DUTCH NUMBER-NAMES ARE INTERESTING TOO

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Editor's note: In the November 1998 Word Ways, Dave Morice defined unique properties for each of the first 99 number-names. The following is a translation of Getalnamen on page 216 of Battus Opperlans! Taal- & letterkunde (Querido, 2003). Analogous English-language records, if they exist, are given in brackets at the end.

1 [een] most vowels per consonant [1]
2 [twee] only number-name written on the upper typewriter row [2]
3 [drie] largest number-name with a row of consonants followed by a row of vowels [3]
4 [vier] only number-name that specifies its length [4]
5 [vijf] only number-name that starts with the same Roman number
6 [zes] smallest number-name that is a multiple of its length [6]
7 [zeven] smallest number-name in which all letters appear in smaller number-names [7]
8 [acht] largest number-name with all letters in alphabetical order [40]
9 [negen] only palindromic number-name
10 [tien] only number-name written with the same number of straight lines [29]

11 [elf] largest number-name with letters all from first half of alphabet
12 [twaalf] smallest number-name with five different letters [8]
13 [dertien] the number-name equals the length of its 3-multiple, 4-multiple and 7-multiple
   [the 4-multiple, 5-multiple, 6-multiple and 9-multiple of nine each have 9 letters]
14 [veertien] smallest number-name containing three Es—in fact, containing three of any letter [11]
15 [vijftien] the first half of this number-name (5) is one-half of the second half (10)
16 [zestien] the first syllable specifies the number of different letters in the number-name [16]
17 [zeventien] the largest number-name that has no letter in the middle typewriter row [99]
18 [achtien] the smallest number-name in which the first half specifies its length
19 [negentien] the smallest number-name containing the same letters as its reversal, 91 [67]
20 [twintig] the largest and longest number-name in which all vowels are the same [77]

21 [eenentwintig] the number of letters in the number-name is equal to its reversal, 12
22 [twaeeentwintig] the number-name is the sum of its Roman numbers (setting W=VV)
23 [drieëntwintig] smallest prime number-name with a diaeresis to avoid ambiguity
24 [vierentwintig] number of different ways the letters in the first syllable can be rearranged
25 [vijfentwintig] the smallest multisyllabic number-name in which the first syllable is its square root
26 [zesentwintig] the number-name equals the number of letters in the alphabet [26]
27 [zevenentwintig] the smallest number-name with five syllables [77]
28 [achtentwintig] the smallest number-name with three different vowels in alphabetic order [24]
29 [negentwintig] the smallest number-name in which a letter appears four times [17]
30 [dertig] the largest number-name containing six letters [90]

31 [eenendertig] the smallest number-name containing three three-letter syllables [101]
32 [tweeëndertig] the number-name that is the fifth power of its first syllable
33 [drieëndertig] the smallest number-name that contains the letters of 3 twice [303]
34 [vierendertig] anagrams to “grieveend riet” also the smallest number-name that is a transdeletion of another number-name (43) [64 transdeletes to 46]
35 [vijfendertig] smallest number-name with ten different letters [84]
36 [zesendertig] the largest number-name in which the first syllable is its square root
37 [zevenendertig] smallest number-name that is one-third of a ten-letter number name (111, honderdelf) [13, one-third of thirty-nine]
38 [achtendertig] the next-to-smallest number-name with ten different letters [105]
39 [negenendertig] the smallest number-name with a value three times its length [33]
40 [veertig] smallest number-name in which half (20) and double (80) have the same number of letters as it does

41 [eenenveertig] the smallest number-name in which a letter appears five times [111]
42 [tweevenveertig] smallest number-name that is the product of the length of the first two syllables (6) and of the last two syllables (7)
43 [drieëvenveertig] anagrams to “grievene riet” also the smallest number-name that is a transaddition of another number-name (34) [46 transadds to 64]
44 [vierenveertig] the smallest number-name that contains the letters of 4 twice [404]

On page hg Corstius shows that the number-name 91 is even more remarkable.

Write the thirteen letters of the Dutch number-name eenennegentig (91) in seven rows, one under the other, so that there is a vertical column consisting solely of the letter n. Then in another vertical column one has the seven-letter word nittien, the Norwegian number-name for 91. 7x13, by the way, is equal to 91.

\[
\begin{array}{cccccccc}
E & E & N & E & N & E & G & E & N & T & I & G \\
N & T & I & G & E & E & N & E & N & E & G & E \\
E & N & T & I & G & E & E & N & E & N & E & G \\
E & N & T & I & G & E & E & M & E & N & N & E \\
N & T & I & G & E & E & N & E & N & E & G & E \\
E & G & E & N & T & I & G & E & E & N & E & N \\
E & E & N & E & N & E & G & E & N & E & N & N \\
\end{array}
\]

On page gg Corstius notes that the number-name 91 has considerable mathematical interest as well, for it is the first integer (other than the trivial example of one) that is simultaneously the sum of the first n integers \((1,3,6,10,...,91...),\) the sum of the first n squares \((1,5,14,30,55,91...),\) and a honeycomb tiling \((1,7,19,37,61,91...).\)