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# Floor Function and Narcissistic Numbers with Division

Inder J. Taneja<sup>1</sup>

Abstract

*Narcissistic numbers* are famous in literature. There are very few *narcissistic numbers* with division. In this work we brought some *narcissistic number* with division in terms of *floor function*.

## 1 Introduction

Narcissistic numbers are famous in literature. For historical detail refer to [7], [5], [6, 11, 12]. Rose [10], extended the study in little different form calling "wild or pretty wild or radical narcissistic numbers". Author [14, 18, 19] extended results of Rose [10], calling the numbers as "Selfie numbers". Below are some examples of "Selfie numbers":

- Order of Digits

$$24 = (2 \times \sqrt{4})!;$$

$$71 = \sqrt{7! + 1};$$

$$936 = (\sqrt{9}!)^3 + 6!;$$

$$1296 = \sqrt{(1 + 2)!^9/6};$$

$$2896 = 2 \times (8 + (\sqrt{9})!! + 6!), \text{ etc.}$$

- Reverse Order of Digits

$$24 = \sqrt{(4!)^2};$$

$$71 = \sqrt{1 + 7!};$$

$$936 = 6! + (3!)^{\sqrt{9}};$$

$$1296 = 6^{(\sqrt{9}+2-1)};$$

$$2896 = (6! + (\sqrt{9})!! + 8) \times 2.$$

These numbers are with same digits on both sides or reverse, while narcissistic numbers have extra power on each numbers. The reverse order representations are not known in the literature and are done by author [18] for first time. For more study on numbers in different aspects refer to [17]-[26].

### 1.1 Narcissistic Numbers with Division

There are very few *narcissistic numbers* that can be written in terms of division, such as,

$$\begin{aligned} 37 &:= \frac{3^3 + 7^3}{3 + 7}. & 48 &:= \frac{4^3 + 8^3}{4 + 8}. \\ 241 &:= \frac{2^8 + 4^8 + 1^8}{2^4 + 4^4 + 1^1}. & 415 &:= \frac{4^5 + 1^5 + 5^5}{4 + 1 + 5}. \\ 2464 &:= \frac{2^5 + 4^5 + 6^5 + 4^5}{2^0 + 4^0 + 6^0 + 4^0}. & 4714 &:= \frac{4^5 + 7^5 + 1^5 + 4^5}{4^0 + 7^0 + 1^0 + 4^0}. \\ 5247 &:= \frac{5^5 + 2^5 + 4^5 + 7^5}{5^0 + 2^0 + 4^0 + 7^0}. & 8200 &:= \frac{8^5 + 2^5 + 0^5 + 0^5}{8^0 + 2^0 + 0^0 + 0^0}. \\ 15501 &:= \frac{1^9 + 5^9 + 5^9 + 0^9 + 1^9}{1^3 + 5^3 + 5^3 + 0^3 + 1^3}. & 142740 &:= \frac{1^7 + 4^7 + 2^7 + 7^7 + 4^7 + 0^7}{1^0 + 4^0 + 2^0 + 7^0 + 4^0 + 0^0}. \\ 231591 &:= \frac{2^7 + 3^7 + 1^7 + 5^7 + 9^7 + 1^7}{2 + 3 + 1 + 5 + 9 + 1}. \end{aligned}$$

The extension of above study with flexible power along with subtraction refer to [27]. The aim of this work is to bring *narcissistic numbers* with division by use of "floor function". It is defined as:

$$\text{floor}(x) = \lfloor x \rfloor = \max \{n \in \mathbb{Z}, n \leq x\}, x \in \mathbb{R}.$$

<sup>1</sup>Formerly, Professor of Mathematics, Universidade Federal de Santa Catarina, 88.040-900 Florianópolis, SC, Brazil. e-mail: [ijtaneja@gmail.com](mailto:ijtaneja@gmail.com).

## 2 Floor Function Narcissistic Numbers with Division

In this section, we shall bring numbers in such a way that they becomes *narcissistic numbers* with division in terms of "floor function". Below are examples,

$$21 := \left\lfloor \frac{2^6 + 1^6}{2 + 1} \right\rfloor.$$

$$23 := \left\lfloor \frac{2^7 + 3^7}{2^4 + 3^4} \right\rfloor.$$

$$47 := \left\lfloor \frac{4^7 + 7^7}{4^5 + 7^5} \right\rfloor.$$

$$:= \left\lfloor \frac{4^8 + 7^8}{4^6 + 7^6} \right\rfloor.$$

$$58 := \left\lfloor \frac{5^6 + 8^6}{5^4 + 8^4} \right\rfloor.$$

$$79 := \left\lfloor \frac{7^{13} + 9^{13}}{7^{11} + 9^{11}} \right\rfloor.$$

$$:= \left\lfloor \frac{7^{14} + 9^{14}}{7^{12} + 9^{12}} \right\rfloor.$$

$$:= \left\lfloor \frac{7^{15} + 9^{15}}{7^{13} + 9^{13}} \right\rfloor.$$

$$102 := \left\lfloor \frac{1^9 + 0^9 + 2^9}{1^2 + 0^2 + 2^2} \right\rfloor.$$

$$115 := \left\lfloor \frac{1^5 + 1^5 + 5^5}{1^2 + 1^2 + 5^2} \right\rfloor.$$

$$120 := \left\lfloor \frac{1^{11} + 2^{11} + 0^{11}}{1^4 + 2^4 + 0^4} \right\rfloor.$$

$$132 := \left\lfloor \frac{1^6 + 3^6 + 2^6}{1 + 3 + 2} \right\rfloor.$$

$$231 := \left\lfloor \frac{2^{12} + 3^{12} + 1^{12}}{2^7 + 3^7 + 1^7} \right\rfloor.$$

$$232 := \left\lfloor \frac{2^{14} + 3^{14} + 2^{14}}{2^9 + 3^9 + 2^9} \right\rfloor.$$

$$243 := \left\lfloor \frac{2^{13} + 4^{13} + 3^{13}}{2^9 + 4^9 + 3^9} \right\rfloor.$$

$$276 := \left\lfloor \frac{2^5 + 7^5 + 6^5}{2^2 + 7^2 + 6^2} \right\rfloor.$$

$$508 := \left\lfloor \frac{5^{13} + 0^{13} + 8^{13}}{5^{10} + 0^{10} + 8^{10}} \right\rfloor.$$

$$1020 := \left\lfloor \frac{1^{18} + 0^{18} + 2^{18} + 0^{18}}{1^8 + 0^8 + 2^8 + 0^8} \right\rfloor.$$

$$1022 := \left\lfloor \frac{1^{18} + 0^{18} + 2^{18} + 2^{18}}{1^8 + 0^8 + 2^8 + 2^8} \right\rfloor.$$

$$2357 := \left\lfloor \frac{2^{15} + 3^{15} + 5^{15} + 7^{15}}{2^{11} + 3^{11} + 5^{11} + 7^{11}} \right\rfloor.$$

$$2374 := \left\lfloor \frac{2^{12} + 3^{12} + 7^{12} + 4^{12}}{2^8 + 3^8 + 7^8 + 4^8} \right\rfloor.$$

$$2785 := \left\lfloor \frac{2^6 + 7^6 + 8^6 + 5^6}{2^2 + 7^2 + 8^2 + 5^2} \right\rfloor.$$

$$3387 := \left\lfloor \frac{3^8 + 3^8 + 8^8 + 7^8}{3^4 + 3^4 + 8^4 + 7^4} \right\rfloor.$$

$$3856 := \left\lfloor \frac{3^{13} + 8^{13} + 5^{13} + 6^{13}}{3^9 + 8^9 + 5^9 + 6^9} \right\rfloor.$$

$$4043 := \left\lfloor \frac{4^{18} + 0^{18} + 4^{18} + 3^{18}}{4^{12} + 0^{12} + 4^{12} + 3^{12}} \right\rfloor.$$

$$4068 := \left\lfloor \frac{4^{20} + 0^{20} + 6^{20} + 8^{20}}{4^{16} + 0^{16} + 6^{16} + 8^{16}} \right\rfloor.$$

$$4078 := \left\lfloor \frac{4^{38} + 0^{38} + 7^{38} + 8^{38}}{4^{34} + 0^{34} + 7^{34} + 8^{34}} \right\rfloor.$$

$$4081 := \left\lfloor \frac{4^{12} + 0^{12} + 8^{12} + 1^{12}}{4^8 + 0^8 + 8^8 + 1^8} \right\rfloor.$$

$$4087 := \left[ \frac{4^{44} + 0^{44} + 8^{44} + 7^{44}}{4^{40} + 0^{40} + 8^{40} + 7^{40}} \right].$$

$$16704 := \left[ \frac{1^{34} + 6^{34} + 7^{34} + 0^{34} + 4^{34}}{1^{29} + 6^{29} + 7^{29} + 0^{29} + 4^{29}} \right].$$

$$4088 := \left[ \frac{4^{12} + 0^{12} + 8^{12} + 8^{12}}{4^8 + 0^8 + 8^8 + 8^8} \right].$$

$$16731 := \left[ \frac{1^{36} + 6^{36} + 7^{36} + 3^{36} + 1^{36}}{1^{31} + 6^{31} + 7^{31} + 3^{31} + 1^{31}} \right].$$

$$6094 := \left[ \frac{6^{10} + 0^{10} + 9^{10} + 4^{10}}{6^6 + 0^6 + 9^6 + 4^6} \right].$$

$$16737 := \left[ \frac{1^{32} + 6^{32} + 7^{32} + 3^{32} + 7^{32}}{1^{27} + 6^{27} + 7^{27} + 3^{27} + 7^{27}} \right].$$

$$6479 := \left[ \frac{6^{20} + 4^{20} + 7^{20} + 9^{20}}{6^{16} + 4^{16} + 7^{16} + 9^{16}} \right].$$

$$16742 := \left[ \frac{1^{37} + 6^{37} + 7^{37} + 4^{37} + 2^{37}}{1^{32} + 6^{32} + 7^{32} + 4^{32} + 2^{32}} \right].$$

$$6498 := \left[ \frac{6^{35} + 4^{35} + 9^{35} + 8^{35}}{6^{31} + 4^{31} + 9^{31} + 8^{31}} \right].$$

$$16747 := \left[ \frac{1^{33} + 6^{33} + 7^{33} + 4^{33} + 7^{33}}{1^{28} + 6^{28} + 7^{28} + 4^{28} + 7^{28}} \right].$$

$$6559 := \left[ \frac{6^{24} + 5^{24} + 5^{24} + 9^{24}}{6^{20} + 5^{20} + 5^{20} + 9^{20}} \right].$$

$$16751 := \left[ \frac{1^{38} + 6^{38} + 7^{38} + 5^{38} + 1^{38}}{1^{33} + 6^{33} + 7^{33} + 5^{33} + 1^{33}} \right].$$

$$6559 := \left[ \frac{6^{25} + 5^{25} + 5^{25} + 9^{25}}{6^{21} + 5^{21} + 5^{21} + 9^{21}} \right].$$

$$16762 := \left[ \frac{1^{44} + 6^{44} + 7^{44} + 6^{44} + 2^{44}}{1^{39} + 6^{39} + 7^{39} + 6^{39} + 2^{39}} \right].$$

$$15024 := \left[ \frac{1^{19} + 5^{19} + 0^{19} + 2^{19} + 4^{19}}{1^{13} + 5^{13} + 0^{13} + 2^{13} + 4^{13}} \right].$$

$$16774 := \left[ \frac{1^{37} + 6^{37} + 7^{37} + 7^{37} + 4^{37}}{1^{32} + 6^{32} + 7^{32} + 7^{32} + 4^{32}} \right].$$

$$15330 := \left[ \frac{1^{15} + 5^{15} + 3^{15} + 3^{15} + 0^{15}}{1^9 + 5^9 + 3^9 + 3^9 + 0^9} \right].$$

$$16776 := \left[ \frac{1^{42} + 6^{42} + 7^{42} + 7^{42} + 6^{42}}{1^{37} + 6^{37} + 7^{37} + 7^{37} + 6^{37}} \right].$$

$$15420 := \left[ \frac{1^{24} + 5^{24} + 4^{24} + 2^{24} + 0^{24}}{1^{18} + 5^{18} + 4^{18} + 2^{18} + 0^{18}} \right].$$

$$16777 := \left[ \frac{1^{35} + 6^{35} + 7^{35} + 7^{35} + 7^{35}}{1^{30} + 6^{30} + 7^{30} + 7^{30} + 7^{30}} \right].$$

$$15425 := \left[ \frac{1^{21} + 5^{21} + 4^{21} + 2^{21} + 5^{21}}{1^{15} + 5^{15} + 4^{15} + 2^{15} + 5^{15}} \right].$$

$$21865 := \left[ \frac{2^8 + 1^8 + 8^8 + 6^8 + 5^8}{2^3 + 1^3 + 8^3 + 6^3 + 5^3} \right].$$

$$15542 := \left[ \frac{1^{25} + 5^{25} + 5^{25} + 4^{25} + 2^{25}}{1^{19} + 5^{19} + 5^{19} + 4^{19} + 2^{19}} \right].$$

$$30584 := \left[ \frac{3^{11} + 0^{11} + 5^{11} + 8^{11} + 4^{11}}{3^6 + 0^6 + 5^6 + 8^6 + 4^6} \right].$$

$$15764 := \left[ \frac{1^{19} + 5^{19} + 7^{19} + 6^{19} + 4^{19}}{1^{14} + 5^{14} + 7^{14} + 6^{14} + 4^{14}} \right].$$

$$30870 := \left[ \frac{3^{20} + 0^{20} + 8^{20} + 7^{20} + 0^{20}}{3^{15} + 0^{15} + 8^{15} + 7^{15} + 0^{15}} \right].$$

$$16547 := \left[ \frac{1^{28} + 6^{28} + 5^{28} + 4^{28} + 7^{28}}{1^{23} + 6^{23} + 5^{23} + 4^{23} + 7^{23}} \right].$$

$$31878 := \left[ \frac{3^{21} + 1^{21} + 8^{21} + 7^{21} + 8^{21}}{3^{16} + 1^{16} + 8^{16} + 7^{16} + 8^{16}} \right].$$

$$16657 := \left[ \frac{1^{36} + 6^{36} + 6^{36} + 5^{36} + 7^{36}}{1^{31} + 6^{31} + 6^{31} + 5^{31} + 7^{31}} \right].$$

$$32184 := \left[ \frac{3^{11} + 2^{11} + 1^{11} + 8^{11} + 4^{11}}{3^6 + 2^6 + 1^6 + 8^6 + 4^6} \right].$$

$$32287 := \left[ \frac{3^{31} + 2^{31} + 2^{31} + 8^{31} + 7^{31}}{3^{26} + 2^{26} + 2^{26} + 8^{26} + 7^{26}} \right].$$

$$55918 := \left[ \frac{5^{22} + 5^{22} + 9^{22} + 1^{22} + 8^{22}}{5^{17} + 5^{17} + 9^{17} + 1^{17} + 8^{17}} \right].$$

$$32558 := \left[ \frac{3^{17} + 2^{17} + 5^{17} + 5^{17} + 8^{17}}{3^{12} + 2^{12} + 5^{12} + 5^{12} + 8^{12}} \right].$$

$$56494 := \left[ \frac{5^{13} + 6^{13} + 4^{13} + 9^{13} + 4^{13}}{5^8 + 6^8 + 4^8 + 9^8 + 4^8} \right].$$

$$32584 := \left[ \frac{3^{16} + 2^{16} + 5^{16} + 8^{16} + 4^{16}}{3^{11} + 2^{11} + 5^{11} + 8^{11} + 4^{11}} \right].$$

$$56955 := \left[ \frac{5^{14} + 6^{14} + 9^{14} + 5^{14} + 5^{14}}{5^9 + 6^9 + 9^9 + 5^9 + 5^9} \right].$$

$$32658 := \left[ \frac{3^{24} + 2^{24} + 6^{24} + 5^{24} + 8^{24}}{3^{19} + 2^{19} + 6^{19} + 5^{19} + 8^{19}} \right].$$

$$57179 := \left[ \frac{5^{20} + 7^{20} + 1^{20} + 7^{20} + 9^{20}}{5^{15} + 7^{15} + 1^{15} + 7^{15} + 9^{15}} \right].$$

$$32728 := \left[ \frac{3^{50} + 2^{50} + 7^{50} + 2^{50} + 8^{50}}{3^{45} + 2^{45} + 7^{45} + 2^{45} + 8^{45}} \right].$$

$$58099 := \left[ \frac{5^{27} + 8^{27} + 0^{27} + 9^{27} + 9^{27}}{5^{22} + 8^{22} + 0^{22} + 9^{22} + 9^{22}} \right].$$

$$33236 := \left[ \frac{3^9 + 3^9 + 2^9 + 3^9 + 6^9}{3^3 + 3^3 + 2^3 + 3^3 + 6^3} \right].$$

$$58629 := \left[ \frac{5^{40} + 8^{40} + 6^{40} + 2^{40} + 9^{40}}{5^{35} + 8^{35} + 6^{35} + 2^{35} + 9^{35}} \right].$$

$$46505 := \left[ \frac{4^{39} + 6^{39} + 5^{39} + 0^{39} + 5^{39}}{4^{33} + 6^{33} + 5^{33} + 0^{33} + 5^{33}} \right].$$

$$58902 := \left[ \frac{5^{49} + 8^{49} + 9^{49} + 0^{49} + 2^{49}}{5^{44} + 8^{44} + 9^{44} + 0^{44} + 2^{44}} \right].$$

$$46551 := \left[ \frac{4^{41} + 6^{41} + 5^{41} + 5^{41} + 1^{41}}{4^{35} + 6^{35} + 5^{35} + 5^{35} + 1^{35}} \right].$$

$$58917 := \left[ \frac{5^{50} + 8^{50} + 9^{50} + 1^{50} + 7^{50}}{5^{45} + 8^{45} + 9^{45} + 1^{45} + 7^{45}} \right].$$

$$46561 := \left[ \frac{4^{34} + 6^{34} + 5^{34} + 6^{34} + 1^{34}}{4^{28} + 6^{28} + 5^{28} + 6^{28} + 1^{28}} \right].$$

$$58999 := \left[ \frac{5^{49} + 8^{49} + 9^{49} + 9^{49} + 9^{49}}{5^{44} + 8^{44} + 9^{44} + 9^{44} + 9^{44}} \right].$$

$$46565 := \left[ \frac{4^{38} + 6^{38} + 5^{38} + 6^{38} + 5^{38}}{4^{32} + 6^{32} + 5^{32} + 6^{32} + 5^{32}} \right].$$

$$59000 := \left[ \frac{5^{17} + 9^{17} + 0^{17} + 0^{17} + 0^{17}}{5^{12} + 9^{12} + 0^{12} + 0^{12} + 0^{12}} \right].$$

$$46623 := \left[ \frac{4^{22} + 6^{22} + 6^{22} + 2^{22} + 3^{22}}{4^{16} + 6^{16} + 6^{16} + 2^{16} + 3^{16}} \right].$$

$$59022 := \left[ \frac{5^{18} + 9^{18} + 0^{18} + 2^{18} + 2^{18}}{5^{13} + 9^{13} + 0^{13} + 2^{13} + 2^{13}} \right].$$

$$46643 := \left[ \frac{4^{26} + 6^{26} + 6^{26} + 4^{26} + 3^{26}}{4^{20} + 6^{20} + 6^{20} + 4^{20} + 3^{20}} \right].$$

$$59040 := \left[ \frac{5^{20} + 9^{20} + 0^{20} + 4^{20} + 0^{20}}{5^{15} + 9^{15} + 0^{15} + 4^{15} + 0^{15}} \right].$$

$$46645 := \left[ \frac{4^{46} + 6^{46} + 6^{46} + 4^{46} + 5^{46}}{4^{40} + 6^{40} + 6^{40} + 4^{40} + 5^{40}} \right].$$

$$59044 := \left[ \frac{5^{21} + 9^{21} + 0^{21} + 4^{21} + 4^{21}}{5^{16} + 9^{16} + 0^{16} + 4^{16} + 4^{16}} \right].$$

$$46650 := \left[ \frac{4^{50} + 6^{50} + 6^{50} + 5^{50} + 0^{50}}{4^{44} + 6^{44} + 6^{44} + 5^{44} + 0^{44}} \right].$$

$$59046 := \left[ \frac{5^{30} + 9^{30} + 0^{30} + 4^{30} + 6^{30}}{5^{25} + 9^{25} + 0^{25} + 4^{25} + 6^{25}} \right].$$

$$54976 := \left[ \frac{5^{15} + 4^{15} + 9^{15} + 7^{15} + 6^{15}}{5^{10} + 4^{10} + 9^{10} + 7^{10} + 6^{10}} \right].$$

$$59047 := \left[ \frac{5^{45} + 9^{45} + 0^{45} + 4^{45} + 7^{45}}{5^{40} + 9^{40} + 0^{40} + 4^{40} + 7^{40}} \right].$$

$$59047 := \left[ \frac{5^{46} + 9^{46} + 0^{46} + 4^{46} + 7^{46}}{5^{41} + 9^{41} + 0^{41} + 4^{41} + 7^{41}} \right].$$

$$201817 := \left[ \frac{2^9 + 0^9 + 1^9 + 8^9 + 1^9 + 7^9}{2^3 + 0^3 + 1^3 + 8^3 + 1^3 + 7^3} \right].$$

$$59047 := \left[ \frac{5^{47} + 9^{47} + 0^{47} + 4^{47} + 7^{47}}{5^{42} + 9^{42} + 0^{42} + 4^{42} + 7^{42}} \right].$$

$$205679 := \left[ \frac{2^7 + 0^7 + 5^7 + 6^7 + 7^7 + 9^7}{2 + 0 + 5 + 6 + 7 + 9} \right].$$

$$101627 := \left[ \frac{1^{14} + 0^{14} + 1^{14} + 6^{14} + 2^{14} + 7^{14}}{1^8 + 0^8 + 1^8 + 6^8 + 2^8 + 7^8} \right].$$

$$215873 := \left[ \frac{2^{13} + 1^{13} + 5^{13} + 8^{13} + 7^{13} + 3^{13}}{2^7 + 1^7 + 5^7 + 8^7 + 7^7 + 3^7} \right].$$

$$113476 := \left[ \frac{1^{24} + 1^{24} + 3^{24} + 4^{24} + 7^{24} + 6^{24}}{1^{18} + 1^{18} + 3^{18} + 4^{18} + 7^{18} + 6^{18}} \right].$$

$$228764 := \left[ \frac{2^{17} + 2^{17} + 8^{17} + 7^{17} + 6^{17} + 4^{17}}{2^{11} + 2^{11} + 8^{11} + 7^{11} + 6^{11} + 4^{11}} \right].$$

$$115743 := \left[ \frac{1^{18} + 1^{18} + 5^{18} + 7^{18} + 4^{18} + 3^{18}}{1^{12} + 1^{12} + 5^{12} + 7^{12} + 4^{12} + 3^{12}} \right].$$

$$253364 := \left[ \frac{2^{18} + 5^{18} + 3^{18} + 3^{18} + 6^{18} + 4^{18}}{2^{11} + 5^{11} + 3^{11} + 3^{11} + 6^{11} + 4^{11}} \right].$$

$$116705 := \left[ \frac{1^{34} + 1^{34} + 6^{34} + 7^{34} + 0^{34} + 5^{34}}{1^{28} + 1^{28} + 6^{28} + 7^{28} + 0^{28} + 5^{28}} \right].$$

$$257885 := \left[ \frac{2^{27} + 5^{27} + 7^{27} + 8^{27} + 8^{27} + 5^{27}}{2^{21} + 5^{21} + 7^{21} + 8^{21} + 8^{21} + 5^{21}} \right].$$

$$116713 := \left[ \frac{1^{34} + 1^{34} + 6^{34} + 7^{34} + 1^{34} + 3^{34}}{1^{28} + 1^{28} + 6^{28} + 7^{28} + 1^{28} + 3^{28}} \right].$$

$$258787 := \left[ \frac{2^{34} + 5^{34} + 8^{34} + 7^{34} + 8^{34} + 7^{34}}{2^{28} + 5^{28} + 8^{28} + 7^{28} + 8^{28} + 7^{28}} \right].$$

$$117315 := \left[ \frac{1^{23} + 1^{23} + 7^{23} + 3^{23} + 1^{23} + 5^{23}}{1^{17} + 1^{17} + 7^{17} + 3^{17} + 1^{17} + 5^{17}} \right].$$

$$261738 := \left[ \frac{2^{50} + 6^{50} + 1^{50} + 7^{50} + 3^{50} + 8^{50}}{2^{44} + 6^{44} + 1^{44} + 7^{44} + 3^{44} + 8^{44}} \right].$$

$$117320 := \left[ \frac{1^{13} + 1^{13} + 7^{13} + 3^{13} + 2^{13} + 0^{13}}{1^7 + 1^7 + 7^7 + 3^7 + 2^7 + 0^7} \right].$$

$$261851 := \left[ \frac{2^{29} + 6^{29} + 1^{29} + 8^{29} + 5^{29} + 1^{29}}{2^{23} + 6^{23} + 1^{23} + 8^{23} + 5^{23} + 1^{23}} \right].$$

$$117405 := \left[ \frac{1^{24} + 1^{24} + 7^{24} + 4^{24} + 0^{24} + 5^{24}}{1^{18} + 1^{18} + 7^{18} + 4^{18} + 0^{18} + 5^{18}} \right].$$

$$261878 := \left[ \frac{2^{48} + 6^{48} + 1^{48} + 8^{48} + 7^{48} + 8^{48}}{2^{42} + 6^{42} + 1^{42} + 8^{42} + 7^{42} + 8^{42}} \right].$$

$$117446 := \left[ \frac{1^{44} + 1^{44} + 7^{44} + 4^{44} + 4^{44} + 6^{44}}{1^{38} + 1^{38} + 7^{38} + 4^{38} + 4^{38} + 6^{38}} \right].$$

$$262086 := \left[ \frac{2^{37} + 6^{37} + 2^{37} + 0^{37} + 8^{37} + 6^{37}}{2^{31} + 6^{31} + 2^{31} + 0^{31} + 8^{31} + 6^{31}} \right].$$

$$133201 := \left[ \frac{1^{13} + 3^{13} + 3^{13} + 2^{13} + 0^{13} + 1^{13}}{1^2 + 3^2 + 3^2 + 2^2 + 0^2 + 1^2} \right].$$

$$262138 := \left[ \frac{2^{43} + 6^{43} + 2^{43} + 1^{43} + 3^{43} + 8^{43}}{2^{37} + 6^{37} + 2^{37} + 1^{37} + 3^{37} + 8^{37}} \right].$$

$$142867 := \left[ \frac{1^8 + 4^8 + 2^8 + 8^8 + 6^8 + 7^8}{1^2 + 4^2 + 2^2 + 8^2 + 6^2 + 7^2} \right].$$

$$265323 := \left[ \frac{2^{21} + 6^{21} + 5^{21} + 3^{21} + 2^{21} + 3^{21}}{2^{14} + 6^{14} + 5^{14} + 3^{14} + 2^{14} + 3^{14}} \right].$$

$$160555 := \left[ \frac{1^{11} + 6^{11} + 0^{11} + 5^{11} + 5^{11} + 5^{11}}{1^4 + 6^4 + 0^4 + 5^4 + 5^4 + 5^4} \right].$$

$$388921 := \left[ \frac{3^{11} + 8^{11} + 8^{11} + 9^{11} + 2^{11} + 1^{11}}{3^5 + 8^5 + 8^5 + 9^5 + 2^5 + 1^5} \right].$$

$$174368 := \left[ \frac{1^{10} + 7^{10} + 4^{10} + 3^{10} + 6^{10} + 8^{10}}{1^4 + 7^4 + 4^4 + 3^4 + 6^4 + 8^4} \right].$$

$$468198 := \left[ \frac{4^{22} + 6^{22} + 8^{22} + 1^{22} + 9^{22} + 8^{22}}{4^{16} + 6^{16} + 8^{16} + 1^{16} + 9^{16} + 8^{16}} \right].$$

$$478925 := \left[ \frac{4^{20} + 7^{20} + 8^{20} + 9^{20} + 2^{20} + 5^{20}}{4^{14} + 7^{14} + 8^{14} + 9^{14} + 2^{14} + 5^{14}} \right].$$

$$710033 := \left[ \frac{7^{10} + 1^{10} + 0^{10} + 0^{10} + 3^{10} + 3^{10}}{7^3 + 1^3 + 0^3 + 0^3 + 3^3 + 3^3} \right].$$

$$485399 := \left[ \frac{4^{14} + 8^{14} + 5^{14} + 3^{14} + 9^{14} + 9^{14}}{4^8 + 8^8 + 5^8 + 3^8 + 9^8 + 9^8} \right].$$

$$767236 := \left[ \frac{7^{21} + 6^{21} + 7^{21} + 2^{21} + 3^{21} + 6^{21}}{7^{14} + 6^{14} + 7^{14} + 2^{14} + 3^{14} + 6^{14}} \right].$$

$$488396 := \left[ \frac{4^{26} + 8^{26} + 8^{26} + 3^{26} + 9^{26} + 6^{26}}{4^{20} + 8^{20} + 8^{20} + 3^{20} + 9^{20} + 6^{20}} \right].$$

$$777476 := \left[ \frac{7^{14} + 7^{14} + 7^{14} + 4^{14} + 7^{14} + 6^{14}}{7^7 + 7^7 + 7^7 + 4^7 + 7^7 + 6^7} \right].$$

$$491268 := \left[ \frac{4^{21} + 9^{21} + 1^{21} + 2^{21} + 6^{21} + 8^{21}}{4^{15} + 9^{15} + 1^{15} + 2^{15} + 6^{15} + 8^{15}} \right].$$

$$1601052 := \left[ \frac{1^{23} + 6^{23} + 0^{23} + 1^{23} + 0^{23} + 5^{23} + 2^{23}}{1^{15} + 6^{15} + 0^{15} + 1^{15} + 0^{15} + 5^{15} + 2^{15}} \right].$$

$$492588 := \left[ \frac{4^{27} + 9^{27} + 2^{27} + 5^{27} + 8^{27} + 8^{27}}{4^{21} + 9^{21} + 2^{21} + 5^{21} + 8^{21} + 8^{21}} \right].$$

$$1651206 := \left[ \frac{1^{25} + 6^{25} + 5^{25} + 1^{25} + 2^{25} + 0^{25} + 6^{25}}{1^{17} + 6^{17} + 5^{17} + 1^{17} + 2^{17} + 0^{17} + 6^{17}} \right].$$

$$493352 := \left[ \frac{4^{11} + 9^{11} + 3^{11} + 3^{11} + 5^{11} + 2^{11}}{4^5 + 9^5 + 3^5 + 3^5 + 5^5 + 2^5} \right].$$

$$1663334 := \left[ \frac{1^{18} + 6^{18} + 6^{18} + 3^{18} + 3^{18} + 3^{18} + 4^{18}}{1^{10} + 6^{10} + 6^{10} + 3^{10} + 3^{10} + 3^{10} + 4^{10}} \right].$$

$$509144 := \left[ \frac{5^{12} + 0^{12} + 9^{12} + 1^{12} + 4^{12} + 4^{12}}{5^6 + 0^6 + 9^6 + 1^6 + 4^6 + 4^6} \right].$$

$$1665440 := \left[ \frac{1^{29} + 6^{29} + 6^{29} + 5^{29} + 4^{29} + 4^{29} + 0^{29}}{1^{21} + 6^{21} + 6^{21} + 5^{21} + 4^{21} + 4^{21} + 0^{21}} \right].$$

$$519443 := \left[ \frac{5^{13} + 1^{13} + 9^{13} + 4^{13} + 4^{13} + 3^{13}}{5^7 + 1^7 + 9^7 + 4^7 + 4^7 + 3^7} \right].$$

$$1668707 := \left[ \frac{1^{19} + 6^{19} + 6^{19} + 8^{19} + 7^{19} + 0^{19} + 7^{19}}{1^{12} + 6^{12} + 6^{12} + 8^{12} + 7^{12} + 0^{12} + 7^{12}} \right].$$

$$525941 := \left[ \frac{5^{15} + 2^{15} + 5^{15} + 9^{15} + 4^{15} + 1^{15}}{5^9 + 2^9 + 5^9 + 9^9 + 4^9 + 1^9} \right].$$

$$1887301 := \left[ \frac{1^{14} + 8^{14} + 8^{14} + 7^{14} + 3^{14} + 0^{14} + 1^{14}}{1^7 + 8^7 + 8^7 + 7^7 + 3^7 + 0^7 + 1^7} \right].$$

$$529109 := \left[ \frac{5^{14} + 2^{14} + 9^{14} + 1^{14} + 0^{14} + 9^{14}}{5^8 + 2^8 + 9^8 + 1^8 + 0^8 + 9^8} \right].$$

$$2040718 := \left[ \frac{2^{30} + 0^{30} + 4^{30} + 0^{30} + 7^{30} + 1^{30} + 8^{30}}{2^{23} + 0^{23} + 4^{23} + 0^{23} + 7^{23} + 1^{23} + 8^{23}} \right].$$

$$529337 := \left[ \frac{5^{27} + 2^{27} + 9^{27} + 3^{27} + 3^{27} + 7^{27}}{5^{21} + 2^{21} + 9^{21} + 3^{21} + 3^{21} + 7^{21}} \right].$$

$$2051181 := \left[ \frac{2^{15} + 0^{15} + 5^{15} + 1^{15} + 1^{15} + 8^{15} + 1^{15}}{2^8 + 0^8 + 5^8 + 1^8 + 1^8 + 8^8 + 1^8} \right].$$

$$529643 := \left[ \frac{5^{20} + 2^{20} + 9^{20} + 6^{20} + 4^{20} + 3^{20}}{5^{14} + 2^{14} + 9^{14} + 6^{14} + 4^{14} + 3^{14}} \right].$$

$$2069654 := \left[ \frac{2^9 + 0^9 + 6^9 + 9^9 + 6^9 + 5^9 + 4^9}{2^2 + 0^2 + 6^2 + 9^2 + 6^2 + 5^2 + 4^2} \right].$$

$$530973 := \left[ \frac{5^{33} + 3^{33} + 0^{33} + 9^{33} + 7^{33} + 3^{33}}{5^{27} + 3^{27} + 0^{27} + 9^{27} + 7^{27} + 3^{27}} \right].$$

$$2081670 := \left[ \frac{2^{40} + 0^{40} + 8^{40} + 1^{40} + 6^{40} + 7^{40} + 0^{40}}{2^{33} + 0^{33} + 8^{33} + 1^{33} + 6^{33} + 7^{33} + 0^{33}} \right].$$

$$531439 := \left[ \frac{5^{28} + 3^{28} + 1^{28} + 4^{28} + 3^{28} + 9^{28}}{5^{22} + 3^{22} + 1^{22} + 4^{22} + 3^{22} + 9^{22}} \right].$$

$$2083702 := \left[ \frac{2^{41} + 0^{41} + 8^{41} + 3^{41} + 7^{41} + 0^{41} + 2^{41}}{2^{34} + 0^{34} + 8^{34} + 3^{34} + 7^{34} + 0^{34} + 2^{34}} \right].$$

$$627211 := \left[ \frac{6^{11} + 2^{11} + 7^{11} + 2^{11} + 1^{11} + 1^{11}}{6^4 + 2^4 + 7^4 + 2^4 + 1^4 + 1^4} \right].$$

$$2950388 := \left[ \frac{2^{10} + 9^{10} + 5^{10} + 0^{10} + 3^{10} + 8^{10} + 8^{10}}{2^3 + 9^3 + 5^3 + 0^3 + 3^3 + 8^3 + 8^3} \right].$$

$$643448 := \left[ \frac{6^8 + 4^8 + 3^8 + 4^8 + 4^8 + 8^8}{6 + 4 + 3 + 4 + 4 + 8} \right].$$

$$3543655 := \left[ \frac{3^{11} + 5^{11} + 4^{11} + 3^{11} + 6^{11} + 5^{11} + 5^{11}}{3^2 + 5^2 + 4^2 + 3^2 + 6^2 + 5^2 + 5^2} \right].$$

$$664285 := \left[ \frac{6^8 + 6^8 + 4^8 + 2^8 + 8^8 + 5^8}{6 + 6 + 4 + 2 + 8 + 5} \right].$$

$$\begin{aligned}
4098823 &:= \left[ \frac{4^{22} + 0^{22} + 9^{22} + 8^{22} + 8^{22} + 2^{22} + 3^{22}}{4^{15} + 0^{15} + 9^{15} + 8^{15} + 8^{15} + 2^{15} + 3^{15}} \right] & 23779321 &:= \left[ \frac{2^{11} + 3^{11} + 7^{11} + 7^{11} + 9^{11} + 3^{11} + 2^{11} + 1^{11}}{2^3 + 3^3 + 7^3 + 7^3 + 9^3 + 3^3 + 2^3 + 1^3} \right] \\
4211889 &:= \left[ \frac{4^{24} + 2^{24} + 1^{24} + 1^{24} + 8^{24} + 8^{24} + 9^{24}}{4^{17} + 2^{17} + 1^{17} + 1^{17} + 8^{17} + 8^{17} + 9^{17}} \right] & 29952183 &:= \left[ \frac{2^{10} + 9^{10} + 9^{10} + 5^{10} + 2^{10} + 1^{10} + 8^{10} + 3^{10}}{2^2 + 9^2 + 9^2 + 5^2 + 2^2 + 1^2 + 8^2 + 3^2} \right] \\
4461456 &:= \left[ \frac{4^{10} + 4^{10} + 6^{10} + 1^{10} + 4^{10} + 5^{10} + 6^{10}}{4 + 4 + 6 + 1 + 4 + 5 + 6} \right] & 34935724 &:= \left[ \frac{3^{14} + 4^{14} + 9^{14} + 3^{14} + 5^{14} + 7^{14} + 2^{14} + 4^{14}}{3^6 + 4^6 + 9^6 + 3^6 + 5^6 + 7^6 + 2^6 + 4^6} \right] \\
4467044 &:= \left[ \frac{4^{15} + 4^{15} + 6^{15} + 7^{15} + 0^{15} + 4^{15} + 4^{15}}{4^7 + 4^7 + 6^7 + 7^7 + 0^7 + 4^7 + 4^7} \right] & 35962529 &:= \left[ \frac{3^{12} + 5^{12} + 9^{12} + 6^{12} + 2^{12} + 5^{12} + 2^{12} + 9^{12}}{3^4 + 5^4 + 9^4 + 6^4 + 2^4 + 5^4 + 2^4 + 9^4} \right] \\
15264845 &:= \left[ \frac{1^{17} + 5^{17} + 2^{17} + 6^{17} + 4^{17} + 8^{17} + 4^{17} + 5^{17}}{1^9 + 5^9 + 2^9 + 6^9 + 4^9 + 8^9 + 4^9 + 5^9} \right] & 37640569 &:= \left[ \frac{3^{17} + 7^{17} + 6^{17} + 4^{17} + 0^{17} + 5^{17} + 6^{17} + 9^{17}}{3^9 + 7^9 + 6^9 + 4^9 + 0^9 + 5^9 + 6^9 + 9^9} \right] \\
15316582 &:= \left[ \frac{1^{17} + 5^{17} + 3^{17} + 1^{17} + 6^{17} + 5^{17} + 8^{17} + 2^{17}}{1^9 + 5^9 + 3^9 + 1^9 + 6^9 + 5^9 + 8^9 + 2^9} \right] & 41527994 &:= \left[ \frac{4^{18} + 1^{18} + 5^{18} + 2^{18} + 7^{18} + 9^{18} + 9^{18} + 4^{18}}{4^{10} + 1^{10} + 5^{10} + 2^{10} + 7^{10} + 9^{10} + 9^{10} + 4^{10}} \right] \\
22556153 &:= \left[ \frac{2^{12} + 2^{12} + 5^{12} + 5^{12} + 6^{12} + 1^{12} + 5^{12} + 3^{12}}{2^2 + 2^2 + 5^2 + 5^2 + 6^2 + 1^2 + 5^2 + 3^2} \right] & 51246026 &:= \left[ \frac{5^{16} + 1^{16} + 2^{16} + 4^{16} + 6^{16} + 0^{16} + 2^{16} + 6^{16}}{5^6 + 1^6 + 2^6 + 4^6 + 6^6 + 0^6 + 2^6 + 6^6} \right]
\end{aligned}$$

Due to computer memory, we are unable to bring more results, but there are certainly much more.

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