.23.241
119 11693290 2.7.5.167047
L1 X  12361622 2.7E2.13.31.313
120 11905504 2E5.13.28619
L1 X  13337336 2E3.107.15581
123 13671735 3.5.19.7E2.11.89
L1 X  15877065 3.5.19.17.29.113
128 14443730 2.5.7E3.4211
L1 X  15882670 2.5.19.179.467
142 18655744 2E9.83.439
L1 X  19154336 2E5.619.967
148 22249552 2E4.13.41.2609
L1 X  25325528 2E3.587.5393
153 23628940 2E2.5.37E2.863
L1 X  27428276 2E2.17.251.1607
155 25596544 2E7.311.643
L1 X  25640096 2E5.67.11959
161 30830696 2E3.13.521.569
L1 X  31652704 2E5.449.2203
166 32685250 2.5E3.13.89.113
L1 X  34538270 2.5.13.379.701
179 38400512 2E9.179.419
L1 X  38938288 2E4.83.109.269
183 38807968 2E5.37.73.449
L1 X  40912232 2E3.37.89.1553
187 46237730 2.7.5.11E2.53.103
L1 X  61319902 2.7.83.113.467
188 46271745 3E2.5.13.19.23.181
L1 X  49125375 3E2.5E3.13.3359
190 46555250 2.5E3.7.37.719
L1 X  55880590 2.5.103.227.239
191 46991890 2.5.29.11.14731
L1 X  48471470 2.5.29.19E2.463
194 49215166 2.31.61.7.11.13E2
L1 X  55349570 2.31.61.5.2927
198 56512610 2.7.5.11.23.3191
L1 X  75866014 2.7E2.774143
199 56924192 2E5.13.193.709
L1 X  64562488 2E3.283.28517
201 59497888 2E5.41.101.449
L1 X  61953512 2E3.29.97.2753
205 66854710 2.5.17.13E3.179
L1 X  71946890 2.5.17.83.5099
215 74769345 3E3.5.7E2.89.127
L1 X  82824255 3E3.5.17.151.239
220 79324875 3E2.5E3.7E2.1439
L1 X  87133365 3E2.5.11.103.1709
228  88144630 2.5.7E2.29.6203
L1 X  102814490 2.5.37.269.1033
238 102719740 2E2.5.29E2.31.197
L1 X  129063812 2E2.43.431.1741
245 115259625 3E3.5E3.13.37.71
R9 X  123757335 3E3.5.13.151.467
246 115447424 2E7.59.15287
L1 X  118458976 2E5.349.10607
247 115749344 2E5.47.76961
L1 X  116983744 2E6.431.4241
```

249	118458830	2.7.5.37.45737
L1 X	131819506	2.7E2.13.107.967
250	120812175	3E3.5E2.11.53.307
R9 X	126671985	3E3.5.11.197.433
251	121293315	3E3.5.13.11.61.103
R9 X	138690045	3E2.5.13.383.619
252	127924335	3E2.5.7.11.36919
L1 X	148532625	3E2.5E3.31.4259
253	131118975	3E2.5E2.13.23.1949
R9 X	132926625	3E2.5E3.13.61.149
255	133089500	2E2.5E3.23.71.163
R9 X	176374564	2E2.383.115127
256	133178325	3.5E2.7E3.31.167
L1 X	133471275	3.5E2.7.31.59.139
259	134886465	3E4.5.7E3.971
L1 X	147382335	3E4.5.19.107.179
261	136770075	3E2.5E2.13.19.23.107
R9 X	155711205	3E2.5.13.179.1487
263	138605350	2.5E2.13E2.47.349
R9 X	147313850	2.5E2.23.128099
269	146648612	2E2.19.11E2.37.431
R9 X	159017308	2E2.19.23.90971
273	154190750	2.7E2.5E3.41.307
R9 X	190889986	2.7E2.43.97.467
277	157151410	2.5.13E3.23.311
R9 X	163634510	2.5.13.89.14143
283	166737550	2.5E2.7.359.1327
R9 X	.188953970	2.5.23.829.991
285	169000448	2E9.71.4649
L1 X	173499952	2E4.53.204599
293	177997352	2E3.13.653.2621
L1 X	182108128	2E5.229.24851
302	195857415	3E2.5.13.19.67.263
R9 X	196214265	3E3.5.13.23.4861
304	199432948	2E2.11.13.151.2309
R9 X	213484172	2E2.11E2.197.2239
305	200328232	2E3.13.157.12269
L1 X	206790368	2E5.6462199
306	200879055	3E3.5.13.17.6733
L1 X	206393265	3E5.5.13.73.179
308	203055622	2.7.19.11.29.2393
L1 X	210627578	2.7E2.19.31.41.89
309	203972715	3E3.5.31.17.47.61
L1 X	207429525	3E3.5E2.31.23.431
330	248658488	2E3.13E2.183919
W2 X	256201912	2E3.37.43.20129
342	267217335	3E2.5.7E2.11.23.479
R9 X	347397705	3E2.5.89.127.683
343	270039910	2.5.7.47.211.389
R9 X	301444250	2.5E3.79.15263
356	286000065	3E5.5.13.19.953
R9 X	297390015	3E3.5.13.41.4133
364	301685895	3E2.5.19E2.7E2.379
L1 X	342005985	3E2.5.19E2.37.569
366	302770672	2E4.29.257.2539
L1 X	306676928	2E6.773.6199
367	304443436	2E2.31.61.11.3659
L1 X	305517524	2E2.31.61.13E2.239
372	311414355	3E3.5.7E2.179.263
R9 X	338659245	3E3.5.23.29.3761
377	318580262	2.7E2.11.13.127.179
L1 X	343312858	2.7.17.23.59.1063
378	319682650	2.5E2.7.59.113.137
L1 X	382593830	2.5.61.367.1709
384	332448224	2E5.53.211.929
R9 X	338290096	2E4.53.269.1483
386	334438875	3E4.5E3.17.29.67
R9 X	358687845	3E4.5.17.59.883
389	346657311	3E2.7E2.13.11.23.239
R9 X	370393569	3E2.7.13.17.37.719
395	359156770	2.7E2.5.83.8831
R9 X	402020318	2.7.17.37.71.643
396	360027675	3E2.5E2.19.7.53.227
R9 X	433850085	3E2.5.19.557.911
399	362645570	2.7E2.5.643.1151
R9 X	398531518	2.7.11.47.55061
403	371840350	2.7.31.5E2.43.797
R9 X	464106146	2.7E2.31.152767
412	394800070	2.7.5.41.151.911
R9 X	443597882	2.7E2.13.191.1823
414	395939775	3.5E2.11.7.17.37.109
R9 X	499717185	3.5.11.61.131.379
422	419640364	2E2.13.11.83.8839
R9 X	453610196	2E2.13E3.71.727
425	426386025	3E5.5E2.13.5399
R9 X	426684375	3E3.5E5.13.389
440	467406225	3E2.5E2.13.11.73.199
R9 X	534612975	3.5E2.13.19.28859
449	506468950	2.5E2.13.37.21059
L1 X	535495610	2.5.13.269.15313
455	522145832	2E3.13.173.29021
L1 X	538318048	2E5.2029.8291
462	540759375	3E3.5E5.13.17.29
R9 X	640415025	3E3.5E2.269.3527
465	551388915	3E2.5.7E2.11.127.179
R9 X	677841165	3E2.5.23.569.1151
472	577884195	3E2.5.7E2.262079
L1 X	587323485	3E2.5.7.1091.1709
473	579926204	2E2.13E2.11.167.467
R9 X	628681924	2E2.13.103.107.1097
482	601235145	3E2.5.19.7E2.113.127
R9 X	696285495	3E2.5.19.47.17327
488	626323995	3E7.5.41.11.127
R9 X	643272165	3E3.5.41.23.31.163
489	630007455	3.5.7E2.11.29.2687
R9 X	693778785	3.5.7.23.287279
491	640001054	2.7E2.19.11.31247
R9 X	642416866	2.7.19.13.37.5021
497	658009485	3E2.5.7E3.89.479
R9 X	689830515	3E2.5.11.47.149.199
508	683490885	3.5.7.11E2.23.2339
R9 X	750610875	3.5E3.7.269.1063
510	688679775	3E2.5E2.7.17E3.89
R9 X	825955425	3E2.5E2.71.149.347
516	705023055	3E3.5.11.43.61.181
R9 X	724885425	3E2.5E2.11.109.2687
518	721522755	3E3.5.17.29.37.293
R9 X	726368445	3E3.5.11E2.53.839
522	751953405	3.5.7.19.37.61.167
R9 X	767949315	3.5.7E2.19.127.433
529	769289955	3.5.7E2.19.31.1777
L1 X	787384605	3.5.7.19.37.10667
535	807848864	2E5.61.163.2539
L1 X	819234496	2E6.1301.9839
538	821921625	3E2.5E3.7.29.59.61
R9 X	988676775	3E2.5E2.71.199.311
541	845397735	3.5.7E2.13.103.859
R9 X	867557145	3.5.7.13.569.1117
549	869530725	3E2.5E2.7E3.19.593
R9 X	1045525275	3E2.5E2.89.109.479
560	912404025	3E2.5E2.13.17.59.311
R9 X	988724295	3E2.5.13.61.103.269
566	932913124	2E2.11.13E2.109.1151
R9 X	1015026716	2E2.11.191.120779
576	967887488	2E7.61.113.1097
R9 X	1011081832	2E3.61.37.55997
577	967947856	2E4.19E2.103.1627
R9 X	1031796176	2E4.3847.16763
578	968410624	2E9.61.101.307
R9 X	1024180592	2E4.241.265607
581	978888550	2.5E2.31.43.19.773
R9 X	1048124570	2.5.31.43.61.1289
582	989779882	2.7.19.13.17.113.149
R9 X	1078636118	2.7E2.19.41.71.199
584	992776995	3E2.5.7E2.450239
L1 X	1008990045	3E2.5.7.797.4019
585	994945490	2.7E2.5.11E2.97.173
R9 X	1331936326	2.7E2.881.15427
589	1002455350	2.5E2.13.1542239
L1 X	1005541130	2.5.11.59.154937
590	1015866225	3E3.5E2.11.41.47.71
R9 X	1143995535	3E3.5.17.503.991
595	1033407104	2E7.83.211.461
R9 X	1064553376	2E5.1019.32647
598	1047381370	2.5.7E3.47.73.89
R9 X	1254314630	2.5.59.443.4799
602	1056277222	2.7E2.19.11.13.3967
R9 X	1223576858	2.7.19.41.151.743
606	1077722984	2E3.13.1913.5417
L1 X	1099987936	2E5.179.192037
607	1082038815	3E2.5.13.11.181.929
R9 X	1135944225	3E2.5E2.13.83.4679
609	1086321110	2.5.7.37.419429
R9 X	1208799850	2.5E2.71.163.2089
620	1127508130	2.5.7E2.31.199.373
R9 X	1328325470	2.5.43.271.11399
621	1129315275	3E2.5E2.31.11.41.359
R9 X	1210534965	3E2.5.31.23.29.1301
622	1131258975	3.5E2.31.7.11.71.89
R9 X	1337154465	3.5.31.17.47.59.61
623	1133458150	2.5E2.11.347.5939
L1 X	1173447770	2.5.11.929.11483
627	1179749410	2.5.7.151.239.467
R9 X	1278710750	2.5E3.37.138239
628	1183083825	3.5E2.7.11.349.587
R9 X	1266759375	3.5E5.7.97.199
631	1195637144	2E3.13E2.383.2309
L1 X	1239287656	2E3.23.239.28181
637	1216935225	3E3.5E2.31.11.17.311
R9 X	1457179335	3E3.5.31.348191
647	1251532282	2.7.11E2.13.17.3343
R9 X	1438327814	2.7.11.9339791
650	1264688650	2.5E2.17.53.67.419
R9 X	1317021110	2.5.17.61.89.1427
651	1272724250	2.7.5E3.727271
L1 X	1450182118	2.7.11.251.37517
656	1284072075	3E3.5E2.11.13.53.251
R9 X	1550746485	3E3.5.41.503.557
657	1289325975	3.5E2.7E2.41.43.199
R9 X	1323006825	3.5E2.7.29.113.769
659	1303670522	2.7.11.19.41.10867
R9 X	1325516038	2.7.11E2.19.41183
664	1323789350	2.5E2.13.67.113.269
R9 X	1401348730	2.5.29.37.61.2141
669	1348200032	2E5.59.461.1549
L1 X	1358657968	2E4.53.109.14699
670	1357689830	2.5.7.107.109.1663
R9 X	1488948250	2.5E3.47.126719
676	1400735930	2.5.11E2.31.107.349
R9 X	1495046470	2.5.17.139.151.419
682	1458334432	2E5.53.73.11779
R9 X	1507257008	2E4.89.251.4217
687	1517112765	3E2.5.7E2.47.14639
R9 X	1607180355	3E2.5.11.59.113.487
701	1585667930	2.7E2.5.11.37.7951
R9 X	2134722982	2.7.83.227.8093
703	1601150265	3E2.5.13.11.61.4079
R9 X	1713637575	3E2.5E2.13.509.1151
705	1618057875	3.5E3.17.7.101.359
R9 X	1681454445	3.5.17.11.23.67.389
709	1666776566	2.7.31.13.29.61.167
R9 X	1693008394	2.7.31.11.67E2.79
714	1721688850	2.7.31.5E2.107.1483
R9 X	2094066926	2.7.31.61.83.953
715	1723336461	3E2.7.11.17.19.7699
R9 X	1736119539	3E2.7E3.11.29.41.43
719	1754082603	3E2.7.13E3.19.23.29
R9 X	1810205397	3E2.7.13.11.67.2999
724	1774259235	3E4.5.7.19.32939
L1 X	2052051165	3E9.5.29.719
725	1775992725	3E2.5E2.13.23.26399
R9 X	1798778475	3E3.5E2.13.359.571
726	1783852785	3E2.5.13.11E3.29.79
R9 X	2052998415	3E2.5.13.1151.3049
734	1814936354	2.7.19.11E2.17.31.107
R9 X	2156422366	2.7.19.71.227.503
738	1861960700	2E2.5E2.17.593.1847
R9 X	2425702372	2E2.131.433.10691
745	1895700345	3.7.11E2.17.5.67.131
R9 X	2230100103	3.7E2.11.17.31.2617
748	1929310100	2E2.5E2.83.191.1217
R9 X	2333417068	2E2.23.4463.5683
749	1930301618	2.7.19.17.37.83.139
R9 X	1930741582	2.7.19.11E2.223.269
754	1964397015	3E4.5.7E3.79.179
R9 X	2217362985	3E3.5.19.131.6599
758	1983736876	2E2.11.19E2.71.1759
R9 X	2071810004	2E2.11.43.719.1523
765	2026348300	2E2.271.5E2.23.3251
R9 X	2580356852	2E2.271.61.39023

769	2043906130	2.5.7E3.179.3329
R9 X	2271773870	2.5.29.73.239.449
775	2083894785	3E2.5.7E3.79.1709
R9 X	2184265215	3E2.5.11.37.239.499
794	2201899310	2.5.31.13E3.53.61
R9 X	2387806930	2.5.31.29.265607
798	2223111345	3.5.7.13E3.23.419
R9 X	2383045455	3.5.7.19.251.4759
818	2379890150	2.5E2.31.11.97.1439
R9 X	2659787290	2.5.31.83.167.619
819	2402498475	3E5.5E2.13.29.1049
R9 X	2573745525	3E2.5E2.13.587.1499
820	2402562825	3E2.5E2.13.17.19.2543
L1 X	2764606455	3E2.5.13.929.5087
825	2421696130	2.7E2.5.31.131.1217
R9 X	2856901502	2.7.13.1367.11483
828	2440775024	2E4.29.83.63377
L1 X	2510314336	2E5.557.140839
829	2440883588	2E2.11.13.83.51413
R9 X	2637996988	2E2.11E2.1721.3167
832	2448784550	2.5E2.31.17.199.467
R9 X	2565180250	2.5E3.31.89.3719
834	2481907330	2.5.7E2.263.19259
L1 X	2734933310	2.5.17.1319.12197
838	2502894550	2.5E2.43.13.149.601
R9 X	2670211850	2.5E2.43.79E2.199
846	2611143964	2E2.11.13E2.251.1399
R9 X	2812097636	2E2.17.29.167.8539
847	2612831949	3E2.7E2.13.19.17E2.83
L1 X	2737662291	3E2.7E2.13.19.41.613
849	2624170185	3E2.7.13.5.53.107.113
R9 X	3183941943	3E2.7E2.13.127.4373
853	2671748950	2.5E2.31.13.67.1979
R3 X	2937892010	2.5.31.43.433.509
857	2702347270	2.7.5.1607.24023
R9 X	2860457978	2.7.17.29E2.31.461
873	2828720510	2.7E2.5.11.83.6323
R9 X	3711610882	2.7.53.113.44267
874	2840437756	2E2.19.13E2.37.43.139
R9 X	3156691844	2E2.19.41.151.6709
883	2896764608	2E6.53.853999
L1 X	2959967392	2E5.199.464819
893	2960375535	3E2.5.13E2.31.29.433
R9 X	2986743825	3E2.5E2.13.31.32939
897	2995750730	2.5.7E2.1223.4999
R9 X	3283369270	2.5.29.37.305999
900	3000833115	3.5.7.17.19.23.3847
R9 X	3382537125	3.5E3.11.47.73.239
908	3054330279	3E2.7E3.13.11E2.17.37
R9 X	3568431321	3E3.7E2.13.207479
911	3101299916	2E2.11.13.113.47981
R9 X	3331358932	2E2.11E2.263.26171
912	3105174904	2E3.13E2.2296727
R9 X	3199343456	2E5.1097.91139
916	3135932032	2E7.101.107.2267
R9 X	3235061408	2E5.3671.27539
917	3138655065	3.5.7E2.13.29.47.241
R9 X	3535433895	3.5.7.41.131.6269
918	3143417344	2E9.89.101.683
R9 X	3280122416	2E4.113.659.2753
923	3232160384	2E7.173.227.643
R9 X	3282775456	2E5.229.347.1291
924	3254018625	3E2.5E3.13.11.113.179
R9 X	3737227455	3E2.5.13.479.13337
925	3260154664	2E3.13E3.251.739
R9 X	3397181336	2E3.29.97.150959
934	3359556915	3.5.11.17.13E2.19.373
R9 X	3736509645	3.5.11E3.17.101.109
940	3396934125	3E3.5E3.13.139.557
R9 X	3427629075	3E3.5E2.13.167.2339
950	3437107245	3E2.5.13.11E2.59.823
R9 X	3743360595	3E3.5.13.617.3457
955	3445207395	3.5.7E2.19.29.47.181
R9 X	3725301405	3.5.7.19.1867319
957	3459581824	2E7.97.278639
R9 X	3503631776	2E5.139.773.1019
959	3475340505	3E3.5.7.13E2.47.463
R9 X	4350149415	3E3.5.127.487.521
963	3554097885	3E3.5.13E3.23.521
R9 X	3601895715	3E3.5.11.41.59159
964	3554318372	2E2.11E3.19.41.857
R9 X	3831620188	2E2.11.103.845459
968	3602732595	3.5.19.7E2.11.47.499
R9 X	4276947405	3.5.19.23.29.149.151
971	3647464821	3E2.7.13.11.23.29.607
R9 X	4001077899	3E2.7E2.13.31.47.479
978	3685361368	2E3.13E2.47.59.983
R9 X	4093749032	2E3.79.2213.2927
988	3797392550	2.5E2.7.107.101399
L1 X	4350300250	2.5E3.3719.4679
991	3833109376	2E7.71.197.2141
R9 X	3953660384	2E5.2753.44879
993	3848313645	3E4.5.11E5.59
R9 X	3868601715	3E4.5.11E2.89.887
1000	3905322225	3.5E2.7.19.53.83.89
R9 X	4194159375	3.5E5.7.79.809
1003	3949406848	2E7.211.349.419
R9 X	3997413152	2E5.139.499.1801
1004	3956965155	3E3.5.11.13E2.15767
R9 X	4353401565	3E3.5.17.71.26717
1005	3961085625	3E3.5E4.7.33533
R9 X	4419731655	3E3.5.17.137.14057
1007	3971606470	2.5.13E2.17.138239
R9 X	4224919610	2.5.19.71.107.2927
1010	4000783984	2E4.43.113.51461
L1 X	4001351168	2E9.1367.5717
1014	4029072075	3E2.5E2.7.19.134639
R9 X	4652515125	3E3.5E3.109.12647
1017	4049815250	2.5E3.13.43.28979
L1 X	4304770990	2.5.13.857.38639
1020	4063895408	2E4.19E2.449.1567
R9 X	4269946192	2E4.179.839.1777
1025	4109466950	2.5E2.31.17.83.1879
R9 X	4349991610	2.5.31.23.433.1409
1027	4141715570	2.5.19.23E2.89.463
R9 X	4171865230	2.5.13.47.157.4349
1032	4152981844	2E2.11E2.23.53.7039
R9 X	4341313196	2E2.11.43.797.2879
1038	4242143750	2.5E5.13.109.479
R9 X	4419801850	2.5E2.19.1567.2969
1046	4321518201	3E2.7E2.13.11.17.29.139
R9 X	5089774599	3E2.7E3.13.53.2393
1051	4377238047	3E2.7.13.17.29.37.293
R9 X	4406635233	3E2.7.13.11E2.53.839
1053	4396203070	2.5.7E2.107.191.439
R9 X	4964856770	2.5.31.131.179.683
1066	4589689390	2.5.11.13.167.19219
R9 X	5174685650	2.5E2.79.881.1487
1069	4617085725	3E3.5E2.7.53.103.179
R9 X	5410843875	3E3.5E3.479.3347
1070	4634941234	2.7.11.17.37.59.811
R9 X	4962509006	2.7E2.13.47.179.463
1073	4702051046	2.7.23.11E2.17.31.229
R9 X	5446976794	2.7.23.29.151.3863
1074	4709813710	2.5.7.1307.51479
R9 X	4986547250	2.5E3.47.59.7193
1077	4763730208	2E5.17.1949.4493
L1 X	5173851992	2E3.41.15773939
1080	4785332175	3E5.5E2.13E2.59.79
R9 X	5126533425	3E2.5E2.13.479.3659
1083	4802570325	3E3.5E2.7.293.3469
L1 X	5317615275	3.5E2.7.139.72869
1084	4839564015	3E2.5.13.11.61.12329
R9 X	5177919825	3E2.5E2.13.359.4931
1085	4842186615	3E3.5.7E2.359.2039
R9 X	5204405385	3E3.5.23.37.89.509
1094	4931246565	3E2.5.7E2.29.67.1151
R9 X	5517209115	3E2.5.11.683.16319
1097	4960585125	3E3.5E3.31.17.2789
R9 X	5067344475	3E3.5E2.31.23.10529
1100	4999722525	3E2.5E2.7.17.29.47.137
R9 X	6532396515	3E2.5.59.863.2851
1102	5032905345	3E2.5.13E2.61.19.571
L1 X	5091357375	3E2.5E3.13E2.61.439
1103	5047072690	2.5.11.37.743.1669
R9 X	5151203150	2.5E2.17.191.31729
1105	5060442170	2.5.7E2.31.79.4217
R9 X	6018387910	2.5.73.113.72959
1108	5088398630	2.5.7E2.1319.7873
R9 X	5575517050	2.5E2.37.1187.2539
1110	5118127490	2.7.5.37.167.11833
R9 X	5760821374	2.7.11E2.487.6983
1114	5164511625	3E2.7.13.5E3.61.827
R9 X	6495742071	3E2.7.13.103.77003
1120	5228978728	2E3.17E2.53.139.307
R9 X	5493671672	2E3.41.89.307.613
1123	5296175750	2.5E3.17.29.97.443
R9 X	5700176890	2.5.19.83.181.1997
1124	5301374925	3.5E2.11.7E2.199.659
R9 X	5894337075	3.5E2.11.23.113.2749
1133	5442123375	3E3.5E3.13.71.1747
R9 X	5552656785	3E3.5.13.37.233.367
1135	5444435745	3E2.5.7.61.67.4229
R9 X	5683780575	3E2.5E2.11.563.4079
1138	5455059448	2E3.127.19E2.107.139
R9 X	5605522952	2E3.127.41.53.2539
1139	5477707264	2E9.59.149.1217
R9 X	5736418736	2E4.131.1049.2609
1148	5575354850	2.5E2.13.17.83.6079
R9 X	6393879070	2.5.41.139.151.743
1155	5640198165	3E2.5.19.7E2.61.2207
R9 X	6532594155	3E2.5.19.47.162563
1157	5676646514	2.7.11E2.23.53.2749
R9 X	5699641486	2.7E2.11.41.43.2999
1161	5745724875	3E4.11.5E3.23.2243
R9 X	6453305397	3E4.11.7.67.15443
1162	5747841099	3E2.7.13.11E2.31.1871
R9 X	5852448693	3E5.7.13.23.37.311
1168	5815260550	2.11.31.5E2.17.20063
R9 X	7082199674	2.11.31.37.43.61.107
1169	5845926555	3E2.5.19.7.37.26399
R9 X	6674009445	3E3.5.19.439.5927
1171	5857529678	2.7E3.13.11.29E2.71
R9 X	6785209522	2.7.13.239.389.401
1172	5864752630	2.5.11E2.53.109.839
R9 X	6080349770	2.5.11.2393.23099
1175	5906679975	3E5.5E2.7.138899
R9 X	6632100825	3.5E2.7.2777.4549
1177	5907709665	3E2.5.13.11.79.11621
R9 X	6275865375	3E2.5E3.13.429119
1179	5935418265	3.5.7E2.19.47.9043
R9 X	5941886055	3.5.7.19.37.101.797
1182	5945041304	2E3.17.37E3.863
R9 X	6199515496	2E3.23.821.41039
1186	6001753725	3E5.5E2.11.19.29.163
R9 X	7322393475	3E2.5E2.79.491.839
1195	6104279475	3E4.5E2.7.499.863
R9 X	6859176525	3E3.5E2.53.109.1759
1196	6107550855	3.5.7E2.19.41.10667
R9 X	6151261305	3.5.7E2.19E2.97.239
1201	6155750475	3E2.5E2.7.23.109.1559
R9 X	7121971125	3E2.5E3.59.61.1759
1209	6261264590	2.5.7E2.149.191.449
R9 X	7035695410	2.5.37.53.499.719
1221	6397019750	2.5E3.11.19.191.641
R9 X	7447992730	2.5.31.3209.7487
1227	6559115488	2E5.53.281.13763
R9 X	6645570608	2E4.41.971.10433
1229	6575884876	2E2.19.41.11E2.107.163
R9 X	7275607604	2E2.19.41.113.20663
1231	6677930385	3E5.7.5.37.21221
R9 X	7412119407	3E5.7E2.11.56591
1237	6741318350	2.5E2.13.89.116531
L1 X	6913901410	2.5.13.53.1003469
1246	6794712832	2E8.89.298223
R9 X	6920608928	2E5.227.653.1459
1248	6862936275	3E3.5E2.13.29.149.181
R9 X	7354903725	3E2.5E2.13.503.4999
1250	6891050528	2E5.29.2053.3617
R9 X	7154242552	2E3.23E2.971.1741
1251	6898979516	2E2.11.13E2.269.3449
R9 X	7420038484	2E2.17.29.149.25253
1254	6943893957	3E2.7.13.19.11.113.359
R9 X	7397123643	3E2.7E2.13.19.59.1151
1265	7143425289	3E3.7.13.11.113.2339
R9 X	7197592311	3E3.7E2.13.17.103.239
1266	7148883170	2.5.11.13.89.56171
R9 X	8138888350	2.5E2.179.251.3623
1269	7274734155	3E2.5.13.19.53E2.233
R9 X	7356799125	3E2.5E3.13.41.12269

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 1273 7319982604 2E2.11E2.17.389.2287
R9 X  7633515956 2E2.11.41.659.6421
 1275 7336299285 3E2.5.7.19.443.2767
R9 X  8001520875 3E3.5E3.47.73.691
 1277 7347995392 2E8.269.106703
L1 X  7373955488 2E5.71.3245579
 1281 7430796945 3E2.5.13.11E2.113.929
R9 X  7967123775 3E2.5E2.13.569.4787
 1284 7482410325 3E2.5E2.13.31.179.461
R9 X  7531628715 3E2.5.13.31.29.14321
 1287 7523483030 2.5.7E2.53.271.1069
R9 X  8601297130 2.5.37.71.327419
 1288 7534469228 2E2.19.11.13.761.911
R9 X  8810613652 2E2.19E2.227.26879
 1289 7562801950 2.5E2.11.2099.6551
L1 X  7792465250 2.5E3.19.1640519
 1291 7579753125 3.5E5.7.19.6079
R9 X  7619274075 3.5E2.7.19.419.1823
 1293 7592910975 3E3.5E2.13.43.20123
R9 X  7778605185 3E2.5.13.43.29.10663
 1305 7780806075 3.5E2.7.17.149.5851
R9 X  7893190725 3.5E2.7E2.43.199.251
 1309 7822669778 2.7E2.11.19.167.2287
R9 X  7952449582 2.7.11.19.131.20747
 1311 7900303190 2.5.31.13.619.3167
R9 X  7938683050 2.5E2.31.47.59.1847
 1318 8006813199 3E3.7E2.19.11.23.1259
R9 X  8540514801 3E3.7.19.13.113.1619
 1320 8052147896 2E3.13.509.152111
R9 X  8239047304 2E3.23.97E2.4759
 1323 8119394450 2.5E2.31.19.23.11987
R9 X  9005223790 2.5.31.73.107.3719
 1333 8269106625 3E2.13E2.31.61.5E3.23
L1 X  9402333759 3E2.13E2.31.61.7.467
 1335 8279312030 2.5.11.37.881.2309
R9 X  8443831330 2.5.11E2.1187.5879
 1337 8293896650 2.5E2.13.89.307.467
R9 X  8596897270 2.5.13.131.181.2789
 1342  8376676490 2.7.5.13.19E2.43.593
R9 X  11698280566 2.7.967.864107
 1344 8455838230 2.7.5.97.911.1367
R9 X  9150518762 2.7.11E2.83.151.431
 1345 8459517832 2E3.17E3.31.53.131
R9 X  9400398968 2E3.79.2087.7127
 1346 8467262505 3E4.5.13E2.17.19.383
R9 X  9899027415 3E4.5.31.487.1619
 1348 8491739828 2E2.13.11E2.103.13103
R9 X  9271203916 2E2.13.83.227.9463
 1349  8502526305 3E2.7E2.13.5.47.6311
R9 X  10355911839 3E2.7.13.53.227.1051
 1355  8557778500 2E2.5E3.197.283.307
R9 X  10355067452 2E2.23.9371.12011
 1361 8676652328 2E3.19E2.47.97.659
R9 X  9066365272 2E3.43.59.587.761
 1362 8717951385 3E2.5.13.11E2.79.1559
R9 X  9407501415 3E2.5.13.37.223.1949
 1366 8850661358 2.7E2.19.11.601.719
R9 X  8937716242 2.7.19.13.89.113.257
 1367 8851379072 2E7.29.433.5507
R9 X  9435731728 2E4.3467.170099
 1370 8924047490 2.5.17.19.521.5303
R9 X  9017050750 2.5E3.17.271.7829
 1371  8935581375 3E2.5E3.7.53.79.271
R9 X  10128267585 3E2.5.19.47.103.2447
 1374  8971549180 2E2.5.11.2963.13763
R9 X  11589884804 2E2.151.211E2.431
 1380  9018517725 3E4.5E2.7.349.1823
R9 X  10138589475 3.5E2.7.19311599
 1384  9075291470 2.7E2.5.23.43.61.307
R9 X  11614384306 2.7.41.113.241.743
 1390  9153086085 3E2.5.13.11.37E2.1039
R9 X  10021735035 3E2.5.13.47.389.937
 1391 9159365024 2E5.53.241.22409
L1 X  9290429416 2E3.17.4157.16433
 1394  9205801010 2.5.7E3.109.24623
R9 X  10296406990 2.5.37.53.191.2749
 1398 9262239250 2.5E3.11.1783.1889
R9 X  9673564910 2.5.17.47.181.6689
 1399  9271316500 2E2.5E3.53.271.1291
R9 X  11451453932 2E2.47.101.683.883
 1405  9357224877 3E2.7E3.13.11E2.41.47
R9 X  10162493523 3E5.7E3.13.83.113
 1409 9490622048 2E5.61.4861999
L1 X  9500349952 2E9.4079.4549
 1411  9549021568 2E7.37.101.19963
R9 X  10182996752 2E4.9043.70379
 1417  9818506568 2E3.13E2.29.179.1399
R9 X  10933693432 2E3.89.1049.14639
 1420  9844469775 3E2.5E2.7.23.29.9371
R9 X  11910566385 3E2.5.19.991.14057
 1423  9880655085 3E2.5.7.17.233.7919
R9 X  10935385875 3E2.5E3.19.431.1187

TOTAL NUMBER:  345
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Appendix III

The gcd's of the first 1427 APs

GCD	FREQ	RANK NUMBER(S) OF AP'S WITH THIS GCD									
2	2										
		2	278								
4	67										
		1	3	4	23	24	36	53	64	83	97
		115	153	154	165	209	226	238	255	267	274
		294	313	323	345	347	348	502	505	570	586
		632	645	721	738	748	750	763	776	800	807
		811	822	842	846	852	867	877	909	920	937
		975	976	1060	1119	1132	1160	1251	1307	1316	1322
		1350	1355	1365	1368	1374	1399	1406			
8	208										
		5	6	17	21	26	31	32	33	34	35
		37	40	42	47	59	62	65	67	69	74
		76	80	81	84	90	93	94	95	103	110
		112	116	120	122	126	131	140	143	144	148
		150	159	161	163	174	180	182	184	186	192
		199	201	206	208	212	217	218	239	240	244
		258	266	279	280	293	296	298	300	305	311
		314	315	317	318	330	333	339	353	357	361
		363	374	375	376	382	387	400	405	417	432
		438	447	452	455	458	459	463	467	475	498
		513	523	525	546	552	553	558	571	574	579
		580	587	591	599	606	631	633	639	644	646
		652	658	665	668	690	702	713	716	720	722
		727	737	762	771	788	806	808	814	836	845
		848	854	855	858	863	869	871	876	881	912
		913	919	925	942	946	953	972	973	974	978
		981	982	992	999	1011	1026	1028	1043	1063	1077
		1078	1079	1113	1117	1120	1126	1130	1141	1152	1153
		1164	1170	1182	1184	1213	1218	1222	1235	1243	1250
		1252	1253	1279	1302	1320	1329	1345	1354	1356	1361
		1376	1378	1391	1393	1404	1407	1408	1417		
10	94										
		13	18	43	45	49	52	54	55	58	70
		75	79	98	99	105	107	128	146	190	210
		219	227	228	264	275	283	286	289	299	328
		332	343	378	420	437	441	448	476	479	507
		519	534	544	589	598	609	617	620	627	664
		670	674	676	723	759	769	826	834	835	843
		859	897	904	1001	1007	1023	1027	1042	1053	1062
		1064	1066	1074	1093	1103	1104	1105	1108	1111	1123
		1148	1159	1167	1209	1221	1240	1257	1266	1285	1287
		1373	1394	1398	1419						
14	30										
		25	61	73	77	119	127	135	177	187	198
		249	377	395	399	412	470	480	651	701	756
		790	809	825	857	873	1070	1110	1342	1344	1384
15	1										
		900									

16 150
8 10 16 19 20 27 29 39 51 60
63 68 86 118 121 156 158 164 169 175
179 185 193 196 213 231 232 248 257 281
284 285 288 307 320 322 326 327 336 351
365 366 381 385 390 397 407 429 433 434
435 445 450 453 454 474 486 487 509 514
527 536 545 550 573 575 577 578 583 625
643 654 669 671 672 673 682 692 696 699
706 735 742 744 778 799 828 850 866 887
894 903 906 918 930 945 951 958 962 966
970 1006 1010 1016 1020 1021 1035 1036 1041 1059
1075 1086 1095 1106 1115 1116 1125 1127 1128 1129
1139 1146 1154 1180 1187 1192 1194 1198 1202 1211
1214 1227 1238 1241 1244 1256 1261 1268 1274 1292
1297 1326 1328 1336 1364 1367 1411 1415 1416 1424

21 1
316

22 3
89 567 1403

32 76
57 130 139 142 155 216 229 246 247 268
287 324 335 344 346 352 371 380 411 413
419 439 456 457 468 471 477 535 540 568
595 616 655 686 694 710 757 761 827 856
860 870 883 916 923 948 956 957 960 979
991 1003 1058 1067 1072 1118 1122 1163 1166 1178
1210 1223 1242 1246 1277 1308 1310 1341 1343 1360
1382 1383 1388 1395 1396 1409

44 37
22 88 211 262 304 388 398 428 566 572
596 603 608 624 662 697 752 758 770 823
829 868 892 911 914 915 932 964 989 990
1032 1092 1101 1273 1303 1321 1330

45 26
14 108 132 141 214 220 252 265 301 331
342 465 497 618 687 775 777 885 1094 1100
1135 1258 1275 1371 1420 1423

50 43
44 71 91 124 129 181 223 263 272 358
404 423 451 500 512 551 739 751 773 797
821 837 864 880 901 947 967 985 988 1008
1038 1096 1107 1131 1190 1204 1207 1208 1230 1289
1295 1340 1400

52 13
133 195 271 422 473 499 504 562 634 997
1319 1348 1357

63 2
746 931

64 22
92 197 464 526 594 611 638 641 801 886
891 902 907 1015 1076 1156 1245 1283 1286 1315
1331 1413

68 3
362 402 485

76 11
207 269 543 565 569 816 874 1071 1255 1272
1288

92 4
9 200 515 612

98 6
28 273 585 711 1089 1165

105 24
7 38 102 136 282 295 310 489 490 508
555 601 679 683 693 733 779 798 917 969
1022 1040 1203 1379

110 20
109 292 349 350 483 494 623 661 802 922
995 1112 1172 1181 1215 1226 1247 1260 1335 1425

124 2
442 983

128 2
104 718

130 16
87 166 277 449 466 592 691 736 784 865
1017 1150 1237 1337 1401 1402

135 47
11 41 82 145 152 171 189 215 221 224
225 319 354 372 391 409 418 481 484 493
518 539 590 604 613 656 666 675 728 754
772 795 921 959 963 1004 1005 1034 1037 1085
1174 1176 1185 1189 1347 1363 1372

136 5
996 1212 1233 1294 1298

148 2
444 987

152 16
125 360 436 559 600 805 812 831 879 895
1002 1091 1300 1324 1412 1426

154 16
168 394 421 610 626 630 647 649 653 804
872 898 986 1082 1157 1359

165 2
96 414

170 13
205 340 393 426 511 650 732 783 844 1216
1262 1264 1370

182 4
160 172 338 1171

184 6
431 704 774 781 943 1136

190 10
680 740 861 938 1012 1068 1098 1151 1276 1280

212 2
548 619

225 10
85 157 167 510 538 549 1014 1186 1188 1201

230 1
905

231 1
1144

232 3
101 537 1044

236	1	1301
238	2	234 1414
248	4	276 392 753 1421
250	1	588
255	1	705
256	4	520 556 792 1052
266	8	308 368 491 582 602 734 749 1366
273	1	78
285	2	123 968
286	1	764
290	2	191 1422
296	3	151 183 1220
310	11	66 204 730 794 818 839 853 1025 1099 1311 1323
315	13	162 236 254 472 584 700 813 817 833 1140 1145 1197 1351
322	1	1073
328	1	936
376	1	557
405	5	259 379 663 724 1346
424	2	747 1234
434	5	403 496 709 714 1024
465	1	622
484	2	712 884
488	2	576 890
495	4	516 533 593 1410
512	1	1259
518	1	517
525	17	410 521 628 657 688 789 878 939 1000 1083 1158 1173 1175 1225 1305 1380 1385
530	1	1386
548	1	1304
574	1	1047
585	41	15 30 48 56 106 114 137 138 173 178 188 203 251 261 290 302 334 560 607 667 703 707 726 820 824 862 924 927 950 984 1061 1084 1147 1177 1206 1269 1281 1325 1362 1375 1390
592	1	478
632	1	1018
664	1	564
670	1	243
675	15	147 202 462 506 554 614 642 684 841 889 1013 1069 1195 1217 1389
682	1	1168
688	3	369 1031 1081
692	1	944
693	5	176 321 424 715 1239
735	4	235 355 415 1029
752	1	965
765	3	1143 1200 1317
776	1	1314
790	1	677
808	1	977
819	19	12 170 222 389 698 719 767 780 786 849 949 971 998 1045 1051 1114 1162 1349 1381
825	2	1050 1124
848	2	384 1306
850	1	635
855	7	50 72 329 396 482 1155 1169
884	1	291
891	3	416 935 1161

908	1	980
950	3	563 1142 1267
975	1	440
1016	2	875 1138
1028	1	1427
1035	1	954
1048	1	446
1072	1	233
1078	2	370 636
1084	1	765
1150	3	230 648 731
1155	3	528 729 1397
1210	1	1149
1215	1	1054
1276	1	1065
1365	3	541 840 1137
1395	3	100 547 621
1425	2	469 1392
1485	5	149 250 337 373 1087
1550	13	111 241 383 406 427 461 561 597 681 832 929 1055 1339
1701	1	1231
1755	8	245 306 356 443 542 782 1133 1278
1862	2	134 1249
1911	1	685
1972	1	1377
1995	4	522 529 955 1179
2025	1	401
2079	2	926 952
2096	1	341
2132	1	605
2150	1	838
2152	1	1338
2295	2	615 882
2415	2	408 492
2457	1	1265
2528	1	1183
2541	1	113
2565	3	430 660 1019
2625	2	1282 1369
2805	1	934
2812	1	1313
2925	9	253 725 803 819 933 941 1049 1080 1248
2926	2	659 1309
3032	1	793
3105	2	325 851
3116	1	1229
3375	3	815 1205 1352
3591	1	1318
3645	1	1353
3782	1	194
3915	1	359
3927	1	745
3969	1	237
4185	2	309 637
4324	1	1332
4455	5	117 242 830 961 1193
4796	1	1090
5265	2	1199 1270

5296	1	503
5535	2	488 766
5733	10	46 270 312 501 532 908 928 1039 1046 1109
6237	1	1290
6622	1	1121
6885	3	386 791 1327
6975	1	1088
7030	1	1271
7564	1	367
7605	1	524
8775	2	425 940
9009	3	260 695 743
9290	1	1009
9405	1	1418
9975	2	1057 1291
11115	2	297 495
11475	1	689
13041	1	785
13330	1	581
13923	1	1232
13965	2	1196 1387
14355	1	994
14445	1	741
14535	1	1224
14553	1	768
15561	2	1254 1312
15795	1	1358
16245	1	364
16275	1	256
18135	2	893 1284
18837	1	678
20925	6	717 760 810 1097 1228 1263
21068	1	910
21879	1	1048
23895	1	1296
25155	1	1293
30303	1	787
31635	1	303
33579	1	530
34749	1	531
38025	1	1236
38493	1	1299
40131	1	1405
42826	1	1219
43875	1	888
44732	1	1033
48735	1	896
49005	3	708 755 993
52725	1	899
63063	1	629
68607	1	796
90675	1	1191
108927	4	847 1056 1134 1334
180873	1	640
463905	1	1102
539055	1	1030
556101	1	460
2876211	1	1333
