Two classes of numbers which not seem to be characterized by a Coman constant

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Abstract. In a previous paper I defined the notion of "Coman constant", based on the digital root of a number and useful to highlight the periodicity of some infinite sequences of non-null positive integers. In this paper I present two sequences that, in spite the fact that their terms can have only few values for digital root, don't seem to have a periodicity, in other words don't seem to be characterized by a Coman constant.

Note:

There are some known sequences of integers that, in spite the fact that their terms can have only few values for digital root, don't seem to have a periodicity, in other words don't seem to be characterized by a Coman constant. Such sequences are:

(1) The EPRN numbers sequence

S_n is the sequence of the EPRN numbers (defined by the Indian mathematician Shyam Sunder Gupta), which are the numbers that can be expressed in at least two different ways as the product of a number and its reversal (for instance, such a number is 2520 = 120*021 = 210*012). The sequence of these numbers is (A066531 in OEIS): 2520, 4030, 5740, 7360, 7650, 9760, 10080, 12070, 13000, 14580, 14620, 16120, 17290, 18550, 19440 (...). Though the value of digital root for the terms of this sequence can only be 1, 4, 7 or 9, the sequence of the values of digital root (9, 7, 7, 7, 9, 4, 9, 1, 4, 9, 4, 1, 1, 1, 9, ...) don't seem to have a periodicity.

(2) The congrua numbers sequence

S_n is the sequence of the congrua numbers n, numbers which are the possible solutions to the *congruum problem* (n = x^2 – y^2 = z^2 – x^2). The sequence of these numbers is (A057102 in OEIS): 24, 96, 120, 240, 336, 384, 480, 720, 840, 960, 1320, 1344, 1536, 1920, 1944, 2016, 2184, 2520, 2880, 3360 (...). Though the value of digital root for the terms of this sequence can only be 3, 6 or 9, the sequence of the values of digital root (6, 6, 3, 6, 3, 6, 3, 9, 3, 6, 6, 3, 6, 3, 9, 9, 6, 9, ...) don't seem to have a periodicity.