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Abstract

Let $\sigma(x)$ denote the sum of all divisors of the (positive) integer x. An *amicable pair* is a pair of integers (m,n) with $m < n$ such that $\sigma(m) = \sigma(n) = m + n$. The smallest amicable pair is $(220, 284)$. A new method for finding amicable pairs is presented, based on the following observation of Erdős: For given s, let $x_1, x_2, \ldots$ be solutions of the equation $\sigma(x) = s$, then any pair (x_i, x_j) for which $x_i + x_j = s$ is amicable.

The problem here is to find numbers s for which the equation $\sigma(x) = s$ has many solutions. From inspection of tables of known amicable pairs and their pair sums one learns that certain *smooth* numbers s (i.e., numbers with only small prime divisors) are good candidates. With the help of a precomputed table of $\sigma(p^e)$-values, many solutions of the equation $\sigma(x) = s$ were found by checking divisibility of s by the tabled σ-values in a recursive way. In the set of solutions found, pairs were traced which sum up to s.

From 1850 smooth numbers s satisfying $4 \times 10^{11} < s < 10^{12}$ we found 116 new amicable pairs with this algorithm.

After the submission of this paper to the Vancouver Conference *Mathematics of Computation 1943–1993*, the computations have been extended and yielded many more new amicable pairs. In particular, the first *quadruple* of amicable pairs with the same pair sum (namely $16!$) was found. A list is given of 587 amicable pairs with smaller member between 2.01×10^{11} and 10^{12}, of which 565 pairs seem to be new.

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1. Introduction

Let m be a positive integer and let $\sigma(m)$ be the sum of all divisors of m. An *amicable pair* is a pair of positive integers (m,n), $m < n$, which satisfies

$$\sigma(m) = \sigma(n) = m + n. \qquad (1.1)$$

Let $g = \gcd(m,n)$ and write $m = gM$, $n = gN$. The amicable pair (m,n) is called *regular of type* (i,j) if $\gcd(g,M) = \gcd(g,N) = 1$, M and N are squarefree, and the numbers of prime factors of M and N are i (≥ 1) and j (≥ 1), respectively. Other pairs are called *irregular* or *exotic*. The smallest regular amicable pair is $(220, 284) = (2^2 5 \cdot 11, 2^2 71)$ and the smallest irregular amicable pair is $(1184, 1210) = (2^5 37, 2 \cdot 5 \cdot 11^2)$. Below 10^{10} there are 1082 regular and 345 irregular amicable pairs (sometimes abbreviated to 'AP') [12].

Three essentially different methods to find amicable pairs are known. The first is a numerical method, the second and third are algebraic methods. In the first, a number m is chosen,

$n := \sigma(m) - m$ is computed and, if $n > m$, $t := \sigma(n) - n$ is computed. If $t = m$, we have found the amicable pair (m, n). By letting m run through a given interval, we can trace *all* amicable pairs (m, n) with m in that interval. In the second method, an assumption is made about the prime structure of m and n, for example, $m = 2^k pq$, $n = 2^k r$, where p, q and r are mutually different prime numbers. Substitution in (1.1) gives two equations which k, p, q and r must satisfy. In the third method, amicable pairs are *constructed* from special numbers called *breeders* [3], which may be amicable numbers themselves [11]. The first method is an exhaustive, CPU time-consuming one (cf. [12]), whereas the second and the third are nonexhaustive and relatively inexpensive (cf. [1] and [6]). Thousands of amicable pairs are known [1], [13]. An exhaustive list of amicable pairs below 10^{10} was published in [12]. This bound was extended recently by Moews and Moews to 10^{11} [9] and to 2.01×10^{11} [8].

In this paper we present and apply a new method to find amicable pairs, the principle of which stems from Erdős: If $x_1, x_2, \ldots$ are solutions of the equation

$$\sigma(x) = s, \tag{1.2}$$

then any pair (x_i, x_j) for which $x_i + x_j = s$, is an amicable pair. Heuristically, values of s for which (1.2) has *many* solutions have an increased chance to yield amicable pairs.

2. An algorithm to solve $\sigma(x) = s$ and to find amicable pairs among pairs of solutions

We are going to find solutions $x = x_1, x_2, \ldots$ of (1.2) for suitable s. We restrict our search to amicable pairs with members which are divisible by 2 or by 3. We exclude the possibility that one member is divisible by 6 since in that case the other member must be *odd* [7]: no such amicable pair is known, and if it exists, it probably is very large. Only recently, amicable pairs have been found with members coprime to 6 [2], [5], but these are very large compared with the numbers in our search interval.

Algorithm A (*For given positive integer s, find solutions x of the equation $\sigma(x) = s$, where $2 \mid x$ or $3 \mid x$ but $6 \not| x$ and find amicable pairs among pairs of solutions found*). If $\sigma(p^e) \mid s$ for a prime p and positive integer exponent e, and if the equation $\sigma(y) = s/\sigma(p^e)$ has a solution y which is coprime to p, then $x = p^e y$ is a solution of the equation $\sigma(x) = s$ by the multiplicativity of the σ-function. This suggests our recursive algorithm: it finds a divisor $\sigma(p^e)$ of s and solves $\sigma(y) = s/\sigma(p^e)$, with $\gcd(p, y) = 1$. Two tables T_1 and T_2 of triples $(p, e, \sigma(p^e))$ will be used, (where $\sigma(p^e) = p^e + p^{e-1} + \ldots + 1$), and the ith triple from table T_1 will be denoted by T_{1i} (and similarly for table T_2). Solutions found are stored in $x_1, x_2, \ldots$. Choose upper bounds B_1 and B_2 for the $\sigma(p^e)$-values admitted in tables T_1 and T_2, respectively.

A1 [Precomputation of tables of $\sigma(p^e)$-values]. Fill table T_1 with triples $(p, e, \sigma(p^e))$ for $p = 2, 3$ and for those integers $e = 1, 2, \ldots$ for which $\sigma(p^e) < B_1$. Similarly, fill table T_2 for all the primes $p = 5, 7, \ldots$ and integers $e = 1, 2, \ldots$ for which $\sigma(p^e) < B_2$, such that the $\sigma(p^e)$-values are in *increasing* order. Set $i_{\max}$ and $j_{\max}$ to the number of triples in tables T_1 and T_2, respectively.

A2 [Initialize]. Set $d \leftarrow 1$, $s_d \leftarrow s$, $i \leftarrow 0$, $n \leftarrow 0$. The current value of d indicates that the dth prime divisor of x is being looked for (so $d - 1$ prime divisors have been found so far). The integer s_d is the current value of s for which $\sigma(x) = s$ is being solved; j_d

($d \geq 2$) remembers the location in table T_2 where a prime power divisor of x has been found; p_d and e_d are the prime and the corresponding exponent in that prime power.

A3 [Select next triple from table T_1]. Set $i \leftarrow i+1$. If $i > i_{\max}$ goto step A8, otherwise set $(p, e, \sigma) \leftarrow T_{1i}$. If $\sigma \not| s_1$, repeat step A3, otherwise set

$$p_1 \leftarrow p, e_1 \leftarrow e, d \leftarrow 2, s_2 \leftarrow s_1/\sigma, sq \leftarrow \sqrt{s_2}, j \leftarrow 0.$$

A4 [Select next triple from table T_2]. Set $j \leftarrow j+1$. If $j > j_{\max}$ goto step A5, otherwise set $(p, e, \sigma) \leftarrow T_{2j}$. If $p = p_l$ for some $l \in \{2, 3, \ldots, d-1\}$, repeat step A4. If $\sigma > sq$, goto step A6. If $\sigma \mid s_d$, set

$$j_d \leftarrow j, p_d \leftarrow p, e_d \leftarrow e, s_{d+1} \leftarrow s_d/\sigma, sq \leftarrow \sqrt{s_{d+1}}, d = d+1.$$

Repeat step A4.

A5 [Check if $s_d - 1$ is prime]. If $s_d - 1$ is prime, set

$$n \leftarrow n+1, x_n \leftarrow (s_d - 1) \prod_{k=1}^{d-1} p_k^{e_k}.$$

Goto step A7.

A6 [Check if s_d occurs as σ-value in table T_2]. If $\exists l$ and $T_{2l} = (p, e, \sigma)$ with $\sigma = s_d$, set

$$n \leftarrow n+1, x_n \leftarrow p^e \prod_{k=1}^{d-1} p_k^{e_k}.$$

Goto step A7.

A7 [Decrease depth d]. Set $d \leftarrow d-1$. If $d = 1$, goto step A3, otherwise set $j \leftarrow j_d, sq \leftarrow \sqrt{s_d}$; return to step A4.

A8 [Sort solutions and check pair sums]. Sort the solutions $x_1, x_2, \ldots, x_n$ in increasing order and find amicable pairs, i.e., pairs (x_i, x_j) with $x_i + x_j = s$. Notice that the size of the members of amicable pairs found is close to $s/2$.

Applying this algorithm with $B_1 = 70$ and $B_2 = 100$ to $s = 504 = 2^3 3^2 7$ yields the five solutions $x_1 = 286 = 2 \cdot 11 \cdot 13$, $x_2 = 334 = 2 \cdot 167$, $x_3 = 220 = 2^2 5 \cdot 11$, $x_4 = 284 = 2^2 71$, $x_5 = 224 = 2^5 7$, in this order, and the amicable pair $(x_3, x_4) = (220, 284)$, since $x_3 + x_4 = s$. The equation $\sigma(x) = 504$ has five more solutions, viz., $x = 204, 246, 415, 451$, and 503, but the first two of them are divisible by 6, and the other three have a smallest prime divisor > 3, and such solutions were excluded from our algorithm.

3. Applying Algorithm A to suitable numbers s

Inspection of the pair sums of known amicable pairs reveals that in many cases these sums have only small prime divisors. In particular, among the 1427 amicable pairs below 10^{10} there are 37 *pairs* of amicable pairs having the same pair sum, and in these 37 pair sums the largest occurring prime is 37 (there are no such *triples* of amicable pairs among the first 1427

prime	2	3	5	7	11	13	17	19	23	29	31	37
# times	37	37	34	30	13	14	3	13	1	0	19	1
lower exp.	6	2	0	0	0	0	0	0	0	0	0	0
upper exp.	14	7	3	2	2	1	1	1	1	1	1	1

Table 1: Statistics of the first 37 pairs of amicable pairs with the same pair sum

amicable pairs). The exponent ranges, and the number of times these primes occur in the 37 pair sums are shown in Table 1 (which is extracted from [12, Table 5]).

Suggested by these numerical data, we have generated two sets, S_1 and S_2, of s-values as input for Algorithm A, as follows. Let

$$S = \{s = 2^{i_1}3^{i_2}5^{i_3}7^{i_4}11^{i_5}13^{i_6}17^{i_7}19^{i_8}23^{i_9}31^{i_{10}} \mid$$
$$6 \le i_1 \le 14,\ 3 \le \mathrm{i}_2 \le 6,\ 0 \le \mathrm{i}_3 \le 3,\ 0 \le \mathrm{i}_4 \le 2,$$
$$0 \le i_k \le 1 \text{ for k} = 5, \ldots, 10 \qquad \}$$

then

$$S_1 := \{s \in S \mid 4 \times 10^{10} < s < 2 \times 10^{11}\}$$

and

$$S_2 := \{s \in S \mid 4 \times 10^{11} < s < 10^{12}\}.$$

Algorithm A was applied to all elements of S_1 and S_2, with $B_1 = 260$ and $B_2 = 10^6$.

From the 3582 elements in S_1, Algorithm A found 200 numbers s which yielded one or more amicable pairs, viz., 2 each yielded three APs, 8 each yielded two APs, and 190 each yielded one AP, hence a total of 212 APs (m, n) with $m < 10^{11}$. (For a given value of s, Algorithm A finds amicable pairs (m, n), if any, in the neighborhood of $s/2$ with $m < s/2$ and $n > s/2$.) Computing time was about 13 CPU hours on a 33 MHZ SGI workstation. All the 212 APs found occur in the list by Moews and Moews [9]. This list contains *four* triples of amicable pairs having the same pair sum, viz., $2^{14}3^6 5^2 7.31$, $2^{12}3^4 5^4 7^2 11$, $2^{13}3^4 5 \cdot 11 \cdot 13^2 19$, and $2^{10}3^5 5^2 7 \cdot 11 \cdot 13 \cdot 19$. The first and fourth of these pair sums belong to our set S_1, and our algorithm found the two corresponding triples of APs.

In the set S_2, which contains 1850 elements, Algorithm A found, after about 30 CPU hours of computing time, 118 numbers s which yielded one or more APs, viz., 1 yielded three APs, 7 each yielded two APs, and 110 each yielded one AP, hence a total of 127 APs. They are in the interval $[1.88 \times 10^{11}, 5 \times 10^{11}]$. Of these, 102 (80%) are regular, and 25 (20%) are irregular. Moews and Moews [8] found that there are 970 amicable pairs in the interval $[10^{11}, 2 \times 10^{11}]$, 778 (80%) of them being regular and 192 (20%) being irregular, so it appears that our algorithm finds a selection of regular and irregular amicable pairs in a ratio which is representative for *all* the amicable pairs in the corresponding interval. The frequency distribution of the 102 regular APs we found from S_2 according to their type (i, j) [12, p.365] is given in Table 2.

The first eight of the 127 APs found from S_2 have their smaller member $< 2.01 \times 10^{11}$ and, therefore, occur in the list by Moews and Moews [8]. Two others occur in [13], and one was

i	$j =$	2	3	4	5	row totals
3		9	20	5	1	35
4		4	26	17	0	47
5		1	5	9	5	20
column totals		14	51	31	6	102

Table 2: Frequency distribution of the 102 regular APs, found from S_2, according to their type (i, j)

sent to the author by Elvin J. Lee in February 1987. This leaves a total of 116 APs (m, n) with $2.01 \times 10^{11} < m < 5 \times 10^{11}$, which seem to be new. A list of these APs is available from the author upon request[1]. The new *triple* of APs having the same pair sum was found for $s = 2^{14}3^6 5^2 7 \cdot 11 \cdot 19$, and the three corresponding amicable pairs are:

$$
\begin{aligned}
213734738745 &= 3^3 \cdot 5 \cdot 11 \cdot 29 \cdot 113 \cdot 167 \cdot 263 \\
223114720455 &= 3^3 \cdot 5 \cdot 11 \cdot 131 \cdot 839 \cdot 1367 \\
\\
214403050995 &= 3 \cdot 5 \cdot 7 \cdot 19 \cdot 29 \cdot 43 \cdot 86183 \\
222446408205 &= 3 \cdot 5 \cdot 7 \cdot 19 \cdot 89 \cdot 113 \cdot 11087 \\
\\
217615523848 &= 2^3 \cdot 31 \cdot 43 \cdot 113 \cdot 419 \cdot 431 \\
219233935352 &= 2^3 \cdot 37 \cdot 47 \cdot 167 \cdot 197 \cdot 479
\end{aligned}
$$

These are of type (4,3), (3,3), (5,5), respectively.

Let N_s be the number of solutions x of $\sigma(x) = s$ found with our algorithm. If $N_s \approx \sqrt{s}$, and if solutions are "randomly" distributed in $[1, s]$ we have a reasonable chance to find a pair (x_1, x_2) among the N_s solutions for which $x_1 + x_2 = s$. For the numbers s in S_1 and S_2, we found values of $N_s/\sqrt{s}$ in the range $(0.01, 0.43)$. The maximum value we found was 0.4224, for $s = 2^{12}3^6 5^2 7^2 11 \cdot 13$ with $N_s = 305536$, but no amicable pair resulted from this s. The second largest quotient was 0.388, for $s = 2^{13}3^5 5^2 7^2 11 \cdot 19$ with $N_s = 277222$. This s yielded two new amicable pairs, viz.

$$(3^3 5 \cdot 11^2 23 \cdot 223 \cdot 2969, 3^3 5 \cdot 11 \cdot 197 \cdot 839 \cdot 1063)$$

and

$$(2 \cdot 5 \cdot 13 \cdot 37 \cdot 109 \cdot 419 \cdot 1151, 2 \cdot 5 \cdot 29 \cdot 31 \cdot 43 \cdot 113 \cdot 5879).$$

In order to get some feeling for the behaviour of the quotient $N_s/\sqrt{s}$ we have computed this quotient for $s = i!$, $i = 8, \ldots, 15$ and for a few other values of s. The results as given in Table 3 show an increasing tendency of this quotient with s, which gives some support to our expectation that many (but much larger) smooth numbers s exist for which the quotient exceeds 1, and these numbers can be expected to yield many amicable numbers. The number $s = 3 \cdot 14!$ yields the two APs

$$(2^3 29 \cdot 53 \cdot 83 \cdot 103 \cdot 1231, 2^3 23 \cdot 167 \cdot 179 \cdot 24023)$$

[1] Also see the Appendix.

and

$$(2 \cdot 5 \cdot 11 \cdot 41 \cdot 1091 \cdot 26399, 2 \cdot 5 \cdot 11 \cdot 103 \cdot 503 \cdot 23099).$$

The number $s = 4 \cdot 14!$ yields the AP

$$(2^2 11 \cdot 43 \cdot 47 \cdot 71 \cdot 27299, 2^2 11 \cdot 59 \cdot 79 \cdot 181 \cdot 4751)$$

and $s = 15!$ yields the AP

$$(2 \cdot 5^3 17 \cdot 59 \cdot 223 \cdot 11549, 2 \cdot 5^3 23 \cdot 131 \cdot 293 \cdot 2999).$$

s	N_s	$N_s/\sqrt{s}$
8!	30	0.1494
9!	187	0.3104
10!	593	0.3113
11!	1665	0.2635
12!	6999	0.3198
13!	25656	0.3251
14!	110137	0.3730
$2 \cdot 14!$	163869	0.3924
$3 \cdot 14!$	200965	0.3930
$4 \cdot 14!$	236219	0.4000
$8 \cdot 14!$	331105	0.3965
$12 \cdot 14!$	449253	0.4392
15!	442439	0.3869

Table 3: $N_s/\sqrt{s}$ for $s = i!$, $i = 8, .., 15$, and a few other values of s

Remark. One generalization of amicable numbers is due to L.E. Dickson [4], who calls a k-tuplet of positive integers $(m_1, m_2, \ldots, m_k)$ a *k-tuplet of amicable numbers* if

$$\sigma(m_1) = \sigma(m_2) = \ldots = \sigma(m_k) = m_1 + m_2 + \ldots + m_k.$$

In such a k-tuple the k numbers need not necessarily be different. The smallest such *triple* with three different members is $(1980, 2016, 2556) = (2^2 3^2 5 \cdot 11, 2^5 3^2 7, 2^2 3^2 71)$ [10]. Our algorithm can easily be adapted to look for such triples: among the found solutions of $\sigma(x) = s$, *triples* (rather than pairs) should be traced which sum up to s. We have applied this algorithm to all even $s < 4 \times 10^6$, and found 277 amicable triples for which at least one member of the triple is $< 10^6$ (for comparison, there are 42 amicable pairs with smaller member $< 10^6$). Detailed results will be published elsewhere.

4. Acknowledgements

We like to thank Carl Pomerance for his suggestion to investigate solutions of the equation $\sigma(x) = s$ in order to find amicable pairs. We are also grateful to the anonymous referee for some stimulating remarks concerning the number of solutions of $\sigma(x) = s$.

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5. APPENDIX

After we submitted this paper to the Proceedings of the Vancouver Conference *Mathematics of Computation 1943–1993*, several computations have been extended.

First of all, we have applied Algorithm A to the following set of s-values:

$$S_3 = \{ \quad s = 2^{i_1}3^{i_2}5^{i_3}7^{i_4}11^{i_5}13^{i_6}17^{i_7}19^{i_8}31^{i_9} \quad \text{with} \quad 4\times 10^{11} < \text{s} < 2\times 10^{12} \quad \text{and}$$

$$5 \le i_1 \le 15,\ 2 \le i_2 \le 7,\ 0 \le i_3 \le 4,\ 0 \le i_4 \le 3,\ 0 \le i_5 \le 2,$$

$$0 \le i_6 \le 2,\ 0 \le i_7 \le 1,\ 0 \le i_8 \le 1,\ 0 \le i_9 \le 1 \quad \}.$$

This set contains 10272 elements and Algorithm A produced 577 amicable pairs from the elements of this set. Mixed with the 127 APs found from the 1850 elements of S_2, this gave 608 different APs, of which 21 are $< 2.01\times 10^{11}$ and are given in [8]. The remaining 587 APs are given in the list below. Seventeen of them (namely, nrs. 2, 19, 42, 44, 106, 109, 117, 134, 139, 231, 240, 278, 312, 381, 385, 387, and 422) were already listed in [13] (as nrs. 370, 376, 387, 388, 412, 415, 416, 420, 422, 464, 468, 486, 500, 522, 523, 526, and 539, respectively). Five others (namely, 184, 212, 261, 531, and 550) were communicated earlier to the author by Elvin J. Lee. The other 565 pairs seem to be new.

In this list of 587 amicable pairs, there are 302 (51.4%) even and 285 (48.6%) odd pairs, and 466 regular (79.4%), versus 121 (20.6%) irregular APs. Apart from the triple of amicable pairs with the same pair sum $2^{14}3^65^27\cdot 11\cdot 19$ found from the set S_2 (nrs. 23, 24, 27), three other such triples were found from S_3, namely for $s = 2^{11}3^75^27^319$ (nrs. 196, 205, 206), $s = 2^{13}3^45\cdot 7\cdot 11\cdot 13^217$ (nrs. 201, 208, 213), and $s = 2^{13}3^55\cdot 7^313\cdot 19$ (nrs. 242, 249, 267). No pairs of type $(i,1)$ were found; six pairs of type $(6,j)$ were found, namely four of type $(6,4)$ (nrs. 79, 297, 360, and 555), and two of type $(6,5)$ (nrs. 275 and 370). The computing time was 160 CPU hours on a 33 MHZ SGI workstation.

Several more so-called *isotopic* amicable pairs can be found from our list by making substitutions in the greatest common divisor of the pair. For example, in nr. 18 (and many other pairs) the common factor 3^35 may be replaced by $3^27\cdot 13$ to yield another amicable pair; the converse holds for nr. 5 (yielding a known pair from [9]). Similar useful substitutions are $3^35^3 \Rightarrow 3^25^231$ (nr. 70), $3\cdot 7\cdot 13 \Rightarrow 3^213^231\cdot 61$ (nr. 72), $3\cdot 5\cdot 7\cdot 19 \Rightarrow 3^27^213\cdot 19^2127$ (nr. 24), $3^35^213 \Rightarrow 3^55\cdot 13^261$ (nr. 257), and $3^47\cdot 11^2 \Rightarrow 3^57^213$ (nr. 171).

Finally, we ran Algorithm A with $s = 16! = 20922789888000$, and found $N_s = 2183888$ solutions of $\sigma(x) = s$, with $N_s/\sqrt{s} = 0.477$, a new maximum. From these solutions, we found the first *quadruple* of amicable pairs with the same pair sum (all being of type $(4,4)$), namely:

$$\begin{aligned}
10063500072868 &= 2^2\cdot 11\cdot 19\cdot 29\cdot 15443\cdot 26879\\
10859289815132 &= 2^2\cdot 11\cdot 223\cdot 359\cdot 571\cdot 5399\\[1ex]
10151376797625 &= 3\cdot 5^3\cdot 7\cdot 17\cdot 47\cdot 461\cdot 10499\\
10771413090375 &= 3\cdot 5^3\cdot 7\cdot 89\cdot 179\cdot 307\cdot 839\\[1ex]
10358704897515 &= 3^3\cdot 5\cdot 13\cdot 23\cdot 107\cdot 727\cdot 3299\\
10564084990485 &= 3^3\cdot 5\cdot 13\cdot 47\cdot 149\cdot 167\cdot 5147\\[1ex]
10444275872745 &= 3\cdot 5\cdot 11\cdot 13\cdot 17\cdot 223\cdot 659\cdot 1949\\
10478514015255 &= 3\cdot 5\cdot 11\cdot 13\cdot 19\cdot 131\cdot 1039\cdot 1889
\end{aligned}$$

	1	201310921844	2^2.17.19.41.101.191.197
54		209097649036	2^2.17.23.79.461.3671
	2	201433009250	2.5^3.11.383.191249
33		211006030750	2.5^3.23.1699.21599
	3	202191659306	2.7^2.13.17.47.139.1429
43		211905223894	2.7^2.13.29.191.30029
	4	203828169650	2.5^2.7.37.1319.11933
X		241537253710	2.5.61.197.389.5167
	5	204423098607	3^2.7.13.19.23.37.43.359
43		216246750993	3^2.7.13.19.29.227.2111
	6	204785497748	2^2.13.19.43.53.103.883
53		223356776812	2^2.13.67.467.137279
	7	205077924675	3^2.5^2.13.31.29.167.467
X		220774819005	3^2.5.13.31.1039.11717
	8	205812283816	2^3.19.29.107.131.3331
54		221696644184	2^3.41.419.1223.1319
	9	206366985225	3^3.5^2.19.17.911.1039
32		217034486775	3^3.5^2.19.113.149759
	10	206512084305	3^4.5.17.41.61.67.179
X		210003756975	3^4.5^2.17.89.68543
	11	207654552872	2^3.13.41.47.101.10259
53		235400154328	2^3.293.2753.36479
	12	208049182605	3^2.5.11.23.29.31.20327
43		230333081715	3^2.5.11.191.1439.1693
	13	208601492912	2^4.29.167.1039.2591
44		212571550288	2^4.59.311.839.863
	14	209205637641	3^2.7^2.11.13.43.179.431
X		216722585079	3^2.7.11.13.113.359.593
	15	209645950010	2.5.7.29.67.659.2339
53		244036993990	2.5.43.107.5303999
	16	209833950752	2^5.61.139.191.4049
43		215388833248	2^5.503.1487.8999
	17	210525111836	2^2.23.13.17.19.593.919
53		252190433764	2^2.23.251.1583.6899
	18	210895635555	3^3.5.11.29.53.92399
33		220205804445	3^3.5.11.149.439.2267
	19	211476779865	3^2.5.13.19.37.127.4049
32		218753748135	3^2.5.13.19.1151.17099
	20	211787916417	3^2.7.11.19.23.37.41.461
43		229915425663	3^2.7.11.19.151.197.587
	21	212018134150	2.5^2.31.17.79.179.569
43		227668009850	2.5^2.31.379.599.647
	22	213234886184	2^3.23.37.47.467.1427
54		225600252376	2^3.31.271.971.3457
	23	213734738745	3^3.5.11.29.113.167.263
43		223114720455	3^3.5.11.131.839.1367
	24	214403050995	3.5.7.19.29.43.86183
33		222446408205	3.5.7.19.89.113.11087
	25	216593779010	2.5.7.17.109.449.3719
54		260697100990	2.5.89.263.743.1499
	26	216638786884	2^2.17.13.29.31.101.2699
53		249734589116	2^2.17.199.359.51407
	27	217615523848	2^3.31.43.113.419.431
55		219233935352	2^3.37.47.167.197.479
	28	219530338118	2.7^2.13.19.103.191.461
32		222173003962	2.7^2.13.19.197.46591
	29	220715360866	2.7.13.11.113.139.7019
43		231026693534	2.7.13.17.3779.19759
	30	220917385143	3^2.7.13.19.29.37.101.131
X		226044330057	3^2.7^2.13.19.47.67.659
	31	221423293575	3^3.5^2.11^2.83.89.367
X		237397340025	3^3.5^2.37.41.231839
	32	221947050465	3^2.5.7.79.8918909
23		223284936735	3^2.5.7.181.1451.2699
	33	223246388048	2^4.29.18719.25703
34		224249970352	2^4.41.359.467.2039
	34	223656369255	3^2.5.17.11.29.67.13679
43		246524136345	3^2.5.17.31.149.69767
	35	224003889494	2.7.11^2.17.47.359.461
X		234688042666	2.7.11.23.647.102409
	36	224231605910	2.5.31.13.101.593.929
X		230149311850	2.5^2.31.41.269.13463
	37	224639853496	2^3.19.23.59.251.4339
54		247829906504	2^3.83.431.619.1399
	38	224863225875	3^3.5^3.19.53.109.607
33		225854470125	3^3.5^3.19.71.113.439
	39	225138400310	2.5.19.37.47.59.11549
44		229913119690	2.5.19.29.199.307.683
	40	227307007935	3^2.5.7.101.2239.3191
33		227781283905	3^2.5.7.223.251.12919
	41	228597451425	3^3.5^2.7.59.109.7523
X		264013876575	3^4.5^2.227.499.1151
	42	228690782595	3^4.5.11.29.89.19889
32		239169753405	3^4.5.11.4049.13259
	43	230199555015	3^4.5.17.23.37.101.389
43		243899121465	3^4.5.17.67.113.4679
	44	230208090255	3^3.5.13.11.1559.7649
32		250970789745	3^3.5.13.701.203999
	45	230662825575	3.5^2.7.13.41.239.3449
43		252306262425	3.5^2.7.89.587.9199
	46	231996198434	2.7.13.11^2.17.149.4159
X		269939417566	2.7.13.167.911.9749
	47	232553895584	2^5.61.2903.41039
34		232963809376	2^5.197.227.263.619
	48	232991889350	2.5^2.11.3343.126719
X		239914985530	2.5.11.379.991.5807
	49	234041859272	2^3.13.37.107.223.2549
54		258241148728	2^3.149.167.271.4787
	50	235105017147	3^2.7.13.17.11.101.15199
X		252489581253	3^2.7^2.13.17.127.20399

	51	235174584352	2^5.41.197.607.1499		76	258149390152	2^3.19.47.587.61559
42		242629511648	2^5.3761.2015999	33		263091441848	2^3.19.503.607.5669
	52	235976880447	3^3.7^2.11.19.43.89.223		77	258601874450	2.5^2.31.37.53.149.571
X		249411407553	3^3.7.11.19.1319.4787	43		265357447150	2.5^2.31.59.89.32603
	53	237255080535	3^3.5.11.67.109.131.167		78	258715131675	3.7.11.13.5^2.263.13103
43		240469181865	3^3.5.11.43.1439.2617	X		317823967461	3.7.11.13.103.307.3347
	54	239783372595	3^2.5.13.19.47.109.4211		79	259420866770	2.5.13.19.29.47.251.307
44		245924249805	3^2.5.13.29.53.479.571	64		303885014830	2.5.41.269.769.3583
	55	240006856276	2^2.11.19.109.271.9719		80	259618361990	2.5.13.29.167.467.883
44		248574775724	2^2.11.53.197.199.2719	43		265828974970	2.5.13.71.181.159119
	56	240524805675	3.5^2.7.11.41.83.12239		81	259674488264	2^3.41.47.61.461.599
X		273522293205	3.5.7.53.271.293.619	54		260042247736	2^3.17.167.1847.6199
	57	240600236175	3^2.5^2.13.19.1367.3167		82	259713927148	2^2.13.23.41.107.49499
X		248428463985	3^2.5.13.19.557.40127	55		268385336852	2^2.17.29.47.197.14699
	58	241150495365	3^2.5.13.19.43.83.6079		83	260531385230	2.5.19.29.37.41.71.439
32		249630995835	3^2.5.13.19.2111.10639	53		285530438770	2.5.19.131.607.18899
	59	243985460895	3^2.5.11.17.29.433.2309		84	260556372890	2.5.19.11.59.883.2393
43		262738356705	3^2.5.11.53.1049.9547	43		287987550310	2.5.19.233.1259.5167
	60	245763225950	2.11.17.5^2.23.37.67.461		85	261500457632	2^5.37.461.659.727
X		329785936546	2.11.17.223.373.10601	42		269923875808	2^5.79039.106721
	61	246182247916	2^2.31.11.37.61.79967		86	261893641815	3^2.5.13.19.29.47.59.293
43		260249338388	2^2.31.13.3967.40697	53		292877302185	3^2.5.13.83.383.15749
	62	246982693432	2^3.19.79.131.197.797		87	262132333984	2^5.71.113.1021019
42		253573978568	2^3.19.6269.266111	33		265841192096	2^5.151.467.117809
	63	248414976352	2^5.59.5711.23039		88	262260155025	3^3.5^2.11.599.58967
33		249049958048	2^5.71.2141.51199	34		264206148975	3^3.5^2.17.47.467.1049
	64	248749396335	3^3.5.11^2.23.223.2969		89	262833027650	2.5^2.29.41.79.191.293
X		260908306065	3^3.5.11.197.839.1063	54		266333103550	2.5^2.17.223.239.5879
	65	250294983032	2^3.17.59.109.419.683		90	264354304725	3^3.5^2.7.47.467.2549
53		261637976968	2^3.23.20249.70223	43		303895039275	3^3.5^2.101.127.35099
	66	250755435410	2.5.17.37.47.769.1103		91	264495364736	2^7.269.1847.4159
55		251621442670	2.5.13.53.151.367.659	33		264801403264	2^7.419.1583.3119
	67	252165022515	3^2.5.31.7.47.197.2789		92	266429603115	3^2.5.13.17.59.167.2719
44		277309660365	3^2.5.31.23.59.263.557	32		272490742485	3^2.5.13.17.1699.16127
	68	252848814010	2.5.13.37.109.419.1151		93	267501916016	2^4.41.47.499.17387
55		256808888390	2.5.29.31.43.113.5879	44		275838307984	2^4.107.229.449.1567
	69	253013508410	2.5.13.37.137.197.1949		94	267692960025	3^3.5^2.31.29.43.10259
43		257213008390	2.5.13.53.229.163019	33		269701215975	3^3.5^2.31.23.149.3761
	70	253575667125	3^3.5^3.11.139.49139		95	267800731065	3^4.5.7.47.379.5303
33		261568780875	3^3.5^3.17.167.27299	X		294093996615	3^3.5.23.37.373.6863
	71	254983105190	2.5.11^2.89.769.3079		96	268002104062	2.7.19.11^2.23.71.5099
33		256001830810	2.5.11^2.139.1049.1451	X		294607047938	2.7.19.29.53.271.2659
	72	255102907605	3.5.7.13.59.1693.1871		97	269277706670	2.5.7.179.2963.7253
33		256343067435	3.5.7.13.103.307.5939	X		288024480850	2.5^2.29.337.683.863
	73	256593804885	3^3.5.11.41.53.131.607		98	269566740495	3^2.5.13.23.43.53.59.149
43		267625546155	3^3.5.11.127.593.2393	54		290865131505	3^2.5.13.89.107.109.479
	74	256624344585	3^4.5.7.509.177839		99	269872187530	2.5.11.89.151.311.587
34		270151962615	3^4.5.23.37.67.11699	X		272218277750	2.5^3.37.47.71.8819
	75	257539344825	3.5^2.7.17.151.191099		100	272982911175	3^2.5^2.13.23.113.149.241
X		261127458375	3.5^3.7.37.59.45569	43		287362474425	3^2.5^2.13.131.359.2089

101	275596544032	2^5.47.12647.14489
33	278610484448	2^5.101.2239.38501
102	275790406624	2^5.47.181.227.4463
42	284369740832	2^5.1823.4874687
103	276471099135	3^2.7.11.5.43.113.16421
43	340336067841	3^2.7.11.197.1291.1931
104	276853480228	2^2.13.23.29.41.194687
44	300108301532	2^2.13.89.191.467.727
105	277172474332	2^2.13.17.41.59.227.571
53	302563162148	2^2.13.71.389.210671
106	278830904192	2^7.139.1979.7919
32	281002215808	2^7.42349.51839
107	280000113855	3.5.7.11.89.101.149.181
54	297414542145	3.5.7.19.179.389.2141
108	280346125750	2.5^3.19.59.107.9349
44	286757554250	2.5^3.23.109.449.1019
109	280648800135	3^3.5.11.23.83.98999
33	294153119865	3^3.5.11.197.503.1999
110	282186172575	3^3.5^2.23.29.41.15287
44	291077136225	3^3.5^2.19.71.293.1091
111	282627297290	2.5.31.13.19.67.89.619
52	329333534710	2.5.31.28559.37199
112	282986455275	3^3.5^2.23.17.37.28979
32	306925787925	3^3.5^2.23.379.52163
113	283682042272	2^5.59.263.349.1637
43	288425493728	2^5.139.3779.17159
114	283689773775	3^2.5^2.31.19.41.109.479
X	288273618225	3^3.5^2.31.23.571.1049
115	284194000335	3.5.7.19.29.89.97.569
43	294962479665	3.5.7.19.53.1499.1861
116	284859372668	2^2.13.23.37.131.49139
44	294876263812	2^2.13.29.233.263.3191
117	285422899545	3^2.5.7.83.139.78539
32	290922470055	3^2.5.7.19403.47599
118	285489355336	2^3.19.113.131.181.701
43	291288446264	2^3.19.571.797.4211
119	285601838210	2.5.17.13.10559.12239
33	300696120190	2.5.17.59.167.179519
120	286751977490	2.5.31.11.61.101.13649
43	309909833710	2.5.31.29.619.55691
121	287122945935	3.5.7.17.23.293.23869
44	294959798385	3.5.7.19.43.557.6173
122	288408688425	3^3.5^2.11.13.83.35999
43	341550991575	3^3.5^2.499.881.1151
123	289144525744	2^4.37.89.587.9349
44	293732230256	2^4.53.373.499.1861
124	289608115797	3^4.7.11.13.67.89.599
43	307547212203	3^4.7.11.31.101.15749
125	291493436768	2^5.113.191.587.719
44	292296295072	2^5.167.251.359.607
126	292076573072	2^4.29.89.127.55691
44	304585238128	2^4.271.349.431.467
127	292144885250	2.5^3.17.199.223.1549
44	292817674750	2.5^3.23.61.167.4999
128	292383320229	3^2.7.13.11.17.47.151.269
X	327148640091	3^2.7^2.13.23.359.6911
129	294706414233	3^4.7^2.11.19.47.7559
X	305961592167	3^4.7.11.19.971.2659
130	294968304675	3^3.5^2.11.701.56671
X	297013806045	3^3.5.11.43.233.19963
131	296881163524	2^2.11.19.8623.41183
34	299805807356	2^2.11.31.181.239.5081
132	297033117525	3^4.5^2.17.19.103.4409
X	322295992875	3^4.5^3.41.167.4649
133	298363860135	3^2.5.11.23.53.643.769
32	303166349145	3^2.5.11.23.179.148763
134	299026925210	2.5.17.13^3.227.3527
X	321249664870	2.5.17.83.1019.22343
135	299370221865	3^4.11^2.13.5.311.1511
33	338338978263	3^4.11^2.13.17.181.863
136	299601263962	2.7.13.11.31.149.179.181
54	334422672038	2.7.13.59.239.311.419
137	300154249330	2.5.13.19.263.367.1259
55	316799811470	2.5.29.41.59.307.1471
138	300753480716	2^2.19.13.23.47.379.743
54	337605661684	2^2.19.61.151.419.1151
139	300922026968	2^3.17.71.1427.21839
32	305363361832	2^3.17.13259.169343
140	301750548584	2^3.31.37.139.359.659
54	304984811416	2^3.23.113.127.115499
141	303196030875	3^4.5^3.23.31.41999
X	305668225125	3^3.5^3.29.43.59.1231
142	303863897205	3^3.5.11.19.263.40949
33	318838182795	3^3.5.11.269.349.2287
143	305159471925	3.5^2.7^2.11.719.10499
X	336049488075	3.5^2.7.113.1399.4049
144	305195090596	2^2.11^2.17.103.131.2749
43	327452925404	2^2.11^2.439.571.2699
145	305338042448	2^4.41.79.1949.3023
44	308872645552	2^4.47.311.1049.1259
146	305516460015	3^3.5.13.19.59.83.1871
43	328507475985	3^3.5.13.223.311.2699
147	306859092944	2^4.19.131.2039.3779
43	324225515056	2^4.431.439.107099
148	309081094875	3^2.5^3.7.17.59.109.359
52	384786937125	3^2.5^3.3167.107999
149	309905475308	2^2.13.11.61.311.28559
44	339792941332	2^2.13.233.239.271.433
150	310010317695	3^2.5.13.23.29.37.109.197
53	340713355905	3^2.5.13.53.239.45979

151	310766214374	2.7.19.23.11.683.6761
33	328622539546	2.7.19.23.37.167.8693
152	311050041248	2^5.47.151.809.1693
43	319651365472	2^5.683.1583.9239
153	313788661208	2^3.11.137.227.114659
44	335590541992	2^3.59.71.1861.5381
154	314581996696	2^3.11.97.239.271.569
53	341795347304	2^3.47.349.2604671
155	314851911075	3^2.5^2.13.23.107.191.229
X	330946755165	3^2.5.13.23.557.44159
156	315725763375	3^2.5^3.11.41.53.59.199
54	346602812625	3^2.5^3.29.79.89.1511
157	316239977625	3.5^3.11.13.17.263.1319
X	341333418855	3.5.11.13.43.719.5147
158	316940567464	2^3.17.103.467.48449
33	319762200536	2^3.17.509.1481.3119
159	317500007175	3^4.5^2.13.37.233.1399
X	336236276025	3^2.5^2.13.227.349.1451
160	318075432675	3.7.13.5^2.11.503.8423
X	389495279901	3.7.13.17.23.557.6551
161	318131969925	3.5^2.11.7.179.467.659
44	343711383675	3.5^2.11.19.103.359.593
162	318537487575	3^4.5^2.31.19.53.5039
33	334820694825	3^4.5^2.31.83.179.359
163	319131952472	2^3.31.61.71.79.3761
43	325741058728	2^3.31.47.659.42407
164	321624007496	2^3.11.227.599.26879
44	340269112504	2^3.31.239.2393.2399
165	322777341350	2.5^2.23.29.419.23099
44	326868578650	2.5^2.17.149.439.5879
166	324678135375	3^3.5^3.11^2.263.3023
X	337876877745	3^3.5.11.113.503.4003
167	324704701035	3^2.5.13.11.599.84239
34	337623874965	3^2.5.13.29.89.311.719
168	326038955770	2.5.31.11.83.619.1861
X	344238143750	2.5^5.31.167.10639
169	326547550810	2.5.13.41.47.109.11959
43	341819348390	2.5.13.229.233.49279
170	327098672901	3^4.7.11.13.37.107.1019
43	353658401019	3^4.7.11.41.113.12239
171	328151191599	3^4.7.11^2.23.29.71.101
43	352605882321	3^4.7.11^2.67.79.971
172	328192132125	3.5^3.11.13.37.251.659
X	334362880995	3.5.11^2.13.23.593.1039
173	329072577015	3.5.7.13.41.107.179.307
54	346894480905	3.5.7.23.53.461.5879
174	329149218398	2.7.11.13.43.607.6299
X	350394384802	2.7.11^2.59.83.42239
175	329638332465	3^2.5.13.17.71.109.4283
32	337275595215	3^2.5.13.17.2719.12473
176	329970190768	2^4.37.53.97.181.599
53	350779988432	2^4.797.4679.5879
177	331644326013	3^2.7.11.13.19.1049.1847
33	346409049987	3^2.7.11.13.251.307.499
178	333106270688	2^5.79.101.109.11969
42	343782865312	2^5.10259.1047199
179	333228950145	3^2.7.13.5.71.167.6863
43	392094432639	3^2.7.13.47.53.192191
180	333846953336	2^3.13.127.743.34019
45	346509501064	2^3.61.79.107.167.503
181	334719042021	3^2.7.13.17.23.79.101.131
43	342780821019	3^2.7.13.17.29.67.12671
182	337339172776	2^3.19.47.89.431.1231
54	352423131224	2^3.31.109.503.25919
183	338061421696	2^7.367.719.10009
33	338262226304	2^7.419.919.6863
184	338867213139	3^2.7^2.13.19.23.41.3299
33	351294258861	3^2.7^2.13.19.43.179.419
185	340852516641	3^4.7^2.19.13.59.71.83
43	359926824159	3^4.7^2.19.17.223.1259
186	340942107976	2^3.23.43.1487.28979
33	342114173624	2^3.23.53.643.54559
187	342683966625	3.7.11.13.5^3.912911
X	422935159647	3.7.11.13.151.233.4003
188	344301197175	3^2.5^2.13.29.41.98999
33	359481882825	3^2.5^2.13.109.179.6299
189	344492765750	2.7.5^3.83.1301.1823
X	402387430858	2.7.17.103.167.227.433
190	345345651344	2^4.29.167.181.24623
44	354854532976	2^4.89.191.797.1637
191	345758060824	2^3.11.67.113.349.1487
54	380945427176	2^3.139.179.227.8431
192	348616850350	2.5^2.31.17.167.227.349
43	369537184850	2.5^2.31.107.379.5879
193	350104771665	3^3.5.11^2.47.593.769
33	350674569135	3^3.5.11^2.59.197.1847
194	351154111384	2^3.19.41.47.769.1559
53	375331648616	2^3.31.36749.41183
195	351213749456	2^4.79.89.101.30911
44	352541207344	2^4.47.199.271.8693
196	351874117790	2.5.19.13.71.503.3989
43	377863047010	2.5.19.97.113.181439
197	352856418590	2.5.13.29.233.349.1151
43	360420509410	2.5.13.53.499.104831
198	353351897415	3^2.5.11^2.19.647.5279
X	356528473785	3^2.5.11.19.5039.7523
199	355200354410	2.5.11.23.59.167.14249
54	389429405590	2.5.31.37.503.67499
200	356262132915	3^2.5.13.29.37.41.109.127
54	379910103885	3^2.5.13.43.139.179.607

201	356408310375	3^2.5^3.13.19.131.9791
X	377549874585	3^2.5.13.47.67.311.659
202	361657131759	3^2.7^2.11.17.31.241.587
44	367153382673	3^2.7^2.11.23.41.83.967
203	362668459725	3^3.5^2.11.13.71.52919
42	431080737075	3^3.5^2.431.1481759
204	362713248416	2^5.37.5279.58031
33	370829801824	2^5.311.659.56543
205	363452712945	3.5.7^2.19.71.97.3779
33	366284451855	3.5.7^2.19.83.251.1259
206	363473380215	3^3.5.11.29.2393.3527
45	366263784585	3^3.5.17.37.53.97.839
207	363746297187	3^4.7.13.17.41.101.701
32	369859023261	3^4.7.13.17.53.55691
208	364851273465	3^2.5.7.67.2287.7559
33	369106911495	3^2.5.7.389.1231.2447
209	365066998065	3^2.7.11.5.7127.14783
33	424021077711	3^2.7.11.31.971.20327
210	365347306275	3.5^2.7^2.29.59.97.599
43	382729813725	3.5^2.7^2.83.251.4999
211	365521914225	3^4.5^2.13.71.269.727
X	377673018255	3^4.5.13.61.389.3023
212	366139024713	3^4.7.11^2.17.23.13649
33	393038594487	3^4.7.11^2.59.89.1091
213	366640573455	3^2.5.13.29.47.67.6863
44	367317611505	3^2.5.13.23.43.719.883
214	369523590345	3^2.7.13.5.17.151.35153
43	470716630839	3^2.7.13.433.971.1367
215	370304756776	2^3.29.41.149.227.1151
55	374325003224	2^3.31.71.113.419.449
216	370417509675	3^4.5^2.31.17.29.11969
32	405445331925	3^4.5^2.31.2393.2699
217	372081563325	3^2.5^2.23.31.19.59.2069
32	396726372675	3^2.5^2.23.31.229.10799
218	372213076708	2^2.19.11.37.47.503.509
54	415439736092	2^2.19.67.107.227.3359
219	373357677525	3.5^2.7.17.149.223.1259
44	382593938475	3.5^2.7.41.59.419.719
220	374209938765	3^2.5.13.19.59.151.3779
33	378693485235	3^2.5.13.19.149.251.911
221	377097316856	2^3.13.31.89.769.1709
54	419242843144	2^3.109.719.797.839
222	377807337765	3^2.11.13.17.5.47.197.373
43	460598742747	3^2.11.13.17.131.271.593
223	379124726715	3^3.5.7.19.107.197339
44	439283721285	3^3.5.43.47.389.4139
224	380572306250	2.5^5.17.43.83299
X	392506338550	2.5^2.17.20399.22637
225	380822482425	3.5^2.7.11.37.1049.1699
42	426625837575	3.5^2.7.607.1338749

226	381464322855	3.5.7.11.17.199.233.419
54	433709309145	3.5.7.79.89.311.1889
227	381775137705	3^4.5.13.37.53.103.359
43	399093270615	3^4.5.13.113.233.2879
228	381879640288	2^5.41.431.619.1091
43	392025826592	2^5.433.3359.8423
229	383351688376	2^3.23.31.179.307.1223
55	398378922824	2^3.67.71.127.139.593
230	384015758126	2.7.13.11.29.53.124799
44	431157873874	2.7.13.79.179.233.719
231	384497822709	3^2.7^2.13.19.11.223.1439
32	418599162891	3^2.7^2.13.19.139.27647
232	386655600592	2^4.19.109.1013.11519
43	410007695408	2^4.383.6599.10139
233	386901427484	2^2.13.11.191.233.15199
44	416195558116	2^2.13.79.113.701.1279
234	389088628150	2.5^2.19.47.1709.5099
33	389522251850	2.5^2.19.53.509.15199
235	391185313528	2^3.19.41.3671.17099
33	399983806472	2^3.19.1259.1291.1619
236	391225366972	2^2.19.11.23.3719.5471
44	429522101828	2^2.19.47.71.991.1709
237	392594677706	2.7.11.19.89.109.13831
33	396161290294	2.7.11.19.149.227.4003
238	392787753358	2.7.13.11.53.349.10607
43	415592765042	2.7.13.23.103.963899
239	394721255698	2.7.11^2.17.23.43.13859
42	446213953262	2.7.11^2.7559.34847
240	395625015765	3^2.5.7.83.139.108863
32	403245143595	3^2.5.7.15679.81647
241	396010607895	3^2.5.7.79.719.22133
33	399538473705	3^2.5.7.239.1427.3719
242	396272763315	3^2.5.13.11^2.31.419.431
X	446979071565	3^2.5.13.113.587.11519
243	396891089270	2.5.13.29.41.439.5849
43	420405390730	2.5.13.571.1049.5399
244	400860355550	2.5^2.19.43.139.227.311
43	414187478050	2.5^2.19.379.503.2287
245	403959486970	2.5.13.19.181.269.3359
43	428196929030	2.5.13.599.1871.2939
246	404631528574	2.7.17.13.31.2039.2069
43	412632292226	2.7.17.11.4799.32843
247	404832806235	3^2.5.13.11.5519.11399
34	419775705765	3^2.5.13.37.47.449.919
248	405496334061	3^4.7^2.19.13.17.29.839
43	470477841939	3^4.7^2.19.107.199.293
249	405613586378	2.7.13.11.31.6535619
34	437638248502	2.7.13.41.103.113.5039
250	406971021842	2.7^2.11.23.139.263.449
X	412121714158	2.7.11.17.269.585199

251	407475816615	3^2.5.7.53.2699.9043
32	415340068185	3^2.5.7.27701.47599
252	407541220515	3^2.5.13.11.29.61.35801
43	465076678365	3^2.5.13.269.883.3347
253	409038858525	3.5^2.17.19.11.29.41.1291
43	463005327075	3.5^2.17.19.79.113.2141
254	409070699037	3^3.7^2.11.13.83.109.239
43	440358804963	3^3.7^2.11.43.503.1399
255	410651451045	3^2.5.11^2.23.67.109.449
X	427401764955	3^2.5.11.29.419.71059
256	411393062025	3^3.5^2.11.263.210671
X	416193969015	3^3.5.11.41.1487.4597
257	412308634725	3^3.5^2.13.109.503.857
33	413463512475	3^3.5^2.13.179.461.571
258	413572975750	2.5^3.11.41.1499.2447
44	452549008250	2.5^3.101.179.223.449
259	414555202150	2.5^2.19.47.179.51869
33	419016445850	2.5^2.19.107.151.27299
260	415222648628	2^2.23.17.19.31.643.701
54	459730383052	2^2.23.41.107.127.8969
261	415227593781	3^2.7.11.13.29.223.7127
33	421684001739	3^2.7.11.13.47.839.1187
262	415382826375	3^3.5^3.11.37.302399
33	445078229625	3^3.5^3.23.503.11399
263	415848874826	2.7.11.23.59.71.28027
44	421062720694	2.7.11.19.181.263.3023
264	415931872005	3^2.5.13.23.29.41.25999
44	442642207995	3^2.5.13.59.89.103.1399
265	416219502116	2^2.11^2.23.167.241.929
43	428608925404	2^2.11^2.43.719.28643
266	418675536279	3^2.7.13.19.11^2.229.971
X	447163401321	3^2.7.13.19.37.137.5669
267	420833527065	3^2.5.7.113.383.30869
33	422418307815	3^2.5.7.167.607.13229
268	421745573925	3^2.5^2.13.29.37.83.1619
42	453504656475	3^2.5^2.13.1823.85049
269	422049239632	2^4.47.89.461.13679
44	424346587568	2^4.79.113.131.22679
270	423268855724	2^2.19.11.13.569.68447
43	494372411476	2^2.19.137.3967.11969
271	424337632004	2^2.11.13.197.269.13999
43	455827807996	2^2.11.89.7919.14699
272	424618439930	2.5.31.17.29.97.28643
X	448505676550	2.5^2.31.83.593.5879
273	424910895650	2.5^2.19.29.607.25409
33	437158928350	2.5^2.19.179.769.3343
274	425269072725	3.5^2.7.19.151.349.809
32	429676207275	3.5^2.7.19.3191.13499
275	426240916244	2^2.11.13.61.79.239.647
65	480901022956	2^2.17.127.149.503.743
276	427419092608	2^7.197.1487.11399
33	429052875392	2^7.1367.1549.1583
277	428481284072	2^3.17.181.499.34883
33	428618595928	2^3.17.149.2393.8839
278	430026411969	3^4.7.11^2.19.47.7019
22	437605152831	3^4.7.11^2.19.389.863
279	432856934235	3^3.5.11^2.47.461.1223
X	433561159845	3^3.5.11.37.307.25703
280	438609853744	2^4.17.307.379.13859
43	466563461456	2^4.1049.4787.5807
281	438779570145	3.5.7^2.23.29.47.137.139
X	474632935455	3.5.7.23.179.379.2897
282	441418170970	2.5.7.23.67.89.45979
54	531091934630	2.5.109.151.863.3739
283	442695853912	2^3.13.71.113.431.1231
54	474688010408	2^3.43.151.2591.3527
284	444419523405	3^2.5.13.11.59.67.17471
43	489709075635	3^2.5.13.83.103.97919
285	446518767915	3^3.5.11.19.3331.4751
33	465500278485	3^3.5.11.179.223.7853
286	447204512205	3^2.5.11.43.53.59.6719
44	449486482995	3^2.5.11.23.139.439.647
287	449410308075	3^3.5^2.17.29.53.83.307
53	486079816725	3^3.5^2.23.251.124739
288	450023547358	2.7.11.17.97.373.4751
33	452875308578	2.7.11.17.241.503.1427
289	451185797090	2.7^2.5.97.131.233.311
54	517800909598	2.7^2.23.41.307.18251
290	452117232567	3^2.7.11.13.31.857.1889
33	454536995913	3^2.7.11.13.41.263.4679
291	452813398114	2.7.11.17.79.97.22571
44	464570466206	2.7.11.23.107.461.2659
292	454083722235	3^2.5.13.11^2.107.167.359
X	494574592005	3^2.5.13.37.2351.9719
293	455169335770	2.5.19.17.43.607.5399
43	480936648230	2.5.19.37.7039.9719
294	455182303984	2^4.37.47.97.191.883
52	485333499152	2^4.5167.5870591
295	455470298415	3^2.5.17.11.101.419.1279
44	468393151185	3^2.5.17.19.67.179.2687
296	457623373545	3^3.5.13.23.37.131.2339
43	488883788055	3^3.5.13.107.607.4289
297	458407454420	2^2.5.37.41.71.241.883
64	574074107692	2^2.43.263.3457.3671
298	460074814768	2^4.23.107.607.19249
44	480364993232	2^4.263.359.379.839
299	461209644675	3^2.5^2.13.19.499.16631
33	477167795325	3^2.5^2.13.79.149.13859
300	462915086876	2^2.11.17.61.79.167.769
53	507222820324	2^2.11.743.3299.4703

301	464525120241	3^3.7.13.19.17.683.857	326	492754593375	3^3.5^3.11.2789.4759
X	481982041359	3^3.7^2.13.19.197.7487	34	501681758625	3^3.5^3.23.61.101.1049
302	464562398036	2^2.11.23.41.79.239.593	327	492870191625	3^2.5^3.7.131.239.1999
53	501104827564	2^2.11.109.5119.20411	44	535082448375	3^2.5^3.19.127.439.449
303	464717333475	3^2.5^2.19.31.53.109.607	328	495326808836	2^2.31.17.19.3023.4091
33	466765904925	3^2.5^2.19.31.71.113.439	44	502529324284	2^2.31.13.61.239.21383
304	466582974975	3^3.5^2.13.37.359.4003	329	496331365750	2.5^3.11.53.139.24499
X	484306164225	3^2.5^2.13.79.197.10639	43	543864154250	2.5^3.47.2939.15749
305	467445123585	3^3.5.11.29.71.152879	330	496789281945	3^3.5.11^2.43.131.5399
44	483590780415	3^3.5.17.23.881.10399	33	504324062055	3^3.5.11^2.89.263.1319
306	468287041970	2.5.11.41.293.389.911	331	496806629728	2^5.47.179.461.4003
55	480371272270	2.5.23.29.83.251.3457	43	510102633632	2^5.503.1693.18719
307	469242946750	2.5^3.23.31.2632499	332	497374335710	2.5.7.31.149.263.5849
33	476940733250	2.5^3.17.1151.97499	54	570114944290	2.5.29.269.571.12799
308	470633184368	2^4.43.131.509.10259	333	497418604606	2.7^2.11.17.1259.21559
43	471485980432	2^4.37.239.3332339	34	505969996994	2.7^2.11.41.89.293.439
309	470857195809	3^2.7.11.13.37.41.131.263	334	500623796673	3^3.7^2.11.13.179.14783
42	500890156767	3^2.7.11.13.3761.14783	33	518691608127	3^3.7^2.11.23.839.1847
310	472309882275	3.5^2.11.7.439.186299	335	500651039889	3^3.7^3.11.13.19.101.197
34	503484805725	3.5^2.11.29.47.59.7589	X	585085920111	3^3.7.11.509.659.839
311	472584803625	3^3.5^3.11.23.41.13499	336	503992220175	3^4.5^2.19.23.29.41.479
43	546382236375	3^3.5^3.149.863.1259	53	584938083825	3^4.5^2.449.503.1279
312	473226655672	2^3.19.53.239.245783	337	503995372750	2.5^3.31.19.239.14321
32	482381536328	2^3.19.269.11797631	X	525538732850	2.5^2.31.59.307.18719
313	473702175375	3.5^3.13.11.71.83.1499	338	504117720435	3.5.7.17.37.109.239.293
44	477333728625	3.5^3.13.17.23.179.1399	54	515197684365	3.5.7.13.439.569.1511
314	474846180064	2^5.53.103.727.3739	339	505706152072	2^3.11.41.67.503.4159
43	488473937696	2^5.1019.1637.9151	53	572134539128	2^3.223.4079.78623
315	478326899468	2^2.19.11.23.1259.19759	340	505774080075	3.5^2.11^2.19.17.109.1583
44	525544332532	2^2.19.41.107.379.4159	33	528709708725	3.5^2.11^2.19.89.131.263
316	479564953456	2^4.47.101.1319.4787	341	505862580375	3^3.5^3.17.47.149.1259
44	479683650704	2^4.37.263.1439.2141	44	513104459625	3^3.5^3.19.71.251.449
317	480868341646	2.7.11^2.17.23.725999	342	507194459816	2^3.11.181.191.293.569
X	520245002354	2.7^3.11^2.2111.2969	54	546870333784	2^3.41.467.911.3919
318	481952559530	2.5.13.23.191.433.1949	343	510697266704	2^4.29.89.151.81899
43	500784541270	2.5.13.83.6199.7487	43	531267293296	2^4.149.181.1231199
319	484045574625	3^3.5^3.19.31.41.5939	344	511968015812	2^2.11.17.61.769.14591
44	512277753375	3^3.5^3.43.71.83.599	43	541324569148	2^2.11.53.3079.75391
320	486531129050	2.5^2.31.23.47.139.2089	345	513313171245	3^4.7^2.31.5.41.47.433
43	516604666150	2.5^2.31.109.503.6079	42	645308672211	3^4.7^2.31.1567.3347
321	486939515678	2.7.19.11^2.29.233.2239	346	513509461245	3^3.5.11^2.23.269.5081
X	516931716322	2.7.19.23.41.149.13831	32	537659549955	3^3.5.11^2.2267.14519
322	490058410545	3^2.5.11.23.59.67.10889	347	514707123105	3^2.5.7.103.1511.10499
44	508044066255	3^2.5.11.43.89.373.719	33	515581772895	3^2.5.7.149.503.21839
323	490975708041	3^3.7^2.13.19.29.103.503	348	514711300532	2^2.13.11.59.167.271.337
32	512895523959	3^3.7^2.13.19.701.2239	53	575105398348	2^2.13.191.6551.8839
324	491534015192	2^3.11.47.149.509.1567	349	517330347555	3.5.7^2.17.41.991.1019
54	544851264808	2^3.139.167.1223.2399	X	529122675165	3.5.7.17.59.227.22133
325	491895047475	3^2.5^2.13.19.179.197.251	350	517639992525	3^3.5^2.31.17.311.4679
43	521552587725	3^2.5^2.13.199.593.1511	X	525264685875	3^3.5^3.31.29.233.743

351	518982278535	3^2.5.7.19.857.101183
X	564479804025	3^2.5^2.23.71.79.19447
352	519160957510	2.5.13.37.79.701.1949
43	529525954490	2.5.13.47.3041.28499
353	522147795435	3^2.5.7.79.4409.4759
33	525752876565	3^2.5.7.271.419.14699
354	523623951045	3^2.5.13.17.31.149.11399
43	551952368955	3^2.5.13.23.2699.15199
355	524056378725	3^2.5^2.31.11.139.49139
33	540575480475	3^2.5^2.31.17.167.27299
356	525375370390	2.5.13.47.61.241.5849
43	536331676010	2.5.13.59.239.292577
357	526898298916	2^2.11^2.23.43.139.7919
43	563202897884	2^2.11^2.199.967.6047
358	527039959256	2^3.19.109.151.293.719
43	534746920744	2^3.19.199.1063.16631
359	529581971835	3^4.5.7.269.467.1487
44	562459561605	3^4.5.17.47.929.1871
360	532406377690	2.5.11.29.47.59.139.433
64	601521046310	2.5.23.359.1567.4649
361	534196283625	3^2.5^3.19.23.47.61.379
X	566647543575	3^2.5^2.19.37.311.11519
362	535074938530	2.5.19.11^2.149.181.863
X	594280197470	2.5.19.599.881.5927
363	535631408912	2^4.17.181.2879.3779
43	569947829488	2^4.1259.4159.6803
364	538971521936	2^4.23.467.659.4759
44	554908465264	2^4.89.223.883.1979
365	539402185875	3.5^3.7^3.29.41.3527
32	570139702125	3.5^3.7^3.359.12347
366	541651164615	3^4.5.11.41.727.4079
33	545171532345	3^4.5.11.83.139.10607
367	544702857075	3^2.5^2.13.19.83.263.449
42	581350070925	3^2.5^2.13.239.831599
368	545527493595	3^3.5.7^3.59.233.857
X	610919226405	3^3.5.19.109.467.4679
369	545860743352	2^3.19.109.223.147743
33	546262904648	2^3.19.79.6047.7523
370	546361825724	2^2.11.13.23.29.359.3989
65	669866782276	2^2.53.139.227.239.419
371	548277469850	2.5^2.11.29.97.389.911
53	618722837350	2.5^2.79.727.215459
372	549673873749	3^2.7.11.13.43.89.107.149
43	571189870251	3^2.7.11.13.109.719.809
373	554344381616	2^4.29.607.971.2027
44	560259993424	2^4.47.233.1709.1871
374	557149190325	3.5^2.7.13.37.199.11087
43	613175904075	3.5^2.7.127.461.19949
375	557221791555	3^2.5.13.11.59.233.6299
44	601853216445	3^2.5.13.53.139.359.389

376	557330977125	3^2.5^3.13.17.139.16127
X	596592586395	3^2.5.13.47.97.467.479
377	560269012275	3^2.5^2.7^2.509.99839
X	609377554125	3^2.5^3.37.47.67.4649
378	560707456078	2.7.11^2.17.47.349.1187
X	586022374322	2.7.11.41.83.109.10259
379	563278944250	2.5^3.11.37.59.101.929
X	651354028550	2.5^2.389.33488639
380	564410695648	2^5.41.2399.179321
33	574355733152	2^5.151.2309.51479
381	565313652981	3^4.7.11^2.17.101.4799
22	569281470219	3^4.7.11^2.17.479.1019
382	565434513992	2^3.23.31.83.569.2099
54	592878446008	2^3.37.71.2687.10499
383	566196704073	3^3.7^2.11.13.43.79.881
43	623004601527	3^3.7^2.11.131.139.2351
384	567335624175	3^3.5^2.17.43.89.12919
33	574626999825	3^3.5^2.17.59.227.3739
385	567960954561	3^2.7^2.13.19.11.83.5711
32	626645811519	3^2.7^2.13.19.2351.2447
386	572459339744	2^5.47.131.659.4409
43	589359041056	2^5.1319.2969.4703
387	575054280801	3^2.7^2.13.19.11.127.3779
32	629591197599	3^2.7^2.13.19.223.25919
388	575452150636	2^2.11.17.37.179.116159
43	625883862164	2^2.11.199.2903.24623
389	576360306795	3.5.7.13.43.1399.7019
33	586016909205	3.5.7.13.239.349.5147
390	576443865470	2.5.11.43.109.683.1637
43	594858747010	2.5.11.719.797.9437
391	578430355635	3^3.5.11.37.53.139.1429
43	604703596365	3^3.5.11.227.233.7699
392	580147492275	3^2.5^2.13.17.103.227.499
42	623900443725	3^2.5^2.13.1999.106703
393	580249091092	2^2.11.17.29.1429.18719
43	634019964908	2^2.11.499.863.33461
394	580265547184	2^4.41.47.383.49139
44	599018973776	2^4.103.251.503.2879
395	582345957465	3^4.5.19.23.29.83.1367
43	618990055335	3^4.5.19.37.971.2239
396	585211548614	2.7.11.17.43.139.149.251
54	621872483386	2.7.11.41.89.839.1319
397	589105714275	3^2.5^2.13.23.419.20899
X	599505709725	3^3.5^2.13.461.148199
398	590316895250	2.5^3.17.83.179.9349
32	600600832750	2.5^3.17.2749.51407
399	590534086150	2.5^2.31.23.29.571199
33	633387577850	2.5^2.31.199.1427.1439
400	590681060775	3^4.5^2.13.53.181.2339
X	617010704505	3^4.5.13.89.433.3041

401	596755009125	3^3.5^3.11.19.79.10709
43	686388670875	3^3.5^3.149.239.5711
402	596829872650	2.5^2.11.439.587.4211
X	619307289590	2.5.11.34319.164051
403	597457475528	2^3.17.43.131.199.3919
54	631979964472	2^3.29.587.967.4799
404	598982692850	2.5^2.31.17.83.103.2659
X	645817634830	2.5.31.41.79.643187
405	599350646565	3^3.5.11.59.97.109.647
43	607733385435	3^3.5.11.43.1399.6803
406	601714675562	2.7^2.13.11.103.139.2999
X	653124364438	2.7^3.13.59.389.3191
407	602867842395	3.5.7^2.13.127.263.1889
44	620310643365	3.5.7^2.29.47.503.1231
408	602947856745	3^2.5.13.17.29.131.15959
44	639342792855	3^2.5.13.41.79.569.593
409	603127663875	3^3.5^3.11.17.911.1049
43	687563920125	3^3.5^3.71.1367.2099
410	603550329998	2.7.11.19.43.89.53899
44	625887110002	2.7.11.29.109.167.7699
411	603778547548	2^2.19.11.107.191.35339
44	627342655652	2^2.19.17.239.607.3347
412	604317392020	2^2.31.5.974705471
24	705686762348	2^2.31.67.113.311.2417
413	604740753045	3^2.5.13.11.71.883.1499
44	646324334955	3^2.5.13.59.67.269.1039
414	605116935410	2.5.13.43.89.743.1637
44	611020226830	2.5.13.61.139.467.1187
415	607940076375	3^3.5^3.19.37.89.2879
33	621290003625	3^3.5^3.19.113.179.479
416	612886983975	3^4.5^2.7.67.269.2399
43	709385528025	3^4.5^2.271.449.2879
417	615304489300	2^2.5^2.23.83.857.3761
X	796765882412	2^2.107.433.1451.2963
418	615778331625	3^4.5^3.19.59.227.239
32	623695332375	3^4.5^3.19.79.41039
419	615934292805	3^3.5.13.29.31.390389
33	643307691195	3^3.5.13.47.1013.7699
420	619582399695	3^3.5.7.59.2339.4751
44	661404736305	3^3.5.19.31.389.21383
421	622036877836	2^2.19.11.47.389.40697
44	657898942964	2^2.19.23.107.379.9281
422	623999325495	3.5.7.13.37.12355199
23	638010223305	3.5.7.13.467.569.1759
423	630766816888	2^3.13.53.151.359.2111
54	679781560712	2^3.59.113.461.27647
424	632352344048	2^4.23.251.389.17599
44	654565287952	2^4.109.269.839.1663
425	632995644028	2^2.17.11.19.4799.9281
44	714305219972	2^2.17.89.349.383.883
426	633433005064	2^3.31.29.61.89.16223
43	670197842936	2^3.31.233.1871.6199
427	634795194033	3^2.7.11^2.13.43.311.479
X	641236683087	3^3.7.11.13.4003.5927
428	634906508752	2^4.29.383.509.7019
44	643654515248	2^4.53.191.1699.2339
429	635860670522	2.7^2.11.29.41.43.83.139
52	701990798278	2.7^2.11.839.776159
430	639793202750	2.5^3.13.113.461.3779
X	664611979330	2.5.13.97.467.112859
431	639901098914	2.7.11^2.19.71.107.2617
X	659726042206	2.7.11.19.1427.158003
432	640723090256	2^4.29.79.181.269.359
53	675442669744	2^4.179.10399.22679
433	643563707290	2.5.7^3.31.1187.5099
X	752383812710	2.5.43.149.2447.4799
434	643657336850	2.5^2.11.167.599.11699
45	672508423150	2.5^2.59.79.107.149.181
435	645788320250	2.5^3.17.59.223.11549
44	661886047750	2.5^3.23.131.293.2999
436	645909337125	3^2.5^3.13.43.53.19379
X	661453679835	3^2.5.13.23.101.233.2089
437	646912406150	2.5^2.17.29.113.271.857
X	689183863930	2.5.17.61.1291.51479
438	647181877342	2.7.11.13.379.431.1979
X	663366500258	2.7^2.11.41.179.191.439
439	647209667572	2^2.31.13.17.23.251.4091
54	749788918796	2^2.31.53.97.743.1583
440	648492015015	3^2.5.13.19.41.59.89.271
53	698808848985	3^2.5.13.31.1889.20399
441	649579087395	3^2.5.7.83.479.51869
33	655453514205	3^2.5.7.227.2339.3919
442	650315688561	3^3.7.11.17.79.89.2617
33	652568663439	3^3.7.11.17.59.373.839
443	656265668175	3^2.5^2.13.19.71.166319
33	694997845425	3^2.5^2.13.191.419.2969
444	667314779775	3.5^2.7^2.17.29.439.839
X	743344932225	3.5^2.7.379.659.5669
445	667511066222	2.7.13.11^2.2339.12959
X	687715096978	2.7.13.17.179.467.2659
446	668371977988	2^2.13.11.67.107.389.419
53	746293929212	2^2.13.179.6551.12239
447	668625761380	2^2.5.17.181.1871.5807
54	827353715612	2^2.43.107.3041.14783
448	669809956305	3.5.17.19.7^2.29.271.359
X	776899291695	3.5.17.19.59.71.101.379
449	672454327028	2^2.11.17.269.727.4597
44	694065387532	2^2.11.43.197.389.4787
450	681411643185	3.5.7^2.13.109.433.1511
X	701034874575	3.5^2.7^2.41.1979.2351

451	687046181270	2.5.19.29.37.59.57119
44	719476698730	2.5.19.67.71.569.1399
452	689568374775	3.5^2.7^3.17.593.2659
X	721091337225	3.5^2.7.29.1259.37619
453	692702132325	3.5^2.7.31.29.233.6299
32	711208011675	3.5^2.7.31.83.526499
454	693139181104	2^4.67.107.109.55439
44	695246956496	2^4.43.197.479.10709
455	694902334425	3.5^2.13.19.23.41.39779
X	697308558375	3.5^3.13.11.59.433.509
456	695451636243	3^3.7.13.19.17.233.3761
X	724309106157	3^3.7^2.13.19.311.7127
457	695779684210	2.5.13.37.53.223.12239
53	721995378830	2.5.11.51407.127679
458	701877815350	2.5^2.31.19.197.311.389
43	732116117450	2.5^2.31.53.857.10399
459	704704593645	3^3.5.13.19.59.181.1979
43	748266926355	3^3.5.13.79.701.7699
460	708538803088	2^4.19.307.719.10559
43	743368268912	2^4.127.5399.67759
461	708896332832	2^5.71.307.883.1151
44	713853379552	2^5.197.271.383.1091
462	710706058376	2^3.17.37.11087.12739
44	738633032824	2^3.23.683.769.7643
463	711268727895	3^2.5.19.11.17.223.19949
44	794538120105	3^2.5.19.53.83.151.1399
464	711543988628	2^2.11.19.53.79.203279
44	763780939372	2^2.11.239.307.359.659
465	712963680975	3^2.7.13.5^2.37.503.1871
X	905276745009	3^2.7.13.251.743.5927
466	714215651625	3^2.5^3.7^3.71.131.199
X	827713308375	3^2.5^3.59.127.149.659
467	715475887425	3^2.5^2.13.29.71.118799
33	732306448575	3^2.5^2.13.43.647.8999
468	719988013250	2.5^3.11.41.67.191.499
53	819784402750	2.5^3.383.1999.4283
469	721804699744	2^5.43.4679.112111
33	732619791776	2^5.139.857.192191
470	722077245010	2.5.11.43.151.233.4339
43	745008855470	2.5.11.461.1823.8059
471	722121399675	3^3.5^2.13.151.233.2339
33	722736123525	3^3.5^2.13.179.227.2027
472	722512558988	2^2.17.11.29.311.107099
44	793200913012	2^2.17.41.233.499.2447
473	724792726125	3^2.5^3.13.29.179.9547
X	739076080275	3^2.5^2.13.59.103.41579
474	728576651924	2^2.11^2.43.47.89.8369
X	752616045676	2^2.11.59.109.227.11717
475	730514854736	2^4.43.71.83.180179
44	755875010224	2^4.107.251.1039.1693

476	731510325975	3.5^2.11.17.13.149.26927
33	783092733225	3.5^2.11.17.107.373.1399
477	731513240264	2^3.19.59.71.439.2617
55	761375079736	2^3.41.127.149.241.509
478	731739575655	3^3.5.11.19.3079.8423
33	762745416345	3^3.5.11.107.1759.2729
479	733853685776	2^4.47.59.83.349.571
53	767550218224	2^4.139.419.823679
480	738123895652	2^2.13.11.61.251.271.311
53	821152304284	2^2.13.191.431.191827
481	741717613035	3^3.5.7.29.233.116159
45	823933330965	3^3.5.43.53.79.109.311
482	742439213890	2.5.11.43.113.509.2729
43	766056574910	2.5.11.571.1019.11969
483	742480641272	2^3.19.67.113.769.839
42	761717438728	2^3.19.1861.2692799
484	744991529516	2^2.13.17.311.1291.2099
32	748266928084	2^2.13.17.19759.42839
485	747422144092	2^2.13.17.71.197.60449
44	772749308708	2^2.13.43.53.929.7019
486	748094781375	3^3.5^3.17.37.53.61.109
X	823783183425	3^3.5^2.47.89.197.1481
487	748704863907	3^2.7.13.19.11.83.151.349
43	812872608093	3^2.7.13.19.41.607.2099
488	755547067737	3^4.7^2.11.17.101.10079
X	776156348583	3^4.7.11.17.2659.2753
489	757036563350	2.5^2.17.19.83.659.857
X	835524006250	2.5^5.71.439.4289
490	757667717950	2.11.5^2.13.503.210671
X	901268103362	2.11^2.17.43.53.97.991
491	758152661816	2^3.11.509.3527.4799
45	796425258184	2^3.67.97.107.239.599
492	758209755303	3^4.7.11.13.1249.7487
X	763950884697	3^3.7.11.13.599.47189
493	760255477990	2.5.19.17.151.769.2027
43	777818659610	2.5.19.29.113.1249247
494	763085052345	3.5.7.11.41.59.113.2417
X	837372511815	3.5.7^2.53.127.169259
495	769535573499	3^4.7.11.23.29.113.1637
X	792201243141	3^4.7^2.11.31.139.4211
496	769927072250	2.7.5^3.43.167.197.311
X	939763758598	2.7.17.857.1151.4003
497	771207143330	2.5.13.29.131.1561559
34	787104811870	2.5.13.103.149.241.1637
498	775202644996	2^2.17.13.359.509.4799
44	779375275004	2^2.17.19.53.271.41999
499	776386120336	2^4.29.151.349.31751
44	794575831664	2^4.107.113.499.8231
500	776865970544	2^4.23.26399.79967
34	793833498256	2^4.67.223.659.5039

501	779698924785	3^3.5.11.19.179.263.587
42	829746451215	3^3.5.11.7349.76031
502	780194746790	2.5.19.23.89.131.15313
44	791683218010	2.5.19.37.61.269.6863
503	780933953475	3^2.5^2.13.19.431.32603
X	808409322045	3^2.5.13.19.1871.38873
504	784717150035	3.5.7^2.13.17.719.6719
43	883253512365	3.5.7^2.71.2699.6271
505	786103258941	3^2.7.13.11.17.29.379.467
X	891795800259	3^2.7^2.13.71.89.103.239
506	788373941750	2.5^3.17.67.1499.1847
32	799516362250	2.5^3.17.503.373999
507	788381778008	2^3.11.29.191.223.7253
53	896310394792	2^3.557.1559.129023
508	791745098625	3^2.5^3.13.29.127.14699
33	810926517375	3^2.5^3.13.79.199.3527
509	795004209675	3^2.5^2.13.19.131.109199
33	831516686325	3^2.5^2.13.79.839.4289
510	795771938325	3.5^2.7.13.2879.40499
34	824124381675	3.5^2.7.41.107.179.1999
511	795780231705	3^4.5.31.17.29.83.1549
43	837615224295	3^4.5.31.19.1259.2789
512	797878922841	3^2.7.11.13.43.107.19249
33	800389749159	3^2.7.11.13.41.199.10889
513	798954868485	3^3.5.17.23.47.307.1049
54	810490507515	3^3.5.13.29.383.41579
514	801725528175	3.5^2.11.13.41.43.109.389
42	849818766225	3.5^2.11.13.1979.40039
515	801803123625	3.5^3.7.17.23.781199
X	882889049175	3.5^2.7.107.3359.4679
516	805352624288	2^5.151.179.199.4679
43	808011855712	2^5.71.12479.28499
517	809304175550	2.5^2.13.109.1889.6047
43	827803542850	2.5^2.17.239.4074839
518	810024942350	2.5^2.31.13.2351.17099
33	865667806450	2.5^2.31.149.797.4703
519	810822203835	3.5.7^2.17.109.139.4283
33	813711722565	3.5.7^2.17.97.509.1319
520	813371408955	3^2.5.7.89.5303.5471
X	816587677125	3^2.5^3.11.79.647.1291
521	819288576590	2.5.11.53.659.213247
34	822345706930	2.5.11.167.197.223.1019
522	820550413215	3^4.5.13.29.37.337.431
43	871331138145	3^4.5.13.389.467.911
523	822317312115	3^3.5.13.17.113.149.1637
43	871715391885	3^3.5.13.89.269.20747
524	823635776372	2^2.19.17.29.31.379.1871
54	897286335628	2^2.19.37.107.233.12799
525	826610054985	3^2.5.13.11.59.191.11399
44	894312057015	3^2.5.13.71.79.479.569

526	829835344702	2.7^2.17.19.13.1019.1979
X	910736719298	2.7.17.19.4049.49741
527	830423262890	2.5.13.31.37.5569199
33	876157831510	2.5.13.227.3359.8839
528	837376745985	3^3.5.13.19.53.659.719
54	887029014015	3^3.5.17.47.89.92399
529	837728072181	3^2.7^2.13.11.17.349.2239
44	919046583819	3^2.7^2.13.29.79.167.419
530	837763941652	2^2.11.43.47.311.30293
44	839048219372	2^2.11.23.883.967.971
531	839956030641	3^2.7^2.13.19.17.453599
23	854076673359	3^2.7^2.13.19.29.167.1619
532	842171170113	3^3.7^2.19.13.23.89.1259
43	895298269887	3^3.7^2.19.17.97.21599
533	843014461916	2^2.11.23.29.139.197.1049
53	917316418084	2^2.11.251.839.98999
534	843751512555	3.5.7.19.17.1399.17783
X	877170599445	3.5.7^2.19.727.86399
535	844805053808	2^4.29.11423.159389
34	848605310992	2^4.41.229.1187.4759
536	845565678945	3^2.5.13.17.29.41.43.1663
53	967742778015	3^2.5.13.461.701.5119
537	851714112652	2^2.13.17.379.883.2879
32	854866981748	2^2.13.17.2399.403103
538	853403196338	2.7^3.19.11^2.179.3023
X	884066243662	2.7^2.19.17.199.293.479
539	853767176625	3^2.5^3.11.17.89.45599
44	943981815375	3^2.5^3.23.113.499.647
540	857080846028	2^2.19.11.29.139.419.607
54	944739313972	2^2.19.41.127.379.6299
541	857880924615	3^2.5.13.11.61.911.2399
44	920405257785	3^2.5.13.59.71.379.991
542	858457841175	3^2.5^2.31.11.37.302399
33	919828341225	3^2.5^2.31.23.503.11399
543	858686503906	2.7.11.17.23.41.109.3191
53	976081224734	2.7.11.293.593.36479
544	865213773795	3^3.5.7^2.23.2039.2789
X	1003452338205	3^3.5.37.53.1549.2447
545	868871008395	3^2.5.13.23.29.31.109.659
53	957721759605	3^2.5.13.47.2749.12671
546	869115993232	2^4.29.67.107.227.1151
53	924803474288	2^4.1367.2591.16319
547	872521204204	2^2.13.29.89.101.191.337
54	878969918996	2^2.13.19.311.1223.2339
548	876306157648	2^4.29.7127.264991
34	880336410032	2^4.53.181.191.30029
549	877990786695	3^3.5.19.11.23.419.3229
43	997373053305	3^3.5.19.349.911.1223
550	878968320165	3^2.5.13.19.37.127.16829
32	908878540635	3^2.5.13.19.911.89759

551	881811199269	3^3.7.13.11.19.1049.1637
44	967425280731	3^3.7.13.29.149.293.311
552	887823338090	2.5.13.19.131.359.7643
43	942920777110	2.5.13.1429.1889.2687
553	888071076068	2^2.11.23.41.2111.10139
44	925237380892	2^2.11.83.89.337.8447
554	889794427084	2^2.19.17.59.79.139.1063
55	912025732916	2^2.19.29.47.151.199.293
555	894745351768	2^3.23.29.47.71.109.461
64	1002100984232	2^3.167.599.863.1451
556	896617759125	3.5^3.11^2.19.17.131.467
X	949071205995	3.5.11.19.37.41.197.1013
557	899753818568	2^3.11.31.149.251.8819
53	1020607141432	2^3.293.15749.27647
558	901252100824	2^3.19.59.2417.41579
45	908475819176	2^3.43.53.61.499.1637
559	902123875125	3^3.5^3.11.113.359.599
44	941721244875	3^3.5^3.29.53.379.479
560	905059336005	3^2.5.11.19.43.191.11717
X	948102054075	3^2.5^2.11.3023.126719
561	909232853072	2^4.19.109.349.78623
43	967522026928	2^4.1583.2099.18199
562	914195856790	2.5.17.19.53.103.139.373
53	991272508010	2.5.17.131.1087.40949
563	916553602125	3^2.5^3.7.29.1439.2789
44	1038892669875	3^2.5^3.61.71.79.2699
564	921873362355	3^3.5.11.41.151.197.509
X	934736839245	3^3.5.11^2.71.659.1223
565	925817683736	2^3.11^2.271.419.8423
X	994086047464	2^3.37.479.1637.4283
566	929080053135	3^2.5.13.19.47.1301.1367
33	938120438385	3^2.5.13.19.151.167.3347
567	930440514250	2.5^3.13.97.1619.1823
X	966876114230	2.5.13.83.5039.17783
568	932510830335	3.5.7.17.23.83.131.2089
X	989626790145	3.5.7^2.43.71.191.2309
569	936354058185	3.5.7.13.79.83.233.449
42	965717749815	3.5.7.13.5669.124799
570	942132726045	3^2.5.7.109.349.78623
33	946730249955	3^2.5.7.149.3919.5147
571	942264545222	2.7^3.11.13.113.167.509
X	1026867486778	2.7^2.29.31.41.271.1049
572	943306896176	2^4.23.373.1091.6299
44	970983081424	2^4.103.149.1511.2617
573	948517698410	2.5.31.17.41.419.10477
X	967819648150	2.5^2.31.59.71.149057
574	953834723116	2^2.11^2.31.179.439.809
X	957381660884	2^2.11.43.47.2659.4049
575	955287146205	3^3.5.7^2.1013.142559
X	1022236744995	3^3.5.17.37.2027.5939
576	961708960695	3.5.7.17.29.67.149.1861
43	1007423071305	3.5.7.17.139.449.9043
577	964566465110	2.5.17.29.79.337.7349
54	967225214890	2.5.11.59.10139.14699
578	975003917408	2^5.107.139.197.10399
43	986507634592	2^5.149.311.665279
579	976614438328	2^3.19.83.103.809.929
54	997634201672	2^3.29.53.743.109199
580	978019675875	3^2.5^3.11.43.659.2789
X	993721981725	3^2.5^2.11.89.241.18719
581	978826752976	2^4.23.599.1259.3527
44	1005546239024	2^4.83.199.863.4409
582	980266849875	3^4.5^3.17.101.113.499
32	995144302125	3^4.5^3.17.179.32299
583	980507251125	3^3.5^3.17.83.103.1999
44	981947788875	3^3.5^3.23.31.389.1049
584	980735531992	2^3.23.61.101.109.7937
53	1007180983208	2^3.19.42767.154937
585	984703189544	2^3.17.79.109.840839
44	1013132650456	2^3.23.139.1559.25409
586	986631309152	2^5.41.479.1091.1439
43	1010544089248	2^5.293.2399.44927
587	995050721470	2.5.31.13.431.572879
34	1000661544770	2.5.31.17.83.743.3079