

# Single Digit Representations of Natural Numbers

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ABSTRACT. In this work, we established symmetric representation of numbers where one can use any of 9 digits giving the same number. The representations of natural numbers from 0 to 1000 are given using only single digit in all the nine cases, i.e., 1, 2, 3, 4, 5, 6, 7, 8 and 9. This is done only using basic operations: *addition, subtraction, multiplication, potentiation* and *division*.

## 1. INTRODUCTION

Let  $a$  be a single digit positive natural numbers, i.e,  $a \in \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$ . We can always write

$$\begin{aligned} 0 &= a - a; \\ 1 &= \frac{a}{a}; \\ 2 &= \frac{a + a}{a}; \\ 3 &= \frac{a + a + a}{a}; \\ 4 &= \frac{a + a + a + a}{a}; \\ 5 &= \frac{a + a + a + a + a}{a}, \\ 6 &= \frac{a + a + a + a + a + a}{a}; \\ &\dots \end{aligned}$$

We observe that as number increases, one need more digits to write. But it is not true, for example to write 10, we can write as  $10 = 11 - 1 = 2 \times 2 \times 2 + 2$ . Here we need only 3 digits for 1 and four digits for 2.

Author [7] studied representations of natural numbers using the digits from 1 to 9 in increasing and decreasing orders. For comments see [1, 2, 5, 6]. Historical study of numbers and their properties can be found in [3, 4]. Study of numbers in little different way calling "*selfie numbers*" is given by author [8].

The aim of this work is to write natural numbers from 0 to 1000 in terms of each digits 1, 2, 3, 4, 5, 6, 7, 8 and 9, with "*as less as possible digits*", using only the basic operations:

[*addition, subtraction, multiplication, division, potentiation*].

Before proceeding further, here below are some numbers that can be represented in a symmetric way using any of 9 digits from 1 to 9.

## 2. SYMMETRICAL RELATIONS

Let us consider a series:

$$f^n(10) = 10^n + 10^{n-1} + \dots + 10^2 + 10 + 10^0,$$

then we can write

$$af^n(10) = \underbrace{aaa\dots a}_{(n+1)\text{-times}},$$

where  $a \in \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$ .

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In particular for  $n = 3$ , we have

$$f^3(10) = a10^3 + a10^2 + a10 + a = aaaa.$$

Then,

$$5 = \frac{af^1(10) - a}{a + a} = \frac{aa - a}{a + a},$$

$$55 = \frac{af^2(10) - a}{a + a} = \frac{aaa - a}{a + a}$$

And

$$6 = \frac{af^1(10) + a}{a + a} = \frac{aa + a}{a + a},$$

$$56 = \frac{af^2(10) - a}{a + a} = \frac{aaa + a}{a + a}.$$

Equivalently, one can write the following symmetric representations

$$5 = \frac{11 - 1}{1 + 1} = \frac{22 - 2}{2 + 2} = \frac{33 - 3}{3 + 3} = \frac{44 - 4}{4 + 4} = \frac{55 - 5}{5 + 5} = \frac{66 - 6}{6 + 6} = \frac{77 - 7}{7 + 7} = \frac{88 - 8}{8 + 8} = \frac{99 - 9}{9 + 9};$$

$$55 = \frac{111 - 1}{1 + 1} = \frac{222 - 2}{2 + 2} = \frac{333 - 3}{3 + 3} = \frac{444 - 4}{4 + 4} = \frac{555 - 5}{5 + 5} = \frac{666 - 6}{6 + 6} = \frac{777 - 7}{7 + 7} = \frac{888 - 8}{8 + 8} = \frac{999 - 9}{9 + 9};$$

...

$$6 = \frac{11 + 1}{1 + 1} = \frac{22 + 2}{2 + 2} = \frac{33 + 3}{3 + 3} = \frac{44 + 4}{4 + 4} = \frac{55 + 5}{5 + 5} = \frac{66 + 6}{6 + 6} = \frac{77 + 7}{7 + 7} = \frac{88 + 8}{8 + 8} = \frac{99 + 9}{9 + 9};$$

$$56 = \frac{111 + 1}{1 + 1} = \frac{222 + 2}{2 + 2} = \frac{333 + 3}{3 + 3} = \frac{444 + 4}{4 + 4} = \frac{555 + 5}{5 + 5} = \frac{666 + 6}{6 + 6} = \frac{777 + 7}{7 + 7} = \frac{888 + 8}{8 + 8} = \frac{999 + 9}{9 + 9};$$

...

Following the same procedure, we have more symmetries, such as,

$$11 = \frac{22}{2} = \frac{33}{3} = \frac{44}{4} = \frac{55}{5} = \frac{66}{6} = \frac{77}{7} = \frac{88}{8} = \frac{99}{9};$$

$$11 = \frac{22 + 22}{2 + 2} = \frac{33 + 33}{3 + 3} = \frac{44 + 44}{4 + 4} = \frac{55 + 55}{5 + 5} = \frac{66 + 66}{6 + 6} = \frac{77 + 77}{7 + 7} = \frac{88 + 88}{8 + 8} = \frac{99 + 99}{9 + 9};$$

$$37 = \frac{111}{1 + 1 + 1} = \frac{222}{2 + 2 + 2} = \frac{333}{3 + 3 + 3} = \frac{444}{4 + 4 + 4} = \frac{555}{5 + 5 + 5}$$

$$= \frac{666}{6 + 6 + 6} = \frac{777}{7 + 7 + 7} = \frac{888}{8 + 8 + 8} = \frac{999}{9 + 9 + 9};$$

$$100 = \frac{111 - 11}{1 + 1} = \frac{222 - 22}{2 + 2} = \frac{333 - 33}{3 + 3} = \frac{444 - 44}{4 + 4} = \frac{555 - 55}{5 + 5}$$

$$= \frac{666 - 66}{6 + 6} = \frac{777 - 77}{7 + 7} = \frac{888 - 88}{8 + 8} = \frac{999 - 99}{9 + 9};$$

$$101 = \frac{1111}{11} = \frac{2222}{22} = \frac{3333}{33} = \frac{4444}{44} = \frac{5555}{55} = \frac{6666}{66} = \frac{7777}{77} = \frac{8888}{88} = \frac{9999}{99};$$

$$111 = \frac{222}{2} = \frac{333}{3} = \frac{444}{4} = \frac{555}{5} = \frac{666}{6} = \frac{777}{7} = \frac{888}{8} = \frac{999}{9};$$

$$925 = \frac{11111 - 11}{11 + 1} = \frac{22222 - 22}{22 + 2} = \frac{33333 - 33}{33 + 3} = \frac{44444 - 44}{44 + 4} = \frac{55555 - 55}{55 + 5}$$

$$= \frac{66666 - 66}{66 + 6} = \frac{77777 - 77}{77 + 7} = \frac{88888 - 88}{88 + 8} = \frac{99999 - 99}{99 + 9};$$

$$926 = \frac{11111 + 1}{11 + 1} = \frac{22222 + 2}{22 + 2} = \frac{33333 + 3}{33 + 3} = \frac{44444 + 4}{44 + 4} = \frac{55555 + 5}{55 + 5}$$

$$= \frac{66666 + 6}{66 + 6} = \frac{77777 + 7}{77 + 7} = \frac{88888 + 8}{88 + 8} = \frac{99999 + 9}{99 + 9};$$

...

In some cases, one has different symmetries:

$$1 = \frac{2 \times 2}{2 + 2}, \quad 2 = \frac{4 \times 4}{4 + 4}, \quad 3 = \frac{6 \times 6}{6 + 6}, \quad 4 = \frac{8 \times 8}{8 + 8},$$

$$0 = \frac{1 \times 1 - 1}{1 + 1}, \quad 1 = \frac{3 \times 3 - 3}{3 + 3}, \quad 2 = \frac{5 \times 5 - 5}{5 + 5}, \quad 3 = \frac{7 \times 7 - 7}{7 + 7}, \quad 4 = \frac{9 \times 9 - 9}{9 + 9}.$$

$$1 = \frac{1 \times 1 + 1}{1 + 1}, \quad 2 = \frac{3 \times 3 + 3}{3 + 3}, \quad 3 = \frac{5 \times 5 + 5}{5 + 5}, \quad 4 = \frac{7 \times 7 + 7}{7 + 7}, \quad 5 = \frac{9 \times 9 + 9}{9 + 9}.$$

$$222 = 111 + \frac{111}{1}, \quad 333 = 222 + \frac{222}{2}, \quad 444 = 333 + \frac{333}{3}, \quad 555 = 444 + \frac{444}{4}.$$

$$666 = 555 + \frac{555}{5}, \quad 777 = 666 + \frac{666}{6}, \quad 888 = 777 + \frac{777}{7}, \quad 999 = 888 + \frac{888}{8}.$$

$$212 = 111 + \frac{1111}{11}, \quad 323 = 222 + \frac{2222}{22}, \quad 434 = 333 + \frac{3333}{33}, \quad 545 = 444 + \frac{4444}{44}.$$

$$656 = 555 + \frac{5555}{55}, \quad 767 = 666 + \frac{6666}{66}, \quad 878 = 777 + \frac{7777}{77}, \quad 989 = 888 + \frac{8888}{88}.$$

The above symmetric expressions are beautiful to see, but the number of digits used are not necessarily minimum number, for example,

$$5 = 4 + \frac{4}{4} = \frac{44 - 4}{4 + 4}, \text{ and } 6 = 4 + \frac{4 + 4}{4} = \frac{44 - 4}{4 + 4}.$$

In case of number five, 4 is used three times, for number six, 4 is used four times, while symmetric representations uses five times 4 in each case.

The following section deals with representation of natural numbers from 0 to 100 in with minimum possible digits in each case.

## 3. REPRESENTATIONS OF NATURAL NUMBERS USING DIFFERENT DIGITS

$$\begin{aligned}
0 &= 1 - 1 \\
&= 2 - 2 \\
&= 3 - 3 \\
&= 4 - 4 \\
&= 5 - 5 \\
&= 6 - 6 \\
&= 7 - 7 \\
&= 8 - 8 \\
&= 9 - 9.
\end{aligned}$$

$$\begin{aligned}
5 &= (11 - 1)/(1 + 1) \\
&= 2 + 2 + 2/2 \\
&= 3 + 3 - 3/3 \\
&= 4 + 4/4 \\
&= 5 \\
&= 6 - 6/6 \\
&= 7 - (7 + 7)/7 \\
&= (88 - 8)/(8 + 8) \\
&= (99 - 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
10 &= 11 - 1 \\
&= 2 \times 2 \times 2 + 2 \\
&= 3 \times 3 + 3/3 \\
&= (44 - 4)/4 \\
&= 5 + 5 \\
&= (66 - 6)/6 \\
&= (77 - 7)/7 \\
&= (88 - 8)/8 \\
&= 9 + 9/9.
\end{aligned}$$

$$\begin{aligned}
15 &= 11 + 1 + 1 + 1 + 1 \\
&= 2 + 2 + 22/2 \\
&= 3 + 3 + 3 \times 3 \\
&= 4 + 44/4 \\
&= 5 + 5 + 5 \\
&= 6 + 6 + 6 \times 6/(6 + 6) \\
&= 7 + 7 + 7/7 \\
&= 8 + 8 - 8/8 \\
&= 9 + (99 + 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
1 &= 1 \\
&= 2/2 \\
&= 3/3 \\
&= 4/4 \\
&= 5/5 \\
&= 6/6 \\
&= 7/7 \\
&= 8/8 \\
&= 9/9.
\end{aligned}$$

$$\begin{aligned}
6 &= (1 + 1) \times (1 + 1 + 1) \\
&= 2 + 2 + 2 \\
&= 3 + 3 \\
&= 4 + (4 + 4)/4 \\
&= 5 + 5/5 \\
&= 6 \\
&= 7 - 7/7 \\
&= 8 - (8 + 8)/8 \\
&= (99 + 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
11 &= 11 \\
&= 22/2 \\
&= 33/3 \\
&= 44/4 \\
&= 55/5 \\
&= 66/6 \\
&= 77/7 \\
&= 88/8 \\
&= 99/9.
\end{aligned}$$

$$\begin{aligned}
16 &= (1 + 1)^{(1+1+1+1)} \\
&= 2^{(2+2)} \\
&= 3^3 - 33/3 \\
&= 4 \times 4 \\
&= 5 + 55/5 \\
&= 6 + (66 - 6)/6 \\
&= 7 + 7 + (7 + 7)/7 \\
&= 8 + 8 \\
&= 9 + 9 - (9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
2 &= 1 + 1 \\
&= 2 \\
&= 3 - 3/3 \\
&= (4 + 4)/4 \\
&= (5 + 5)/5 \\
&= (6 + 6)/6 \\
&= (7 + 7)/7 \\
&= (8 + 8)/8 \\
&= (9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
7 &= (1 + 1) \times (1 + 1 + 1) + 1 \\
&= 2 + 2 + 2 + 2/2 \\
&= 3 + 3 + 3/3 \\
&= 4 + 4 - 4/4 \\
&= 5 + (5 + 5)/5 \\
&= 6 + 6/6 \\
&= 7 \\
&= 8 - 8/8 \\
&= 9 - (9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
12 &= 11 + 1 \\
&= 2 \times (2 + 2 + 2) \\
&= 3 + 3 \times 3 \\
&= 4 + 4 + 4 \\
&= 6 + 6 \\
&= (55 + 5)/5 \\
&= (77 + 7)/7 \\
&= (88 + 8)/8 \\
&= (99 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
17 &= (1 + 1)^{(1+1+1+1)} + 1 \\
&= 2^{(2+2)} + 2/2 \\
&= 3 + 3 + 33/3 \\
&= 4 \times 4 + 4/4 \\
&= 5 + (55 + 5)/5 \\
&= 6 + 66/6 \\
&= 7 + (77 - 7)/7 \\
&= 8 + 8 + 8/8 \\
&= 9 + 9 - 9/9.
\end{aligned}$$

$$\begin{aligned}
3 &= 1 + 1 + 1 \\
&= 2 + 2/2 \\
&= 3 \\
&= 4 - 4/4 \\
&= 5 - (5 + 5)/5 \\
&= 6 \times 6/(6 + 6) \\
&= (7 + 7 + 7)/7 \\
&= 88/8 - 8 \\
&= (9 + 9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
8 &= (1 + 1)^{(1+1+1)} \\
&= 2 \times (2 + 2) \\
&= 3 \times 3 - 3/3 \\
&= 4 + 4 \\
&= 5 + 5 - (5 + 5)/5 \\
&= 6 + (6 + 6)/6 \\
&= 7 + 7/7 \\
&= 8 \\
&= 9 - 9/9.
\end{aligned}$$

$$\begin{aligned}
13 &= 11 + 1 + 1 \\
&= 2 + 22/2 \\
&= 3 + 3 \times 3 + 3/3 \\
&= 4 + 4 + 4 + 4/4 \\
&= (55 + 5 + 5)/5 \\
&= 6 + 6 + 6/6 \\
&= 7 + 7 - 7/7 \\
&= (88 + 8 + 8)/8 \\
&= (9 + 99 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
18 &= (1 + 1) \times (11 - 1 - 1) \\
&= 2^{(2+2)} + 2 \\
&= 3 \times (3 + 3) \\
&= 4 \times 4 + (4 + 4)/4 \\
&= 5 + (55 + 5 + 5)/5 \\
&= 6 + 6 + 6 \\
&= 7 + 77/7 \\
&= 8 + (88 - 8)/8 \\
&= 9 + 9.
\end{aligned}$$

$$\begin{aligned}
4 &= 1 + 1 + 1 + 1 \\
&= 2 + 2 \\
&= 3 + 3/3 \\
&= 4 \\
&= 5 - 5/5 \\
&= 6 - (6 + 6)/6 \\
&= 77/7 - 7 \\
&= 8 \times 8/(8 + 8) \\
&= (9 \times 9 - 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
9 &= 11 - 1 - 1 \\
&= (2 + 2/2)^2 \\
&= 3 \times 3 \\
&= 4 + 4 + 4/4 \\
&= 5 + 5 - 5/5 \\
&= 6 + 6 \times 6/(6 + 6) \\
&= 7 + (7 + 7)/7 \\
&= 8 + 8/8 \\
&= 9.
\end{aligned}$$

$$\begin{aligned}
14 &= 11 + 1 + 1 + 1 \\
&= 2^{(2+2)} - 2 \\
&= 3 + 33/3 \\
&= 4 + (44 - 4)/4 \\
&= 5 + 5 + 5 - 5/5 \\
&= 6 + 6 + (6 + 6)/6 \\
&= 7 + 7 \\
&= 8 + 8 - (8 + 8)/8 \\
&= 9 + (99 - 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
19 &= (1 + 1) \times (11 - 1) - 1 \\
&= 22 - 2 - 2/2 \\
&= 3 \times (3 + 3) + 3/3 \\
&= 4 + 4 + 44/4 \\
&= 5 \times 5 - 5 - 5/5 \\
&= 6 + 6 + 6 + 6/6 \\
&= 7 + (77 + 7)/7 \\
&= 8 + 88/8 \\
&= 9 + 9 + 9/9.
\end{aligned}$$

$$\begin{aligned}
20 &= (1 + 1) \times (11 - 1) \\
&= 22 - 2 \\
&= 3 \times 3 + 33/3 \\
&= 4 + 4 \times 4 \\
&= 5 \times 5 - 5 \\
&= 6 + 6 + 6 + (6 + 6)/6 \\
&= 7 + 7 + 7 - 7/7 \\
&= 8 + (88 + 8)/8 \\
&= 9 + 99/9.
\end{aligned}$$

$$\begin{aligned}
25 &= (1 + 1) \times (11 + 1) + 1 \\
&= 22 + 2 + 2/2 \\
&= 3^3 - 3 + 3/3 \\
&= 4 + 4 + 4 \times 4 + 4/4 \\
&= 5 \times 5 \\
&= 6 \times 6 - 66/6 \\
&= 7 + 7 + 77/7 \\
&= 8 + 8 + 8 + 8/8 \\
&= (9 + 9 - (9 + 9)/9) + 9.
\end{aligned}$$

$$\begin{aligned}
30 &= (1 + 1 + 1) \times (11 - 1) \\
&= 22 + 2 \times (2 + 2) \\
&= 3 + 3^3 \\
&= 4 \times (4 + 4) - (4 + 4)/4 \\
&= 5 \times 5 + 5 \\
&= 6 \times 6 - 6 \\
&= 77 - 7 \times 7 + (7 + 7)/7 \\
&= 8 + (88 + 88)/8 \\
&= 999/9 - 9 \times 9.
\end{aligned}$$

$$\begin{aligned}
21 &= 11 + 11 - 1 \\
&= 22 - 2/2 \\
&= 3 \times (3 + 3) + 3 \\
&= 4 + 4 \times 4 + 4/4 \\
&= 5 + 5 + 55/5 \\
&= 6 \times (6 \times 6 + 6)/(6 + 6) \\
&= 7 + 7 + 7 \\
&= (88 + 88 - 8)/8 \\
&= 9 + (99 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
26 &= (1 + 1) \times (11 + 1 + 1) \\
&= 22 + 2 + 2 \\
&= 3^3 - 3/3 \\
&= 4 + 44 \times 4/(4 + 4) \\
&= 5 \times 5 + 5/5 \\
&= 6 \times 6 - (66 - 6)/6 \\
&= 7 + 7 + (77 + 7)/7 \\
&= 8 + 8 + (88 - 8)/8 \\
&= 9 + 9 + 9 - 9/9.
\end{aligned}$$

$$\begin{aligned}
31 &= (1 + 1 + 1) \times (11 - 1) + 1 \\
&= 22 + (2 + 2/2)^2 \\
&= 3 + 3^3 + 3/3 \\
&= 4 \times (4 + 4) - 4/4 \\
&= 5 \times 5 + 5 + 5/5 \\
&= 6 \times 6 - 6 + 6/6 \\
&= 7 \times 7 - 7 - 77/7 \\
&= 8 + 8 + 8 + 8 - 8/8 \\
&= 9 + (99 + 99)/9.
\end{aligned}$$

$$\begin{aligned}
22 &= 11 + 11 \\
&= 22 \\
&= (33 + 33)/3 \\
&= (44 + 44)/4 \\
&= (55 + 55)/5 \\
&= (66 + 66)/6 \\
&= (77 + 77)/7 \\
&= (88 + 88)/8 \\
&= (99 + 99)/9.
\end{aligned}$$

$$\begin{aligned}
27 &= (1 + 1 + 1)^{(1+1+1)} \\
&= 22 + 2 + 2 + 2/2 \\
&= 3^3 \\
&= 4 \times 4 + 44/4 \\
&= 5 \times 5 + (5 + 5)/5 \\
&= 6 \times 66/(6 + 6) - 6 \\
&= 77 - 7 \times 7 - 7/7 \\
&= 8 + 8 + 88/8 \\
&= 9 + 9 + 9.
\end{aligned}$$

$$\begin{aligned}
32 &= 11 \times (1 + 1 + 1) - 1 \\
&= 2 \times 2^{(2+2)} \\
&= 33 - 3/3 \\
&= 4 \times (4 + 4) \\
&= ((5 + 5)/5)^5 \\
&= 6 \times 6 - 6 + (6 + 6)/6 \\
&= 7 + 7 + 7 + 77/7 \\
&= 8 + 8 + 8 + 8 \\
&= 9 + (99 + 99 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
23 &= 11 + 11 + 1 \\
&= 22 + 2/2 \\
&= 3^3 - 3 - 3/3 \\
&= 4 + 4 + 4 + 44/4 \\
&= 5 \times 5 - (5 + 5)/5 \\
&= 6 + 6 + 66/6 \\
&= (77 + 77 + 7)/7 \\
&= 8 + 8 + 8 - 8/8 \\
&= (99 + 99 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
28 &= (1 + 1 + 1)^{(1+1+1)} + 1 \\
&= 22 + 2 + 2 + 2 \\
&= 3^3 + 3/3 \\
&= 44 - 4 \times 4 \\
&= 5 \times 5 + 5 - (5 + 5)/5 \\
&= 6 + (66 + 66)/6 \\
&= 7 \times (77/7 - 7) \\
&= 8 + 8 + (88 + 8)/8 \\
&= 9 + 9 + 9 + 9/9.
\end{aligned}$$

$$\begin{aligned}
33 &= 11 \times (1 + 1 + 1) \\
&= 22 + 22/2 \\
&= 33 \\
&= 4 \times (4 + 4) + 4/4 \\
&= ((5 + 5)/5)^5 + 5/5 \\
&= 6 \times 66/(6 + 6) \\
&= (77 + 77 + 77)/7 \\
&= 8 + 8 + 8 + 8 + 8/8 \\
&= 99 \times (9 + 9 + 9)/(9 \times 9).
\end{aligned}$$

$$\begin{aligned}
24 &= (1 + 1) \times (11 + 1) \\
&= 22 + 2 \\
&= 3^3 - 3 \\
&= 4 + 4 + 4 \times 4 \\
&= 5 \times 5 - 5/5 \\
&= 6 + 6 + 6 + 6 \\
&= 7 + 7 + (77 - 7)/7 \\
&= 8 + 8 + 8 \\
&= (99 + 99 + 9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
29 &= (1 + 1 + 1) \times (11 - 1) - 1 \\
&= 22 + 2 + 2 + 2 + 2/2 \\
&= 3 + 3^3 - 3/3 \\
&= 44 - 4 \times 4 + 4/4 \\
&= 5 \times 5 + 5 - 5/5 \\
&= 6 \times 6 - 6 - 6/6 \\
&= 77 - 7 \times 7 + 7/7 \\
&= 8 + (88 + 88 - 8)/8 \\
&= 9 + 9 + 99/9.
\end{aligned}$$

$$\begin{aligned}
34 &= 11 \times (1 + 1 + 1) + 1 \\
&= 2 + 2 \times 2^{(2+2)} \\
&= 33 + 3/3 \\
&= 44 - (44 - 4)/4 \\
&= 5 \times 5 + 5 - 5/5 + 5 \\
&= 6 \times 6 - (6 + 6)/6 \\
&= 777/7 - 77 \\
&= 8 + 8 + 8 + (88 - 8)/8 \\
&= ((9 + 9) \times (9 + 9) + 9)/9.
\end{aligned}$$

$$\begin{aligned}
35 &= 11 \times (1 + 1 + 1) + 1 + 1 \\
&= 22 + 2 + 22/2 \\
&= 3 + 33 - 3/3 \\
&= 4 + 4 \times (4 + 4) - 4/4 \\
&= 5 \times 5 + 5 + 5 \\
&= 6 \times 6 - 6/6 \\
&= 7 \times 7 - 7 - 7 \\
&= 8 + 8 + 8 + 88/8 \\
&= 9 + 9 + 9 + 9 - 9/9.
\end{aligned}$$

$$\begin{aligned}
40 &= (1 + 1) \times (1 + 1) \times (11 - 1) \\
&= 2 \times (22 - 2) \\
&= 3 + 3 + 33 + 3/3 \\
&= 44 - 4 \\
&= 5 \times 5 + 5 + 5 + 5 \\
&= 6 \times 6 + 6 - (6 + 6)/6 \\
&= 7 \times 7 - 7 - (7 + 7)/7 \\
&= 8 \times (8 + 8) - 88 \\
&= (9 \times 9 \times 9 - 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
45 &= (1 + 1) \times (11 + 11) + 1 \\
&= 2 \times 22 + 2/2 \\
&= 3 + 3 \times 3 + 33 \\
&= 44 + 4/4 \\
&= 55 - 5 - 5 \\
&= 666/6 - 66 \\
&= 7 \times 7 + 7 - 77/7 \\
&= 8 \times 8 - 8 - 88/8 \\
&= 9 + 9 + 9 + 9 + 9.
\end{aligned}$$

$$\begin{aligned}
36 &= (1 + 1 + 1) \times (11 + 1) \\
&= (2 + 2 + 2)^2 \\
&= 3 + 33 \\
&= 4 + 4 \times (4 + 4) \\
&= 5 \times 5 + 55/5 \\
&= 6 \times 6 \\
&= 7 \times 7 - 7 - 7 + 7/7 \\
&= 88 \times 8/(8 + 8) - 8 \\
&= 9 + 9 + 9 + 9.
\end{aligned}$$

$$\begin{aligned}
41 &= (1 + 1 + 1) \times (11 - 1) + 11 \\
&= 2 \times (22 - 2) + 2/2 \\
&= 3 + 3^3 + 33/3 \\
&= 44 - 4 + 4/4 \\
&= 5 \times 5 + 5 + 55/5 \\
&= 6 \times 6 + 6 - 6/6 \\
&= 7 \times 7 - 7 - 7/7 \\
&= 8 \times 8 - 8 - 8 - 8 + 8/8 \\
&= (9 \times 9 \times 9 + 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
46 &= (1 + 1) \times (11 + 11 + 1) \\
&= 2 \times 22 + 2 \\
&= 3 + 3 \times 3 + 33 + 3/3 \\
&= 44 + (4 + 4)/4 \\
&= 55 - 5 - 5 + 5/5 \\
&= 6 \times 6 + (66 - 6)/6 \\
&= 7 \times 7 - (7 + 7 + 7)/7 \\
&= 8 \times 8 - 8 - 8 - (8 + 8)/8 \\
&= 9 + 9 + 9 + 9 + 9 + 9/9.
\end{aligned}$$

$$\begin{aligned}
37 &= 111/(1 + 1 + 1) \\
&= (2 + 2 + 2)^2 + 2/2 \\
&= 3 + 33 + 3/3 \\
&= 4 + 4 \times (4 + 4) + 4/4 \\
&= 5 + ((5 + 5)/5)^5 \\
&= 6 \times 6 + 6/6 \\
&= 777/(7 + 7 + 7) \\
&= 888/(8 + 8 + 8) \\
&= 999/(9 + 9 + 9).
\end{aligned}$$

$$\begin{aligned}
42 &= (1 + 1) \times (11 + 11 - 1) \\
&= 2 \times 22 - 2 \\
&= 3 \times 3 + 33 \\
&= 44 - (4 + 4)/4 \\
&= 5 + 5 + ((5 + 5)/5)^5 \\
&= 6 \times 6 + 6 \\
&= 7 \times 7 - 7 \\
&= 8 \times 8 - (88 + 88)/8 \\
&= 9 + 9 \times 99/(9 + 9 + 9).
\end{aligned}$$

$$\begin{aligned}
47 &= (1 + 1) \times (11 + 11 + 1) + 1 \\
&= 2 \times 22 + 2 + 2/2 \\
&= 3 + 33 + 33/3 \\
&= 4 + 44 - 4/4 \\
&= 5 + 5 + 5 + ((5 + 5)/5)^5 \\
&= 66 + 6 \times 6/6 \\
&= 7 \times 7 - ((7 + 7)/7) \\
&= 888/8 - 8 \times 8 \\
&= 9 + 9 + 9 + 9 + 99/9.
\end{aligned}$$

$$\begin{aligned}
38 &= 111/(1 + 1 + 1) + 1 \\
&= (2 + 2 + 2)^2 + 2 \\
&= 3^3 + 33/3 \\
&= 44 - 4 - (4 + 4)/4 \\
&= 5 + ((5 + 5)/5)^5 + 5/5 \\
&= 6 \times 6 + (6 + 6)/6 \\
&= 7 \times 7 - 77/7 \\
&= 8 + 8 + (88 + 88)/8 \\
&= 9 + 9 + 9 + 99/9.
\end{aligned}$$

$$\begin{aligned}
43 &= (1 + 1) \times (11 + 11) - 1 \\
&= 2 \times 22 - 2/2 \\
&= 3 \times 3 + 33 + 3/3 \\
&= 44 - 4/4 \\
&= 55 - (55 + 5)/5 \\
&= 6 \times 6 + 6 + 6/6 \\
&= 7 \times 7 - 7 + 7/7 \\
&= 8 + 8 + 8 + 8 + 88/8 \\
&= 9 \times 9 - 9 - 9 - 9 - 99/9.
\end{aligned}$$

$$\begin{aligned}
48 &= (1 + 1) \times (1 + 1) \times (11 + 1) \\
&= 2 \times (22 + 2) \\
&= 3 \times 3^3 - 33 \\
&= 4 + 44 \\
&= 55 - 5 - (5 + 5)/5 \\
&= 6 \times 6 + 6 + 6 \\
&= 7 \times 7 - 7/7 \\
&= 8 \times 8 - 8 - 8 \\
&= 9 + 9 - 9 \times 9 + 999/9.
\end{aligned}$$

$$\begin{aligned}
39 &= (1 + 1 + 1) \times (11 + 1 + 1) \\
&= 2 \times (22 - 2) - 2/2 \\
&= 3 + 3 + 33 \\
&= 44 - 4 - 4/4 \\
&= 55 - 5 - 55/5 \\
&= 6 + 6 \times 66/(6 + 6) \\
&= 7 \times 7 - (77 - 7)/7 \\
&= 8 \times 8 - 8 - 8 - 8 - 8/8 \\
&= 9 + 9 + 9 + (99 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
44 &= (1 + 1) \times (11 + 11) \\
&= 2 \times 22 \\
&= 33 + 33/3 \\
&= 44 \\
&= 55 - 55/5 \\
&= 6 \times 6 + 6 + (6 + 6)/6 \\
&= 7 \times 7 - 7 + (7 + 7)/7 \\
&= 88 \times 8/(8 + 8) \\
&= 99 \times (9 - 9/9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
49 &= (11 - 1)^{(1+1)}/(1 + 1) - 1 \\
&= 2 \times (22 + 2) + 2/2 \\
&= 3^3 + 33 - 33/3 \\
&= 4 + 44 + 4/4 \\
&= 55 - 5 - 5/5 \\
&= 6 \times 6 + 6 + 6 + 6/6 \\
&= 7 \times 7 \\
&= 8 \times 8 - 8 - 8 + 8/8 \\
&= (9 \times 99 - 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
50 &= (11 - 1)^{(1+1)}/(1 + 1) \\
&= 2 \times (22 + 2) + 2 \\
&= 3 + 3 + 33 + 33/3 \\
&= 4 + 44 + (4 + 4)/4 \\
&= 5 \times (5 + 5) \\
&= 6 \times 6 + 6 + 6 + (6 + 6)/6 \\
&= 7 \times 7 + 7/7 \\
&= 8 \times 8 - 8 - 8 + (8 + 8)/8 \\
&= (9 \times 99 + 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
55 &= (111 - 1)/(1 + 1) \\
&= 2 \times 22 + 22/2 \\
&= 3^3 + 3^3 + 3/3 \\
&= 44 + 44/4 \\
&= 55 \\
&= 66 - 66/6 \\
&= 7 \times 7 + 7 - 7/7 \\
&= 8 \times 8 - 8 - 8/8 \\
&= (999 - 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
60 &= (11^{(1+1)} - 1)/(1 + 1) \\
&= 2 \times (2 \times (2 + 2) + 22) \\
&= 3^3 + 33 \\
&= 4 \times 4 + 44 \\
&= 55 + 5 \\
&= 66 - 6 \\
&= 7 \times 7 + 77/7 \\
&= 8 + 8 + 88 \times 8/(8 + 8) \\
&= 9 \times 9 - 9 - (99 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
51 &= (11 - 1)^{(1+1)}/(1 + 1) + 1 \\
&= 2 \times (22 + 2) + 2 + 2/2 \\
&= 3^3 + 3^3 - 3 \\
&= 4 + 4 + 44 - 4/4 \\
&= 55 - 5 + 5/5 \\
&= 6 - 66 + 666/6 \\
&= 7 \times 7 + (7 + 7)/7 \\
&= 8 \times 8 - 8 - 8 - 8 + 88/8 \\
&= (999 - 9 \times 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
56 &= (111 + 1)/(1 + 1) \\
&= (222 + 2)/(2 + 2) \\
&= (333 + 3)/(3 + 3) \\
&= 44 + 4 + 4 + 4 \\
&= 55 + 5/5 \\
&= (666 + 6)/(6 + 6). \\
&= 7 \times 7 + 7 \\
&= 8 \times 8 - 8 \\
&= (999 + 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
61 &= (11^{(1+1)} + 1)/(1 + 1) \\
&= (3 + 3/3)^3 - 3 \\
&= (4^4 + 4)/4 - 4 \\
&= 2^{(2+2+2)} - 2 - 2/2 \\
&= 55 + 5 + 5/5 \\
&= 66 - 6 + 6/6 \\
&= 7 \times 7 + (77 + 7)/7 \\
&= 8 \times 8 + 8 - 88/8 \\
&= 9 \times 9 - 99/9 - 9.
\end{aligned}$$

$$\begin{aligned}
52 &= (1 + 1) \times (1 + 1) \times (11 + 1 + 1) \\
&= 2 \times (22 + 2 + 2) \\
&= 3^3 + 3^3 - 3 + 3/3 \\
&= 4 + 4 + 44 \\
&= 55 - 5 + (5 + 5)/5 \\
&= ((6 + 6)/6)^6 - 6 - 6 \\
&= 7 \times 7 + (7 + 7 + 7)/7 \\
&= 8 + 88 \times 8/(8 + 8) \\
&= 9 \times 9 - 9 - 9 - 99/9.
\end{aligned}$$

$$\begin{aligned}
57 &= (111 + 1)/(1 + 1) + 1 \\
&= 2 \times 22 + 2 + 22/2 \\
&= 3^3 + 3^3 + 3 \\
&= 4 + (4^4 - 44)/4 \\
&= 55 + (5 + 5)/5 \\
&= 66 + (6 + 6 - 66)/6 \\
&= 7 \times 7 + 7 + 7/7 \\
&= 8 \times 8 - 8 + 8/8 \\
&= (999 + 9)/(9 + 9) + 9/9.
\end{aligned}$$

$$\begin{aligned}
62 &= (11^{(1+1)} + 1)/(1 + 1) + 1 \\
&= 2^{(2+2+2)} - 2 \\
&= 3 + 3^3 + 33 - 3/3 \\
&= (4^4 - 4 - 4)/4 \\
&= 55 + 5 + (5 + 5)/5 \\
&= 66 - 6 + (6 + 6)/6 \\
&= 777/7 - 7 \times 7 \\
&= 8 \times 8 - (8 + 8)/8 \\
&= 9 \times 9 - 9 - 9 - 9/9.
\end{aligned}$$

$$\begin{aligned}
53 &= (111 - 1)/(1 + 1) - 1 - 1 \\
&= 2 \times (22 + 2 + 2) + 2/2 \\
&= 3^3 + 3^3 - 3/3 \\
&= (4^4 - 44)/4 \\
&= 55 - (5 + 5)/5 \\
&= 6 \times 6 + 6 + 66/6 \\
&= 7 \times 7 + 77/7 - 7 \\
&= 8 \times 8 - 88/8 \\
&= 9 \times 9 - 9 - 9 - 9 - 9/9.
\end{aligned}$$

$$\begin{aligned}
58 &= (111 + 1)/(1 + 1) + 1 + 1 \\
&= (2 + 2 + 2)^2 + 22 \\
&= (3 + 3/3)^3 - 3 - 3 \\
&= (4^4 - 4 - 4)/4 - 4 \\
&= 55 + 5 - (5 + 5)/5 \\
&= ((6 + 6)/6)^6 - 6 \\
&= 7 \times 7 + 7 + (7 + 7)/7 \\
&= 8 \times 8 - 8 + (8 + 8)/8 \\
&= 9 + (9 \times 99 - 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
63 &= (1 + 1 + 1) \times (11 + 11 - 1) \\
&= 2^{(2+2+2)} - 2/2 \\
&= 3 + 3^3 + 33 \\
&= (4^4 - 4)/4 \\
&= (5 + 5^5/5)/(5 + 5) \\
&= 66 - 6 \times 6/(6 + 6) \\
&= 77 - 7 - 7 \\
&= 8 \times 8 - 8/8 \\
&= 9 \times 9 - 9 - 9.
\end{aligned}$$

$$\begin{aligned}
54 &= (111 - 1)/(1 + 1) - 1 \\
&= 2 \times (22 + 2 + 2) + 2 \\
&= 3 \times 3 \times (3 + 3) \\
&= 44 + (44 - 4)/4 \\
&= 55 - 5/5 \\
&= 66 - 6 - 6 \\
&= 7 \times 7 + 7 - (7 + 7)/7 \\
&= 8 \times 8 - (88 - 8)/8 \\
&= 9 \times 9 - 9 - 9 - 9.
\end{aligned}$$

$$\begin{aligned}
59 &= (11^{(1+1)} - 1)/(1 + 1) - 1 \\
&= (4^4 - 4)/4 - 4 \\
&= 2 \times (22 + 2) + 22/2 \\
&= 3^3 + 33 - 3/3 \\
&= 55 + 5 - 5/5 \\
&= 66 + 6 - 6/6 \\
&= 77 - 7 - 77/7 \\
&= 8 \times 8 - 8 - 8 + 88/8 \\
&= 9 + (9 \times 99 + 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
64 &= (1 + 1)^{(1+1) \times (1+1+1)} \\
&= 2^{(2+2+2)} \\
&= 4 \times 4 \times 4 \\
&= (3 + 3/3)^3 \\
&= 55 + 5 + 5 - 5/5 \\
&= ((6 + 6)/6)^6 \\
&= 77 - 7 - 7 + 7/7 \\
&= 8 \times 8 \\
&= (9 - 9/9) \times (9 - 9/9).
\end{aligned}$$

$$\begin{aligned}
65 &= (1+1)^{(1+1) \times (1+1+1)} + 1 \\
&= 2^{(2+2+2)} + 2/2 \\
&= (3+3/3)^3 + 3/3 \\
&= (4^4 + 4)/4 \\
&= 55 + 5 + 5 \\
&= 66 - 6/6 \\
&= 77 - (77 + 7)/7 \\
&= 8 \times 8 + 8/8 \\
&= 9 \times 9 - 9 - 9 + (9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
70 &= (11 - 1 - 1)^{(1+1)} - 11 \\
&= 2 \times (22 + 2) + 22 \\
&= (3/3 + 3)^3 + 3 + 3 \\
&= 4 + (4^4 + 4 + 4)/4 \\
&= 55 + 5 + 5 + 5 \\
&= 6 + ((6 + 6)/6)^6 \\
&= 77 - 7 \\
&= 8 \times 8 + 8 - (8 + 8)/8 \\
&= 9 \times 9 - 99/9.
\end{aligned}$$

$$\begin{aligned}
75 &= (1+1) \times 111/(1+1+1) + 1 \\
&= 2^{(2+2+2)} + 22/2 \\
&= 3 + 3 \times (3^3 - 3) \\
&= (44 + 4^4)/4 \\
&= 5 \times (5 + 5 + 5) \\
&= 666/6 - 6 \times 6 \\
&= 77 - (7 + 7)/7 \\
&= 8 \times 8 + 88/8 \\
&= 9 \times 9 - (99 + 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
66 &= 11 \times (1+1) \times (1+1+1) \\
&= 2^{(2+2+2)} + 2 \\
&= 33 + 33 \\
&= (4^4 + 4 + 4)/4 \\
&= 55 + 55/5 \\
&= 66 \\
&= 77 - 77/7 \\
&= 8 \times 8 + (8 + 8)/8 \\
&= 99 \times (99 + 9)/(9 \times (9 + 9)).
\end{aligned}$$

$$\begin{aligned}
71 &= (11 + 1)^{(1+1)}/(1+1) - 1 \\
&= 2 \times (2 + 2 + 2)^2 - 2/2 \\
&= ((3 + 3)^3 - 3)/3 \\
&= 4 + 4 + (4^4 - 4)/4 \\
&= 55 + 5 + 55/5 \\
&= 66 + 6 - 6/6 \\
&= 77 - 7 + 7/7 \\
&= 8 \times 8 + 8 - 8/8 \\
&= 9 \times 9 - 9 - 9/9.
\end{aligned}$$

$$\begin{aligned}
76 &= (1+1) \times (111/(1+1+1) + 1) \\
&= 2 \times ((2 + 2 + 2)^2 + 2) \\
&= 3 + (3 + (3 + 3)^3)/3 \\
&= 44 + 4 \times (4 + 4) \\
&= 5 \times (5 + 5 + 5) + 5/5 \\
&= 6 + 6 + ((6 + 6)/6)^6 \\
&= 77 - 7/7 \\
&= 88 - (88 + 8)/8 \\
&= 9 \times 9 - (99 - 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
67 &= 11 \times (1+1) \times (1+1+1) + 1 \\
&= 2^{(2+2+2)} + 2 + 2/2 \\
&= (3 + 3/3)^3 + 3 \\
&= 4 + (4^4 - 4)/4 \\
&= 55 + (55 + 5)/5 \\
&= 66 + 6/6 \\
&= 77 - (77 - 7)/7 \\
&= 8 \times 8 - 8 + 88/8 \\
&= 9 \times 9 - (99 + 9 + 9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
72 &= (11 + 1)^{(1+1)}/(1+1) \\
&= 2 \times (2 + 2 + 2)^2 \\
&= 3 \times (3^3 - 3) \\
&= 4 + 4 + 4 \times 4 \times 4 \\
&= 55 + 5 + (55 + 5)/5 \\
&= 66 + 6 \\
&= 77 - 7 + (7 + 7)/7 \\
&= 8 + 8 \times 8 \\
&= 9 \times 9 - 9.
\end{aligned}$$

$$\begin{aligned}
77 &= 11 \times ((1+1) \times (1+1+1) + 1) \\
&= 2 \times 2 \times 22 - 22/2 \\
&= 3 \times 3^3 - 3 - 3/3 \\
&= (4 - 4/4)^4 - 4 \\
&= 55 + (55 + 55)/5 \\
&= 66 + 66/6 \\
&= 77 \\
&= 88 - 88/8 \\
&= 9 \times 9 - (9 + 9 + 9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
68 &= (1+1) \times (11 \times (1+1+1) + 1) \\
&= 2^{(2+2+2)} + 2 + 2 \\
&= ((3 + 3)^3 - 3)/3 - 3 \\
&= 4 + 4 \times 4 \times 4 \\
&= 5 + (5^5/5 + 5)/(5 + 5) \\
&= 66 + (6 + 6)/6 \\
&= 77 - 7 - (7 + 7)/7 \\
&= 88 - 8 - (88 + 8)/8 \\
&= 9 \times 9 - (99 + 9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
73 &= (11 + 1)^{(1+1)}/(1+1) + 1 \\
&= 2 \times (2 + 2 + 2)^2 + 2/2 \\
&= ((3 + 3)^3 + 3)/3 \\
&= 4 + 4 + (4^4 + 4)/4 \\
&= 5 \times (5 + 5 + 5) - (5 + 5)/5 \\
&= 66 + 6 + 6/6 \\
&= 77 + 7 - 77/7 \\
&= 8 \times 8 + 8 + 8/8 \\
&= 9 \times 9 - 9 + 9/9.
\end{aligned}$$

$$\begin{aligned}
78 &= 111 - 11 \times (1+1+1) \\
&= 2 \times 2 \times (22 - 2) - 2 \\
&= 3 \times 3^3 - 3 \\
&= 4 + (4^4 - 4 + 44)/4 \\
&= 5 \times 5 + 55 - (5 + 5)/5 \\
&= 66 + 6 + 6 \\
&= 77 + 7/7 \\
&= 88 - (88 - 8)/8 \\
&= 9 \times 9 - (9 + 9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
69 &= (1+1+1) \times (11 + 11 + 1) \\
&= (22 + 2/2) \times (2 + 2/2) \\
&= 33 + 33 + 3 \\
&= 4 + (4^4 + 4)/4 \\
&= 55 + 5 + 5 + 5 - 5/5 \\
&= 66 + 6 \times 6/(6 + 6) \\
&= 77 - 7 - 7/7 \\
&= 88 - 8 - 88/8 \\
&= 9 \times 9 - (99 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
74 &= (1+1) \times 111/(1+1+1) \\
&= 2 \times (2 + 2 + 2)^2 + 2 \\
&= 3 + ((3 + 3)^3 - 3)/3 \\
&= (4^4 + 44 - 4)/4 \\
&= 5 \times (5 + 5 + 5) - 5/5 \\
&= 66 + 6 + (6 + 6)/6 \\
&= 77 - (7 + 7 + 7)/7 \\
&= 8 \times 8 + 8 + (8 + 8)/8 \\
&= 9 \times 9 - (9 - (9 + 9)/9).
\end{aligned}$$

$$\begin{aligned}
79 &= (11 - 1 - 1)^{(1+1)} - 1 - 1 \\
&= (2 + 2/2)^{(2+2)} - 2 \\
&= 3 \times 3^3 - 3 + 3/3 \\
&= 4 + (44 + 4^4)/4 \\
&= 5 \times 5 + 55 - 5/5 \\
&= 66 + 6 + 6 + 6/6 \\
&= 77 + (7 + 7)/7 \\
&= 88 - 8 - 8/8 \\
&= 9 \times 9 - (9 + 9)/9.
\end{aligned}$$



$$\begin{aligned}
80 &= (11 - 1 - 1)^{(1+1)} - 1 \\
&= 2 \times 2 \times (22 - 2) \\
&= 3 \times 3^3 - 3/3 \\
&= 4 \times (4 \times 4 + 4) \\
&= 5 \times 5 + 55 \\
&= 66 + 6 + 6 + (6 + 6)/6 \\
&= 77 + (7 + 7 + 7)/7 \\
&= 88 - 8 \\
&= 9 \times 9 - 9/9.
\end{aligned}$$

$$\begin{aligned}
85 &= 111 - (1 + 1) \times (11 + 1 + 1) \\
&= 2 \times 2 \times 22 - 2 - 2/2 \\
&= 3 + 3 \times 3^3 + 3/3 \\
&= 4 + (4 - 4/4)^4 \\
&= 5 \times 5 + 55 + 5 \\
&= 66 + 6 + 6 + 6 + 6/6 \\
&= 77 + 7 + 7/7 \\
&= 88 + 8 - 88/8 \\
&= 9 \times 9 + (9 + 9 + 9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
90 &= (11 - 1) \times (11 - 1 - 1) \\
&= 2 \times 2 \times 22 + 2 \\
&= 3 \times (3^3 + 3) \\
&= 44 + 44 + (4 + 4)/4 \\
&= 5 \times 5 + 55 + 5 + 5 \\
&= 66 + 6 + 6 + 6 + 6 \\
&= 7 + 77 + 7 - 7/7 \\
&= 88 + (8 + 8)/8 \\
&= 99 - 9.
\end{aligned}$$

$$\begin{aligned}
81 &= (11 - 1 - 1)^{(1+1)} \\
&= (2 + 2/2)^{(2+2)} \\
&= 3 \times 3^3 \\
&= (4 - 4/4)^4 \\
&= 5 \times 5 + 55 + 5/5 \\
&= 6 - 66 + 6 \times 66/6 \\
&= 77/7 - 7 + 77 \\
&= 88 - 8 + 8/8 \\
&= 9 \times 9.
\end{aligned}$$

$$\begin{aligned}
86 &= 11 \times (1 + 1)^{(1+1+1)} - 1 - 1 \\
&= 2 \times 2 \times 22 - 2 \\
&= 3 + 3 + 3 \times 3^3 - 3/3 \\
&= 44 + 44 - (4 + 4)/4 \\
&= 555/5 - 5 \times 5 \\
&= 66 + 6 + 6 + 6 + (6 + 6)/6 \\
&= 77 + 7 + (7 + 7)/7 \\
&= 88 - (8 + 8)/8 \\
&= 99 - (99 + 9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
91 &= (11 - 1) \times (11 - 1 - 1) + 1 \\
&= 2 \times 2 \times 22 + 2 + 2/2 \\
&= 3^3 + (3 + 3/3)^3 \\
&= 4 + 44 + 44 - 4/4 \\
&= 5 - 5 \times 5 + 555/5 \\
&= 66 + 6 \times 6 - 66/6 \\
&= 77 + 7 + 7 \\
&= 88 - 8 + 88/8 \\
&= 99 - 9 + 9/9.
\end{aligned}$$

$$\begin{aligned}
82 &= (11 - 1 - 1)^{(1+1)} + 1 \\
&= 2 \times 2 \times (22 - 2) + 2 \\
&= 3 \times 3^3 + 3/3 \\
&= (4 - 4/4)^4 + 4/4 \\
&= 5 \times 5 + 55 + (5 + 5)/5 \\
&= 6 + 6 + 6 + ((6 + 6)/6)^6 \\
&= 77 + 7 - (7 + 7)/7 \\
&= 88 - 8 + (8 + 8)/8 \\
&= 9 \times 9 + 9/9.
\end{aligned}$$

$$\begin{aligned}
87 &= 111 - (1 + 1) \times (11 + 1) \\
&= 2 \times 2 \times 22 - 2/2 \\
&= 3 + 3 + 3 \times 3^3 \\
&= 44 + 44 - 4/4 \\
&= 55 + ((5 + 5)/5)^5 \\
&= 6 + 6 - 66 + 6 \times 66/6 \\
&= 77 + (77 - 7)/7 \\
&= 88 - 8/8 \\
&= 99 - (99 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
92 &= (11 - 1 - 1)^{(1+1)} + 11 \\
&= 2 \times (2 \times 22 + 2) \\
&= 3 \times 3^3 + 33/3 \\
&= 4 + 44 + 44 \\
&= 55 + 5 + ((5 + 5)/5)^5 \\
&= 66 + 6 \times 6 - (66 - 6)/6 \\
&= 77 + 7 + 7 + 7/7 \\
&= 88 + 8 \times 8/(8 + 8) \\
&= 9 \times 9 + 99/9.
\end{aligned}$$

$$\begin{aligned}
83 &= (11 - 1 - 1)^{(1+1)} + 1 + 1 \\
&= (2 + 2/2)^{(2+2)} + 2 \\
&= 3 + 3 \times 3^3 - 3/3 \\
&= 4 + 4 + (44 + 4^4)/4 \\
&= 5 \times 5 + 55 + 5 - (5 + 5)/5 \\
&= 66 + 6 + 66/6 \\
&= 77 + 7 - 7/7 \\
&= 88/8 + 8 + 8 \times 8 \\
&= 9 \times 9 + (9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
88 &= 11 \times (1 + 1)^{(1+1+1)} \\
&= 2 \times 2 \times 22 \\
&= 3 \times 33 - 33/3 \\
&= 44 + 44 \\
&= 5 \times 5 + (5^5/5 + 5)/(5 + 5) \\
&= 66 + (66 + 66)/6 \\
&= 77 + 77/7 \\
&= 88 \\
&= 99 - 99/9.
\end{aligned}$$

$$\begin{aligned}
93 &= ((1 + 1)^{(11-1)} - 1)/11 \\
&= 2 \times (2 \times 22 + 2) + 2/2 \\
&= 3 + 3 \times (3^3 + 3) \\
&= ((4 + 4)^4 - 4)/44 \\
&= 5 \times 5 \times 5 - ((5 + 5)/5)^5 \\
&= 666/6 - 6 - 6 - 6 \\
&= (777 - 77)/7 - 7 \\
&= 8888/88 - 8 \\
&= 999/9 - 9 - 9.
\end{aligned}$$

$$\begin{aligned}
84 &= (11 - 1 - 1)^{(1+1)} + 1 + 1 + 1 \\
&= 2 \times (2 \times 22 - 2) \\
&= 3 + 3 \times 3^3 \\
&= 4 + 4 \times (4 \times 4 + 4) \\
&= 5 \times 5 + 55 + 5 - 5/5 \\
&= 66 + 6 + 6 + 6 \\
&= 77 + 7 \\
&= 88 - 8 \times 8/(8 + 8) \\
&= 9 \times 9 + (9 + 9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
89 &= 111 - 11 - 11 \\
&= 2 \times 2 \times 22 + 2/2 \\
&= 3 \times (3^3 + 3) - 3/3 \\
&= 44 + 44 + 4/4 \\
&= 5 \times (5 \times 5 - 5) - 55/5 \\
&= 66 + 6 + 6 + 66/6 \\
&= 77 + (77 + 7)/7 \\
&= 88 + 8/8 \\
&= 99 - 9 - 9/9.
\end{aligned}$$

$$\begin{aligned}
94 &= ((1 + 1)^{(11-1)} - 1)/11 + 1 \\
&= 2 \times (2 \times 22 + 2) + 2 \\
&= 3 + 3 \times (3^3 + 3) + 3/3 \\
&= (444 - 4)/4 - 4 \times 4 \\
&= 5 \times (5 \times 5 - 5) - 5 - 5/5 \\
&= 6 \times 6 - 6 + ((6 + 6)/6)^6 \\
&= 7777/77 - 7 \\
&= 88 + 8 - (8 + 8)/8 \\
&= (999 + 9)/9 - 9 - 9.
\end{aligned}$$

$$\begin{aligned}
95 &= 111 - (1 + 1)^{(1+1+1+1)} \\
&= 2 \times 2 \times (22 + 2) - 2/2 \\
&= 3 \times 33 - 3 - 3/3 \\
&= 444/4 - 4 \times 4 \\
&= 5 \times (5 \times 5 - 5) - 5 \\
&= 66 + 6 \times 6 - 6 - 6/6 \\
&= 77 + 7 + 77/7 \\
&= 88 + 8 - 8/8 \\
&= 99 - (9 \times 9 - 9)/(9 + 9).
\end{aligned}$$

$$\begin{aligned}
97 &= 111 - 11 - 1 - 1 - 1 \\
&= 2 \times 2 \times (22 + 2) + 2/2 \\
&= 3 \times 33 - 3 + 3/3 \\
&= 4 \times 4 + (4 - 4/4)^4 \\
&= 55 + 5 + 5 + ((5 + 5)/5)^5 \\
&= 66 + 6 \times 6 - 6 + 6/6 \\
&= 7 \times (7 + 7) - 7/7 \\
&= 88 + 8 + 8/8 \\
&= 99 - (9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
99 &= 11 \times (11 - 1 - 1) \\
&= (22/2)^2 - 22 \\
&= 3 \times 33 \\
&= 4 - 4 \times 4 + 444/4 \\
&= 5 \times (5 \times 5 - 5) - 5/5 \\
&= 666/6 - 6 - 6 \\
&= 7 \times (7 + 7) + 7/7 \\
&= 88 + 88/8 \\
&= 99.
\end{aligned}$$

$$\begin{aligned}
96 &= (11 + 1) \times (1 + 1)^{(1+1+1)} \\
&= 2 \times 2 \times (22 + 2) \\
&= 3 \times 33 - 3 \\
&= 4 \times (4 \times 4 + 4 + 4) \\
&= 5 \times (5 \times 5 - 5) - 5 + 5/5 \\
&= 66 + 6 \times 6 - 6 \\
&= 7 \times (7 + 7) - (7 + 7)/7 \\
&= 88 + 8 \\
&= 99 - (9 + 9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
98 &= 111 - 11 - 1 - 1 \\
&= 2 \times 2 \times (22 + 2) + 2 \\
&= 3 \times 33 - 3/3 \\
&= 4 - 4 \times 4 + (444 - 4)/4 \\
&= 5 \times (5 \times 5 - 5) - (5 + 5)/5 \\
&= (666 - 6)/6 - 6 - 6 \\
&= 7 \times (7 + 7) \\
&= 88 + (88 - 8)/8 \\
&= 99 - 9/9.
\end{aligned}$$

$$\begin{aligned}
100 &= (11 - 1)^{(1+1)} \\
&= (2 \times (2 + 2) + 2)^2 \\
&= 3 \times 33 + 3/3 \\
&= (444 - 44)/4 \\
&= 5 \times (5 \times 5 - 5) \\
&= (666 - 66)/6 \\
&= (777 - 77)/7 \\
&= (888 - 88)/8 \\
&= 99 + 9/9.
\end{aligned}$$

Instead of writing jointly, as above, here below in the following sections, the natural numbers from 101 to 1000 are represented separately in each case.

#### 4. REPRESENTATIONS USING NUMBER 1

$$\begin{aligned}
101 &= (11 - 1)^{(1+1)} + 1. \\
102 &= (11 - 1)^{(1+1)} + 1 + 1. \\
103 &= (11 - 1)^{(1+1)} + 1 + 1 + 1. \\
104 &= (11 - 1)^{(1+1)} + 1 + 1 + 1 + 1. \\
105 &= 111 - (1 + 1) \times (1 + 1 + 1). \\
106 &= 111 - (11 - 1)/(1 + 1). \\
107 &= 111 - (1 + 1 + 1 + 1). \\
108 &= 111 - (1 + 1 + 1). \\
109 &= 111 - (1 + 1). \\
110 &= 111 - 1. \\
111 &= 111. \\
112 &= 111 + 1. \\
113 &= 111 + 1 + 1. \\
114 &= 111 + 1 + 1 + 1. \\
115 &= 111 + 1 + 1 + 1 + 1. \\
116 &= 111 + 1 + 1 + 1 + 1 + 1. \\
117 &= 111 + (1 + 1) \times (1 + 1 + 1). \\
118 &= 11^{(1+1)} - 1 - 1 - 1. \\
119 &= 11^{(1+1)} - 1 - 1. \\
120 &= 11^{(1+1)} - 1. \\
121 &= 11^{(1+1)}. \\
122 &= 11^{(1+1)} + 1. \\
123 &= 11^{(1+1)} + 1 + 1. \\
124 &= 11^{(1+1)} + 1 + 1 + 1. \\
125 &= 11^{(1+1)} + 1 + 1 + 1 + 1. \\
126 &= 11^{(1+1)} + 1 + 1 + 1 + 1 + 1. \\
127 &= (1 + 1)^{(1+1+1+1)} + 111. \\
128 &= (1 + 1)^{((1+1) \times (1+1+1+1))}. \\
129 &= 11 \times (11 + 1) - 1 - 1 - 1. \\
130 &= (11 - 1) \times (11 + 1 + 1). \\
131 &= 11 \times (11 + 1) - 1.
\end{aligned}$$

$$\begin{aligned}
132 &= 11 \times (11 + 1). \\
133 &= 11 \times (11 + 1) + 1. \\
134 &= 11 \times (11 + 1) + 1 + 1. \\
135 &= 11 \times (11 + 1) + 1 + 1 + 1. \\
136 &= 11 \times (11 + 1) + 1 + 1 + 1 + 1. \\
137 &= (1 + 1) \times (11 + 1 + 1) + 111. \\
138 &= (1 + 1 + 1)^{(1+1+1)} + 111. \\
139 &= (11 - 1) \times (11 + 1 + 1 + 1) - 1. \\
140 &= (11 - 1) \times (11 + 1 + 1 + 1). \\
141 &= (11 + 1)^{(1+1)} - 1 - 1 - 1. \\
142 &= (11 + 1)^{(1+1)} - 1 - 1. \\
143 &= 11 \times (11 + 1 + 1). \\
144 &= (11 + 1)^{(1+1)}. \\
145 &= (11 + 1)^{(1+1)} + 1. \\
146 &= (11 + 1)^{(1+1)} + 1 + 1. \\
147 &= (11 + 1)^{(1+1)} + 1 + 1 + 1. \\
148 &= (11 + 1)^{(1+1)} + 1 + 1 + 1 + 1. \\
149 &= (11 + 1)^{(1+1)} + 1 + 1 + 1 + 1 + 1. \\
150 &= (11 - 1) \times (11 + 1 + 1 + 1 + 1). \\
151 &= (11 - 1) \times (11 + 1 + 1 + 1 + 1) + 1. \\
152 &= 11 \times (11 + 1 + 1 + 1) - 1 - 1. \\
153 &= 11 \times (11 + 1 + 1 + 1) - 1. \\
154 &= 11 \times (11 + 1 + 1 + 1). \\
155 &= (11 + 1)^{(1+1)} + 11. \\
156 &= (11 + 1) \times (11 + 1 + 1). \\
157 &= (11 + 1) \times (11 + 1 + 1) + 1. \\
158 &= (11 + 1 + 1)^{(1+1)} - 11. \\
159 &= (11 + 1 + 1)^{(1+1)} - 11 + 1. \\
160 &= (1 + 1) \times ((11 - 1 - 1)^{(1+1)} - 1). \\
161 &= (1 + 1) \times (11 - 1 - 1)^{(1+1)} - 1. \\
162 &= (1 + 1) \times (11 - 1 - 1)^{(1+1)}.
\end{aligned}$$

$$\begin{aligned}
163 &= (1 + 1) \times (11 - 1 - 1)^{(1+1)} + 1. \\
164 &= (1 + 1) \times ((11 - 1 - 1)^{(1+1)} + 1). \\
165 &= 11 \times (11 + 1 + 1 + 1 + 1). \\
166 &= 11 \times (11 + 1 + 1 + 1 + 1) + 1. \\
167 &= (11 + 1 + 1)^{(1+1)} - 1 - 1. \\
168 &= (11 + 1 + 1)^{(1+1)} - 1. \\
169 &= (11 + 1 + 1)^{(1+1)}. \\
170 &= (11 + 1 + 1)^{(1+1)} + 1. \\
171 &= (11 + 1 + 1)^{(1+1)} + 1 + 1. \\
172 &= (11 + 1 + 1)^{(1+1)} + 1 + 1 + 1. \\
173 &= (11 + 1 + 1)^{(1+1)} + 1 + 1 + 1 + 1. \\
174 &= (1 + 1) \times (111 - (1 + 1) \times (11 + 1)). \\
175 &= 11 \times (1 + 1)^{(1+1+1+1)} - 1. \\
176 &= 11 \times (1 + 1)^{(1+1+1+1)}. \\
177 &= 11 \times (1 + 1)^{(1+1+1+1)} + 1. \\
178 &= (1 + 1) \times (111 - 11 - 11). \\
179 &= (11 + 1 + 1)^{(1+1)} + 11 - 1. \\
180 &= (11 + 1 + 1)^{(1+1)} + 11. \\
181 &= (11 + 1 + 1)^{(1+1)} + 11 + 1. \\
182 &= (11 + 1 + 1) \times (11 + 1 + 1 + 1). \\
183 &= (11 + 1 + 1) \times (11 + 1 + 1 + 1) + 1. \\
184 &= (1 + 1) \times ((11 - 1 - 1)^{(1+1)} + 11). \\
185 &= (11 + 1 + 1 + 1)^{(1+1)} - 11. \\
186 &= ((1 + 1)^{11} - 1 - 1)/11. \\
187 &= ((1 + 1)^{11} - 1 - 1)/11 + 1. \\
188 &= ((1 + 1)^{11} - 1 - 1)/11 + 1 + 1. \\
189 &= (11 - 1 - 1) \times (11 + 11 - 1). \\
190 &= (11 - 1) \times ((1 + 1) \times (11 - 1) - 1). \\
191 &= (11 - 1) \times ((1 + 1) \times (11 - 1) - 1) + 1. \\
192 &= (11 - 1 - 1)^{(1+1)} + 111. \\
193 &= (11 - 1 - 1)^{(1+1)} + 111 + 1. \\
194 &= (11 + 1 + 1 + 1)^{(1+1)} - 1 - 1. \\
195 &= (11 + 1 + 1 + 1)^{(1+1)} - 1. \\
196 &= (11 + 1 + 1 + 1)^{(1+1)}. \\
197 &= (11 + 1 + 1 + 1)^{(1+1)} + 1. \\
198 &= (1 + 1) \times 11 \times (11 - 1 - 1). \\
199 &= (1 + 1) \times (11 - 1)^{(1+1)} - 1. \\
200 &= (1 + 1) \times (11 - 1)^{(1+1)}. \\
201 &= (1 + 1) \times (11 - 1)^{(1+1)} + 1. \\
202 &= (1 + 1) \times ((11 - 1)^{(1+1)} + 1). \\
203 &= (1 + 1) \times ((11 - 1)^{(1+1)} + 1) + 1. \\
204 &= (1 + 1) \times ((11 - 1)^{(1+1)} + 1 + 1). \\
205 &= ((1 + 1)^{11} + 1 + 1)/(11 - 1). \\
206 &= ((1 + 1)^{11} + 1 + 1)/(11 - 1) + 1. \\
207 &= (11 + 1 + 1 + 1)^{(1+1)} + 11. \\
208 &= (1 + 1) \times (111 - 1) - 11 - 1. \\
209 &= 11 \times ((1 + 1) \times (11 - 1) - 1). \\
210 &= (11 - 1) \times (11 + 11 - 1). \\
211 &= (1 + 1) \times 111 - 11. \\
212 &= (1 + 1) \times 111 - 11 + 1. \\
213 &= (1 + 1) \times (111 + 1) - 11. \\
214 &= (1 + 1) \times (111 + 1) - 11 + 1. \\
215 &= (1 + 1) \times (111 + 1 + 1) - 11. \\
216 &= (1 + 1) \times (111 - 1 - 1 - 1). \\
217 &= (1 + 1) \times (111 - 1 - 1) - 1. \\
218 &= (1 + 1) \times (111 - 1 - 1). \\
219 &= (1 + 1) \times (111 - 1) - 1. \\
220 &= (1 + 1) \times (111 - 1). \\
221 &= (1 + 1) \times 111 - 1. \\
222 &= (1 + 1) \times 111. \\
223 &= (1 + 1) \times 111 + 1. \\
224 &= (1 + 1) \times (111 + 1). \\
225 &= (1 + 1) \times (111 + 1) + 1. \\
226 &= (1 + 1) \times (111 + 1 + 1). \\
227 &= (1 + 1) \times (111 + 1 + 1) + 1. \\
228 &= (1 + 1) \times (111 + 1 + 1 + 1). \\
229 &= (1 + 1) \times (111 + 1 + 1 + 1) + 1. \\
230 &= (11 - 1) \times (11 + 11 + 1). \\
231 &= 11 \times (11 + 11 - 1). \\
232 &= 11^{(1+1)} + 111. \\
233 &= (1 + 1) \times 111 + 11. \\
234 &= (1 + 1) \times 111 + 11 + 1. \\
235 &= (1 + 1) \times (111 + 1) + 11. \\
236 &= (1 + 1) \times (111 + 1) + 11 + 1. \\
237 &= (1 + 1) \times (111 + 1 + 1) + 11. \\
238 &= (1 + 1) \times (11^{(1+1)} - 1 - 1). \\
239 &= (1 + 1) \times (11^{(1+1)} - 1) - 1. \\
240 &= (1 + 1) \times (11^{(1+1)} - 1). \\
241 &= (1 + 1) \times 11^{(1+1)} - 1. \\
242 &= (1 + 1) \times 11^{(1+1)}. \\
243 &= (1 + 1) \times 11^{(1+1)} + 1. \\
244 &= (1 + 1) \times (11^{(1+1)} + 1). \\
245 &= (1 + 1) \times (11^{(1+1)} + 1) + 1. \\
246 &= (1 + 1) \times (11^{(1+1)} + 1 + 1). \\
247 &= (1 + 1) \times (11^{(1+1)} + 1 + 1) + 1. \\
248 &= (1 + 1) \times (11^{(1+1)} + 1 + 1 + 1). \\
249 &= (1 + 1) \times (11^{(1+1)} + 1 + 1 + 1) + 1. \\
250 &= (11 - 1) \times ((1 + 1) \times (11 + 1) + 1). \\
251 &= (1 + 1) \times (11^{(1+1)} - 1) + 11. \\
252 &= (11 + 1) \times (11 + 11 - 1). \\
253 &= 11 \times (11 + 11 + 1). \\
254 &= 11 \times (11 + 11 + 1) + 1. \\
255 &= (11 + 1)^{(1+1)} + 111. \\
256 &= (1 + 1)^{(1+1)(1+1+1)}. \\
257 &= (1 + 1)^{(1+1)(1+1+1)} + 1. \\
258 &= (1 + 1)^{(1+1)(1+1+1)} + 1 + 1. \\
259 &= (1 + 1)^{(1+1)(1+1+1)} + 1 + 1 + 1. \\
260 &= (1 + 1) \times (11 - 1) \times (11 + 1 + 1). \\
261 &= (1 + 1) \times (11 \times (11 + 1) - 1) - 1. \\
262 &= (1 + 1) \times (11 \times (11 + 1) - 1). \\
263 &= (1 + 1) \times 11 \times (11 + 1) - 1. \\
264 &= (1 + 1) \times 11 \times (11 + 1). \\
265 &= (1 + 1) \times 11 \times (11 + 1) + 1. \\
266 &= (1 + 1) \times (11 \times (11 + 1) + 1). \\
267 &= (1 + 1) \times (11 \times (11 + 1) + 1) + 1. \\
268 &= (1 + 1) \times (11 \times (11 + 1) + 1 + 1). \\
269 &= (1 + 1) \times (11 \times (11 + 1) + 1 + 1) + 1. \\
270 &= (11 - 1) \times (1 + 1 + 1)^{(1+1+1)}. \\
271 &= (11 - 1) \times (1 + 1 + 1)^{(1+1+1)} + 1. \\
272 &= (11 + 1 + 1) \times (11 + 11 - 1) - 1. \\
273 &= (11 + 1 + 1) \times (11 + 11 - 1). \\
274 &= 11 \times ((1 + 1) \times (11 + 1) + 1) - 1. \\
275 &= 11 \times ((1 + 1) \times (11 + 1) + 1). \\
276 &= (11 + 1) \times (11 + 11 + 1). \\
277 &= (11 + 1) \times (11 + 11 + 1) + 1. \\
278 &= (1111 + 1)/(1 + 1 + 1 + 1). \\
279 &= (1111 + 1)/(1 + 1 + 1 + 1) + 1. \\
280 &= (11 + 1 + 1)^{(1+1)} + 111. \\
281 &= (11 + 1 + 1)^{(1+1)} + 111 + 1. \\
282 &= (1 + 1) \times ((11 + 1)^{(1+1)} - 1 - 1 - 1). \\
283 &= (1 + 1) \times ((11 + 1)^{(1+1)} - 1 - 1) - 1. \\
284 &= (1 + 1) \times ((11 + 1)^{(1+1)} - 1 - 1). \\
285 &= (1 + 1) \times 11 \times (11 + 1 + 1) - 1. \\
286 &= (1 + 1) \times 11 \times (11 + 1 + 1). \\
287 &= (1 + 1) \times (11 + 1)^{(1+1)} - 1. \\
288 &= (1 + 1) \times (11 + 1)^{(1+1)}. \\
289 &= (1 + 1) \times (11 + 1)^{(1+1)} + 1. \\
290 &= (1 + 1) \times ((11 + 1)^{(1+1)} + 1). \\
291 &= (1 + 1) \times ((11 + 1)^{(1+1)} + 1) + 1. \\
292 &= (1 + 1) \times ((11 + 1)^{(1+1)} + 1) + 1 + 1. \\
293 &= (1 + 1) \times ((11 + 1)^{(1+1)} + 1) + 1 + 1 + 1.
\end{aligned}$$

$$\begin{aligned}
294 &= (1 + 1) \times ((11 + 1)^{(1+1)} + 1) + 1 + 1 + 1 + 1. \\
295 &= 11 \times (1 + 1 + 1)^{(1+1+1)} - 1 - 1. \\
296 &= 11 \times (1 + 1 + 1)^{(1+1+1)} - 1. \\
297 &= 11 \times (1 + 1 + 1)^{(1+1+1)}. \\
298 &= 11 \times (1 + 1 + 1)^{(1+1+1)} + 1. \\
299 &= (1 + 1) \times (11 + 1)^{(1+1)} + 11. \\
300 &= (1 + 1 + 1) \times (11 - 1)^{(1+1)}. \\
301 &= (1 + 1 + 1) \times (11 - 1)^{(1+1)} + 1. \\
302 &= (1 + 1 + 1) \times (11 - 1)^{(1+1)} + 1 + 1. \\
303 &= (1 + 1 + 1) \times ((11 - 1)^{(1+1)} + 1). \\
304 &= (1 + 1 + 1) \times ((11 - 1)^{(1+1)} + 1) + 1. \\
305 &= (11 \times 111 - 1)/(1 + 1 + 1 + 1). \\
306 &= (1 + 1) \times (11 \times (11 + 1 + 1 + 1) - 1). \\
307 &= 111 + (11 + 1 + 1 + 1)^{(1+1)}. \\
308 &= 11 \times (1 + 1) \times (11 + 1 + 1 + 1). \\
309 &= 11 \times (1 + 1) \times (11 + 1 + 1 + 1) + 1. \\
310 &= (1 + 1) \times ((11 + 1)^{(1+1)} + 11). \\
311 &= (1 + 1) \times ((11 + 1)^{(1+1)} + 11) + 1. \\
312 &= (1 + 1) \times (11 + 1) \times (11 + 1 + 1). \\
313 &= (1 + 1) \times (11 + 1) \times (11 + 1 + 1) + 1. \\
314 &= (1 + 1) \times ((11 + 1) \times (11 + 1 + 1) + 1). \\
315 &= ((1 + 1)^{(1+1)} - 1)/(11 + 1 + 1). \\
316 &= (1 + 1) \times ((11 + 1 + 1)^{(1+1)} - 11). \\
317 &= (1 + 1) \times ((11 + 1 + 1)^{(1+1)} - 11) + 1. \\
318 &= (1 + 1 + 1) \times (111 - 1) - 11 - 1. \\
319 &= 11 \times ((1 + 1 + 1) \times (11 - 1) - 1). \\
320 &= (11 - 1) \times (11 \times (1 + 1 + 1) - 1). \\
321 &= 111 \times (1 + 1 + 1) - 11 - 1. \\
322 &= 111 \times (1 + 1 + 1) - 11. \\
323 &= 111 \times (1 + 1 + 1) - 11 + 1. \\
324 &= ((1 + 1) \times (11 - 1 - 1))^{(1+1)}. \\
325 &= ((1 + 1) \times (11 - 1 - 1))^{(1+1)} + 1. \\
326 &= (1 + 1 + 1) \times (111 - 1 - 1) - 1. \\
327 &= (1 + 1 + 1) \times (111 - 1 - 1). \\
328 &= (1 + 1 + 1) \times (111 - 1 - 1) + 1. \\
329 &= (1 + 1 + 1) \times (111 - 1) - 1. \\
330 &= (1 + 1 + 1) \times (111 - 1). \\
331 &= (1 + 1 + 1) \times (111 - 1) + 1. \\
332 &= (1 + 1 + 1) \times 111 - 1. \\
333 &= (1 + 1 + 1) \times 111. \\
334 &= (1 + 1 + 1) \times 111 + 1. \\
335 &= (1 + 1 + 1) \times 111 + 1 + 1. \\
336 &= (1 + 1 + 1) \times (111 + 1). \\
337 &= (1 + 1 + 1) \times (111 + 1) + 1. \\
338 &= (1 + 1) \times (11 + 1 + 1)^{(1+1)}. \\
339 &= (1 + 1 + 1) \times (111 + 1 + 1). \\
340 &= (1 + 1 + 1) \times (111 + 1 + 1) + 1. \\
341 &= (1 + 1 + 1) \times (111 - 1) + 11. \\
342 &= (1 + 1 + 1) \times (111 + 1 + 1 + 1). \\
343 &= (1 + 1 + 1) \times 111 + 11 - 1. \\
344 &= (1 + 1 + 1) \times 111 + 11. \\
345 &= (1 + 1 + 1) \times 111 + 11 + 1. \\
346 &= (1 + 1 + 1) \times 111 + 11 + 1 + 1. \\
347 &= (1 + 1 + 1) \times (111 + 1) + 11. \\
348 &= (1 + 1 + 1) \times (111 + 1) + 11 + 1. \\
349 &= (1 + 1) \times (11 + 1 + 1)^{(1+1)} + 11. \\
350 &= (1 + 1 + 1) \times (111 + 1 + 1) + 11. \\
351 &= 11 \times (11 \times (1 + 1 + 1) - 1) - 1. \\
352 &= 11 \times (11 \times (1 + 1 + 1) - 1). \\
353 &= 11 \times (11 \times (1 + 1 + 1) - 1) + 1. \\
354 &= 11 \times (11 \times (1 + 1 + 1) - 1) + 1 + 1. \\
355 &= (1 + 1 + 1) \times 111 + 11 + 11. \\
356 &= (1 + 1 + 1) \times (11^{(1+1)} - 1 - 1) - 1. \\
357 &= (1 + 1 + 1) \times (11^{(1+1)} - 1 - 1). \\
358 &= (1 + 1 + 1) \times (11^{(1+1)} - 1 - 1) + 1. \\
359 &= (1 + 1 + 1) \times (11^{(1+1)} - 1) - 1. \\
360 &= (1 + 1 + 1) \times (11^{(1+1)} - 1). \\
361 &= ((1 + 1) \times (11 - 1) - 1)^{(1+1)}. \\
362 &= (1 + 1 + 1) \times 11 \times 11 - 1. \\
363 &= (1 + 1 + 1) \times 11 \times 11. \\
364 &= (1 + 1 + 1) \times 11 \times 11 + 1. \\
365 &= (1 + 1 + 1) \times 11 \times 11 + 1 + 1. \\
366 &= (1 + 1 + 1) \times (11^{(1+1)} + 1). \\
367 &= (1 + 1 + 1) \times (11^{(1+1)} + 1) + 1. \\
368 &= (1 + 1 + 1) \times (11^{(1+1)} + 1) + 1 + 1. \\
369 &= (1 + 1 + 1) \times (11^{(1+1)} + 1 + 1). \\
370 &= (1111 - 1)/(1 + 1 + 1). \\
371 &= (1111 - 1)/(1 + 1 + 1) + 1. \\
372 &= (1111 - 1)/(1 + 1 + 1) + 1 + 1. \\
373 &= (11 + 11)^{(1+1)} - 111. \\
374 &= 11 \times (11 \times (1 + 1 + 1) + 1). \\
375 &= 11 \times (11 \times (1 + 1 + 1) + 1) + 1. \\
376 &= 11 \times (11 \times (1 + 1 + 1) + 1) + 1 + 1. \\
377 &= (1 + 1 + 1) \times (11^{(1+1)} + 1) + 11. \\
378 &= (1 + 1 + 1) \times (11^{(1+1)} + 1) + 11 + 1. \\
379 &= (11 - 1) \times (111/(1 + 1 + 1) + 1) - 1. \\
380 &= (11 - 1) \times (111/(1 + 1 + 1) + 1). \\
381 &= (1111 - 1)/(1 + 1 + 1) + 11. \\
382 &= (1111 - 1)/(1 + 1 + 1) + 11 + 1. \\
383 &= (11 + 1) \times (11 \times (1 + 1 + 1) - 1) - 1. \\
384 &= (11 + 1) \times (11 \times (1 + 1 + 1) - 1). \\
385 &= 11 \times (11 \times (1 + 1 + 1) + 1 + 1). \\
386 &= 11 \times (11 \times (1 + 1 + 1) + 1 + 1) + 1. \\
387 &= 11 \times (11 \times (1 + 1 + 1) + 1 + 1) + 1 + 1. \\
388 &= ((1 + 1) \times (11 - 1))^{(1+1)} - 11 - 1. \\
389 &= ((1 + 1) \times (11 - 1))^{(1+1)} - 11. \\
390 &= ((1 + 1) \times (11 - 1))^{(1+1)} - 11 + 1. \\
391 &= (1 + 1)^{(11-1-1)} - 11^{(1+1)}. \\
392 &= (1 + 1) \times (11 + 1 + 1 + 1)^{(1+1)}. \\
393 &= (1 + 1 + 1) \times (11 \times (11 + 1) - 1). \\
394 &= (1 + 1 + 1) \times (11 \times (11 + 1) - 1) + 1. \\
395 &= (1 + 1 + 1) \times (11 + 1) \times 11 - 1. \\
396 &= (1 + 1 + 1) \times (11 + 1) \times 11. \\
397 &= (1 + 1 + 1) \times (11 + 1) \times 11 + 1. \\
398 &= ((1 + 1) \times (11 - 1))^{(1+1)} - 1 - 1. \\
399 &= ((1 + 1) \times (11 - 1))^{(1+1)} - 1. \\
400 &= ((1 + 1) \times (11 - 1))^{(1+1)}. \\
401 &= ((1 + 1) \times (11 - 1))^{(1+1)} + 1. \\
402 &= ((1 + 1) \times (11 - 1))^{(1+1)} + 1 + 1. \\
403 &= ((1 + 1) \times (11 - 1))^{(1+1)} + 1 + 1 + 1. \\
404 &= (1 + 1) \times (1 + 1) \times ((11 - 1)^{(1+1)} + 1). \\
405 &= 11 \times 111/(1 + 1 + 1) - 1 - 1. \\
406 &= 11 \times 111/(1 + 1 + 1) - 1. \\
407 &= 11 \times 111/(1 + 1 + 1). \\
408 &= 11 \times 111/(1 + 1 + 1) + 1. \\
409 &= 11 \times 111/(1 + 1 + 1) + 1 + 1. \\
410 &= ((1 + 1) \times (11 - 1))^{(1+1)} + 11 - 1. \\
411 &= ((1 + 1) \times (11 - 1))^{(1+1)} + 11. \\
412 &= ((1 + 1) \times (11 - 1))^{(1+1)} + 11 + 1. \\
413 &= ((1 + 1) \times (11 - 1))^{(1+1)} + 11 + 1 + 1. \\
414 &= (1 + 1) \times ((11 + 1 + 1 + 1)^{(1+1)} + 11). \\
415 &= (11 + 1 + 1) \times (11 \times (1 + 1 + 1) - 1) - 1. \\
416 &= (11 + 1 + 1) \times (11 \times (1 + 1 + 1) - 1). \\
417 &= 11 \times (111/(1 + 1 + 1) + 1) - 1. \\
418 &= 11 \times (111/(1 + 1 + 1) + 1). \\
419 &= 11 \times (111/(1 + 1 + 1) + 1) + 1. \\
420 &= (1 + 1) \times (11 - 1) \times (11 + 11 - 1). \\
421 &= (1 + 1 + 1) \times (11 + 1)^{(1+1)} - 11. \\
422 &= (1 + 1) \times ((1 + 1) \times 111 - 11). \\
423 &= (1 + 1) \times ((1 + 1) \times 111 - 11) + 1. \\
424 &= (1 + 1) \times ((1 + 1) \times 111 - 11 + 1). \\
425 &= (1 + 1) \times ((1 + 1) \times 111 - 11 + 1) + 1.
\end{aligned}$$

$$\begin{aligned}
426 &= (1 + 1) \times ((1 + 1) \times (111 + 1) - 11). \\
427 &= (1 + 1) \times ((1 + 1) \times (111 + 1) - 11) + 1. \\
428 &= (1 + 1 + 1) \times (11 + 1 + 1) \times 11 - 1. \\
429 &= (1 + 1 + 1) \times (11 + 1 + 1) \times 11. \\
430 &= (11 + 11 - 1)^{(1+1)} - 11. \\
431 &= (1 + 1 + 1) \times (11 + 1)^{(1+1)} - 1. \\
432 &= (1 + 1 + 1) \times (11 + 1)^{(1+1)}. \\
433 &= (1 + 1 + 1) \times (11 + 1)^{(1+1)} + 1. \\
434 &= (1 + 1 + 1) \times (11 + 1)^{(1+1)} + 1 + 1. \\
435 &= (1 + 1 + 1) \times ((11 + 1)^{(1+1)} + 1). \\
436 &= (1 + 1) \times (1 + 1) \times (111 - 1 - 1). \\
437 &= (1 + 1) \times (1 + 1) \times (111 - 1 - 1) + 1. \\
438 &= (1 + 1) \times ((1 + 1) \times (111 - 1) - 1). \\
439 &= (11 + 11 - 1)^{(1+1)} - 1 - 1. \\
440 &= (1 + 1) \times (1 + 1) \times (111 - 1). \\
441 &= (11 + 11 - 1)^{(1+1)}. \\
442 &= (11 + 11 - 1)^{(1+1)} + 1. \\
443 &= (1 + 1) \times (1 + 1) \times 111 - 1. \\
444 &= (1 + 1) \times (1 + 1) \times 111. \\
445 &= (1 + 1) \times (1 + 1) \times 111 + 1. \\
446 &= (1 + 1) \times ((1 + 1) \times 111 + 1). \\
447 &= (1 + 1) \times ((1 + 1) \times 111 + 1) + 1. \\
448 &= (1 + 1) \times (1 + 1) \times (111 + 1). \\
449 &= (1 + 1) \times (1 + 1) \times (111 + 1) + 1. \\
450 &= (1 + 1) \times ((1 + 1) \times (111 + 1) + 1). \\
451 &= (1 + 1) \times ((1 + 1) \times (111 + 1) + 1) + 1. \\
452 &= (11 + 11 - 1)^{(1+1)} + 11. \\
453 &= (11 + 11 - 1)^{(1+1)} + 11 + 1. \\
454 &= (1 + 1) \times (1 + 1) \times 111 + 11 - 1. \\
455 &= (1 + 1) \times (1 + 1) \times 111 + 11. \\
456 &= (1 + 1) \times (1 + 1) \times 111 + 11 + 1. \\
457 &= (1 + 1) \times ((1 + 1) \times 111 + 1) + 11. \\
458 &= (1 + 1) \times ((1 + 1) \times 111 + 1) + 11 + 1. \\
459 &= (1 + 1) \times (1 + 1) \times (111 + 1) + 11. \\
460 &= (1 + 1) \times (11 - 1) \times (11 + 11 + 1). \\
461 &= (1 + 1) \times 11 \times (11 + 11 - 1) - 1. \\
462 &= (1 + 1) \times 11 \times (11 + 11 - 1). \\
463 &= (1 + 1) \times 11 \times (11 + 11 - 1) + 1. \\
464 &= (1 + 1) \times (11^{(1+1)} + 111). \\
465 &= (1 + 1) \times (11^{(1+1)} + 111) + 1. \\
466 &= (1 + 1) \times ((1 + 1) \times 111 + 11). \\
467 &= (1 + 1) \times ((1 + 1) \times 111 + 11) + 1. \\
468 &= (1 + 1) \times ((1 + 1) \times 111 + 11 + 1). \\
469 &= (1 + 1) \times ((1 + 1) \times 111 + 11 + 1) + 1. \\
470 &= (1 + 1) \times ((1 + 1) \times (111 + 1) + 11). \\
471 &= (11 + 11)^{(1+1)} - 11 - 1 - 1. \\
472 &= (11 + 11)^{(1+1)} - 11 - 1. \\
473 &= (11 + 11)^{(1+1)} - 11. \\
474 &= (11 + 11)^{(1+1)} - 11 + 1. \\
475 &= (11 + 11)^{(1+1)} - 11 + 1 + 1. \\
476 &= (1 + 1) \times ((1 + 1) \times (11^{(1+1)} - 1 - 1)). \\
477 &= (1 + 1) \times ((1 + 1) \times (11^{(1+1)} - 1 - 1)) + 1. \\
478 &= (1 + 1) \times (((1 + 1) \times (11^{(1+1)} - 1 - 1)) + 1). \\
479 &= (1 + 1) \times ((1 + 1) \times (11^{(1+1)} - 1)) - 1. \\
480 &= (1 + 1) \times (1 + 1) \times (11^{(1+1)} - 1). \\
481 &= (11 + 11)^{(1+1)} - 1 - 1 - 1. \\
482 &= (11 + 11)^{(1+1)} - 1 - 1. \\
483 &= (11 + 11)^{(1+1)} - 1. \\
484 &= (11 + 11)^{(1+1)}. \\
485 &= (11 + 11)^{(1+1)} + 1. \\
486 &= (11 + 11)^{(1+1)} + 1 + 1. \\
487 &= (11 + 11)^{(1+1)} + 1 + 1 + 1. \\
488 &= (1 + 1) \times (1 + 1) \times (11^{(1+1)} + 1). \\
489 &= (1 + 1) \times (1 + 1) \times (11^{(1+1)} + 1) + 1. \\
490 &= (1 + 1) \times ((1 + 1) \times (11^{(1+1)} + 1) + 1). \\
491 &= (1 + 1) \times ((1 + 1) \times (11^{(1+1)} + 1) + 1) + 1. \\
492 &= (1 + 1) \times (1 + 1) \times (11^{(1+1)} + 1 + 1). \\
493 &= (11 + 11)^{(1+1)} + 11 - 1 - 1. \\
494 &= (11 + 11)^{(1+1)} + 11 - 1. \\
495 &= (11 + 11)^{(1+1)} + 11. \\
496 &= (11 + 11)^{(1+1)} + 11 + 1. \\
497 &= (11 + 11)^{(1+1)} + 11 + 1 + 1. \\
498 &= (11 - 1)^{(1+1+1)}/(1 + 1) - 1 - 1. \\
499 &= (11 - 1)^{(1+1+1)}/(1 + 1) - 1. \\
500 &= (11 - 1)^{(1+1+1)}/(1 + 1). \\
501 &= (1 + 1)^{(11-1-1)} - 11. \\
502 &= (1 + 1)^{(11-1-1)} - 11 + 1. \\
503 &= (1 + 1)^{(11-1-1)} - 11 + 1 + 1. \\
504 &= (1 + 1) \times (11 + 1) \times (11 + 11 - 1). \\
505 &= (11111 - 1)/(11 + 11). \\
506 &= (1 + 1) \times 11 \times (11 + 11 + 1). \\
507 &= (1 + 1 + 1) \times (11 + 1 + 1)^{(1+1)}. \\
508 &= (1 + 1 + 1) \times (11 + 1 + 1)^{(1+1)} + 1. \\
509 &= (1 + 1)^{(11-1-1)} - 1 - 1 - 1. \\
510 &= (1 + 1)^{(11-1-1)} - 1 - 1. \\
511 &= (1 + 1)^{(11-1-1)} - 1. \\
512 &= (1 + 1)^{(11-1-1)}. \\
513 &= (1 + 1)^{(11-1-1)} + 1. \\
514 &= (1 + 1)^{(11-1-1)} + 1 + 1. \\
515 &= (1 + 1)^{(11-1-1)} + 1 + 1 + 1. \\
516 &= (1 + 1)^{(11-1-1)} + 1 + 1 + 1 + 1. \\
517 &= 11 \times ((1 + 1) \times (11 + 11 + 1) + 1). \\
518 &= (11 + 11 + 1)^{(1+1)} - 11. \\
519 &= (11 + 11 + 1)^{(1+1)} - 11 + 1. \\
520 &= (11 + 11 + 1)^{(1+1)} - 11 + 1 + 1. \\
521 &= (1 + 1)^{(11-1-1)} + 11 - 1 - 1. \\
522 &= (1 + 1)^{(11-1-1)} + 11 - 1. \\
523 &= (1 + 1)^{(11-1-1)} + 11. \\
524 &= (1 + 1)^{(11-1-1)} + 11 + 1. \\
525 &= (1 + 1)^{(11-1-1)} + 11 + 1 + 1. \\
526 &= (1 + 1) \times ((1 + 1) \times 11 \times (11 + 1) - 1). \\
527 &= (11 + 11 + 1)^{(1+1)} - 1 - 1. \\
528 &= (11 + 11 + 1)^{(1+1)} - 1. \\
529 &= (11 + 11 + 1)^{(1+1)}. \\
530 &= (11 + 11 + 1)^{(1+1)} + 1. \\
531 &= (11 + 11 + 1)^{(1+1)} + 1 + 1. \\
532 &= (11 + 11 + 1)^{(1+1)} + 1 + 1 + 1. \\
533 &= (11 + 11 + 1)^{(1+1)} + 1 + 1 + 1 + 1. \\
534 &= (1 + 1)^{(11-1-1)} + 11 + 11. \\
535 &= (1 + 1)^{(11-1-1)} + 11 + 11 + 1. \\
536 &= (1 + 1) \times (1 + 1) \times (11 \times (11 + 1) + 1 + 1). \\
537 &= (1 + 1)^{(11-1-1)} + (1 + 1) \times (11 + 1) + 1. \\
538 &= (11 + 11 + 1)^{(1+1)} + 11 - 1 - 1. \\
539 &= (11 + 11 + 1)^{(1+1)} + 11 - 1. \\
540 &= (11 + 11 + 1)^{(1+1)} + 11. \\
541 &= (11 + 11 + 1)^{(1+1)} + 11 + 1. \\
542 &= (11 + 11 + 1)^{(1+1)} + 11 + 1 + 1. \\
543 &= (1111 - 1)/(1 + 1) - 11 - 1. \\
544 &= (1111 - 1)/(1 + 1) - 11. \\
545 &= (1111 + 1)/(1 + 1) - 11. \\
546 &= (1111 + 1)/(1 + 1) - 11 + 1. \\
547 &= (1111 + 1)/(1 + 1) - 11 + 1 + 1. \\
548 &= (1111 - 11)/(1 + 1) - 1 - 1. \\
549 &= (1111 - 11)/(1 + 1) - 1. \\
550 &= (1111 - 11)/(1 + 1). \\
551 &= (1111 - 11)/(1 + 1) + 1. \\
552 &= (1111 - 11)/(1 + 1) + 1 + 1. \\
553 &= (1111 - 1)/(1 + 1) - 1 - 1. \\
554 &= (1111 - 1)/(1 + 1) - 1. \\
555 &= (1111 - 1)/(1 + 1). \\
556 &= (1111 + 1)/(1 + 1). \\
557 &= (1111 + 1)/(1 + 1) + 1.
\end{aligned}$$

$$\begin{aligned}
558 &= (1111 + 1)/(1 + 1) + 1 + 1. \\
559 &= (1111 + 1)/(1 + 1) + 1 + 1 + 1. \\
560 &= (11 - 1) \times (111 + 1)/(1 + 1). \\
561 &= (1111 + 11)/(1 + 1). \\
562 &= (1111 + 11)/(1 + 1) + 1. \\
563 &= (1111 + 11)/(1 + 1) + 1 + 1. \\
564 &= ((1 + 1) \times (11 + 1))^{(1+1)} - 11 - 1. \\
565 &= ((1 + 1) \times (11 + 1))^{(1+1)} - 11. \\
566 &= (1111 - 1)/(1 + 1) + 11. \\
567 &= (1111 + 1)/(1 + 1) + 11. \\
568 &= (1111 + 1)/(1 + 1) + 11 + 1. \\
569 &= (1111 + 1)/(1 + 1) + 11 + 1 + 1. \\
570 &= (11 - 1) \times ((111 + 1)/(1 + 1) + 1). \\
571 &= (11 - 1) \times ((111 + 1)/(1 + 1) + 1) + 1. \\
572 &= (1111 + 11)/(1 + 1) + 11. \\
573 &= ((1 + 1) \times (11 + 1))^{(1+1)} - 1 - 1 - 1. \\
574 &= ((1 + 1) \times (11 + 1))^{(1+1)} - 1 - 1. \\
575 &= ((1 + 1) \times (11 + 1))^{(1+1)} - 1. \\
576 &= ((1 + 1) \times (11 + 1))^{(1+1)}. \\
577 &= ((1 + 1) \times (11 + 1))^{(1+1)} + 1. \\
578 &= ((1 + 1) \times (11 + 1))^{(1+1)} + 1 + 1. \\
579 &= ((1 + 1) \times (11 + 1))^{(1+1)} + 1 + 1 + 1. \\
580 &= (1 + 1) \times (1 + 1) \times ((11 + 1)^{(1+1)} + 1). \\
581 &= (1 + 1) \times (1 + 1) \times ((11 + 1)^{(1+1)} + 1) + 1. \\
582 &= 11 \times ((111 - 1)/(1 + 1) - 1 - 1) - 1. \\
583 &= 11 \times ((111 - 1)/(1 + 1) - 1 - 1). \\
584 &= 11 \times ((111 - 1)/(1 + 1) - 1 - 1) + 1. \\
585 &= ((1 + 1) \times (11 + 1))^{(1+1)} + 11 - 1 - 1. \\
586 &= ((1 + 1) \times (11 + 1))^{(1+1)} + 11 - 1. \\
587 &= ((1 + 1) \times (11 + 1))^{(1+1)} + 11. \\
588 &= ((1 + 1) \times (11 + 1))^{(1+1)} + 11 + 1. \\
589 &= ((1 + 1) \times (11 + 1))^{(1+1)} + 11 + 1 + 1. \\
590 &= (11 - 1) \times ((11^{(1+1)} - 1)/(1 + 1) - 1). \\
591 &= (1 + 1 + 1) \times ((11 + 1 + 1 + 1)^{(1+1)} + 1). \\
592 &= (1 + 1) \times (11 \times (1 + 1 + 1)^{(1+1+1)} - 1). \\
593 &= 11 \times ((111 - 1)/(1 + 1) - 1) - 1. \\
594 &= 11 \times ((111 - 1)/(1 + 1) - 1). \\
595 &= (11 + 11)^{(1+1)} + 111. \\
596 &= (11 + 11)^{(1+1)} + 111 + 1. \\
597 &= (11 + 11)^{(1+1)} + 111 + 1 + 1. \\
598 &= ((1 + 1) \times (11 + 1))^{(1+1)} + 11 + 11. \\
599 &= 1111 - (1 + 1)^{(11-1-1)}. \\
600 &= (1 + 1) \times (1 + 1 + 1) \times (11 - 1)^{(1+1)}. \\
601 &= (1 + 1) \times (1 + 1 + 1) \times (11 - 1)^{(1+1)} + 1. \\
602 &= (1 + 1) \times ((1 + 1 + 1) \times (11 - 1)^{(1+1)} + 1). \\
603 &= 11 \times (111 - 1)/(1 + 1) - 1 - 1. \\
604 &= 11 \times (111 - 1)/(1 + 1) - 1. \\
605 &= 11 \times (111 - 1)/(1 + 1). \\
606 &= 11 \times (111 - 1)/(1 + 1) + 1. \\
607 &= 11 \times (111 - 1)/(1 + 1) + 1 + 1. \\
608 &= (11 \times 111 - 1)/(1 + 1) - 1 - 1. \\
609 &= (11 \times 111 - 1)/(1 + 1) - 1. \\
610 &= (11 \times 111 - 1)/(1 + 1). \\
611 &= (11 \times 111 + 1)/(1 + 1). \\
612 &= (11 \times 111 + 1)/(1 + 1) + 1. \\
613 &= (11 \times 111 + 1)/(1 + 1) + 1 + 1. \\
614 &= 11 \times (111 + 1)/(1 + 1) - 1 - 1. \\
615 &= 11 \times (111 + 1)/(1 + 1) - 1. \\
616 &= 11 \times (111 + 1)/(1 + 1). \\
617 &= 11 \times (111 + 1)/(1 + 1) + 1. \\
618 &= 11 \times (111 + 1)/(1 + 1) + 1 + 1. \\
619 &= 11 \times (111 + 1)/(1 + 1) + 1 + 1 + 1. \\
620 &= (11 \times 111 - 1)/(1 + 1) + 11 - 1. \\
621 &= (11 \times 111 - 1)/(1 + 1) + 11. \\
622 &= (11 \times 111 + 1)/(1 + 1) + 11. \\
623 &= (1 + 1)^{(11-1-1)} + 111. \\
624 &= ((1 + 1) \times (11 + 1) + 1)^{(1+1)} - 1. \\
625 &= ((1 + 1) \times (11 + 1) + 1)^{(1+1)}. \\
626 &= ((1 + 1) \times (11 + 1) + 1)^{(1+1)} + 1. \\
627 &= 11 \times ((111 + 1)/(1 + 1) + 1). \\
628 &= 11 \times ((111 + 1)/(1 + 1) + 1) + 1. \\
629 &= 11 \times ((111 + 1)/(1 + 1) + 1) + 1 + 1. \\
630 &= (1 + 1 + 1) \times (11 - 1) \times (11 + 11 - 1). \\
631 &= (1 + 1 + 1) \times (11 - 1) \times (11 + 11 - 1) + 1. \\
632 &= 11^{(1+1)} + (1 + 1)^{(11-1-1)} - 1. \\
633 &= (1 + 1 + 1) \times ((1 + 1) \times 111 - 11). \\
634 &= 11^{(1+1)} + (1 + 1)^{(11-1-1)} + 1. \\
635 &= ((1 + 1) \times (11 + 1) + 1)^{(1+1)} + 11 - 1. \\
636 &= ((1 + 1) \times (11 + 1) + 1)^{(1+1)} + 11. \\
637 &= ((1 + 1) \times (11 + 1) + 1)^{(1+1)} + 11 + 1. \\
638 &= 11 \times ((111 + 1)/(1 + 1) + 1 + 1). \\
639 &= 11 \times ((111 + 1)/(1 + 1) + 1 + 1) + 1. \\
640 &= (11 + 11 + 1)^{(1+1)} + 111. \\
641 &= (11 + 11 + 1)^{(1+1)} + 111 + 1. \\
642 &= (1 + 1) \times ((1 + 1 + 1) \times 111 - 11 - 1). \\
643 &= (1 + 1) \times ((1 + 1 + 1) \times 111 - 11) - 1. \\
644 &= (1 + 1) \times ((1 + 1 + 1) \times 111 - 11). \\
645 &= (1 + 1) \times ((1 + 1 + 1) \times 111 - 11) + 1. \\
646 &= (1 + 1) \times ((1 + 1 + 1) \times 111 - 11 + 1). \\
647 &= (1 + 1) \times ((1 + 1) \times (11 - 1 - 1))^{(1+1)} - 1. \\
648 &= (1 + 1) \times ((1 + 1) \times (11 - 1 - 1))^{(1+1)}. \\
649 &= 11 \times ((11^{(1+1)} - 1)/(1 + 1) - 1). \\
650 &= 11 \times ((11^{(1+1)} - 1)/(1 + 1) - 1) + 1. \\
651 &= (1 + 1 + 1) \times ((1 + 1) \times (111 - 1 - 1) - 1). \\
652 &= (1 + 1) \times ((1 + 1 + 1) \times (111 - 1 - 1) - 1). \\
653 &= (11^{(1+1+1)} - 1)/(1 + 1) - 11 - 1. \\
654 &= (1 + 1) \times (1 + 1 + 1) \times (111 - 1 - 1). \\
655 &= (1 + 1) \times (1 + 1 + 1) \times 111 - 11. \\
656 &= (1 + 1) \times (1 + 1 + 1) \times 111 - 11 + 1. \\
657 &= (1 + 1 + 1) \times ((1 + 1) \times (111 - 1) - 1). \\
658 &= (1 + 1) \times ((1 + 1 + 1) \times (111 - 1) - 1). \\
659 &= (1 + 1) \times (1 + 1 + 1) \times (111 - 1) - 1. \\
660 &= (1 + 1) \times (1 + 1 + 1) \times (111 - 1). \\
661 &= (1 + 1) \times (1 + 1 + 1) \times (111 - 1) + 1. \\
662 &= (1 + 1) \times ((1 + 1 + 1) \times (111 - 1) + 1). \\
663 &= (1 + 1 + 1) \times ((1 + 1) \times 111 - 1). \\
664 &= (1 + 1) \times ((1 + 1 + 1) \times 111 - 1). \\
665 &= (11^{(1+1+1)} - 1)/(1 + 1). \\
666 &= (1 + 1) \times (1 + 1 + 1) \times 111. \\
667 &= (1 + 1) \times (1 + 1 + 1) \times 111 + 1. \\
668 &= (1 + 1) \times ((1 + 1 + 1) \times 111 + 1). \\
669 &= (1 + 1 + 1) \times ((1 + 1) \times 111 + 1). \\
670 &= (1 + 1 + 1) \times ((1 + 1) \times 111 + 1) + 1. \\
671 &= 11 \times (11^{(1+1)} + 1)/(1 + 1). \\
672 &= (1 + 1) \times (1 + 1 + 1) \times (111 + 1). \\
673 &= (1 + 1) \times (1 + 1 + 1) \times (111 + 1) + 1. \\
674 &= (1 + 1) \times ((1 + 1 + 1) \times (111 + 1) + 1). \\
675 &= ((1 + 1) \times (11 + 1 + 1))^{(1+1)} - 1. \\
676 &= ((1 + 1) \times (11 + 1 + 1))^{(1+1)}. \\
677 &= ((1 + 1) \times (11 + 1 + 1))^{(1+1)} + 1. \\
678 &= ((1 + 1) \times (11 + 1 + 1))^{(1+1)} + 1 + 1. \\
679 &= ((1 + 1)^{11} - 11)/(1 + 1 + 1). \\
680 &= ((1 + 1)^{11} - 11)/(1 + 1 + 1) + 1. \\
681 &= ((1 + 1)^{11} + 1)/(1 + 1 + 1) - 1 - 1. \\
682 &= ((1 + 1)^{11} - 1 - 1)/(1 + 1 + 1). \\
683 &= ((1 + 1)^{11} + 1)/(1 + 1 + 1). \\
684 &= ((1 + 1)^{11} + 1)/(1 + 1 + 1) + 1. \\
685 &= ((1 + 1)^{11} + 1)/(1 + 1 + 1) + 1 + 1. \\
686 &= ((1 + 1)^{11} + 11 - 1)/(1 + 1 + 1). \\
687 &= ((1 + 1) \times (11 + 1 + 1))^{(1+1)} + 11. \\
688 &= (1 + 1) \times ((1 + 1 + 1) \times 111 + 11). \\
689 &= (1 + 1) \times ((1 + 1 + 1) \times 111 + 11) + 1.
\end{aligned}$$

$$\begin{aligned}
690 &= ((1+1)^{11} - 11)/(1+1+1) + 11. \\
691 &= (1+1)^{(11-1)} - (1+1+1) \times 111. \\
692 &= 11 \times (1+1+1) \times (11+11-1) - 1. \\
693 &= 11 \times (1+1+1) \times (11+11-1). \\
694 &= ((1+1)^{11} + 1)/(1+1+1) + 11. \\
695 &= ((1+1)^{11} + 1)/(1+1+1) + 11 + 1. \\
696 &= (1+1+1) \times (11^{(1+1)} + 111). \\
697 &= (1+1+1) \times (11^{(1+1)} + 111) + 1. \\
698 &= (1+1+1) \times ((1+1) \times 111 + 11) - 1. \\
699 &= (1+1+1) \times ((1+1) \times 111 + 11). \\
700 &= (1+1+1) \times ((1+1) \times 111 + 11) + 1. \\
701 &= (1+1+1) \times ((1+1) \times 111 + 11) + 1 + 1. \\
702 &= (1+1) \times (11 \times (11 \times (1+1+1) - 1) - 1). \\
703 &= 11 \times (1+1)^{(1+1) \times (1+1+1)} - 1. \\
704 &= 11 \times (1+1)^{(1+1) \times (1+1+1)}. \\
705 &= 11 \times (1+1)^{(1+1) \times (1+1+1)} + 1. \\
706 &= 11 \times (1+1)^{(1+1) \times (1+1+1)} + 1 + 1. \\
707 &= (11 - 1 - 1)^{(1+1+1)} - 11 - 11. \\
708 &= (11+1) \times ((11^{(1+1)} - 1)/(1+1) - 1). \\
709 &= 11 \times 111 - (1+1)^{(11-1-1)}. \\
710 &= (11-1) \times ((11+1)^{(1+1)}/(1+1) - 1). \\
711 &= 1111 - ((1+1) \times (11-1))^{(1+1)}. \\
712 &= 1111 - ((1+1) \times (11-1))^{(1+1)} + 1. \\
713 &= (11+11+1) \times ((1+1+1) \times (11-1) + 1). \\
714 &= (1+1) \times (1+1+1) \times (11^{(1+1)} - 1 - 1). \\
715 &= 11 \times ((1+1)^{(1+1) \times (1+1+1)} + 1). \\
716 &= (1+1)^{11} - 11^{(1+1+1)} - 1. \\
717 &= (1+1)^{11} - 11^{(1+1+1)}. \\
718 &= (11-1-1)^{(1+1+1)} - 11. \\
719 &= (11-1-1)^{(1+1+1)} - 11 + 1. \\
720 &= (1+1) \times (1+1+1) \times (11^{(1+1)} - 1). \\
721 &= (11^{(1+1+1)} + 111)/(1+1). \\
722 &= (1+1) \times ((1+1) \times (11-1) - 1)^{(1+1)}. \\
723 &= (1+1+1) \times ((1+1) \times 11^{(1+1)} - 1). \\
724 &= (1+1) \times (11 \times 11 \times (1+1+1) - 1). \\
725 &= (1+1) \times 11 \times 11 \times (1+1+1) - 1. \\
726 &= (1+1) \times 11 \times 11 \times (1+1+1). \\
727 &= (11-1-1)^{(1+1+1)} - 1 - 1. \\
728 &= (11-1-1)^{(1+1+1)} - 1. \\
729 &= (11-1-1)^{(1+1+1)}. \\
730 &= (11-1-1)^{(1+1+1)} + 1. \\
731 &= (11-1-1)^{(1+1+1)} + 1 + 1. \\
732 &= (11-1-1)^{(1+1+1)} + 1 + 1 + 1. \\
733 &= (11-1-1)^{(1+1+1)} + 1 + 1 + 1 + 1. \\
734 &= (1+1) \times ((1+1+1) \times (11^{(1+1)} + 1) + 1). \\
735 &= (1+1+1) \times ((1+1) \times (11^{(1+1)} + 1) + 1). \\
736 &= ((1+1) \times (11+1) + 1)^{(1+1)} + 111. \\
737 &= 11 \times (11 \times (1+1) \times (1+1+1) + 1). \\
738 &= 11 \times (11 \times (1+1) \times (1+1+1) + 1) + 1. \\
739 &= (11-1-1)^{(1+1+1)} + 11 - 1. \\
740 &= (11-1-1)^{(1+1+1)} + 11. \\
741 &= (11-1-1)^{(1+1+1)} + 11 + 1. \\
742 &= (11-1-1)^{(1+1+1)} + 11 + 1 + 1. \\
743 &= (11-1-1)^{(1+1+1)} + 11 + 1 + 1 + 1. \\
744 &= (11+1) \times ((11^{(1+1)} + 1)/(1+1) + 1). \\
745 &= ((1+1)^{(1+1+1)} + 1 + 1 + 1)/11. \\
746 &= (1+1) \times ((11+11)^{(1+1)} - 111). \\
747 &= (1+1) \times 11 \times (11 \times (1+1+1) + 1) - 1. \\
748 &= (1+1) \times 11 \times (11 \times (1+1+1) + 1). \\
749 &= (1+1) \times 11 \times (11 \times (1+1+1) + 1) + 1. \\
750 &= (1+1) \times (11 \times (11 \times (1+1+1) + 1) + 1). \\
751 &= (11-1-1)^{(1+1+1)} + 11 + 11. \\
752 &= (11-1-1)^{(1+1+1)} + 11 + 11 + 1. \\
753 &= (11+1)^{(1+1+1)}/(1+1) - 111. \\
754 &= (11+1)^{(1+1+1)}/(1+1) - 111 + 1. \\
755 &= 11^{(1+1+1)} - ((1+1) \times (11+1))^{(1+1)}. \\
756 &= (1+1+1) \times (11+1) \times (11+11-1). \\
757 &= (1+1+1) \times (11+1) \times (11+11-1) + 1. \\
758 &= 11 \times (1+1+1) \times (11+11+1) - 1. \\
759 &= 11 \times (1+1+1) \times (11+11+1). \\
760 &= 11 \times (1+1+1) \times (11+11+1) + 1. \\
761 &= 11 \times (1+1+1) \times (11+11+1) + 1 + 1. \\
762 &= (1+1+1) \times (11 \times (11+11+1) + 1). \\
763 &= (111-1-1) \times (11-1-1-1-1). \\
764 &= (111-1-1) \times (11-1-1-1-1) + 1. \\
765 &= (1+1+1) \times ((11+1)^{(1+1)} + 111). \\
766 &= 111 \times ((1+1) \times (1+1+1) + 1) - 11. \\
767 &= (1+1+1) \times (1+1)^{(1+1)(1+1+1)} - 1. \\
768 &= (1+1+1) \times (1+1)^{(1+1)(1+1+1)}. \\
769 &= (1+1+1) \times (1+1)^{(1+1)(1+1+1)} + 1. \\
770 &= 11 \times ((11-1-1)^{(1+1)} - 11). \\
771 &= 11 \times ((11-1-1)^{(1+1)} - 11) + 1. \\
772 &= 11 \times ((11-1-1)^{(1+1)} - 11) + 1 + 1. \\
773 &= ((1+1+1)^{(1+1+1)} + 1)^{(1+1)} - 11. \\
774 &= ((1+1+1)^{(1+1+1)} + 1)^{(1+1)} - 11 + 1. \\
775 &= 1111 - (1+1+1) \times (111+1). \\
776 &= 111 \times ((1+1) \times (1+1+1) + 1) - 1. \\
777 &= 111 \times (1+1) \times (1+1+1) + 1. \\
778 &= 111 \times ((1+1) \times (1+1+1) + 1) + 1. \\
779 &= 111 \times ((1+1) \times (1+1+1) + 1) + 1 + 1. \\
780 &= (11-1) \times (111 - 11 \times (1+1+1)). \\
781 &= 11 \times ((11+1)^{(1+1)}/(1+1) - 1). \\
782 &= 11 \times ((11+1)^{(1+1)}/(1+1) - 1) + 1. \\
783 &= ((1+1+1)^{(1+1+1)} + 1)^{(1+1)} - 1. \\
784 &= ((1+1+1)^{(1+1+1)} + 1)^{(1+1)}. \\
785 &= ((1+1+1)^{(1+1+1)} + 1)^{(1+1)} + 1. \\
786 &= ((1+1+1)^{(1+1+1)} + 1)^{(1+1)} + 1 + 1. \\
787 &= ((1+1) \times (11+1+1))^{(1+1)} + 111. \\
788 &= 111 \times (1+1) \times (1+1+1) + 1 + 11. \\
789 &= (1+1+1) \times ((1+1) \times 11 \times (11+1) - 1). \\
790 &= (1+1) \times (11 \times (1+1+1) \times (11+1) - 1). \\
791 &= 11 \times (11+1)^{(1+1)}/(1+1) - 1. \\
792 &= 11 \times (11+1)^{(1+1)}/(1+1). \\
793 &= 11 \times (11+1)^{(1+1)}/(1+1) + 1. \\
794 &= 11 \times (11+1)^{(1+1)}/(1+1) + 1 + 1. \\
795 &= 11 + ((1+1+1)^{(1+1+1)} + 1)^{(1+1)}. \\
796 &= (1+1) \times (((1+1) \times (11-1))^{(1+1)} - 1 - 1). \\
797 &= (11 \times ((11+1)^{(1+1)} + 1) - 1)/(1+1). \\
798 &= (1+1) \times (((1+1) \times (11-1))^{(1+1)} - 1). \\
799 &= (1+1) \times ((1+1) \times (11-1))^{(1+1)} - 1. \\
800 &= (1+1) \times ((1+1) \times (11-1))^{(1+1)}. \\
801 &= (1+1) \times ((1+1) \times (11-1))^{(1+1)} + 1. \\
802 &= (1+1) \times (((1+1) \times (11-1))^{(1+1)} + 1). \\
803 &= 11 \times ((11+1)^{(1+1)}/(1+1) + 1). \\
804 &= 11 \times ((11+1)^{(1+1)}/(1+1) + 1) + 1. \\
805 &= (1+1)^{11} - 11 \times (111+1+1). \\
806 &= (1+1)^{11} - 11 \times (111+1+1) + 1. \\
807 &= (11-1) \times (11-1-1)^{(1+1)} - 1 - 1 - 1. \\
808 &= (11-1) \times (11-1-1)^{(1+1)} - 1 - 1. \\
809 &= (11-1) \times (11-1-1)^{(1+1)} - 1. \\
810 &= (11-1) \times (11-1-1)^{(1+1)}. \\
811 &= (11-1) \times (11-1-1)^{(1+1)} + 1. \\
812 &= (11-1) \times (11-1-1)^{(1+1)} + 1 + 1. \\
813 &= (1+1) \times 11 \times 111/(1+1+1) - 1. \\
814 &= (1+1) \times 11 \times 111/(1+1+1). \\
815 &= (1+1) \times 11 \times 111/(1+1+1) + 1. \\
816 &= (1+1)^{11} - 11 \times (111+1). \\
817 &= (1+1)^{11} - 11 \times (111+1) + 1. \\
818 &= (1+1)^{11} - 11 \times (111+1) + 1 + 1. \\
819 &= 11^{(1+1+1)} - (1+1)^{(11-1-1)}. \\
820 &= (11-1) \times ((11-1-1)^{(1+1)} + 1).
\end{aligned}$$

$$\begin{aligned}
821 &= (11 - 1) \times ((11 - 1 - 1)^{(1+1)} + 1) + 1. \\
822 &= (1 + 1) \times (((1 + 1) \times (11 - 1))^{(1+1)} + 11). \\
823 &= 1111 - (1 + 1) \times (11 + 1)^{(1+1)}. \\
824 &= 1111 - (1 + 1) \times (11 + 1)^{(1+1)} + 1. \\
825 &= 11 \times ((1 + 1) \times 111 / (1 + 1 + 1) + 1). \\
826 &= (1 + 1)^{11} - 11 \times 111 - 1. \\
827 &= (1 + 1)^{11} - 11 \times 111. \\
828 &= (1 + 1)^{11} - 11 \times 111 + 1. \\
829 &= (1 + 1)^{11} - 11 \times 111 + 1 + 1. \\
830 &= (11 - 1) \times ((11 - 1 - 1)^{(1+1)} + 1 + 1). \\
831 &= (11 - 1) \times ((11 - 1 - 1)^{(1+1)} + 1 + 1) + 1. \\
832 &= (11 + 1 + 1) \times (1 + 1)^{((1+1) \times (1+1+1))}. \\
833 &= (11 + 1 + 1) \times (1 + 1)^{((1+1) \times (1+1+1))} + 1. \\
834 &= (1 + 1) \times (11 \times (111 / (1 + 1 + 1) + 1) - 1). \\
835 &= 1111 - (11 + 1) \times (11 + 11 + 1). \\
836 &= (1 + 1) \times 11 \times (111 / (1 + 1 + 1) + 1). \\
837 &= (1 + 1)^{11} - 11 \times (111 - 1) - 1. \\
838 &= (1 + 1)^{11} - 11 \times (111 - 1). \\
839 &= (1 + 1)^{11} - 11 \times (111 - 1) + 1. \\
840 &= (11 - 1 - 1)^{(1+1+1)} + 111. \\
841 &= ((1 + 1 + 1) \times (11 - 1) - 1)^{(1+1)}. \\
842 &= ((1 + 1 + 1) \times (11 - 1) - 1)^{(1+1)} + 1. \\
843 &= ((1 + 1 + 1) \times (11 - 1) - 1)^{(1+1)} + 1 + 1. \\
844 &= (1 + 1) \times (1 + 1) \times ((1 + 1) \times 111 - 11). \\
845 &= (1 + 1 + 1 + 1 + 1) \times (11 + 1 + 1)^{(1+1)}. \\
846 &= 11 \times 11 \times ((1 + 1) \times (1 + 1 + 1) + 1) - 1. \\
847 &= 11 \times 11 \times ((1 + 1) \times (1 + 1 + 1) + 1). \\
848 &= 11 \times 11 \times ((1 + 1) \times (1 + 1 + 1) + 1) + 1. \\
849 &= ((1 + 1)^{11}) + (11 \times ((1 - 111) + 1)). \\
850 &= 11^{(1+1)} + (11 - 1 - 1)^{(1+1+1)}. \\
851 &= (11 + 11 + 1) \times 111 / (1 + 1 + 1). \\
852 &= ((1 + 1 + 1) \times (11 - 1) - 1)^{(1+1)} + 11. \\
853 &= (11 + 1)^{(1+1+1)} / (1 + 1) - 11. \\
854 &= (11 + 1)^{(1+1+1)} / (1 + 1) - 11 + 1. \\
855 &= 1111 - (1 + 1)^{((1+1) \times (1+1+1))}. \\
856 &= (11 - 1)^{(1+1+1)} - (11 + 1)^{(1+1)}. \\
857 &= (1 + 1) \times (11 + 11)^{(1+1)} - 111. \\
858 &= 11 \times (111 - 11 \times (1 + 1 + 1)). \\
859 &= 11 \times (111 - 11 \times (1 + 1 + 1)) + 1. \\
860 &= (1 + 1) \times ((11 + 11 - 1)^{(1+1)} - 11). \\
861 &= (11 + 1)^{(1+1+1)} / (1 + 1) - 1 - 1 - 1. \\
862 &= (11 + 1)^{(1+1+1)} / (1 + 1) - 1 - 1. \\
863 &= (11 + 1)^{(1+1+1)} / (1 + 1) - 1. \\
864 &= (11 + 1)^{(1+1+1)} / (1 + 1). \\
865 &= (11 + 1)^{(1+1+1)} / (1 + 1) + 1. \\
866 &= (11 + 1)^{(1+1+1)} / (1 + 1) + 1 + 1. \\
867 &= (11 + 1)^{(1+1+1)} / (1 + 1) + 1 + 1 + 1. \\
868 &= 1111 - (1 + 1) \times 11^{(1+1)} - 1. \\
869 &= 11 \times ((11 - 1 - 1)^{(1+1)} - 1 - 1). \\
870 &= 11 \times ((11 - 1 - 1)^{(1+1)} - 1 - 1) + 1. \\
871 &= 1111 - (1 + 1) \times (11^{(1+1)} - 1). \\
872 &= (111 - 1 - 1) \times (11 - 1 - 1 - 1). \\
873 &= (111 - 1 - 1) \times (11 - 1 - 1 - 1) + 1. \\
874 &= 11 + ((11 + 1)^{(1+1+1)} / (1 + 1) - 1). \\
875 &= 11 + (11 + 1)^{(1+1+1)} / (1 + 1). \\
876 &= 11 + (11 + 1)^{(1+1+1)} / (1 + 1) + 1. \\
877 &= (1 + 1)^{(1+1+1)} \times 111 - 11. \\
878 &= (1 + 1)^{(1+1+1)} \times 111 - 11 + 1. \\
879 &= (11 - 1)^{(1+1+1)} - 11^{(1+1)}. \\
880 &= 11 \times ((11 - 1 - 1)^{(1+1)} - 1). \\
881 &= 11 \times ((11 - 1 - 1)^{(1+1)} - 1) + 1. \\
882 &= (1 + 1) \times (11 + 11 - 1)^{(1+1)}. \\
883 &= (1 + 1) \times (11 + 11 - 1)^{(1+1)} + 1. \\
884 &= (1 + 1) \times ((11 + 11 - 1)^{(1+1)} + 1). \\
885 &= (1 + 1) \times ((11 + 11 - 1)^{(1+1)} + 1) + 1. \\
886 &= (1 + 1) \times ((1 + 1) \times (1 + 1) \times 111 - 1). \\
887 &= (1 + 1)^{(1+1+1)} \times 111 - 1. \\
888 &= (1 + 1)^{(1+1+1)} \times 111. \\
889 &= (1 + 1)^{(1+1+1)} \times 111 + 1. \\
890 &= 11 \times (11 - 1 - 1)^{(1+1)} - 1. \\
891 &= 11 \times (11 - 1 - 1)^{(1+1)}. \\
892 &= 11 \times (11 - 1 - 1)^{(1+1)} + 1. \\
893 &= 11 \times (11 - 1 - 1)^{(1+1)} + 1 + 1. \\
894 &= 11 \times (11 - 1 - 1)^{(1+1)} + 1 + 1 + 1. \\
895 &= (111 + 1) \times (1 + 1)^{(1+1+1)} - 1. \\
896 &= (111 + 1) \times (1 + 1)^{(1+1+1)}. \\
897 &= (111 + 1) \times (1 + 1)^{(1+1+1)} + 1. \\
898 &= ((1 + 1 + 1) \times (11 - 1))^{(1+1)} - 1 - 1. \\
899 &= ((1 + 1 + 1) \times (11 - 1))^{(1+1)} - 1. \\
900 &= ((1 + 1 + 1) \times (11 - 1))^{(1+1)}. \\
901 &= ((1 + 1 + 1) \times (11 - 1))^{(1+1)} + 1. \\
902 &= 11 \times ((11 - 1 - 1)^{(1+1)} + 1). \\
903 &= (1 + 1)^{(11-1)} - 11^{(1+1)}. \\
904 &= (1 + 1)^{(11-1)} - 11^{(1+1)} + 1. \\
905 &= (1 + 1)^{(11-1)} - 11^{(1+1)} + 1 + 1. \\
906 &= (1 + 1)^{(11-1)} - 11^{(1+1)} + 1 + 1 + 1. \\
907 &= (111 + 1) \times (1 + 1)^{(1+1+1)} + 11. \\
908 &= (11 - 1 - 1) \times ((11 - 1)^{(1+1)} + 1) - 1. \\
909 &= (11 - 1 - 1) \times ((11 - 1)^{(1+1)} + 1). \\
910 &= (11 - 1 - 1) \times ((11 - 1)^{(1+1)} + 1) + 1. \\
911 &= ((1 + 1 + 1) \times (11 - 1))^{(1+1)} + 11. \\
912 &= (1 + 1)^{(11-1)} - 111 - 1. \\
913 &= (1 + 1)^{(11-1)} - 111. \\
914 &= (1 + 1)^{(11-1)} - 111 + 1. \\
915 &= (1 + 1)^{(11-1)} - 111 + 1 + 1. \\
916 &= (1 + 1)^{(11-1)} - 111 + 1 + 1 + 1. \\
917 &= (1 + 1)^{(11-1)} - 111 + 1 + 1 + 1 + 1. \\
918 &= (11 - 1 - 1) \times ((11 - 1)^{(1+1)} + 1 + 1). \\
919 &= (11 - 1 - 1) \times ((11 - 1)^{(1+1)} + 1 + 1) + 1. \\
920 &= (11 - 1) \times ((11 - 1 - 1)^{(1+1)} + 11). \\
921 &= (11 - 1) \times ((11 - 1 - 1)^{(1+1)} + 11) + 1. \\
922 &= ((1 + 1 + 1) \times (11 - 1))^{(1+1)} + 11 + 11. \\
923 &= (1 + 1)^{(11-1)} + 11 - 111 - 1. \\
924 &= (1 + 1)^{(11-1)} + 11 - 111. \\
925 &= (11111 - 11) / (11 + 1). \\
926 &= (11111 + 1) / (11 + 1). \\
927 &= (11111 + 1) / (11 + 1) + 1. \\
928 &= (11111 + 1) / (11 + 1) + 1 + 1. \\
929 &= (11111 + 1) / (11 + 1) + 1 + 1 + 1. \\
930 &= (11 - 1) \times ((1 + 1)^{(11-1)} - 1) / 11. \\
931 &= ((11 - 1) \times (1 + 1)^{(11-1)} + 1) / 11. \\
932 &= (1 + 1) \times (1 + 1) \times ((1 + 1) \times 111 + 11). \\
933 &= (1 + 1) \times (1 + 1) \times ((1 + 1) \times 111 + 11) + 1. \\
934 &= (1 + 1)^{11} - 1111 - 1 - 1 - 1. \\
935 &= (1 + 1)^{11} - 1111 - 1 - 1. \\
936 &= (1 + 1)^{11} - 1111 - 1. \\
937 &= (1 + 1)^{11} - 1111. \\
938 &= (1 + 1)^{11} - 1111 + 1. \\
939 &= (1 + 1)^{11} - 1111 + 1 + 1. \\
940 &= (1 + 1)^{11} - 1111 + 1 + 1 + 1. \\
941 &= 1111 - (11 + 1 + 1)^{(1+1)} - 1. \\
942 &= 1111 - (11 + 1 + 1)^{(1+1)}. \\
943 &= 1111 - (11 + 1 + 1)^{(1+1)} + 1. \\
944 &= (1 + 1) \times ((11 + 11)^{(1+1)} - 11 - 1). \\
945 &= (1 + 1) \times ((11 + 11)^{(1+1)} - 11) - 1. \\
946 &= (1 + 1) \times ((11 + 11)^{(1+1)} - 11). \\
947 &= (1 + 1) \times ((11 + 11)^{(1+1)} - 11) + 1. \\
948 &= (1 + 1)^{11} - 1111 + 11. \\
949 &= (1 + 1)^{11} - 1111 + 11 + 1. \\
950 &= ((1 + 1 + 1) \times (11 - 1) + 1)^{(1+1)} - 11. \\
951 &= ((1 + 1 + 1) \times (11 - 1) + 1)^{(1+1)} - 11 + 1.
\end{aligned}$$



$$\begin{aligned}
952 &= (1+1)^{(1+1+1)} \times (11^{(1+1)} - 1 - 1). \\
953 &= (1+1)^{(1+1+1)} \times (11^{(1+1)} - 1 - 1) + 1. \\
954 &= (11 - 1 - 1) \times (111 - (11 - 1)/(1+1)). \\
955 &= 1111 - (11+1) \times (11+1+1). \\
956 &= 1111 - (11+1)^{(1+1)} - 11. \\
957 &= 11 \times (111 - (1+1) \times (11+1)). \\
958 &= 11 \times (111 - (1+1) \times (11+1)) + 1. \\
959 &= (1+1)^{11} - (11 \times (1+1+1))^{(1+1)}. \\
960 &= (11+1) \times ((11-1-1)^{(1+1)} - 1). \\
961 &= ((1+1+1) \times (11-1) + 1)^{(1+1)}. \\
962 &= ((1+1+1) \times (11-1) + 1)^{(1+1)} + 1. \\
963 &= ((1+1+1) \times (11-1) + 1)^{(1+1)} + 1 + 1. \\
964 &= (1+1) \times ((11+11)^{(1+1)} - 1 - 1). \\
965 &= (1+1) \times ((11+11)^{(1+1)} - 1) - 1. \\
966 &= (1+1) \times ((11+11)^{(1+1)} - 1). \\
967 &= 1111 - (11+1)^{(1+1)}. \\
968 &= (1+1) \times (11+11)^{(1+1)}. \\
969 &= (1+1) \times (11+11)^{(1+1)} + 1. \\
970 &= (1+1) \times ((11+11)^{(1+1)} + 1). \\
971 &= (1+1) \times ((11+11)^{(1+1)} + 1) + 1. \\
972 &= (11+1) \times (11-1-1)^{(1+1)}. \\
973 &= (11+1) \times (11-1-1)^{(1+1)} + 1. \\
974 &= (11+1) \times (11-1-1)^{(1+1)} + 1 + 1. \\
975 &= (11+1)^{(1+1+1)}/(1+1) + 111. \\
976 &= (1+1)^{(1+1+1)} \times (11^{(1+1)} + 1). \\
977 &= (1+1)^{(1+1+1)} \times (11^{(1+1)} + 1) + 1. \\
978 &= 11 \times (111 - 11 - 11) - 1. \\
979 &= 11 \times (111 - 11 - 11). \\
980 &= 11 \times (111 - 11 - 11) + 1. \\
981 &= (11-1-1) \times (111-1-1). \\
982 &= (11-1-1) \times (111-1-1) + 1. \\
983 &= (11-1-1) \times (111-1-1) + 1 + 1. \\
984 &= (11+1) \times ((11-1-1)^{(1+1)} + 1). \\
985 &= (11+1) \times ((11-1-1)^{(1+1)} + 1) + 1. \\
986 &= (11-1)^{(1+1+1)} - 11 - 1 - 1 - 1. \\
987 &= (11-1)^{(1+1+1)} - 11 - 1 - 1. \\
988 &= (11-1)^{(1+1+1)} - 11 - 1. \\
989 &= (11-1)^{(1+1+1)} - 11. \\
990 &= (11-1-1) \times (111-1). \\
991 &= (11-1-1) \times (111-1) + 1. \\
992 &= (11-1-1) \times (111-1) + 1 + 1. \\
993 &= (11-1-1) \times (111-1) + 1 + 1 + 1. \\
994 &= (1+1)^{(11-1)} - (1+1+1) \times (11-1). \\
995 &= (11-1)^{(1+1+1)} - (11-1)/(1+1). \\
996 &= (1+1+1) \times ((1+1+1) \times 111 - 1). \\
997 &= (11-1)^{(1+1+1)} - 1 - 1 - 1. \\
998 &= (11-1)^{(1+1+1)} - 1 - 1. \\
999 &= 111 \times (11-1-1). \\
1000 &= (11-1)^{(1+1+1)}.
\end{aligned}$$

## 5. REPRESENTATIONS USING NUMBER 2

$$\begin{aligned}
101 &= 2222/22. \\
102 &= 2 + (2 \times (2+2) + 2)^2. \\
103 &= 2 + 2222/22. \\
104 &= 2 \times 2 \times (22+2+2). \\
105 &= 222/2 - 2 - 2. \\
106 &= 2 + 2 \times 2 \times (22+2+2). \\
107 &= 222/2 - 2 - 2. \\
108 &= (222-2)/2 - 2. \\
109 &= 222/2 - 2. \\
110 &= (222-2)/2. \\
111 &= 222/2. \\
112 &= (222+2)/2. \\
113 &= 2 + 222/2. \\
114 &= 2 + (222+2)/2. \\
115 &= 2 + 2 + 222/2. \\
116 &= 2 + 2 + (222+2)/2. \\
117 &= (22/2)^2 - 2 - 2. \\
118 &= 2 \times 2 \times (22+2) + 22. \\
119 &= (22/2)^2 - 2. \\
120 &= (2+2+2) \times (22-2). \\
121 &= (22/2)^2. \\
122 &= (22/2)^2 + 2/2. \\
123 &= (22/2)^2 + 2. \\
124 &= 2 \times (2^{(2+2+2)} - 2). \\
125 &= (22/2)^2 + 2 + 2. \\
126 &= 2 \times 2^{(2+2+2)} - 2. \\
127 &= (2^{2 \times (2+2)} - 2)/2. \\
128 &= 2 \times 2^{(2+2+2)}. \\
129 &= (2^{2 \times (2+2)} + 2)/2. \\
130 &= 2 \times 2^{(2+2+2)} + 2. \\
131 &= 22 \times (2+2+2) - 2/2. \\
132 &= 22 \times (2+2+2). \\
133 &= 22 + 222/2. \\
134 &= 22 \times (2+2+2) + 2. \\
135 &= 22 + 2 + 222/2. \\
136 &= 22 \times (2+2+2) + 2 + 2. \\
137 &= 2^{(2+2)} + (22/2)^2. \\
138 &= (2+2/2) \times (2 \times 22 + 2). \\
139 &= (2^{2 \times (2+2)} + 22)/2. \\
140 &= 2 \times (2 \times (22+2) + 22). \\
141 &= 22 - 2 + (22/2)^2. \\
142 &= (2 \times (2+2+2))^2 - 2. \\
143 &= 22 + (22/2)^2. \\
144 &= (2 \times (2+2+2))^2. \\
145 &= (22/2)^2 + 22 + 2. \\
146 &= (2 \times (2+2+2))^2 + 2. \\
147 &= (2+22/2)^2 - 22. \\
148 &= (2 \times (2+2+2))^2 + 2 + 2. \\
149 &= (2+22/2)^2 - 22 + 2. \\
150 &= 2 \times 2^{(2+2+2)} + 22. \\
151 &= (2^{2 \times (2+2)} + 2)/2 + 22. \\
152 &= 2 \times 2 \times ((2+2+2)^2 + 2). \\
153 &= 2 \times 22 - 2 + 222/2. \\
154 &= 22 + 22 \times (2+2+2). \\
155 &= 2 \times 22 + 222/2. \\
156 &= 2 \times (2 \times 2 \times (22-2) - 2). \\
157 &= 2 \times 22 + 2 + 222/2. \\
158 &= 2 \times ((2+2/2)^{(2+2)} - 2). \\
159 &= 2 \times (22+2) + 222/2. \\
160 &= 2 \times 2 \times 2 \times (22-2). \\
161 &= ((2^{(2+2)} + 2)^2 - 2)/2. \\
162 &= 2 \times (2+2/2)^{(2+2)}. \\
163 &= ((2^{(2+2)} + 2)^2 + 2)/2. \\
164 &= 2 \times (2+2/2)^{(2+2)} + 2. \\
165 &= 2 \times 22 + (22/2)^2. \\
166 &= 2 \times ((2+2/2)^{(2+2)} + 2). \\
167 &= (2+22/2)^2 - 2. \\
168 &= 2 \times 2 \times (2 \times 22 - 2). \\
169 &= (2+22/2)^2. \\
170 &= 2 \times 2 \times (2 \times 22 - 2) + 2. \\
171 &= (2+22/2)^2 + 2. \\
172 &= 2 \times (2 \times 2 \times 22 - 2). \\
173 &= (2+22/2)^2 + 2 + 2. \\
174 &= 2 \times 2 \times 2 \times 22 - 2. \\
175 &= 2 \times 2 \times 2 \times 22 - 2/2. \\
176 &= 2 \times 2 \times 2 \times 22. \\
177 &= 2 \times 2 \times 2 \times 22 + 2/2. \\
178 &= 2 \times 2 \times 2 \times 22 + 2. \\
179 &= 2 \times 2 \times 2 \times 22 + 2 + 2/2. \\
180 &= 2 \times (2 \times 2 \times 22 + 2). \\
181 &= 2 \times (2 \times 2 \times 22 + 2) + 2/2. \\
182 &= 2 \times (2 \times 2 \times 22 + 2) + 2. \\
183 &= 2 \times 2 \times (2 \times 22 + 2) - 2/2. \\
184 &= 2 \times 2 \times (2 \times 22 + 2). \\
185 &= 2 \times 2 \times (2 \times 22 + 2) + 2/2. \\
186 &= 2 \times 2 \times (2 \times 22 + 2) + 2. \\
187 &= 2 \times 2 \times 2 \times 22 + 22/2. \\
188 &= 2 \times (2 \times (2 \times 22 + 2) + 2). \\
189 &= ((22-2)^2 - 22)/2. \\
190 &= 222 - 2 \times 2^{(2+2)}. \\
191 &= 22 + (2+22/2)^2. \\
192 &= 2 \times 2 \times 2 \times (22+2). \\
193 &= (2+22/2)^2 + 22 + 2. \\
194 &= (2^{(2+2)} - 2)^2 - 2. \\
195 &= (2^{(2+2)} - 2)^2 - 2/2. \\
196 &= (2^{(2+2)} - 2)^2. \\
197 &= (2^{(2+2)} - 2)^2 + 2/2. \\
198 &= (2^{(2+2)} - 2)^2 + 2. \\
199 &= ((22-2)^2 - 2)/2. \\
200 &= 222 - 22. \\
201 &= ((22-2)^2 + 2)/2. \\
202 &= 222 - 22 + 2. \\
203 &= ((22-2)^2 + 2)/2 + 2. \\
204 &= 222 - 22 + 2 + 2. \\
205 &= ((22-2)^2 + 2)/2 + 2 + 2. \\
206 &= 222 - 2^{(2+2)}. \\
207 &= 222 - 2^{(2+2)} + 2/2. \\
208 &= 222 - 2^{(2+2)} + 2. \\
209 &= 222 - 2 - 22/2. \\
210 &= 222 - 2 \times (2+2+2). \\
211 &= 222 - 22/2.
\end{aligned}$$

$$\begin{aligned}
212 &= 222 - (22 - 2)/2. \\
213 &= 222 + 2 - 22/2. \\
214 &= 222 - 2 \times (2 + 2). \\
215 &= 222 + 2 + 2 - 22/2. \\
216 &= (2 + 2 + 2)^{(2+2/2)}. \\
217 &= 222 - 2 - 2 - 2/2. \\
218 &= 222 - 2 - 2. \\
219 &= 222 - 2 - 2/2. \\
220 &= 222 - 2. \\
221 &= 222 - 2/2. \\
222 &= 222. \\
223 &= 222 + 2/2. \\
224 &= 222 + 2. \\
225 &= 222 + 2 + 2/2. \\
226 &= 222 + 2 + 2. \\
227 &= 222 + 2 + 2 + 2/2. \\
228 &= 222 + 2 + 2 + 2. \\
229 &= (22^2 - 22)/2 - 2. \\
230 &= 222 + 2 \times (2 + 2). \\
231 &= (22^2 - 22)/2. \\
232 &= 222 + 2 \times (2 + 2) + 2. \\
233 &= 222 + 22/2. \\
234 &= 2^{2 \times (2+2)} - 22. \\
235 &= 222 + 2 + 22/2. \\
236 &= 2^{2 \times (2+2)} - 22 + 2. \\
237 &= (22^2 - 2)/2 - 2 - 2. \\
238 &= 2 \times ((22/2)^2 - 2). \\
239 &= (22^2 - 2)/2 - 2. \\
240 &= 22^2/2 - 2. \\
241 &= (22^2 - 2)/2. \\
242 &= 22^2/2. \\
243 &= (22^2 + 2)/2. \\
244 &= 22^2/2 + 2. \\
245 &= (22^2 + 2)/2 + 2. \\
246 &= 22^2/2 + 2 + 2. \\
247 &= (22^2 + 2)/2 + 2 + 2. \\
248 &= 22^2/2 + 2 + 2 + 2. \\
249 &= (22^2 + 2)/2 + 2 + 2 + 2. \\
250 &= 2 \times ((22/2)^2 + 2 + 2). \\
251 &= (22^2 + 22)/2 - 2. \\
252 &= 2^{2 \times (2+2)} - 2 - 2. \\
253 &= (22^2 + 22)/2. \\
254 &= 2^{2 \times (2+2)} - 2. \\
255 &= 2^{2 \times (2+2)} - 2/2. \\
256 &= 2^{2 \times (2+2)}. \\
257 &= 2^{2 \times (2+2)} + 2/2. \\
258 &= 2^{2 \times (2+2)} + 2. \\
259 &= 2^{2 \times (2+2)} + 2 + 2/2. \\
260 &= 2^{2 \times (2+2)} + 2 + 2. \\
261 &= 2^{2 \times (2+2)} + 2 + 2 + 2/2. \\
262 &= 22^2 - 222. \\
263 &= 22 + (22^2 - 2)/2. \\
264 &= 2 \times 22 \times (2 + 2 + 2). \\
265 &= 22 + (22^2 + 2)/2. \\
266 &= 222 + 2 \times 22. \\
267 &= 2^{2 \times (2+2)} + 22/2. \\
268 &= 222 + 2 \times 22 + 2. \\
269 &= 2 + 2^{2 \times (2+2)} + 22/2. \\
270 &= 222 + 2 \times (22 + 2). \\
271 &= 2^{2 \times (2+2)} + 2 + 2 + 22/2. \\
272 &= 2^{2 \times (2+2)} + 2^{(2+2)}. \\
273 &= (2 + 22/2) \times (22 - 2/2). \\
274 &= 2^{2 \times (2+2)} + 2^{(2+2)} + 2. \\
275 &= 22 + (22^2 + 22)/2. \\
276 &= 22 + 2^{2 \times (2+2)} - 2. \\
277 &= ((22 + 2)^2 - 22)/2. \\
278 &= 22 + 2^{2 \times (2+2)}. \\
279 &= ((22 + 2)^2 - 22)/2 + 2. \\
280 &= 2^{2 \times (2+2)} + 22 + 2. \\
281 &= ((22 + 2)^2 - 22)/2 + 2 + 2. \\
282 &= 2^{2 \times (2+2)} + 22 + 2 + 2. \\
283 &= ((22 + 2)^2 - 2)/2 - 2 - 2. \\
284 &= 22 \times (2 + 22/2) - 2. \\
285 &= ((22 + 2)^2 - 2)/2 - 2. \\
286 &= 22 \times (2 + 22/2). \\
287 &= ((22 + 2)^2 - 2)/2. \\
288 &= (22 + 2)^2/2. \\
289 &= (2^{(2+2)} + 2/2)^2. \\
290 &= (22 + 2)^2/2 + 2. \\
291 &= (2^{(2+2)} + 2/2)^2 + 2. \\
292 &= (22 + 2)^2/2 + 2 + 2. \\
293 &= (2^{(2+2)} + 2/2)^2 + 2 + 2. \\
294 &= (22 + 2)^2/2 + 2 + 2 + 2. \\
295 &= (2^{(2+2)} + 2/2)^2 + 2 + 2 + 2. \\
296 &= 2 \times ((2 \times (2 + 2 + 2))^2 + 2 + 2). \\
297 &= ((22 + 2)^2 + 22)/2 - 2. \\
298 &= 2 \times 22 + 2^{2 \times (2+2)} - 2. \\
299 &= ((22 + 2)^2 + 22)/2. \\
300 &= 2 \times 22 + 2^{2 \times (2+2)}. \\
301 &= ((22 + 2)^2 + 22)/2 + 2. \\
302 &= (2^{(2+2)} + 2)^2 - 22. \\
303 &= (2 + 2/2)^{(2+2)} + 222. \\
304 &= (2^{(2+2)} + 2)^2 - 22 + 2. \\
305 &= (2 + 2/2)^{(2+2)} + 222 + 2. \\
306 &= 22 \times (2^{(2+2)} - 2) - 2. \\
307 &= (22 + 2/2)^2 - 222. \\
308 &= 22 \times (2^{(2+2)} - 2). \\
309 &= ((22 + 2)^2 - 2)/2 + 22. \\
310 &= 22 \times (2^{(2+2)} - 2) + 2. \\
311 &= (2^{(2+2)} + 2/2)^2 + 22. \\
312 &= (22 + 2) \times (2 + 22/2). \\
313 &= (2^{(2+2)} + 2)^2 - 22/2. \\
314 &= (22 + 2) \times (2 + 22/2) + 2. \\
315 &= 22^2 - (2 + 22/2)^2. \\
316 &= 2 \times 2 \times ((2 + 2/2)^{(2+2)} - 2). \\
317 &= 22^2 - (2 + 22/2)^2 + 2. \\
318 &= 2^{(2+2)} \times (22 - 2) - 2. \\
319 &= 2^{(2+2)} \times (22 - 2) - 2/2. \\
320 &= (22 - 2) \times 2^{(2+2)}. \\
321 &= (22 - 2) \times 2^{(2+2)} + 2/2. \\
322 &= (2^{(2+2)} + 2)^2 - 2. \\
323 &= (2^{(2+2)} + 2)^2 - 2/2. \\
324 &= (2^{(2+2)} + 2)^2 - 2. \\
325 &= (2^{(2+2)} + 2)^2 + 2/2. \\
326 &= (2^{(2+2)} + 2)^2 + 2. \\
327 &= (2^{(2+2)} + 2)^2 + 2 + 2/2. \\
328 &= (2^{(2+2)} + 2)^2 + 2 + 2. \\
329 &= (2^{(2+2)} + 2)^2 + 2 + 2 + 2/2. \\
330 &= 22 \times (2 + 2 + 22/2). \\
331 &= 222 - 2 + 222/2. \\
332 &= 22 \times (2 + 2 + 22/2) + 2. \\
333 &= 222 + 222/2. \\
334 &= 2 \times ((2 + 22/2)^2 - 2). \\
335 &= 222 + 2 + 222/2. \\
336 &= 2 \times 2 \times 2 \times (2 \times 22 - 2). \\
337 &= ((22 + 2 + 2)^2 - 2)/2. \\
338 &= 2 \times (2 + 22/2)^2. \\
339 &= ((22 + 2 + 2)^2 + 2)/2. \\
340 &= 2 \times (2 + 22/2)^2 + 2. \\
341 &= ((22 + 2 + 2)^2 + 2)/2 + 2. \\
342 &= 2 \times ((2 + 22/2)^2 + 2). \\
343 &= (22/2)^2 + 222. \\
344 &= 2 \times 2 \times (2 \times 2 \times 22 - 2). \\
345 &= (22/2)^2 + 222 + 2. \\
346 &= (2^{(2+2)} + 2)^2 + 22. \\
347 &= (22/2)^2 + 222 + 2 + 2. \\
348 &= 2 \times (2 \times 2 \times 2 \times 22 - 2). \\
349 &= 22 \times 2^{(2+2)} - 2 - 2/2. \\
350 &= 22 \times 2^{(2+2)} - 2. \\
351 &= 22 \times 2^{(2+2)} - 2/2. \\
352 &= 22 \times 2^{(2+2)}. \\
353 &= 22 \times 2^{(2+2)} + 2/2. \\
354 &= 22 \times 2^{(2+2)} + 2. \\
355 &= 22 \times 2^{(2+2)} + 2 + 2/2. \\
356 &= 22 \times 2^{(2+2)} + 2 + 2. \\
357 &= (2 + 2/2) \times ((22/2)^2 - 2). \\
358 &= 22 \times 2^{(2+2)} + 2 + 2 + 2. \\
359 &= (22 - 2 - 2/2)^2 - 2. \\
360 &= 2 \times 2 \times (2 \times 2 \times 22 + 2). \\
361 &= (22 - 2 - 2/2)^2. \\
362 &= 2 \times 2 \times (2 \times 2 \times 22 + 2) + 2. \\
363 &= (22 - 2 - 2/2)^2 + 2. \\
364 &= 2 \times (2 \times (2 \times 2 \times 22 + 2) + 2). \\
365 &= (22 - 2 - 2/2)^2 + 2 + 2. \\
366 &= (2 \times (2 + 2 + 2))^2 + 222. \\
367 &= 2^{2 \times (2+2)} + 222/2. \\
368 &= 2 \times 2 \times 2 \times (2 \times 22 + 2). \\
369 &= (2 + 2/2) \times (2 + (22/2)^2). \\
370 &= 2 \times 2 \times 2 \times (2 \times 22 + 2) + 2. \\
371 &= 22^2 - 2 - 222/2. \\
372 &= 2 \times (2 \times 2 \times (2 \times 22 + 2) + 2). \\
373 &= 22^2 - 222/2. \\
374 &= 22 \times 2^{(2+2)} + 22. \\
375 &= 22^2 + 2 - 222/2. \\
376 &= (22 - 2)^2 - 22 - 2. \\
377 &= (22/2)^2 + 2^{2 \times (2+2)}. \\
378 &= (22 - 2)^2 - 22. \\
379 &= (22 - 2)^2 - 22 + 2/2. \\
380 &= (22 - 2)^2 - 22 + 2. \\
381 &= (22 - 2)^2 - 22 + 2 + 2/2. \\
382 &= 2^{(2+2)} \times (22 + 2) - 2. \\
383 &= (22 - 2 - 2/2)^2 + 22. \\
384 &= 2^{(2+2)} \times (22 + 2). \\
385 &= 2^{(2+2)} \times (22 + 2) + 2/2. \\
386 &= 2^{(2+2)} \times (22 + 2) + 2. \\
387 &= (22 - 2)^2 - 2 - 22/2. \\
388 &= 2 \times ((2^{(2+2)} - 2)^2 - 2). \\
389 &= (22 - 2)^2 - 22/2. \\
390 &= 2 \times (2^{(2+2)} - 2)^2 - 2. \\
391 &= (22 - 2)^2 + 2 - 22/2. \\
392 &= 2 \times (2^{(2+2)} - 2)^2. \\
393 &= 2 \times (2^{(2+2)} - 2)^2 + 2/2. \\
394 &= 2 \times (2^{(2+2)} - 2)^2 + 2. \\
395 &= (22 - 2)^2 - 2 - 2 - 2/2. \\
396 &= 22 \times (2^{(2+2)} + 2). \\
397 &= (22 - 2)^2 - 2 - 2/2. \\
398 &= (22 - 2)^2 - 2. \\
399 &= (22 - 2)^2 - 2/2. \\
400 &= (22 - 2)^2. \\
401 &= (22 - 2)^2 + 2/2. \\
402 &= (22 - 2)^2 + 2. \\
403 &= (22 - 2)^2 + 2 + 2/2. \\
404 &= (22 - 2)^2 + 2 + 2. \\
405 &= (22 - 2)^2 + 2 + 2 + 2/2. \\
406 &= (22 - 2)^2 + 2 + 2 + 2. \\
407 &= (22 - 2)^2 + 2 + 2 + 2 + 2/2. \\
408 &= 2 \times (2 + 2) + (22 - 2)^2. \\
409 &= (22 - 2)^2 - 2 + 22/2.
\end{aligned}$$

$$\begin{aligned}
410 &= 2 \times (2 + 2) + (22 - 2)^2 + 2. \\
411 &= (22 - 2)^2 + 22/2. \\
412 &= 2 \times (222 - 2^{(2+2)}). \\
413 &= (22 - 2)^2 + 2 + 22/2. \\
414 &= 2 \times (222 - 2^{(2+2)}) + 2. \\
415 &= (22 - 2)^2 + 2 + 2 + 22/2. \\
416 &= 2^{(2+2)} + (22 - 2)^2. \\
417 &= (22 - 2/2)^2 - 22 - 2. \\
418 &= 22 \times (22 - 2 - 2/2). \\
419 &= (22 - 2/2)^2 - 22. \\
420 &= (22 - 2)^2 + 22 - 2. \\
421 &= (22 - 2/2)^2 - 22 + 2. \\
422 &= (22 - 2)^2 + 22. \\
423 &= (22 - 2)^2 + 22 + 2/2. \\
424 &= (22 - 2)^2 + 22 + 2. \\
425 &= (22 - 2/2)^2 - 2^{(2+2)}. \\
426 &= 2 \times (222 + 2) - 22. \\
427 &= (22 - 2/2)^2 - 2^{(2+2)} + 2. \\
428 &= 2 \times (222 - 2 \times (2 + 2)). \\
429 &= 2 \times (222 - 2) - 22/2. \\
430 &= 2 \times (222 - 2 \times (2 + 2)) + 2. \\
431 &= 2 \times 222 - 2 - 22/2. \\
432 &= 2 \times (2 + 2 + 2)^{(2+2/2)}. \\
433 &= 2 \times 222 - 22/2. \\
434 &= 2 \times (222 - 2 - 2) - 2. \\
435 &= 2 \times 222 + 2 - 22/2. \\
436 &= 2 \times (222 - 2 - 2). \\
437 &= (22 - 2/2)^2 - 2 - 2. \\
438 &= 2 \times (222 - 2) - 2. \\
439 &= (22 - 2/2)^2 - 2. \\
440 &= 2 \times (222 - 2). \\
441 &= (22 - 2/2)^2. \\
442 &= 2 \times 222 - 2. \\
443 &= 2 \times 222 - 2/2. \\
444 &= 2 \times 222. \\
445 &= 2 \times 222 + 2/2. \\
446 &= 2 \times 222 + 2. \\
447 &= 2 \times 222 + 2 + 2/2. \\
448 &= 2 \times (222 + 2). \\
449 &= 2 \times (222 + 2) + 2/2. \\
450 &= 2 \times (222 + 2) + 2. \\
451 &= 2 \times (222 + 2) + 2 + 2/2. \\
452 &= 2 \times (222 + 2 + 2). \\
453 &= 2 \times (222 + 2 + 2) + 2/2. \\
454 &= 2 \times (222 + 2 + 2) + 2. \\
455 &= 2 \times 222 + 22/2. \\
456 &= 2 \times (222 + 2 + 2 + 2). \\
457 &= 2 \times 222 + 2 + 22/2. \\
458 &= 22^2 - 22 - 2 - 2. \\
459 &= 2 \times (222 + 2) + 22/2. \\
460 &= 22^2 - 22 - 2. \\
461 &= 22^2 - 22 - 2/2. \\
462 &= 22^2 - 22. \\
463 &= (22 - 2/2)^2 + 22. \\
464 &= 22^2 - 22 + 2. \\
465 &= 22^2 - 22 + 2 + 2/2. \\
466 &= 2 \times 222 + 22. \\
467 &= 2 \times 222 + 22 + 2/2. \\
468 &= 22^2 - 2^{(2+2)}. \\
469 &= 22^2 - 2^{(2+2)} + 2/2. \\
470 &= 22^2 - 2^{(2+2)} + 2. \\
471 &= 22^2 - 2 - 22/2. \\
472 &= 22^2 - 2 \times (2 + 2 + 2). \\
473 &= 22^2 - 22/2. \\
474 &= 22^2 - (22 - 2)/2. \\
475 &= 22^2 + 2 - 22/2. \\
476 &= 22^2 - 2 \times (2 + 2). \\
477 &= 22^2 + 2 + 2 - 22/2. \\
478 &= 22^2 - 2 - 2 - 2. \\
479 &= 22^2 - 2 - 2 - 2/2. \\
480 &= 22^2 - 2 - 2. \\
481 &= 22^2 - 2 - 2/2. \\
482 &= 22^2 - 2. \\
483 &= 22^2 - 2/2. \\
484 &= 22^2. \\
485 &= 22^2 + 2/2. \\
486 &= 22^2 + 2. \\
487 &= 22^2 + 2 + 2/2. \\
488 &= 22^2 + 2 + 2. \\
489 &= 22^2 + 2 + 2 + 2/2. \\
490 &= 22^2 + 2 + 2 + 2. \\
491 &= 22^2 + 2 + 2 + 2 + 2/2. \\
492 &= 22^2 + 2 \times (2 + 2). \\
493 &= 22^2 - 2 + 22/2. \\
494 &= 22^2 + 2 \times (2 + 2) + 2. \\
495 &= 22^2 + 22/2. \\
496 &= 22^2 + 2 \times (2 + 2 + 2). \\
497 &= 22^2 + 2 + 22/2. \\
498 &= 22^2 + 2^{(2+2)} - 2. \\
499 &= 22^2 + 2 + 2 + 22/2. \\
500 &= 22^2 + 2^{(2+2)}. \\
501 &= 22^2 + 2^{(2+2)} + 2/2. \\
502 &= 22^2 + 2^{(2+2)} + 2. \\
503 &= 22^2 + 22 - 2 - 2/2. \\
504 &= 22^2 + 22 - 2. \\
505 &= 22^2 + 22 - 2/2. \\
506 &= 22^2 + 22. \\
507 &= 22^2 + 22 + 2/2. \\
508 &= 22^2 + 22 + 2. \\
509 &= 22^2 + 22 + 2 + 2/2. \\
510 &= 2^{((2+2/2)^2)} - 2. \\
511 &= 2^{((2+2/2)^2)} - 2/2. \\
512 &= 2^{((2+2/2)^2)}. \\
513 &= 2^{((2+2/2)^2)} + 2/2. \\
514 &= 2^{((2+2/2)^2)} + 2. \\
515 &= 2^{((2+2/2)^2)} + 2 + 2/2. \\
516 &= 2 \times (2^{2 \times (2+2)} + 2). \\
517 &= 22^2 + 22 + 22/2. \\
518 &= 2 \times (2^{2 \times (2+2)} + 2) + 2. \\
519 &= 2 \times (2^{2 \times (2+2)} + 2) + 2 + 2/2. \\
520 &= 2 \times (2^{2 \times (2+2)} + 2 + 2). \\
521 &= (22 - 2)^2 + (22/2)^2. \\
522 &= +22^2 + (2 + 2 + 2)^2 + 2. \\
523 &= 2^{((2+2/2)^2)} + 22/2. \\
524 &= 2 \times (22^2 - 222). \\
525 &= (22 + 2/2)^2 - 2 - 2. \\
526 &= 22 \times (22 + 2) - 2. \\
527 &= (22 + 2/2)^2 - 2. \\
528 &= 22 \times (22 + 2). \\
529 &= (22 + 2/2)^2. \\
530 &= 22 \times (22 + 2) + 2. \\
531 &= (22 + 2/2)^2 + 2. \\
532 &= 22 \times (22 + 2) + 2 + 2. \\
533 &= (22 + 2/2)^2 + 2 + 2. \\
534 &= 2^{((2+2/2)^2)} + 22. \\
535 &= (22 + 2/2)^2 + 2 + 2 + 2. \\
536 &= 2^{((2+2/2)^2)} + 22 + 2. \\
537 &= 2 \times (2 + 2) + (22 + 2/2)^2. \\
538 &= 2 \times (2^{2 \times (2+2)} + 2) + 22. \\
539 &= 22 \times (22 + 2) + 22/2. \\
540 &= 2 \times (2 \times (22 + 2) + 222). \\
541 &= 22 \times (22 + 2) + 2 + 22/2. \\
542 &= (22 + 2/2)^2 + 2 + 22/2. \\
543 &= (22 + 2/2)^2 + 2^{(2+2)} - 2. \\
544 &= 2 \times (2^{2 \times (2+2)} + 2^{(2+2)}). \\
545 &= (22 + 2/2)^2 + 2^{(2+2)}. \\
546 &= (2^{(2+2)} + 2)^2 + 222. \\
547 &= (22 + 2/2)^2 + 2^{(2+2)} + 2. \\
548 &= 22^2 + 2^{(2+2+2)}. \\
549 &= (22 + 2/2)^2 + 22 - 2. \\
550 &= 22 \times (22 + 2) + 22. \\
551 &= (22 + 2/2)^2 + 22. \\
552 &= (22 + 2) \times (22 + 2/2). \\
553 &= (22 + 2/2)^2 + 22 + 2. \\
554 &= (22 + 2)^2 - 22. \\
555 &= (2222 - 2)/(2 + 2). \\
556 &= (2222 + 2)/(2 + 2). \\
557 &= (2222 - 2)/(2 + 2) + 2. \\
558 &= (2222 + 2)/(2 + 2) + 2. \\
559 &= (2222 - 2)/(2 + 2) + 2 + 2. \\
560 &= (22 + 2)^2 - 2^{(2+2)}. \\
561 &= (2222 + 22)/(2 + 2). \\
562 &= (22 + 2)^2 - 2^{(2+2)} + 2. \\
563 &= (22 + 2)^2 - 22/2 - 2. \\
564 &= 22^2 + 2 \times 2 \times (22 - 2). \\
565 &= (22 + 2)^2 - 22/2. \\
566 &= (22 + 2)^2 - (22 - 2)/2. \\
567 &= (22 + 2)^2 + 2 - 22/2. \\
568 &= (22 + 2)^2 - 2 \times (2 + 2). \\
569 &= (22 + 2)^2 + 2 + 2 - 22/2. \\
570 &= (22 + 2)^2 - 2 - 2 - 2. \\
571 &= (22 + 2)^2 - 2 - 2 - 2/2. \\
572 &= 22 \times (22 + 2 + 2). \\
573 &= (22 + 2)^2 - 2 - 2/2. \\
574 &= (22 + 2)^2 - 2. \\
575 &= (22 + 2)^2 - 2/2. \\
576 &= (22 + 2)^2. \\
577 &= (22 + 2)^2 + 2/2. \\
578 &= (22 + 2)^2 + 2. \\
579 &= (22 + 2)^2 + 2 + 2/2. \\
580 &= (22 + 2)^2 + 2 + 2. \\
581 &= (22 + 2)^2 + 2 + 2 + 2/2. \\
582 &= (22 + 2)^2 + 2 + 2 + 2. \\
583 &= (22 + 2)^2 + 2 + 2 + 2 + 2/2. \\
584 &= (22 + 2)^2 + 2 \times (2 + 2). \\
585 &= (22 + 2)^2 - 2 + 22/2. \\
586 &= (22 + 2)^2 + 2 \times (2 + 2) + 2. \\
587 &= (22 + 2)^2 + 22/2. \\
588 &= (2 + 2/2) \times (2^{(2+2)} - 2)^2. \\
589 &= (22 + 2)^2 + 2 + 22/2. \\
590 &= (22 + 2)^2 + 2^{(2+2)} - 2. \\
591 &= (22 + 2)^2 + 2 + 2 + 22/2. \\
592 &= 2^{(2+2)} + (22 + 2)^2. \\
593 &= 22^2 - 2 + 222/2. \\
594 &= 2^{(2+2)} + (22 + 2)^2 + 2. \\
595 &= 22^2 + 222/2. \\
596 &= (22 + 2)^2 + 22 - 2. \\
597 &= 22^2 + 2 + 222/2. \\
598 &= (22 + 2)^2 + 22. \\
599 &= (22 + 2)^2 + 22 + 2/2. \\
600 &= (22 + 2)^2 + 22 + 2. \\
601 &= (22 + 2)^2 + 22 + 2 + 2/2. \\
602 &= (22 + 2)^2 + 22 + 2 + 2. \\
603 &= 22^2 + (22/2)^2 - 2. \\
604 &= 2 \times ((2^{(2+2)} + 2)^2 - 22). \\
605 &= 22^2 + (22/2)^2. \\
606 &= 2 \times ((2^{(2+2)} + 2)^2 - 22) + 2.
\end{aligned}$$

$$\begin{aligned}
607 &= 22^2 + (22/2)^2 + 2. \\
608 &= 2^{(2+2)} \times ((2 + 2 + 2)^2 + 2). \\
609 &= 22^2 + (22/2)^2 + 2 + 2. \\
610 &= (22 + 2)^2 + 2 \times 2^{(2+2)} + 2. \\
611 &= 22^2 + (2^{2 \times (2+2)} - 2)/2. \\
612 &= 2 \times (22 \times (2^{(2+2)} - 2) - 2). \\
613 &= 22^2 + (2^{2 \times (2+2)} + 2)/2. \\
614 &= 2 \times 22 \times (2^{(2+2)} - 2) - 2. \\
615 &= (2/2 + 2 + 2) \times ((22/2)^2 + 2). \\
616 &= 2 \times 22 \times (2^{(2+2)} - 2). \\
617 &= 22^2 + 22 + 222/2. \\
618 &= 2 \times 22 \times (2^{(2+2)} - 2) + 2. \\
619 &= 2 \times 22 + (22 + 2)^2 - 2/2. \\
620 &= 2 \times 22 + (22 + 2)^2. \\
621 &= (2 + 2 + 2/2)^{(2+2)} - 2 - 2. \\
622 &= (22 - 2)^2 + 222. \\
623 &= (2 + 2 + 2/2)^{(2+2)} - 2. \\
624 &= (22 + 2) \times (22 + 2 + 2). \\
625 &= (2 + 2 + 2/2)^{(2+2)}. \\
626 &= (22 + 2) \times (22 + 2 + 2) + 2. \\
627 &= (2 + 2 + 2/2)^{(2+2)} + 2. \\
628 &= 22^2 + (2 \times (2 + 2 + 2))^2. \\
629 &= (2 + 2 + 2/2)^{(2+2)} + 2 + 2. \\
630 &= 22^2 + (2 \times (2 + 2 + 2))^2 + 2. \\
631 &= (2 + 2 + 2/2)^{(2+2)} + 2 + 2 + 2. \\
632 &= (22 + 2 + 2)^2 - 2 \times 22. \\
633 &= 2 \times (2 + 2) + (2 + 2 + 2/2)^{(2+2)}. \\
634 &= (22 + 2 + 2)^2 - 2 \times 22 + 2. \\
635 &= ((2 + 2 + 2)^{(2+2)} - 22)/2 - 2. \\
636 &= 2 \times (2^{(2+2)} \times (22 - 2) - 2). \\
637 &= ((2 + 2 + 2)^{(2+2)} - 22)/2. \\
638 &= 2 \times 2^{(2+2)} \times (22 - 2) - 2. \\
639 &= ((2 + 2 + 2)^{(2+2)} - 22)/2 + 2. \\
640 &= 2 \times 2^{(2+2)} \times (22 - 2). \\
641 &= 2 \times 2^{(2+2)} \times (22 - 2) + 2/2. \\
642 &= 2 \times 2^{(2+2)} \times (22 - 2) + 2. \\
643 &= (22 - 2)^2 + (22^2 + 2)/2. \\
644 &= 2 \times ((2^{(2+2)} + 2)^2 - 2). \\
645 &= ((2 + 2 + 2)^{(2+2)} - 2)/2 - 2. \\
646 &= 2 \times (2^{(2+2)} + 2)^2 - 2. \\
647 &= ((2 + 2 + 2)^{(2+2)} - 2)/2. \\
648 &= 2 \times (2^{(2+2)} + 2)^2. \\
649 &= ((2 + 2 + 2)^{(2+2)} + 2)/2. \\
650 &= 2 \times (2^{(2+2)} + 2)^2 + 2. \\
651 &= ((2 + 2 + 2)^{(2+2)} + 2)/2 + 2. \\
652 &= 2 \times ((2^{(2+2)} + 2)^2 + 2). \\
653 &= 22^2 + (2 + 22/2)^2. \\
654 &= (22 + 2 + 2)^2 - 22. \\
655 &= 22^2 + (2 + 22/2)^2 + 2. \\
656 &= (22 + 2 + 2)^2 - 22 + 2. \\
657 &= (2 + 2/2) \times (222 - 2 - 2/2). \\
658 &= 22 \times (2 \times (2 + 2) + 22) - 2. \\
659 &= ((2 + 2 + 2)^{(2+2)} + 22)/2. \\
660 &= 22 \times (2 \times (2 + 2) + 22). \\
661 &= ((2 + 2 + 2)^{(2+2)} + 22)/2 + 2. \\
662 &= 2 + 22 \times (2 \times (2 + 2) + 22). \\
663 &= (22 - 2/2)^2 + 222. \\
664 &= (2 + 2/2) \times 222 - 2. \\
665 &= (22 + 2 + 2)^2 - 22/2. \\
666 &= (2 + 2/2) \times 222. \\
667 &= (2 + 2/2) \times 222 + 2/2. \\
668 &= (2 + 2/2) \times 222 + 2. \\
669 &= (2 + 2/2) \times (222 + 2/2). \\
670 &= (2 + 2/2) \times 222 + 2 + 2. \\
671 &= (2 + 2/2) \times (222 + 2/2) + 2. \\
672 &= (2 + 2/2) \times (222 + 2). \\
673 &= (22 + 2 + 2)^2 - 2 - 2/2. \\
674 &= (22 + 2 + 2)^2 - 2. \\
675 &= (22 + 2 + 2)^2 - 2/2. \\
676 &= (22 + 2 + 2)^2. \\
677 &= (22 + 2 + 2)^2 + 2/2. \\
678 &= (22 + 2 + 2)^2 + 2. \\
679 &= (22 + 2 + 2)^2 + 2 + 2/2. \\
680 &= (22 + 2 + 2)^2 + 2 + 2. \\
681 &= (22 + 2 + 2)^2 + 2 + 2 + 2/2. \\
682 &= (22 + 2 + 2)^2 + 2 + 2 + 2. \\
683 &= 22^2 + ((22 - 2)^2 - 2)/2. \\
684 &= 2 \times 2 \times ((2 + 22/2)^2 + 2). \\
685 &= (22 + 2 + 2)^2 - 2 + 22/2. \\
686 &= 2 \times ((22/2)^2 + 222). \\
687 &= (22 + 2 + 2)^2 + 22/2. \\
688 &= 2 \times 2 \times 2 \times (2 \times 2 \times 22 - 2). \\
689 &= (22 + 2 + 2)^2 + 2 + 22/2. \\
690 &= ((2 + 2/2) \times 222 + 22) + 2. \\
691 &= (22 + 2 + 2)^2 + 2 + 2 + 22/2. \\
692 &= 2 \times ((2^{(2+2)} + 2)^2 + 22). \\
693 &= (2 + 2/2) \times (22^2 - 22)/2. \\
694 &= (22 + 2 + 2)^2 + 2^{(2+2)} + 2. \\
695 &= 22^2 + 222 - 22/2. \\
696 &= 2 \times 2 \times (2 \times 2 \times 22 - 2). \\
697 &= (22 + 2)^2 + (22/2)^2. \\
698 &= (22 + 2 + 2)^2 + 22. \\
699 &= (22 + 2)^2 + 2 + (22/2)^2. \\
700 &= 2 \times (22 \times 2^{(2+2)} - 2). \\
701 &= 2 \times (22 \times 2^{(2+2)} - 2) + 2/2. \\
702 &= 2 \times 22 \times 2^{(2+2)} - 2. \\
703 &= 2 \times 22 \times 2^{(2+2)} - 2/2. \\
704 &= 2 \times 22 \times 2^{(2+2)}. \\
705 &= 2 \times 22 \times 2^{(2+2)} + 2/2. \\
706 &= 22^2 + 222. \\
707 &= 22^2 + 222 + 2/2. \\
708 &= 22^2 + 222 + 2. \\
709 &= 22^2 + 222 + 2 + 2/2. \\
710 &= 22^2 + 222 + 2 + 2. \\
711 &= 2222/2 - (22 - 2)^2. \\
712 &= 2 \times (22 \times 2^{(2+2)} + 2 + 2). \\
713 &= (2 + 2/2)^{(2+2+2)} - 2^{(2+2)}. \\
714 &= (2 + 2 + 2) \times ((22/2)^2 - 2). \\
715 &= 2 \times 22 \times 2^{(2+2)} + 22/2. \\
716 &= (2 + 2 + 2) \times ((22/2)^2 - 2) + 2. \\
717 &= 22^2 + 222 + 22/2. \\
718 &= 2 \times ((22 - 2 - 2/2)^2 - 2). \\
719 &= (22 - 2) \times (2 + 2 + 2)^2 - 2/2. \\
720 &= (22 - 2) \times (2 + 2 + 2)^2. \\
721 &= (((2 + 2 + 2)^2 + 2)^2 - 2)/2. \\
722 &= 2 \times (22 - 2 - 2/2)^2. \\
723 &= (2 + 2/2) \times (22^2 - 2)/2. \\
724 &= 2 \times (22 - 2/2 - 2)^2 + 2. \\
725 &= 22^2 + (22^2 - 2)/2. \\
726 &= 22 \times (22 + 22/2). \\
727 &= (2 + 2/2)^{(2+2+2)} - 2. \\
728 &= 22^2/2 + 22^2 + 2. \\
729 &= (2 + 2/2)^{(2+2+2)}. \\
730 &= (2 + 2/2)^{(2+2+2)} + 2/2. \\
731 &= (2 + 2/2)^{(2+2+2)} + 2. \\
732 &= (2 + 2/2) \times (2 + 22^2/2). \\
733 &= (2 + 2/2)^{(2+2+2)} + 2 + 2. \\
734 &= 2^{((2+2/2)^2)} + 222. \\
735 &= 2^{(2+2)} \times (2 \times 22 + 2) - 2/2. \\
736 &= 2^{(2+2)} \times (2 \times 22 + 2). \\
737 &= 2^{(2+2)} \times (2 \times 22 + 2) + 2/2. \\
738 &= 2^{(2+2)} \times (2 \times 22 + 2) + 2. \\
739 &= 22^2 + 2^{2 \times (2+2)} - 2/2. \\
740 &= 22^2 + 2^{2 \times (2+2)}. \\
741 &= 22^2 + 2^{2 \times (2+2)} + 2/2. \\
742 &= 22^2 + 2^{2 \times (2+2)} + 2. \\
743 &= 22^2 + 2^{2 \times (2+2)} + 2 + 2/2. \\
744 &= 2 \times 22^2 - 222 - 2. \\
745 &= 2^{(2+2)} + (2 + 2/2)^{(2+2+2)}. \\
746 &= 2 \times 22^2 - 222. \\
747 &= 2 \times 22^2 - 222 + 2/2. \\
748 &= 22 \times (2 \times 2^{(2+2)} + 2). \\
749 &= 22 + (2 + 2/2)^{(2+2+2)} - 2. \\
750 &= 2 + 22 \times (2 \times 2^{(2+2)} + 2). \\
751 &= (2 + 2/2)^{(2+2+2)} + 22. \\
752 &= 2 \times ((22 - 2)^2 - 22 - 2). \\
753 &= (2 + 2/2)^{(2+2+2)} + 22 + 2. \\
754 &= 2 \times ((22 - 2)^2 - 22) - 2. \\
755 &= 2 \times ((22 - 2)^2 - 22) - 2/2. \\
756 &= 2 \times ((22 - 2)^2 - 22). \\
757 &= 2 \times ((22 - 2)^2 - 22) + 2/2. \\
758 &= 2 \times ((22 - 2)^2 - 22) + 2. \\
759 &= (2 + 2/2) \times (22^2 + 22)/2. \\
760 &= 2 \times ((22 - 2)^2 - 22 + 2). \\
761 &= (2 + 2/2) \times (22^2 + 22)/2 + 2. \\
762 &= (2 + 2/2) \times (2^{2 \times (2+2)} - 2). \\
763 &= (2 + 2/2) \times (2^{2 \times (2+2)} - 2) + 2/2. \\
764 &= 2 \times (2^{(2+2)} \times (22 + 2) - 2). \\
765 &= (2 + 2/2) \times (2^{2 \times (2+2)} - 2)/2. \\
766 &= 2 \times 2^{(2+2)} \times (22 + 2) - 2. \\
767 &= 2 \times 2 \times 222 - (22/2)^2. \\
768 &= 2 \times 2^{(2+2)} \times (22 + 2). \\
769 &= 2 \times 2^{(2+2)} \times (22 + 2) + 2/2. \\
770 &= 2 \times 2^{(2+2)} \times (22 + 2) + 2. \\
771 &= 22^2 + ((22 + 2)^2 - 2)/2. \\
772 &= 2 \times 2^{(2+2)} \times (22 + 2) + 2 + 2. \\
773 &= 2 \times 22 + (2 + 2/2)^{(2+2+2)}. \\
774 &= (2 + 2/2) \times (2^{2 \times (2+2)} + 2). \\
775 &= 22^2 + (2^{(2+2)} + 2/2)^2 + 2. \\
776 &= 2 \times 2 \times ((2^{(2+2)} - 2)^2 - 2). \\
777 &= 222 \times (2 + 2 + 2 + 2/2)/2. \\
778 &= 2 \times (22 - 2)^2 - 22. \\
779 &= 2 \times (22 - 2)^2 - 22 + 2/2. \\
780 &= 2 \times (22 - 2)^2 - 22 + 2. \\
781 &= (22 + 2 + 2 + 2)^2 - 2 - 2/2. \\
782 &= (22 + 2 + 2 + 2)^2 - 2. \\
783 &= (22 + 2 + 2 + 2)^2 - 2/2. \\
784 &= (22 + 2 + 2 + 2)^2. \\
785 &= (22 + 2 + 2 + 2)^2 + 2/2. \\
786 &= (22 + 2 + 2 + 2)^2 + 2. \\
787 &= (22 + 2 + 2 + 2)^2 + 2 + 2/2. \\
788 &= (22 + 2 + 2 + 2)^2 + 2 + 2. \\
789 &= 2 \times (22 - 2)^2 - 22/2. \\
790 &= 22 \times (2 + 2 + 2)^2 - 2. \\
791 &= 22 \times (2 + 2 + 2)^2 - 2/2. \\
792 &= 22 \times (2 + 2 + 2)^2. \\
793 &= 22 \times (2 + 2 + 2)^2 + 2/2. \\
794 &= 22 \times (2 + 2 + 2)^2 + 2. \\
795 &= 2 \times ((22 - 2)^2 - 2) - 2/2. \\
796 &= 2 \times ((22 - 2)^2 - 2). \\
797 &= 2 \times ((22 - 2)^2 - 2) + 2/2. \\
798 &= 2 \times (22 - 2)^2 - 2. \\
799 &= 2 \times (22 - 2)^2 - 2/2. \\
800 &= 2 \times (22 - 2)^2. \\
801 &= 2 \times (22 - 2)^2 + 2/2. \\
802 &= 2 \times (22 - 2)^2 + 2. \\
803 &= 2 \times (22 - 2)^2 + 2 + 2/2.
\end{aligned}$$

$$\begin{aligned}
804 &= 2 \times ((22 - 2)^2 + 2). \\
805 &= 2 \times ((22 - 2)^2 + 2) + 2/2. \\
806 &= 2 \times ((22 - 2)^2 + 2) + 2. \\
807 &= 2 \times ((22 - 2)^2 + 2) + 2 + 2/2. \\
808 &= 2 \times ((22 - 2)^2 + 2 + 2). \\
809 &= 2 \times ((22 - 2)^2 + 2 + 2) + 2/2. \\
810 &= 2 \times ((22 - 2)^2 + 2 + 2) + 2. \\
811 &= 2 \times (22 - 2)^2 + 22/2. \\
812 &= 2 \times ((22 - 2)^2 + 2 + 2 + 2). \\
813 &= 2 \times (22 - 2)^2 + 22/2 + 2. \\
814 &= 22 \times (2 + 2 + 2)^2 + 22. \\
815 &= 2 \times ((22 - 2)^2 + 2) + 22/2. \\
816 &= 2 \times ((22 - 2)^2 + 2 \times (2 + 2)). \\
817 &= (22 + 2)^2 + (22^2 - 2)/2. \\
818 &= 2 \times ((22 - 2)^2 - 2) + 22. \\
819 &= (22 + 2)^2 + (22^2 + 2)/2. \\
820 &= 2 \times (22 - 2)^2 + 22 - 2. \\
821 &= 2 \times (22 - 2)^2 + 22 - 2/2. \\
822 &= 2 \times (22 - 2)^2 + 22. \\
823 &= 2 \times (22 - 2)^2 + 22 + 2/2. \\
824 &= 2 \times (22 - 2)^2 + 22 + 2. \\
825 &= (2 \times 22)^2 - 2222/2. \\
826 &= 2 \times ((22 - 2)^2 + 2) + 22. \\
827 &= (2 \times 22)^2 + 2 - 2222/2. \\
828 &= (2^{(2+2)} + 2) \times (2 \times 22 + 2). \\
829 &= (2 \times 22 + 2) \times (2^{(2+2)} + 2) + 2/2. \\
830 &= (2^{(2+2)} + 2) \times (2 \times 22 + 2) + 2. \\
831 &= (2 + 2/2) \times ((22 + 2)^2 - 22)/2. \\
832 &= 2 \times ((22 - 2)^2 + 2^{(2+2)}). \\
833 &= 2 \times (22 - 2)^2 + 22 + 22/2. \\
834 &= 22 \times ((2 + 2 + 2)^2 + 2) - 2. \\
835 &= 22 \times ((2 + 2 + 2)^2 + 2) - 2/2. \\
836 &= 22 \times ((2 + 2 + 2)^2 + 2). \\
837 &= 22 \times ((2 + 2 + 2)^2 + 2) + 2 - 2/2. \\
838 &= 22 \times ((2 + 2 + 2)^2 + 2) + 2. \\
839 &= (22 - 2) \times (2 \times 22 - 2) - 2/2. \\
840 &= (22 - 2) \times (2 \times 22 - 2). \\
841 &= (22 + 2 + 2 + 2 + 2/2)^2. \\
842 &= (22 - 2) \times (2 \times 22 - 2) + 2. \\
843 &= (22 + 2 + 2 + 2 + 2/2)^2 + 2. \\
844 &= 2 \times ((22 - 2)^2 + 22). \\
845 &= 2 \times ((22 - 2)^2 + 22) + 2/2. \\
846 &= 2 \times ((22 - 2)^2 + 22) + 2. \\
847 &= 2 \times 22^2 - (22/2)^2. \\
848 &= 2 \times ((22 - 2)^2 + 22 + 2). \\
849 &= 2 + 2 \times 22^2 - (22/2)^2. \\
850 &= 2 \times ((22 - 2)^2 + 22 + 2) + 2. \\
851 &= 2 \times (22^2 + 2) - (22/2)^2. \\
852 &= 2 \times (2 \times (222 + 2) - 22). \\
853 &= 2 \times (22^2 - 2) - 222/2. \\
854 &= 2 \times (2 \times (222 + 2) - 22) + 2. \\
855 &= 2 \times 22^2 - 2 - 222/2. \\
856 &= 2 \times 2 \times (222 - 2 \times (2 + 2)). \\
857 &= 2 \times 22^2 - 222/2. \\
858 &= 22 \times (2 \times (22 - 2) - 2/2). \\
859 &= 2 \times 22^2 + 2 - 222/2. \\
860 &= (22 - 2) \times (2 \times 22 - 2/2). \\
861 &= (2 + 2/2) \times ((22 + 2)^2 - 2)/2. \\
862 &= 2 \times (2 \times 222 - 2) - 22. \\
863 &= (22 + 2) \times (2 + 2 + 2)^2 - 2/2. \\
864 &= (22 + 2) \times (2 + 2 + 2)^2. \\
865 &= (22 + 2) \times (2 + 2 + 2)^2 + 2/2. \\
866 &= 2 \times 2 \times 222 - 22. \\
867 &= 2 \times 2 \times 222 - 22 + 2/2. \\
868 &= 2 \times 2 \times 222 - 22 + 2. \\
869 &= (2222 - 22^2)/2. \\
870 &= 2 \times (2 \times 222 + 2) - 22. \\
871 &= ((2 \times 22 - 2)^2 - 22)/2. \\
872 &= 2 \times 2 \times (222 - 2 - 2). \\
873 &= ((2 \times 22 - 2)^2 - 22)/2 + 2. \\
874 &= 2 \times 2 \times (222 - 2 - 2) + 2. \\
875 &= 2 \times 2 \times 222 - 2 - 22/2. \\
876 &= 2 \times (2 \times (222 - 2) - 2). \\
877 &= 2 \times 2 \times 222 - 22/2. \\
878 &= 2 \times 2 \times (222 - 2) - 2. \\
879 &= 2 \times 2 \times (222 - 2) - 2/2. \\
880 &= 2 \times 2 \times (222 - 2). \\
881 &= ((2 \times 22 - 2)^2 - 2)/2. \\
882 &= 2 \times (22 - 2/2)^2. \\
883 &= ((2 \times 22 - 2)^2 + 2)/2. \\
884 &= 2 \times (2 \times 222 - 2). \\
885 &= 2 \times 2 \times 222 - 2 - 2/2. \\
886 &= 2 \times 2 \times 222 - 2. \\
887 &= 2 \times 2 \times 222 - 2/2. \\
888 &= 2 \times 2 \times 222. \\
889 &= 2 \times 2 \times 222 + 2/2. \\
890 &= 2 \times 2 \times 222 + 2. \\
891 &= 2 \times 2 \times 222 + 2 + 2/2. \\
892 &= 2 \times (2 \times 222 + 2). \\
893 &= 2 \times (2 \times 222 + 2) + 2/2. \\
894 &= 2 \times (2 \times 222 + 2) + 2. \\
895 &= 2 \times 2 \times (222 + 2) - 2/2. \\
896 &= 2 \times 2 \times (222 + 2). \\
897 &= 2 \times 2 \times (222 + 2) + 2/2. \\
898 &= 2 \times 2 \times (222 + 2) + 2. \\
899 &= 2 \times 2 \times 222 + 22/2. \\
900 &= (2 \times (2 + 2) + 22)^2. \\
901 &= (2 \times (2 + 2) + 22)^2 + 2/2. \\
902 &= (2 \times (2 + 2) + 22)^2 + 2. \\
903 &= (2 \times (2 + 2) + 22)^2 + 2 + 2/2. \\
904 &= 2 \times 2 \times (222 + 2 + 2). \\
905 &= ((2 \times 22 - 2)^2 + 2)/2 + 22. \\
906 &= 2 \times 2 \times (222 + 2 + 2) + 2. \\
907 &= 2 \times 2 \times (222 + 2) + 22/2. \\
908 &= 2 \times (2 \times (222 + 2 + 2) + 2). \\
909 &= 2 \times 2 \times 222 + 22 - 2/2. \\
910 &= 2 \times 2 \times 222 + 22. \\
911 &= 2 \times 2 \times 222 + 22 + 2/2. \\
912 &= 2 \times 2 \times 222 + 22 + 2. \\
913 &= (2^{(22/2)} - 222)/2. \\
914 &= 2 \times (2 \times 222 + 2) + 22. \\
915 &= (2^{(22/2)} - 222)/2 + 2. \\
916 &= 2 \times (22^2 - 22 - 2 - 2). \\
917 &= (2^{(22/2)} - 222)/2 + 2 + 2. \\
918 &= 2 \times 2 \times (222 + 2) + 22. \\
919 &= 2 \times (22^2 - 22 - 2) - 2/2. \\
920 &= 2 \times (22^2 - 22 - 2). \\
921 &= 2 \times (22^2 - 22 - 2) + 2/2. \\
922 &= 2 \times (22^2 - 22) - 2. \\
923 &= 2 \times (22^2 - 22) - 2/2. \\
924 &= 2 \times (22^2 - 22). \\
925 &= 2 \times (22^2 - 22) + 2/2. \\
926 &= 2 \times (22^2 - 22) + 2. \\
927 &= 2 \times (22^2 - 22) + 2 + 2/2. \\
928 &= 2 \times (22^2 - 22 + 2). \\
929 &= 2 \times 222 + 22^2 + 2/2. \\
930 &= 2 \times 222 + 22^2 + 2. \\
931 &= 2 \times (2 \times 222 + 22) - 2/2. \\
932 &= 2 \times 2 \times (2 \times 222 + 22). \\
933 &= 2 \times (2 \times 222 + 22) + 2/2. \\
934 &= 2 \times (2 \times 222 + 22) + 2. \\
935 &= 2 \times (22^2 - 22) + 22/2. \\
936 &= 2 \times (22^2 - 2^{(2+2)}). \\
937 &= 2 \times (22^2 - 2^{(2+2)}) + 2/2. \\
938 &= 2 \times (22^2 - 2^{(2+2)}) + 2. \\
939 &= ((2 + 2/2)^2 + 22)^2 - 22. \\
940 &= 2 \times (22^2 - 2^{(2+2)} + 2). \\
941 &= 2 \times (22^2 - 2) - 22 - 2/2. \\
942 &= 2 \times (22^2 - 2) - 22. \\
943 &= 2 \times (22^2 - 2) - 22 + 2/2. \\
944 &= 2 \times 22^2 - 22 - 2. \\
945 &= 2 \times 22^2 - 22 - 2/2. \\
946 &= 2 \times 22^2 - 22. \\
947 &= 2 \times 22^2 - 22 + 2/2. \\
948 &= 2 \times 22^2 - 22 + 2. \\
949 &= 2 \times 22^2 - 22 + 2 + 2/2. \\
950 &= 2 \times (22^2 + 2) - 22. \\
951 &= 2 \times (22^2 + 2) - 22 + 2/2. \\
952 &= 2 \times (22^2 - 2 \times (2 + 2)). \\
953 &= 2 \times (22^2 - 2) - 22/2. \\
954 &= 2 \times (22^2 - 2 \times (2 + 2)) + 2. \\
955 &= 2 \times 22^2 - 2 - 22/2. \\
956 &= 2 \times (22^2 - 2 - 2 - 2). \\
957 &= 2 \times 22^2 - 22/2. \\
958 &= 2 \times (22^2 - 2 - 2 - 2) + 2. \\
959 &= 2 \times 22^2 + 2 - 22/2. \\
960 &= 2 \times (22^2 - 2 - 2). \\
961 &= (22 + (2 + 2/2)^2)^2. \\
962 &= 2 \times (22^2 - 2) - 2. \\
963 &= 2 \times (22^2 - 2) - 2/2. \\
964 &= 2 \times (22^2 - 2). \\
965 &= 2 \times 22^2 - 2 - 2/2. \\
966 &= 2 \times 22^2 - 2. \\
967 &= 2 \times 22^2 - 2/2. \\
968 &= 2 \times 22^2. \\
969 &= 2 \times 22^2 + 2/2. \\
970 &= 2 \times 22^2 + 2. \\
971 &= 2 \times 22^2 + 2 + 2/2. \\
972 &= 2 \times (22^2 + 2). \\
973 &= 2 \times (22^2 + 2) + 2/2. \\
974 &= 2 \times (22^2 + 2) + 2. \\
975 &= 2 \times (22^2 + 2) + 2 + 2/2. \\
976 &= 2 \times (22^2 + 2) + 2. \\
977 &= 2 \times (22^2 + 2 + 2) + 2/2. \\
978 &= 2 \times (22^2 + 2 + 2) + 2. \\
979 &= 2 \times 22^2 + 22/2. \\
980 &= 2 \times (22^2 + 2 + 2 + 2). \\
981 &= 2 \times 22^2 + 2 + 22/2. \\
982 &= 2 \times (22^2 + 2 + 2 + 2) + 2. \\
983 &= 2 \times (22^2 + 2) + 22/2. \\
984 &= 2 \times (2 \times (2 + 2) + 22^2). \\
985 &= 2 \times (22^2 + 2) + 2 + 22/2. \\
986 &= 2 \times (22^2 - 2) + 22. \\
987 &= 2 \times (22^2 - 2) + 22 + 2/2. \\
988 &= 2 \times 22^2 + 22 - 2. \\
989 &= 2 \times 22^2 + 22 - 2/2. \\
990 &= 2 \times 22^2 + 22. \\
991 &= 2 \times 22^2 + 22 + 2/2. \\
992 &= 2 \times 22^2 + 22 + 2. \\
993 &= 2 \times 22^2 + 22 + 2 + 2/2. \\
994 &= 22 + 2 \times (22^2 + 2). \\
995 &= 22 + 2 \times (22^2 + 2) + 2/2. \\
996 &= 22 + 2 \times (22^2 + 2) + 2. \\
997 &= (2 + 2/2)^2 \times 222/2 - 2. \\
998 &= 2 \times (22^2 + 2 + 2) + 22. \\
999 &= (2 + 2/2)^2 \times 222/2. \\
1000 &= 2 \times (22^2 + 2^{(2+2)}).
\end{aligned}$$

## 6. REPRESENTATIONS USING NUMBER 3

$$\begin{aligned}
101 &= 3 + 3 \times 33 - 3/3. \\
102 &= 3 + 3 \times 33. \\
103 &= 3 + 3 \times 33 + 3/3. \\
104 &= 3 + 3 + 3 \times 33 - 3/3. \\
105 &= 3 + (3 \times 33 + 3). \\
106 &= 3 + 3 + 3 \times 33 + 3/3. \\
107 &= 3 \times (33 + 3) - 3/3. \\
108 &= 3 \times (33 + 3). \\
109 &= 3 \times (33 + 3) + 3/3. \\
110 &= (333 - 3)/3. \\
111 &= 333/3. \\
112 &= (333 + 3)/3. \\
113 &= 3 + (333 - 3)/3. \\
114 &= 3 + 333/3. \\
115 &= 3 + (333 + 3)/3. \\
116 &= 3 + 3 + (333 - 3)/3. \\
117 &= 3 \times (33 + 3 + 3). \\
118 &= 3 + 3 + (333 + 3)/3. \\
119 &= 3 \times 3 + (333 - 3)/3. \\
120 &= 3 + 3 \times (33 + 3 + 3). \\
121 &= (33/3)^{(3-3/3)}. \\
122 &= (3^{(3+3)} + 3)/(3 + 3). \\
123 &= 3^3 + 3 \times 33 - 3. \\
124 &= 3 + (33/3)^{(3-3/3)}. \\
125 &= (3 + 3 - 3/3)^3. \\
126 &= 3 \times (3 \times 3 + 33). \\
127 &= 3^3 + 3 \times 33 + 3/3. \\
128 &= 3 + (3 + 3 - 3/3)^3. \\
129 &= 3 + 3 \times 33 + 3^3. \\
130 &= 3 + 3 \times 33 + 3^3 + 3/3. \\
131 &= 3 + 3 + (3 + 3 - 3/3)^3. \\
132 &= 33 + 3 \times 33. \\
133 &= 3 \times 33 + 33 + 3/3. \\
134 &= 3 \times 3 + (3 + 3 - 3/3)^3. \\
135 &= 3 + 3 \times 33 + 33. \\
136 &= (3 + 3/3) \times (33 + 3/3). \\
137 &= 3^3 + (333 - 3)/3. \\
138 &= 3^3 + 333/3. \\
139 &= 3^3 + (333 + 3)/3. \\
140 &= 3 + 3^3 + (333 - 3)/3. \\
141 &= 33 + 3 \times (33 + 3). \\
142 &= 3 + 3^3 + (333 + 3)/3. \\
143 &= 33 + (333 - 3)/3. \\
144 &= (3 + 3) \times (3^3 - 3). \\
145 &= (3 + 3) \times (3^3 - 3) + 3/3. \\
146 &= 3 + 33 + (333 - 3)/3. \\
147 &= 3 + (3 + 3) \times (3^3 - 3). \\
148 &= (33 \times 3^3 - 3)/(3 + 3). \\
149 &= (33 \times 3^3 + 3)/(3 + 3). \\
150 &= 3 + 3 + (3 + 3) \times (3^3 - 3). \\
151 &= (3 + 3) \times 3^3 - 33/3. \\
152 &= 3^3 + (3 + 3 - 3/3)^3. \\
153 &= 3 \times (3^3 + 3^3 - 3). \\
154 &= 33 \times (3 + 33/3)/3. \\
155 &= 3^3 + 3 + (3 + 3 - 3/3)^3. \\
156 &= (3 + 3) \times (3^3 - 3/3). \\
157 &= 3 + 33 \times (3 + 33/3)/3. \\
158 &= 33 + (3 + 3 - 3/3)^3. \\
159 &= (3 + 3) \times 3^3 - 3. \\
160 &= (3 + 3) \times 3^3 - 3 + 3/3. \\
161 &= (3 + 3) \times 3^3 - 3/3. \\
162 &= (3 + 3) \times 3^3. \\
163 &= (3 + 3) \times 3^3 + 3/3. \\
164 &= (3 + 3) \times 3^3 + 3 - 3/3. \\
165 &= (3 + 3) \times 3^3 + 3. \\
166 &= (3 + 3) \times 3^3 + 3 + 3/3. \\
167 &= (3 \times 333 + 3)/(3 + 3). \\
168 &= (3 + 3) \times 3^3 + 3 + 3. \\
169 &= (3 + 3) \times 3^3 + 3 + 3 + 3/3. \\
170 &= 3 + (3 \times 333 + 3)/(3 + 3). \\
171 &= 3 \times (3^3 + 3^3 + 3). \\
172 &= 3 \times 3 + (3 + 3) \times 3^3 + 3/3. \\
173 &= (3 + 3) \times 3^3 + 33/3. \\
174 &= (3 + 3) \times 3^3 + 3 \times 3 + 3. \\
175 &= (3 + 3/3)^3 + 333/3. \\
176 &= (3 + 3) \times 3^3 + 3 + 33/3. \\
177 &= 3 \times (3^3 + 33) - 3. \\
178 &= 3 \times (3^3 + 33) - 3 + 3/3. \\
179 &= 3 \times (3^3 + 33) - 3/3. \\
180 &= 3 \times (3^3 + 33). \\
181 &= 3 \times (3^3 + 33) + 3/3. \\
182 &= (3 + 3)^3 - 33 - 3/3. \\
183 &= (3 + 3)^3 - 33. \\
184 &= (3 + 3)^3 - 33 + 3/3. \\
185 &= (3 + 3)^3 + 3 - 33 - 3/3. \\
186 &= (3 + 3)^3 + 3 - 33. \\
187 &= 33 \times (3 + 3) - 33/3. \\
188 &= (3 + 3)^3 - 3^3 - 3/3. \\
189 &= (3 + 3)^3 - 3^3. \\
190 &= (3 + 3)^3 - 3^3 + 3/3. \\
191 &= 3 \times (3 + 3/3)^3 - 3/3. \\
192 &= 3 \times (3 + 3/3)^3. \\
193 &= 3 \times (3 + 3/3)^3 + 3/3. \\
194 &= 33 \times (3 + 3) - 3 - 3/3. \\
195 &= 33 \times (3 + 3) - 3. \\
196 &= 33 \times (3 + 3) - 3 + 3/3. \\
197 &= 33 \times (3 + 3) - 3/3. \\
198 &= 33 \times (3 + 3). \\
199 &= 33 \times (3 + 3) + 3/3. \\
200 &= 33 \times (3 + 3) + 3 - 3/3. \\
201 &= 33 \times (3 + 3) + 3. \\
202 &= 33 \times (3 + 3) + 3 + 3/3. \\
203 &= 33 \times (3 + 3) + 3 + 3 - 3/3. \\
204 &= 33 \times (3 + 3) + 3 + 3. \\
205 &= (3 + 3)^3 - 33/3. \\
206 &= (3 + 3)^3 - (33 - 3)/3. \\
207 &= (3 + 3)^3 - 3 \times 3. \\
208 &= (3 + 3)^3 - 3 \times 3 + 3/3. \\
209 &= (3 + 3)^3 - 3 - 3 - 3/3. \\
210 &= (3 + 3)^3 - 3 - 3. \\
211 &= (3 + 3)^3 - 3 - 3 + 3/3. \\
212 &= (3 + 3)^3 - 3 - 3/3. \\
213 &= (3 + 3)^3 - 3. \\
214 &= (3 + 3)^3 - 3 + 3/3. \\
215 &= (3 + 3)^3 - 3/3. \\
216 &= (3 + 3)^3. \\
217 &= (3 + 3)^3 + 3/3. \\
218 &= (3 + 3)^3 + 3 - 3/3. \\
219 &= (3 + 3)^3 + 3. \\
220 &= (3 + 3)^3 + 3 + 3/3. \\
221 &= (3 + 3)^3 + 3 + 3 - 3/3. \\
222 &= (3 + 3)^3 + 3 + 3. \\
223 &= (3 + 3)^3 + 3 + 3 + 3/3. \\
224 &= (3 + 3)^3 + 3 \times 3 - 3/3. \\
225 &= (3 + 3)^3 + 3 \times 3. \\
226 &= (3 + 3)^3 + 3 \times 3 + 3/3. \\
227 &= (3 + 3)^3 + 33/3. \\
228 &= (3 + 3)^3 + 3 \times 3 + 3. \\
229 &= (3^{(3+3)} - 33)/3 - 3. \\
230 &= (3 + 3)^3 + 3 + 33/3. \\
231 &= 33 \times (3 + 3) + 33. \\
232 &= (3^{(3+3)} - 33)/3. \\
233 &= 3 \times (3 \times 3^3 - 3) - 3/3. \\
234 &= 3 \times (3 \times 3^3 - 3). \\
235 &= 3 + (3^{(3+3)} - 33)/3. \\
236 &= (3^{(3+3)} - 3)/3 - 3 - 3. \\
237 &= 3 \times (3 \times 3^3 - 3) + 3. \\
238 &= (3^{(3+3)} + 3)/3 - 3 - 3. \\
239 &= (3^{(3+3)} - 3)/3 - 3. \\
240 &= 3 \times 3 \times 3^3 - 3. \\
241 &= (3^{(3+3)} + 3)/3 - 3. \\
242 &= (3^{(3+3)} - 3)/3. \\
243 &= 3 \times 3 \times 3^3. \\
244 &= (3^{(3+3)} + 3)/3. \\
245 &= 3 + (3^{(3+3)} - 3)/3. \\
246 &= 3 \times 3 \times 3^3 + 3. \\
247 &= 3 + (3^{(3+3)} + 3)/3. \\
248 &= 3 + 3 + (3^{(3+3)} - 3)/3. \\
249 &= 33 + (3 + 3)^3. \\
250 &= 3 + 3 + (3^{(3+3)} + 3)/3. \\
251 &= 3 \times 3 + (3^{(3+3)} - 3)/3. \\
252 &= 3 \times (3 \times 3^3 + 3). \\
253 &= 3 \times 3 + (3^{(3+3)} + 3)/3. \\
254 &= (3^{(3+3)} + 33)/3. \\
255 &= 3 \times (3 \times 3^3 + 3) + 3. \\
256 &= (3 + 3/3)^{(3+3/3)}. \\
257 &= 3 + (3^{(3+3)} + 33)/3. \\
258 &= 3 + 3 + 3 \times (3 \times 3^3 + 3). \\
259 &= 3 + (3 + 3/3)^{(3+3/3)}. \\
260 &= 3 + 3 + (3^{(3+3)} + 33)/3. \\
261 &= 3 \times (3 \times 3^3 + 3 + 3). \\
262 &= 3 + 3 + (3 + 3/3)^{(3+3/3)}. \\
263 &= (33 \times (3^3 - 3) - 3)/3. \\
264 &= 33 \times (3 \times 3 - 3/3). \\
265 &= (33 \times (3^3 - 3) + 3)/3. \\
266 &= 3 + (33 \times (3^3 - 3) - 3)/3. \\
267 &= 3 \times 3 \times (3^3 + 3) - 3. \\
268 &= 3 + (33 \times (3^3 - 3) + 3)/3. \\
269 &= 3^3 + (3^{(3+3)} - 3)/3. \\
270 &= 3 \times 3 \times (3^3 + 3). \\
271 &= 3^3 + (3^{(3+3)} + 3)/3. \\
272 &= 3^3 + 3 + (3^{(3+3)} - 3)/3. \\
273 &= 3 \times 3 \times (3^3 + 3) + 3. \\
274 &= 3 \times 3 \times (3^3 + 3) + 3 + 3/3. \\
275 &= 33 + (3^{(3+3)} - 3)/3. \\
276 &= 33 + 3 \times 3 \times 3^3. \\
277 &= 33 + (3^{(3+3)} + 3)/3. \\
278 &= 33 + 3 + (3^{(3+3)} - 3)/3. \\
279 &= 3 \times (3 \times (3^3 + 3) + 3). \\
280 &= (3 + 3)^3 + (3 + 3/3)^3. \\
281 &= 3^3 + (3^{(3+3)} + 33)/3. \\
282 &= 3 + 3 \times (3 \times (3^3 + 3) + 3). \\
283 &= (3 + 3/3)^3 + (3 + 3)^3 + 3. \\
284 &= (3 + 3/3) \times ((3 + 3)^3 - 3)/3. \\
285 &= 3 \times (3 \times 33 - 3) - 3. \\
286 &= 33 \times (3^3 - 3/3)/3. \\
287 &= 3 \times (3 \times 33 - 3) - 3/3. \\
288 &= 3 \times (3 \times 33 - 3). \\
289 &= 3 \times (3 \times 33 - 3) + 3/3.
\end{aligned}$$

$$\begin{aligned}
290 &= 3 \times (3 \times 33 - 3) + 3 - 3/3. \\
291 &= 3 \times (3 \times 33 - 3) + 3. \\
292 &= 3 \times (3 \times 33 - 3) + 3 + 3/3. \\
293 &= 3 \times 3 \times 33 - 3 - 3/3. \\
294 &= 3 \times 3 \times 33 - 3. \\
295 &= 3 \times 3 \times 33 - 3 + 3/3. \\
296 &= 3 \times 3 \times 33 - 3/3. \\
297 &= 3 \times 3 \times 33. \\
298 &= 3 \times 3 \times 33 + 3/3. \\
299 &= 3 \times 3 \times 33 + 3 - 3/3. \\
300 &= 3 \times 3 \times 33 + 3. \\
301 &= 3 \times 3 \times 33 + 3 + 3/3. \\
302 &= 3 \times 3 \times 33 + 3 + 3 - 3/3. \\
303 &= 3 \times 3 \times 33 + 3 + 3. \\
304 &= 3 \times 3 \times 33 + 3 + 3 + 3/3. \\
305 &= 333 - 3^3 - 3/3. \\
306 &= 3 \times (3 \times 33 + 3). \\
307 &= 3 \times (3 \times 33 + 3) + 3/3. \\
308 &= 3 \times 3 \times 33 + 33/3. \\
309 &= 3 \times (3 \times 33 + 3) + 3. \\
310 &= (3 + 3 + 3/3)^3 - 33. \\
311 &= 3 \times 3 \times 33 + 3 + 33/3. \\
312 &= 3 \times (3 \times 33 + 3) + 3 + 3. \\
313 &= 3 - 33 + (3 + 3 + 3/3)^3. \\
314 &= 3 \times 33 + (3 + 3)^3 - 3/3. \\
315 &= 3 \times (3 \times 33 + 3 + 3). \\
316 &= (3 + 3 + 3/3)^3 - 3^3. \\
317 &= 333 - 3^3 + 33/3. \\
318 &= 3 \times 33 + (3 + 3)^3 + 3. \\
319 &= 333 - 3 - 33/3. \\
320 &= 333 - 3 - (33 - 3)/3. \\
321 &= 333 - 3 \times 3 - 3. \\
322 &= 333 - 33/3. \\
323 &= 333 - (33 - 3)/3. \\
324 &= 3 \times 3 \times (33 + 3). \\
325 &= 3 + 333 - 33/3. \\
326 &= 333 - 3 - 3 - 3/3. \\
327 &= 333 - 3 - 3. \\
328 &= 333 - 3 - 3 + 3/3. \\
329 &= 333 - 3 - 3/3. \\
330 &= 333 - 3. \\
331 &= 333 - 3 + 3/3. \\
332 &= 333 - 3/3. \\
333 &= 333. \\
334 &= 333 + 3/3. \\
335 &= 333 + 3 - 3/3. \\
336 &= 333 + 3. \\
337 &= 333 + 3 + 3/3. \\
338 &= 333 + 3 + 3 - 3/3. \\
339 &= 333 + 3 + 3. \\
340 &= (3 + 3 + 3/3)^3 - 3. \\
341 &= 333 + 3 \times 3 - 3/3. \\
342 &= 333 + 3 \times 3. \\
343 &= (3 + 3 + 3/3)^3. \\
344 &= 333 + 33/3. \\
345 &= 333 + 3 \times 3 + 3. \\
346 &= 3 + (3 + 3 + 3/3)^3. \\
347 &= 3 + 333 + 33/3. \\
348 &= 3 + 3 + 333 + 3 \times 3. \\
349 &= 3 + 3 + (3 + 3 + 3/3)^3. \\
350 &= 3 + 3 + 333 + 33/3. \\
351 &= 3 \times 3 \times (33 + 3 + 3). \\
352 &= 3 \times 3 \times (3 + 3 + 3/3)^3. \\
353 &= 3 \times 3 + 333 + 33/3. \\
354 &= 3 + 333 + 3 \times (3 + 3). \\
355 &= 3 + 3 \times 3 + (3 + 3 + 3/3)^3. \\
356 &= 3^3 + 333 - 3 - 3/3. \\
357 &= 3^3 + 333 - 3. \\
358 &= 3^3 + 333 - 3 + 3/3. \\
359 &= 3^3 + 333 - 3/3. \\
360 &= 3^3 + 333. \\
361 &= 3^3 + 333 + 3/3. \\
362 &= (33 \times 33 - 3)/3. \\
363 &= 33 \times 33/3. \\
364 &= (33 \times 33 + 3)/3. \\
365 &= 3 + (33 \times 33 - 3)/3. \\
366 &= 33 + 333. \\
367 &= 3 + (33 \times 33 + 3)/3. \\
368 &= 3 + 3 + (33 \times 33 - 3)/3. \\
369 &= 3 + 333 + 33. \\
370 &= 3^3 + (3 + 3 + 3/3)^3. \\
371 &= 3^3 + 333 + 33/3. \\
372 &= 3 + 3 + 333 + 33. \\
373 &= 3 + 3^3 + (3 + 3 + 3/3)^3. \\
374 &= 33 \times (33 + 3/3)/3. \\
375 &= 3 \times (3 + 3 - 3/3)^3. \\
376 &= 33 + (3 + 3 + 3/3)^3. \\
377 &= 3 + 33 \times (33 + 3/3)/3. \\
378 &= 3 \times (3 \times 33 + 3^3). \\
379 &= 3 + 33 + (3 + 3 + 3/3)^3. \\
380 &= 3 + 3 + 33 \times (33 + 3/3)/3. \\
381 &= 3 + 3 \times (3 \times 33 + 3^3). \\
382 &= 3333/3 - 3^{(3+3)}. \\
383 &= (3 + 3) \times (3 + 3/3)^3 - 3/3. \\
384 &= (3 + 3) \times (3 + 3/3)^3. \\
385 &= (3 + 3) \times (3 + 3/3)^3 + 3/3. \\
386 &= 3^{(3+3)} - (3 + 3 + 3/3)^3. \\
387 &= 3 + (3 + 3) \times (3 + 3/3)^3. \\
388 &= 3 + (3 + 3) \times (3 + 3/3)^3 + 3/3. \\
389 &= 3^3 + (33 \times 33 - 3)/3. \\
390 &= 3^3 + 33 \times 33/3. \\
391 &= 3^3 + (33 \times 33 + 3)/3. \\
392 &= 33 \times (3 \times 3 + 3) - 3 - 3/3. \\
393 &= 33 \times (3 \times 3 + 3) - 3. \\
394 &= 33 \times (3 \times 3 + 3) - 3 + 3/3. \\
395 &= 33 \times (3 \times 3 + 3) - 3/3. \\
396 &= 33 \times (3 \times 3 + 3). \\
397 &= 33 \times (3 \times 3 + 3) + 3/3. \\
398 &= 33 \times (3 \times 3 + 3) + 3 - 3/3. \\
399 &= 33 \times (3 \times 3 + 3) + 3. \\
400 &= 33 \times (3 \times 3 + 3) + 3 + 3/3. \\
401 &= 33 \times (3 \times 3 + 3) + 3 + 3 - 3/3. \\
402 &= 33 \times (3 \times 3 + 3) + 3 + 3. \\
403 &= 33 \times (3 \times 3 + 3) + 3 + 3 + 3/3. \\
404 &= 333 + ((3 + 3)^3 - 3)/3. \\
405 &= 3^3 \times (3 \times 3 + 3 + 3). \\
406 &= 3^3 \times (3 \times 3 + 3 + 3) + 3/3. \\
407 &= 33 \times 333/(3^3). \\
408 &= 3^3 \times (3 \times 3 + 3 + 3) + 3. \\
409 &= 3^3 \times (3 \times 3 + 3 + 3) + 3 + 3/3. \\
410 &= 33 \times 333/(3^3) + 3. \\
411 &= 3 \times 3^3 + 333 - 3. \\
412 &= 3 \times 3^3 + 333 - 3 + 3/3. \\
413 &= 3 \times 3^3 + 333 - 3/3. \\
414 &= 3 \times 3^3 + 333. \\
415 &= 3 \times 3^3 + 333 + 3/3. \\
416 &= 3 \times 3^3 + 333 + 3 - 3/3. \\
417 &= 3 \times 3^3 + 333 + 3. \\
418 &= 33 \times (3^3 + 33/3)/3. \\
419 &= (3^3 + 3) \times (3 + 33/3) - 3/3. \\
420 &= (3^3 + 3) \times (3 + 33/3). \\
421 &= ((3 + 3)^{(3+3/3)} - 33)/3. \\
422 &= 3^3 + 33 \times (3 \times 3 + 3) - 3/3. \\
423 &= 3 \times (3 \times (33 + 3) + 33). \\
424 &= 3 \times 3^3 + (3 + 3 + 3/3)^3. \\
425 &= ((3 + 3) \times ((3 + 3)^3 - 3) - 3)/3. \\
426 &= (3 + 3) \times ((3 + 3)^3 - 3)/3. \\
427 &= ((3 + 3) \times ((3 + 3)^3 - 3) + 3)/3. \\
428 &= ((3 + 3)^{(3+3/3)} - 3)/3 - 3. \\
429 &= 33 + 33 \times (3 \times 3 + 3). \\
430 &= (3 - 3/3) \times ((3 + 3)^3 - 3/3). \\
431 &= ((3 + 3)^{(3+3/3)} - 3)/3. \\
432 &= 3 \times (3 + 3) \times (3^3 - 3). \\
433 &= ((3 + 3)^{(3+3/3)} + 3)/3. \\
434 &= 3 + ((3 + 3)^{(3+3/3)} - 3)/3. \\
435 &= 3 + 3 \times 33 + 333. \\
436 &= 3 + ((3 + 3)^{(3+3/3)} + 3)/3. \\
437 &= ((3 + 3) \times ((3 + 3)^3 + 3) - 3)/3. \\
438 &= (3 + 3) \times ((3 + 3)^3 + 3)/3. \\
439 &= ((3 + 3) \times ((3 + 3)^3 + 3) + 3)/3. \\
440 &= (3 + 3/3) \times (333 - 3)/3. \\
441 &= 3 \times ((3 + 3) \times (3^3 - 3) + 3). \\
442 &= 3 \times 33 + (3 + 3 + 3/3)^3. \\
443 &= 333 + (333 - 3)/3. \\
444 &= 333 + 333/3. \\
445 &= 333 + (333 + 3)/3. \\
446 &= (3 \times 33 \times 3^3 + 3)/(3 + 3). \\
447 &= 3 + 333 + 333/3. \\
448 &= (3 + 3/3) \times (333 + 3)/3. \\
449 &= (3 \times 33 \times 3^3 + 3)/(3 + 3) + 3. \\
450 &= (3 + 3) \times (3 \times (3^3 - 3) + 3). \\
451 &= (3 + 3/3) \times (333 + 3)/3 + 3. \\
452 &= (3 + 3/3) \times (3 + (333 - 3)/3). \\
453 &= 3 \times (3 + 3) \times 3^3 - 33. \\
454 &= 3 \times (3 + 3) \times 3^3 - 33 + 3/3. \\
455 &= (3 + 3)^3 + (3^{(3+3)} - 3)/3 - 3. \\
456 &= 3 \times (3 + 3) \times 3^3 - 33 + 3. \\
457 &= (3 + 3)^3 + (3^{(3+3)} + 3)/3 - 3. \\
458 &= (3 + 3)^3 + (3^{(3+3)} - 3)/3. \\
459 &= 3 \times 3 \times (3^3 - 3 + 3^3). \\
460 &= (3 + 3)^3 + (3^{(3+3)} + 3)/3. \\
461 &= 33 \times (3 + 33/3) - 3/3. \\
462 &= 33 \times (3 + 33/3). \\
463 &= 33 \times (3 + 33/3) + 3/3. \\
464 &= 3 + 33 \times (3 + 33/3) - 3/3. \\
465 &= 3 + 33 \times (3 + 33/3). \\
466 &= 3 + 33 \times (3 + 33/3) + 3/3. \\
467 &= (3 + 3) \times (3 \times 3^3 - 3) - 3/3. \\
468 &= (3 + 3) \times (3 \times 3^3 - 3). \\
469 &= (3 + 3) \times (3 \times 3^3 - 3) + 3/3. \\
470 &= (3 + 3) \times (3 \times 3^3 - 3) + 3 - 3/3. \\
471 &= (3 + 3) \times (3 \times 3^3 - 3) + 3. \\
472 &= (3 + 3) \times (3 \times 3^3 - 3) + 3 + 3/3. \\
473 &= 33 \times (3 + 33/3) + 33/3. \\
474 &= 3 \times ((3 + 3) \times 3^3 - 3) - 3. \\
475 &= 3 \times (3 + 3) \times 3^3 - 33/3. \\
476 &= (3 + 33/3) \times (33 + 3/3). \\
477 &= 3 \times ((3 + 3) \times 3^3 - 3). \\
478 &= 3 \times ((3 + 3) \times 3^3 - 3) + 3/3. \\
479 &= (3 - 3/3)^{(3 \times 3)} - 33. \\
480 &= 3 \times ((3 + 3) \times 3^3 - 3) + 3. \\
481 &= 3 \times ((3 + 3) \times 3^3 - 3) + 3 + 3/3. \\
482 &= (3 - 3/3)^{(3 \times 3)} + 3 - 33. \\
483 &= 3 \times (3 + 3) \times 3^3 - 3. \\
484 &= 3 \times (3 + 3) \times 3^3 - 3 + 3/3. \\
485 &= (3 - 3/3)^{(3 \times 3)} - 3^3. \\
486 &= 3 \times (3 + 3) \times 3^3. \\
487 &= 3 \times (3 + 3) \times 3^3 + 3/3.
\end{aligned}$$

$$\begin{aligned}
488 &= (3 - 3/3)^{(3 \times 3)} + 3 - 3^3. \\
489 &= 3 \times (3 + 3) \times 3^3 + 3. \\
490 &= 3 \times (3 + 3) \times 3^3 + 3 + 3/3. \\
491 &= (3 - 3/3)^{(3 \times 3)} + 3 + 3 - 3^3. \\
492 &= 3 \times (3 + 3) \times 3^3 + 3 + 3. \\
493 &= 3 \times (3 + 3) \times 3^3 + 3 + 3 + 3/3. \\
494 &= (3 - 3/3)^{(3 \times 3)} - 3 \times (3 + 3). \\
495 &= 3 \times ((3 + 3) \times 3^3 + 3). \\
496 &= 3 \times ((3 + 3) \times 3^3 + 3) + 3/3. \\
497 &= 3 \times (3 + 3) \times 3^3 + 33/3. \\
498 &= 3 \times ((3 + 3) \times 3^3 + 3) + 3. \\
499 &= (3 \times 3 \times 333 - 3)/(3 + 3). \\
500 &= (3 + 3/3) \times (3 + 3 - 3/3)^3. \\
501 &= (3 + 3) \times (3 \times 3^3 + 3) - 3. \\
502 &= (3 \times 3 \times 333 - 3)/(3 + 3) + 3. \\
503 &= (3 - 3/3)^{(3 \times 3)} - 3 \times 3. \\
504 &= (3 + 3) \times (3 \times 3^3 + 3). \\
505 &= (3 + 3) \times (3 \times 3^3 + 3) + 3/3. \\
506 &= (3 - 3/3)^{(3 \times 3)} - 3 - 3. \\
507 &= (3 + 3) \times (3 \times 3^3 + 3) + 3. \\
508 &= (3 - 3/3)^{(3 \times 3)} - 3 - 3/3. \\
509 &= (3 - 3/3)^{(3 \times 3)} - 3. \\
510 &= 3^{(3+3)} - (3 + 3)^3 - 3. \\
511 &= (3 - 3/3)^{(3 \times 3)} - 3/3. \\
512 &= (3 - 3/3)^{(3 \times 3)}. \\
513 &= (3 - 3/3)^{(3 \times 3)} + 3/3. \\
514 &= (3 - 3/3)^{(3 \times 3)} + 3 - 3/3. \\
515 &= (3 - 3/3)^{(3 \times 3)} + 3. \\
516 &= 3^{(3+3)} - (3 + 3)^3 + 3. \\
517 &= (3 - 3/3)^{(3 \times 3)} + 3 + 3 - 3/3. \\
518 &= (3 - 3/3)^{(3 \times 3)} + 3 + 3. \\
519 &= 3 \times (3 + 3) \times 3^3 + 33. \\
520 &= 3 \times 3 + (3 - 3/3)^{(3 \times 3)} - 3/3. \\
521 &= 3 \times 3 + (3 - 3/3)^{(3 \times 3)}. \\
522 &= (3 + 3) \times (3 \times 3^3 + 3 + 3). \\
523 &= (3 - 3/3)^{(3 \times 3)} + 33/3. \\
524 &= 3 \times 3 + (3 - 3/3)^{(3 \times 3)} + 3. \\
525 &= (3 + 3) \times (3 \times 3^3 + 3 + 3) + 3. \\
526 &= (3 - 3/3)^{(3 \times 3)} + 3 + 33/3. \\
527 &= 3 \times 3 + (3 - 3/3)^{(3 \times 3)} + 3 + 3. \\
528 &= 33 \times (3^3 - 3/3). \\
529 &= (3^3 - 3 - 3/3)^{(3-3/3)}. \\
530 &= 3 \times (3 + 3) + (3 - 3/3)^{(3 \times 3)}. \\
531 &= 3 \times (3 \times (3^3 + 33) - 3). \\
532 &= (3^3 - 3 - 3/3)^{(3-3/3)} + 3. \\
533 &= 3 \times (3 + 3) + (3 - 3/3)^{(3 \times 3)} + 3. \\
534 &= 33 \times (3 + 3) + 333 + 3. \\
535 &= (3333 - (3 \times 3 + 3)^3)/3. \\
536 &= 3^3 + (3 - 3/3)^{(3 \times 3)} - 3. \\
537 &= 3 \times 3 \times (3^3 + 33) - 3. \\
538 &= 3^3 + (3 - 3/3)^{(3 \times 3)} - 3/3. \\
539 &= 3^3 + (3 - 3/3)^{(3 \times 3)}. \\
540 &= 3 \times 3 \times (3^3 + 33). \\
541 &= 3 \times 3 \times (3^3 + 33) + 3/3. \\
542 &= 3^3 + (3 - 3/3)^{(3 \times 3)} + 3. \\
543 &= 3 \times 3 \times (3^3 + 33) + 3. \\
544 &= ((3 \times 3 + 3)^3 + 3)/3 - 33. \\
545 &= (3 - 3/3)^{(3 \times 3)} + 33. \\
546 &= (3 + 3)^3 + 333 - 3. \\
547 &= ((3 \times 3 + 3)^3 + 3)/3 - 33 + 3. \\
548 &= (3 - 3/3)^{(3 \times 3)} + 33 + 3. \\
549 &= 3 \times ((3 + 3)^3 - 33). \\
550 &= 3 \times ((3 + 3)^3 - 33) + 3/3. \\
551 &= (3333 - 3^3)/(3 + 3). \\
552 &= (3 + 3)^3 + 333 + 3. \\
553 &= (3333 + 3)/(3 + 3) - 3. \\
554 &= (3333 - 3 \times 3)/(3 + 3). \\
555 &= (3333 - 3)/(3 + 3). \\
556 &= (3333 + 3)/(3 + 3). \\
557 &= (3333 + 3 \times 3)/(3 + 3). \\
558 &= 3 \times ((3 + 3)^3 + 3 - 33). \\
559 &= (3333 + 3)/(3 + 3) + 3. \\
560 &= (3333 + 3^3)/(3 + 3). \\
561 &= 33 \times (3 + 3 + 33/3). \\
562 &= ((3 \times 3 + 3 + 3)^3 - 3)/(3 + 3). \\
563 &= ((3 \times 3 + 3 + 3)^3 + 3)/(3 + 3). \\
564 &= 3 \times ((3 + 3)^3 - 3^3) - 3. \\
565 &= ((3 \times 3 + 3)^3 - 33)/3. \\
566 &= 3 \times ((3 + 3)^3 - 3^3) - 3/3. \\
567 &= 3 \times ((3 + 3)^3 - 3^3). \\
568 &= ((3 \times 3 + 3)^3 - 33)/3 + 3. \\
569 &= ((3 \times 3 + 3)^3 - 3)/3 - 3 - 3. \\
570 &= 3 \times ((3 + 3)^3 - 3^3) + 3. \\
571 &= ((3 \times 3 + 3)^3 + 3)/3 - 3 - 3. \\
572 &= ((3 \times 3 + 3)^3 - 3)/3 - 3. \\
573 &= ((3 \times 3 + 3)^3)/3 - 3. \\
574 &= ((3 \times 3 + 3)^3 + 3)/3 - 3. \\
575 &= ((3 \times 3 + 3)^3 - 3)/3. \\
576 &= (3 \times 3 + 3)^3/3. \\
577 &= ((3 \times 3 + 3)^3 + 3)/3. \\
578 &= ((3 \times 3 + 3)^3 - 3)/3 + 3. \\
579 &= (3 \times 3 + 3)^3/3 + 3. \\
580 &= ((3 \times 3 + 3)^3 + 3)/3 + 3. \\
581 &= ((3 \times 3 + 3)^3 - 3)/3 + 3 + 3. \\
582 &= (3 \times 3 + 3)^3/3 + 3 + 3. \\
583 &= ((3 \times 3 + 3)^3 + 3)/3 + 3 + 3. \\
584 &= 3 \times 3 + ((3 \times 3 + 3)^3 - 3)/3. \\
585 &= 3 \times (33 \times (3 + 3) - 3). \\
586 &= 3 \times 3 + ((3 \times 3 + 3)^3 + 3)/3. \\
587 &= ((3 \times 3 + 3)^3 + 33)/3. \\
588 &= 3 \times (33 \times (3 + 3) - 3) + 3. \\
589 &= 3 \times (33 \times (3 + 3) - 3) + 3 + 3/3. \\
590 &= ((3 \times 3 + 3)^3 + 33)/3 + 3. \\
591 &= 3 \times 33 \times (3 + 3) - 3. \\
592 &= 3 \times 33 \times (3 + 3) - 3 + 3/3. \\
593 &= 3 \times 33 \times (3 + 3) - 3/3. \\
594 &= 3 \times 33 \times (3 + 3). \\
595 &= 3 \times 33 \times (3 + 3) + 3/3. \\
596 &= 3 \times 33 \times (3 + 3) + 3 - 3/3. \\
597 &= 3 \times 33 \times (3 + 3) + 3. \\
598 &= 3 \times 33 \times (3 + 3) + 3 + 3/3. \\
599 &= (33/3)^3 - 3^{(3+3)} - 3. \\
600 &= 3 \times 33 \times (3 + 3) + 3 + 3. \\
601 &= 3 \times 33 \times (3 + 3) + 3 + 3 + 3/3. \\
602 &= (33/3)^3 - 3^{(3+3)}. \\
603 &= 3 \times (33 \times (3 + 3) + 3). \\
604 &= 3^3 + ((3 \times 3 + 3)^3 + 3)/3. \\
605 &= 3 + (33/3)^3 - 3^{(3+3)}. \\
606 &= 3 \times (33 \times (3 + 3) + 3) + 3. \\
607 &= 3 \times (33 \times (3 + 3) + 3) + 3 + 3/3. \\
608 &= 33 + ((3 \times 3 + 3)^3 - 3)/3. \\
609 &= 33 + (3 \times 3 + 3)^3/3. \\
610 &= 33 + ((3 \times 3 + 3)^3 + 3)/3. \\
611 &= 3 \times 33 + (3 - 3/3)^{(3 \times 3)}. \\
612 &= (3 + 3) \times (3 \times 33 + 3). \\
613 &= (3 + 3) \times (3 \times 33 + 3) + 3/3. \\
614 &= 3 \times (3 + 3)^3 - 33 - 3/3. \\
615 &= 3 \times (3 + 3)^3 - 33. \\
616 &= 3 \times (3 + 3)^3 - 33 + 3/3. \\
617 &= 3^{(3+3)} - (333 + 3)/3. \\
618 &= +3 \times (3 + 3)^3 + 3 - 33. \\
619 &= 3^{(3+3)} - (333 - 3)/3. \\
620 &= 3 \times (3 + 3)^3 - 3^3 - 3/3. \\
621 &= 3 \times ((3 + 3)^3 - 3 \times 3). \\
622 &= 3 \times ((3 + 3)^3 - 3 \times 3) + 3/3. \\
623 &= 3 \times (3 + 3)^3 - 3^3 + 3 - 3/3. \\
624 &= 3 \times ((3 + 3)^3 - 3 \times 3) + 3. \\
625 &= (3 + 3 - 3/3)^{(3+3/3)}. \\
626 &= (3 + 3 - 3/3)^{(3+3/3)} + 3/3. \\
627 &= 3 \times 33 \times (3 + 3) + 33. \\
628 &= (3 + 3 - 3/3)^{(3+3/3)} + 3. \\
629 &= 3^{(3+3)} - 3 \times 33 - 3/3. \\
630 &= 3^{(3+3)} - 3 \times 33. \\
631 &= 3^{(3+3)} - 3 \times 33 + 3/3. \\
632 &= 3^{(3+3)} - 3 \times 33 + 3 - 3/3. \\
633 &= 3^{(3+3)} - 3 \times 33 + 3. \\
634 &= 3 \times (3 + 3)^3 - 3 - 33/3. \\
635 &= 3 \times ((3 + 3)^3 - 3) - 3 - 3/3. \\
636 &= 3 \times ((3 + 3)^3 - 3) - 3. \\
637 &= 3 \times (3 + 3)^3 - 33/3. \\
638 &= 3 \times (3 + 3)^3 - 3 + 3/3. \\
639 &= 3 \times ((3 + 3)^3 - 3). \\
640 &= 3 \times ((3 + 3)^3 - 3) + 3/3. \\
641 &= 3 \times ((3 + 3)^3 - 3) + 3 - 3/3. \\
642 &= 3 \times ((3 + 3)^3 - 3) + 3. \\
643 &= 3 \times ((3 + 3)^3 - 3) + 3 + 3/3. \\
644 &= 3 \times (3 + 3)^3 - 3 - 3/3. \\
645 &= 3 \times (3 + 3)^3 - 3. \\
646 &= 3 \times (3 + 3)^3 - 3 + 3/3. \\
647 &= 3 \times (3 + 3)^3 - 3/3. \\
648 &= 3 \times (3 + 3)^3. \\
649 &= 3 \times (3 + 3)^3 + 3/3. \\
650 &= 3 \times (3 + 3)^3 + 3 - 3/3. \\
651 &= 3 \times (3 + 3)^3 + 3. \\
652 &= 3 \times (3 + 3)^3 + 3 + 3/3. \\
653 &= 3 \times (3 + 3)^3 + 3 + 3 - 3/3. \\
654 &= 3 \times (3 + 3)^3 + 3 + 3. \\
655 &= 3 \times ((3 + 3)^3 + 3) - 3 + 3/3. \\
656 &= 3 \times ((3 + 3)^3 + 3) - 3/3. \\
657 &= 3 \times ((3 + 3)^3 + 3). \\
658 &= 3 \times ((3 + 3)^3 + 3) + 3/3. \\
659 &= 3 \times (3 + 3)^3 + 33/3. \\
660 &= 3 \times (3 + 3)^3 + 3 + 3. \\
661 &= 3 \times ((3 + 3)^3 + 3) + 3 + 3/3. \\
662 &= 3 \times (3 + 3)^3 + 3 + 33/3. \\
663 &= 3 \times ((3 + 3)^3 + 3) + 3 + 3. \\
664 &= (3 - 3/3) \times (333 - 3/3). \\
665 &= 3^{(3+3)} - (3 + 3/3)^3. \\
666 &= 3 \times ((3 + 3)^3 + 3 + 3). \\
667 &= ((3 + 3) \times 333 + 3)/3. \\
668 &= 3^{(3+3)} - (3 + 3/3)^3 + 3. \\
669 &= 333 + 333 + 3. \\
670 &= 3 + ((3 + 3) \times 333 + 3)/3. \\
671 &= 33 \times ((3/3 + 3)^3 - 3)/3. \\
672 &= 3^3 + 3 \times (3 + 3)^3 - 3. \\
673 &= (3^3 - 3/3)^{(3-3/3)} - 3. \\
674 &= 3^3 + 3 \times (3 + 3)^3 - 3/3. \\
675 &= 3^3 + 3 \times (3 + 3)^3. \\
676 &= (3^3 - 3/3)^{(3-3/3)}. \\
677 &= ((3 + 3) \times 333 + 33)/3. \\
678 &= 3 \times (3 + 3)^3 + 3^3 + 3. \\
679 &= 3 + (3^3 - 3/3)^{(3-3/3)}. \\
680 &= 33 + 3 \times (3 + 3)^3 - 3/3. \\
681 &= 33 + 3 \times (3 + 3)^3. \\
682 &= 33 + 3 \times (3 + 3)^3 + 3/3. \\
683 &= (33/3)^3 - 3 \times (3 + 3)^3. \\
684 &= 3 \times (3 + 3)^3 + 33 + 3. \\
685 &= 3^{(3+3)} - 33 - 33/3.
\end{aligned}$$



$$\begin{aligned}
686 &= (3 - 3/3) \times (3 + 3 + 3/3)^3. \\
687 &= 3^{(3+3)} - 33 - 3 \times 3. \\
688 &= 3^{(3+3)} + 3 - 33 - 33/3. \\
689 &= (3 - 3/3) \times (3 + 3 + 3/3)^3 + 3. \\
690 &= 3 \times ((3 + 3)^3 + 3) + 33. \\
691 &= 3^{(3+3)} - 3^3 - 33/3. \\
692 &= 3^{(3+3)} - 3 - 33 - 3/3. \\
693 &= 33 \times (3 \times (3 + 3) + 3). \\
694 &= 33 \times (3 \times (3 + 3) + 3) + 3/3. \\
695 &= 3^{(3+3)} - 33 - 3/3. \\
696 &= 3^{(3+3)} - 33. \\
697 &= 3^{(3+3)} - 33 + 3/3. \\
698 &= 3^{(3+3)} - 33 + 3 - 3/3. \\
699 &= 3^{(3+3)} - 33 + 3. \\
700 &= 3^{(3+3)} - 33 + 3 + 3/3. \\
701 &= 3^{(3+3)} - 3^3 - 3/3. \\
702 &= 3^{(3+3)} - 3^3. \\
703 &= 3^{(3+3)} - 3^3 + 3/3. \\
704 &= 33 \times (3 + 3/3)^3/3. \\
705 &= 3^{(3+3)} - 3^3 + 3. \\
706 &= 3^{(3+3)} - 3^3 + 3 + 3/3. \\
707 &= 33 \times (3/3 + 3)^3/3 + 3. \\
708 &= 3^{(3+3)} - 3^3 + 3 + 3. \\
709 &= 3^{(3+3)} - 3 \times 3 - 33/3. \\
710 &= 3^{(3+3)} - 3 \times (3 + 3) - 3/3. \\
711 &= 3^{(3+3)} - 3 \times (3 + 3). \\
712 &= 3^{(3+3)} - 3 \times (3 + 3) + 3/3. \\
713 &= 3^{(3+3)} - 3^3 + 33/3. \\
714 &= 3^{(3+3)} + 3 - 3 \times (3 + 3). \\
715 &= 3^{(3+3)} - 3 - 33/3. \\
716 &= 3^{(3+3)} - 3 - (33 - 3)/3. \\
717 &= 3^{(3+3)} - 3 - 3 \times 3. \\
718 &= 3^{(3+3)} - 33/3. \\
719 &= 3^{(3+3)} - (33 - 3)/3. \\
720 &= 3^{(3+3)} - 3 \times 3. \\
721 &= 3^{(3+3)} + 3 - 33/3. \\
722 &= 3^{(3+3)} - 3 - 3 - 3/3. \\
723 &= 3^{(3+3)} - 3 - 3. \\
724 &= 3^{(3+3)} - 3 - 3 + 3/3. \\
725 &= 3^{(3+3)} - 3 - 3/3. \\
726 &= 3^{(3+3)} - 3. \\
727 &= 3^{(3+3)} - 3 + 3/3. \\
728 &= 3^{(3+3)} - 3/3. \\
729 &= 3^{(3+3)}. \\
730 &= 3^{(3+3)} + 3/3. \\
731 &= 3^{(3+3)} + 3 - 3/3. \\
732 &= 3^{(3+3)} + 3. \\
733 &= 3^{(3+3)} + 3 + 3/3. \\
734 &= 3^{(3+3)} + 3 + 3 - 3/3. \\
735 &= 3^{(3+3)} + 3 + 3. \\
736 &= 3^{(3+3)} + 3 \times 3 + 3/3. \\
737 &= 3^{(3+3)} + 3 \times 3 - 3/3. \\
738 &= 3^{(3+3)} + 3 \times 3. \\
739 &= 3^{(3+3)} + 3 \times 3 + 3/3. \\
740 &= 3^{(3+3)} + 33/3. \\
741 &= 3^{(3+3)} + 3 \times 3 + 3. \\
742 &= 3^{(3+3)} + 3 \times 3 + 3 + 3/3. \\
743 &= 3^{(3+3)} + 3 + 33/3. \\
744 &= 3^{(3+3)} + 3 \times 3 + 3 + 3. \\
745 &= 3^{(3+3)} + 3^3 - 33/3. \\
746 &= 3^{(3+3)} + 3 + 3 + 33/3. \\
747 &= 3 \times ((3 + 3)^3 + 33). \\
748 &= 3 \times ((3 + 3)^3 + 33) + 3/3. \\
749 &= 3^{(3+3)} + 3 \times 3 + 33/3. \\
750 &= 3^{(3+3)} + 3 \times (3 + 3) + 3. \\
751 &= 3^{(3+3)} + 33 - 33/3. \\
752 &= 3^{(3+3)} + 3^3 - 3 - 3/3. \\
753 &= 3^{(3+3)} + 3^3 - 3. \\
754 &= 3^{(3+3)} + 3^3 - 3 + 3/3. \\
755 &= 3^{(3+3)} + 3^3 - 3/3. \\
756 &= 3^{(3+3)} + 3^3. \\
757 &= 3^{(3+3)} + 3^3 + 3/3. \\
758 &= 3^{(3+3)} + 3^3 + 3 - 3/3. \\
759 &= 3^{(3+3)} + 3^3 + 3. \\
760 &= 3^{(3+3)} + 3^3 + 3 + 3/3. \\
761 &= 3^{(3+3)} + 33 - 3/3. \\
762 &= 3^{(3+3)} + 33. \\
763 &= 3^{(3+3)} + 33 + 3/3. \\
764 &= 3^{(3+3)} + 33 + 3 - 3/3. \\
765 &= 3^{(3+3)} + 33 + 3. \\
766 &= 3^{(3+3)} + 33 + 3 + 3/3. \\
767 &= 3^{(3+3)} + 3^3 + 33/3. \\
768 &= 3^{(3+3)} + 33 + 3 + 3. \\
769 &= 3^{(3+3)} + 33 + 3 + 3 + 3/3. \\
770 &= 3^{(3+3)} + 3^3 + 3 + 33/3. \\
771 &= 3^{(3+3)} + 3 \times 3 + 33. \\
772 &= 3^{(3+3)} + 3 \times 3 + 33 + 3/3. \\
773 &= 3^{(3+3)} + 33 + 33/3. \\
774 &= 3^{(3+3)} + 3 \times 3 + 33 + 3. \\
775 &= 3333/3 - 333 - 3. \\
776 &= 3^{(3+3)} + 33 + 3 + 33/3. \\
777 &= 3^3 \times (3^3 + 3) - 33. \\
778 &= 3333/3 - 333. \\
779 &= 33 \times 3^3 - (333 + 3)/3. \\
780 &= (3^3 + 3) \times (3^3 - 3/3). \\
781 &= 33 \times ((3 + 3)^3 - 3)/(3 \times 3). \\
782 &= 3^{(3+3)} + 3^3 + 3^3 - 3/3. \\
783 &= 3 \times 3 \times (3 \times 3^3 + 3 + 3). \\
784 &= (3^3 + 3/3)^{(3-3/3)}. \\
785 &= 33 \times (3^3 - 3) - 3 - 3 - 3/3. \\
786 &= 33 \times (3^3 - 3) - 3 - 3. \\
787 &= (3^3 + 3/3)^{(3-3/3)} + 3. \\
788 &= 33 \times (3^3 - 3) - 3 - 3/3. \\
789 &= 33 \times (3^3 - 3) - 3. \\
790 &= 33 \times (3^3 - 3) - 3 + 3/3. \\
791 &= 33 \times (3^3 - 3) - 3/3. \\
792 &= 33 \times (3^3 - 3). \\
793 &= 33 \times (3^3 - 3) + 3/3. \\
794 &= 33 \times (3^3 - 3) + 3 - 3/3. \\
795 &= 33 \times (3^3 - 3) + 3. \\
796 &= 3 + 33 \times (3^3 - 3) + 3/3. \\
797 &= 33 \times (3^3 - 3) + 3 + 3 - 3/3. \\
798 &= 33 \times (3^3 - 3) + 3 + 3. \\
799 &= 3^3 \times (3^3 + 3) - 33/3. \\
800 &= 3^{(3+3)} + ((3 + 3)^3 - 3)/3. \\
801 &= 3 \times (3 \times 3 \times (3^3 + 3) - 3). \\
802 &= 3^{(3+3)} + ((3 + 3)^3 + 3)/3. \\
803 &= 33 \times (3^3 - 3) + 33/3. \\
804 &= 3^3 \times (3^3 + 3) - 3 - 3. \\
805 &= 3^{(3+3)} + 3 + ((3 + 3)^3 + 3)/3. \\
806 &= 3^3 \times (3^3 + 3) - 3 - 3/3. \\
807 &= 3^3 \times (3^3 + 3) - 3. \\
808 &= 3^3 \times (3^3 + 3) - 3 + 3/3. \\
809 &= 3^3 \times (3^3 + 3) - 3/3. \\
810 &= 3^3 \times (3^3 + 3). \\
811 &= 3^3 \times (3^3 + 3) + 3/3. \\
812 &= 3^3 \times (3^3 + 3) + 3 - 3/3. \\
813 &= 3^3 \times (3^3 + 3) + 3. \\
814 &= 3^3 \times (3^3 + 3) + 3 + 3/3. \\
815 &= 3^3 \times (3^3 + 3) + 3 + 3 - 3/3. \\
816 &= 3^3 \times (3^3 + 3) + 3 + 3. \\
817 &= 3^3 \times (3^3 + 3) + 3 + 3 + 3/3. \\
818 &= 3^3 + 33 \times (3^3 - 3) - 3/3. \\
819 &= 3^3 + 33 \times (3^3 - 3). \\
820 &= 3^3 + 33 \times (3^3 - 3) + 3/3. \\
821 &= 3^3 \times (3^3 + 3) + 33/3. \\
822 &= 3^3 + 33 \times (3^3 - 3) + 3. \\
823 &= 3^3 + 33 \times (3^3 - 3) + 3 + 3/3. \\
824 &= 3^3 \times (3^3 + 3) + 3 + 33/3. \\
825 &= 33 + 33 \times (3^3 - 3). \\
826 &= 33 + 33 \times (3^3 - 3) + 3/3. \\
827 &= 3 \times 33 + 3^{(3+3)} - 3/3. \\
828 &= 3 \times 33 + 3^{(3+3)}. \\
829 &= 3 \times 33 + 3^{(3+3)} + 3/3. \\
830 &= 3 \times 33 + 3^{(3+3)} + 3 - 3/3. \\
831 &= 3 \times 33 + 3^{(3+3)} + 3. \\
832 &= (3^3 - 3/3) \times (33 - 3/3). \\
833 &= (3333 - 3/3)/(3 + 3/3). \\
834 &= 3 \times 33 + 3^{(3+3)} + 3 + 3. \\
835 &= (3^3 - 3/3) \times (33 - 3/3) + 3. \\
836 &= 3^3 + 3^3 \times (3^3 + 3) - 3/3. \\
837 &= 3^3 + 3^3 \times (3^3 + 3). \\
838 &= 3^3 + 3^3 \times (3^3 + 3) + 3/3. \\
839 &= 3^{(3+3)} + (333 - 3)/3. \\
840 &= 3^{(3+3)} + 333/3. \\
841 &= 3^{(3+3)} + (333 + 3)/3. \\
842 &= 3^{(3+3)} + 3 + (333 - 3)/3. \\
843 &= 3^3 \times (3^3 + 3) + 33. \\
844 &= 3^{(3+3)} + 3 + (333 + 3)/3. \\
845 &= (3 - 3/3)^{(3 \times 3)} + 333. \\
846 &= 3^3 \times (3^3 + 3) + 33 + 3. \\
847 &= 33 \times (3 \times 3^3 - 3 - 3/3)/3. \\
848 &= (3 - 3/3)^{(3 \times 3)} + 3 + 333. \\
849 &= 33 \times 3^3 - 3 \times 3 - 33. \\
850 &= 3^{(3+3)} + (333)/3^{(3-3/3)}. \\
851 &= 3^{(3+3)} + (3^{(3+3)} + 3)/(3 + 3). \\
852 &= (3 + 3/3) \times ((3 + 3)^3 - 3). \\
853 &= (3 + 3/3) \times ((3 + 3)^3 - 3) + 3/3. \\
854 &= 3^{(3+3)} + (3 + 3 - 3/3)^3. \\
855 &= 3 \times (3 \times (3 \times 33 - 3) - 3). \\
856 &= 3 \times 3^{(3+3)} - (33/3)^3. \\
857 &= 33 \times 3^3 - 33 - 3/3. \\
858 &= 33 \times (3^3 - 3/3). \\
859 &= 33 \times (3^3 - 3/3) + 3/3. \\
860 &= (3 + 3/3) \times ((3 + 3)^3 - 3/3). \\
861 &= 33 \times (3^3 - 3/3) + 3. \\
862 &= 33 \times (3^3 - 3/3) + 3 + 3/3. \\
863 &= 33 \times 3^3 - 3^3 - 3/3. \\
864 &= 3 \times 3 \times (3 \times 33 - 3). \\
865 &= 3 \times 3 \times (3 \times 33 - 3) + 3/3. \\
866 &= 33 \times 3^3 - 3^3 + 3 - 3/3. \\
867 &= 33 \times 3^3 - 3^3 + 3. \\
868 &= (3 + 3/3) \times ((3 + 3)^3 + 3/3). \\
869 &= 33 \times (3^3 - 3/3) + 33/3. \\
870 &= 3 \times 3 \times (3 \times 33 - 3) + 3 + 3. \\
871 &= (3 + 3/3) \times ((3 + 3)^3 + 3/3) + 3. \\
872 &= (3 + 3/3) \times ((3 + 3)^3 + 3 - 3/3). \\
873 &= 3 \times (3 \times (3 \times 33 - 3) + 3). \\
874 &= 3 \times (3 \times (3 \times 33 - 3) + 3) + 3/3. \\
875 &= 3 \times 3 \times (3 \times 33 - 3) + 33/3. \\
876 &= (3 + 3/3) \times ((3 + 3)^3 + 3). \\
877 &= 33 \times 3^3 - 3 - 33/3. \\
878 &= 33 \times 3^3 - 3 - (33 - 3)/3. \\
879 &= 33 \times 3^3 - 3 \times 3 - 3. \\
880 &= 33 \times 3^3 - 33/3. \\
881 &= 33 \times 3^3 - (33 - 3)/3. \\
882 &= 3 \times (3 \times 3 \times 33 - 3). \\
883 &= 33 \times 3^3 + 3 - 33/3.
\end{aligned}$$

$$\begin{aligned}
884 &= (3^3 - 3/3) \times (33 + 3/3). \\
885 &= 33 \times 3^3 - 3 - 3. \\
886 &= 33 \times 3^3 - 3 - 3 + 3/3. \\
887 &= 33 \times 3^3 - 3 - 3/3. \\
888 &= 33 \times 3^3 - 3. \\
889 &= 33 \times 3^3 - 3 + 3/3. \\
890 &= 33 \times 3^3 - 3/3. \\
891 &= 33 \times 3^3. \\
892 &= 33 \times 3^3 + 3/3. \\
893 &= 33 \times 3^3 + 3 - 3/3. \\
894 &= 33 \times 3^3 + 3. \\
895 &= 33 \times 3^3 + 3 + 3/3. \\
896 &= 33 \times 3^3 + 3 + 3 - 3/3. \\
897 &= 33 \times 3^3 + 3 + 3. \\
898 &= 33 \times 3^3 + 3 + 3 + 3/3. \\
899 &= 3 \times 3 + 33 \times 3^3 - 3/3. \\
900 &= 3 \times 3 + 33 \times 3^3. \\
901 &= 33 \times 3^3 + 3 \times 3 + 3/3. \\
902 &= 33 \times 3^3 + 33/3. \\
903 &= 33 \times 3^3 + 3 \times 3 + 3. \\
904 &= 33 \times 3^3 + 3 \times 3 + 3 + 3/3. \\
905 &= 33 \times 3^3 + 3 + 33/3. \\
906 &= 33 \times 3^3 + 3 \times 3 + 3 + 3. \\
907 &= 33 \times 3^3 + 3^3 - 33/3. \\
908 &= 33 \times 3^3 + 3 + 3 + 33/3. \\
909 &= 3 \times (3 \times 3 \times 33 + 3 + 3). \\
910 &= 33 \times 3^3 + 3 \times (3 + 3) + 3/3. \\
911 &= 33 \times 3^3 + 3 \times 3 + 33/3. \\
912 &= 3 \times (3 \times 3 \times 33 + 3 + 3) + 3. \\
913 &= 33 \times 3^3 + 33 - 33/3. \\
914 &= 33 \times 3^3 + 3^3 - 3 - 3/3. \\
915 &= 33 \times 3^3 + 3^3 - 3. \\
916 &= 33 \times 3^3 + 3^3 - 3 + 3/3. \\
917 &= 33 \times 3^3 + 3^3 - 3/3. \\
918 &= 3 \times 3 \times (3 \times 33 + 3). \\
919 &= 33 \times 3^3 + 3^3 + 3/3. \\
920 &= 33 \times 3^3 + 3^3 + 3 - 3/3. \\
921 &= 33 \times 3^3 + 3^3 + 3. \\
922 &= 33 \times 3^3 + 3^3 + 3 + 3/3. \\
923 &= 33 + 33 \times 3^3 - 3/3. \\
924 &= 33 + 33 \times 3^3. \\
925 &= 33 + 33 \times 3^3 + 3/3. \\
926 &= 33 + 33 \times 3^3 + 3 - 3/3. \\
927 &= 33 + 33 \times 3^3 + 3. \\
928 &= 33 + 33 \times 3^3 + 3 + 3/3. \\
929 &= 33 \times 3^3 + 3^3 + 33/3. \\
930 &= 33 + 33 \times 3^3 + 3 + 3. \\
931 &= 33 + 33 \times 3^3 + 3 + 3 + 3/3. \\
932 &= 3 \times 333 - 3 - (3 + 3/3)^3. \\
933 &= 33 \times 3^3 + 33 + 3 \times 3. \\
934 &= 3^{(3+3)} + (3 + 3)^3 - 33/3. \\
935 &= 3 \times 333 - (3 + 3/3)^3. \\
936 &= (3 \times 3 + 3) \times (3 \times 3^3 - 3). \\
937 &= (3 \times 3 + 3) \times (3 \times 3^3 - 3) + 3/3. \\
938 &= 3 \times 333 + 3 - (3 + 3/3)^3. \\
939 &= 3^3 \times (33 + 3) - 33. \\
940 &= 3^3 \times (33 + 3) - 33 + 3/3. \\
941 &= 3^{(3+3)} + (3 + 3)^3 - 3 - 3/3. \\
942 &= 3^{(3+3)} + (3 + 3)^3 - 3. \\
943 &= 3^{(3+3)} + (3 + 3)^3 - 3 + 3/3. \\
944 &= 3^{(3+3)} + (3 + 3)^3 - 3/3. \\
945 &= 3^{(3+3)} + (3 + 3)^3. \\
946 &= 3^{(3+3)} + (3 + 3)^3 + 3/3. \\
947 &= 3^{(3+3)} + (3 + 3)^3 + 3 - 3/3. \\
948 &= 3^{(3+3)} + (3 + 3)^3 + 3. \\
949 &= 3^{(3+3)} + (3 + 3)^3 + 3 + 3/3. \\
950 &= 3^{(3+3)} + (3 + 3)^3 + 3 + 3 - 3/3. \\
951 &= 3^{(3+3)} + (3 + 3)^3 + 3 + 3. \\
952 &= (3^3 + 3/3) \times (33 + 3/3). \\
953 &= (3+3) \times ((3+3) \times 3^3 - 3) - 3/3. \\
954 &= (3 + 3) \times ((3 + 3) \times 3^3 - 3). \\
955 &= 33 \times 3^3 + (3 + 3/3)^3. \\
956 &= 3^{(3+3)} + (3 + 3)^3 + 33/3. \\
957 &= 33 \times (3^3 + 3 - 3/3). \\
958 &= 3 + 33 \times 3^3 + (3 + 3/3)^3. \\
959 &= (3 + 3^3) \times (33 - 3/3) - 3/3. \\
960 &= (3 + 3^3) \times (33 - 3/3). \\
961 &= (3^3 + 3 + 3/3)^{(3-3/3)}. \\
962 &= 33 \times 3^3 + ((3 + 3)^3 - 3)/3. \\
963 &= 3 \times (333 - 3 \times 3 - 3). \\
964 &= (3 \times 3 + 3/3)^3 - 33 - 3. \\
965 &= 3 \times 333 - 33 - 3/3. \\
966 &= 3 \times 333 - 33. \\
967 &= (3 \times 3 + 3/3)^3 - 33. \\
968 &= (3 + 3/3) \times (3^{(3+3)} - 3)/3. \\
969 &= 3^3 \times (33 + 3) - 3. \\
970 &= 3^3 \times (33 + 3) - 3 + 3/3. \\
971 &= 3^3 \times (33 + 3) - 3/3. \\
972 &= 3^3 \times (33 + 3). \\
973 &= 3^3 \times (33 + 3) + 3/3. \\
974 &= 3^3 \times (33 + 3) + 3 - 3/3. \\
975 &= 3^3 \times (33 + 3) + 3. \\
976 &= 3^3 \times (33 + 3) + 3 + 3/3. \\
977 &= 3^3 \times (33 + 3) + 3 + 3 - 3/3. \\
978 &= 3^3 \times (33 + 3) + 3 + 3. \\
979 &= 3 \times (333 - 3) - 33/3. \\
980 &= 3 \times (333 - 3 - 3) - 3/3. \\
981 &= 3 \times (333 - 3 - 3). \\
982 &= 3 \times (333 - 3 - 3) + 3/3. \\
983 &= 3^3 \times (33 + 3) + 33/3. \\
984 &= 3 \times (333 - 3 - 3) + 3. \\
985 &= 3 \times 333 - 3 - 33/3. \\
986 &= 3 \times (333 - 3) - 3 - 3/3. \\
987 &= 3 \times (333 - 3) - 3. \\
988 &= 3 \times 333 - 33/3. \\
989 &= 3 \times (333 - 3) - 3/3. \\
990 &= 3 \times (333 - 3). \\
991 &= 3 \times (333 - 3) + 3/3. \\
992 &= 3 \times (333 - 3) + 3 - 3/3. \\
993 &= 3 \times (333 - 3) + 3. \\
994 &= (3 \times 3 + 3/3)^3 - 3 - 3. \\
995 &= 3 \times 333 - 3 - 3/3. \\
996 &= 3 \times 333 - 3. \\
997 &= (3 \times 3 + 3/3)^3 - 3. \\
998 &= 3 \times 333 - 3/3. \\
999 &= 3 \times 333. \\
1000 &= (3 \times 3 + 3/3)^3.
\end{aligned}$$

## 7. REPRESENTATIONS USING NUMBER 4

$$\begin{aligned}
101 &= 4444/44. \\
102 &= (444 - 4)/4 - 4 - 4. \\
103 &= 444/4 - 4 - 4. \\
104 &= 4 \times 4 + 44 + 44. \\
105 &= 4 + 4444/44. \\
106 &= (444 - 4)/4 - 4. \\
107 &= 444/4 - 4. \\
108 &= 44 + 4 \times 4 \times 4. \\
109 &= 44 + (4^4 + 4)/4. \\
110 &= (444 - 4)/4. \\
111 &= 444/4. \\
112 &= 4 \times (44 - 4 \times 4). \\
113 &= (444 + 4 + 4)/4. \\
114 &= 4 + (444 - 4)/4. \\
115 &= 4 + 444/4. \\
116 &= 4 + 4 \times (44 - 4 \times 4). \\
117 &= 4 + (444 + 4 + 4)/4. \\
118 &= 4 + 4 + (444 - 4)/4. \\
119 &= 4 + 4 + 444/4. \\
120 &= (4 + 4) \times (44/4 + 4). \\
121 &= (44/4)^{(4+4)/4}. \\
122 &= (444 + 44)/4. \\
123 &= 4 + 4 + 4 + 444/4. \\
124 &= 4 \times 4 \times (4 + 4) - 4. \\
125 &= 44 + (4 - 4/4)^4. \\
126 &= 4 \times (4^4 - 4)/(4 + 4). \\
127 &= 4 \times 4 + 444/4. \\
128 &= 4 \times 4 \times (4 + 4). \\
129 &= 4 \times 4 \times (4 + 4) + 4/4. \\
130 &= 4 \times (4^4 + 4)/(4 + 4). \\
131 &= 4 \times 4 + 4 + 444/4. \\
132 &= 4 \times 4 \times (4 + 4) + 4. \\
133 &= 4 \times 4 \times (4 + 4) + 4 + 4/4. \\
134 &= 4 + 4 \times (4^4 + 4)/(4 + 4). \\
135 &= (4 - 4/4) \times (44 + 4/4). \\
136 &= 4 \times 4 \times (4 + 4) + 4 + 4. \\
137 &= 4 \times 4 \times (4 + 4) + 4 + 4 + 4/4. \\
138 &= 4 \times 4 \times (4 + 4) + (44 - 4)/4. \\
139 &= 4 \times 4 \times (4 + 4) + 44/4. \\
140 &= 4 \times (4 \times (4 + 4) + 4) - 4. \\
141 &= 4^4 - 4 - 444/4. \\
142 &= 4 \times (4 + 4) + (444 - 4)/4. \\
143 &= 4 \times (4 + 4) + 444/4. \\
144 &= 4 \times (4 \times (4 + 4) + 4). \\
145 &= 4^4 - 444/4. \\
146 &= 4^4 + (4 - 444)/4. \\
147 &= 4 \times (4 + 4) + 4 + 444/4. \\
148 &= 4 \times (4 \times (4 + 4) + 4) + 4. \\
149 &= 4^4 + 4 - 444/4. \\
150 &= 4 \times (44 + 4^4)/(4 + 4). \\
151 &= 44 - 4 + 444/4. \\
152 &= 4 \times (44 - 4) - 4 - 4. \\
153 &= 4^4 + 4 + 4 - 444/4. \\
154 &= 44 + (444 - 4)/4. \\
155 &= 44 + 444/4. \\
156 &= 4 \times (44 - 4) - 4. \\
157 &= 4 \times (44 - 4) - 4 + 4/4. \\
158 &= 4 \times (44 - 4) - (4 + 4)/4. \\
159 &= 4 \times (44 - 4) - 4/4. \\
160 &= 4 \times (44 - 4). \\
161 &= 4 \times (44 - 4) + 4/4. \\
162 &= 4 \times (44 - 4) + (4 + 4)/4. \\
163 &= 4 \times (44 - 4) + 4 - 4/4. \\
164 &= 4 \times (44 - 4) + 4. \\
165 &= 4 \times 44 - 44/4. \\
166 &= 4 \times 44 - (44 - 4)/4. \\
167 &= 4 \times 44 - 4 - 4 - 4/4. \\
168 &= 4 \times 44 - 4 - 4. \\
169 &= 4 \times 44 + 4 - 44/4.
\end{aligned}$$

$$\begin{aligned}
170 &= 4 \times 44 - 4 - (4 + 4)/4. \\
171 &= 4 \times 44 - 4 - 4/4. \\
172 &= 4 \times 44 - 4. \\
173 &= 4 \times 44 - 4 + 4/4. \\
174 &= 4 \times 44 - (4 + 4)/4. \\
175 &= 4 \times 44 - 4/4. \\
176 &= 4 \times 44. \\
177 &= 4 \times 44 + 4/4. \\
178 &= 4 \times 44 + (4 + 4)/4. \\
179 &= 4 \times 44 + 4 - 4/4. \\
180 &= 4 \times 44 + 4. \\
181 &= 4 \times 44 + 4 + 4/4. \\
182 &= 4 \times 44 + 4 + (4 + 4)/4. \\
183 &= 4 \times 44 + 4 + 4 - 4/4. \\
184 &= 4 \times 44 + 4 + 4. \\
185 &= 4 \times 44 + 4 + 4 + 4/4. \\
186 &= 4 \times 44 + (44 - 4)/4. \\
187 &= 4 \times 44 + 44/4. \\
188 &= 444 - 4^4. \\
189 &= 444 - 4^4 + 4/4. \\
190 &= 4^4 - (4^4 + 4 + 4)/4. \\
191 &= 4^4 - (4^4 + 4)/4. \\
192 &= 4 \times (44 + 4). \\
193 &= 4 \times (44 + 4) + 4/4. \\
194 &= 4^4 - (4^4 - 4 - 4)/4. \\
195 &= 4^4 + 4 - (4^4 + 4)/4. \\
196 &= 4 \times (44 + 4) + 4. \\
197 &= 4^4 + 4 - (4^4 - 4)/4. \\
198 &= 4^4 + 4 - (4^4 - 4 - 4)/4. \\
199 &= 4^4 + 4 + 4 - (4^4 + 4)/4. \\
200 &= 4 \times (44 + 4) + 4 + 4. \\
201 &= 4^4 - 44 - 44/4. \\
202 &= 4^4 - 44 + (44 - 4)/4. \\
203 &= 4^4 - (4^4 - 44)/4. \\
204 &= 44 + 4 \times (44 - 4). \\
205 &= ((4 + 4)^4 + 4)/(4 \times 4 + 4). \\
206 &= 4^4 - 4 - 44 - (4 + 4)/4. \\
207 &= 4^4 - 4 - 44 - 4/4. \\
208 &= 4 \times (44 + 4 + 4). \\
209 &= 4 \times (44 + 4 + 4) + 4/4. \\
210 &= 4^4 - 44 - (4 + 4)/4. \\
211 &= 4^4 - 44 - 4/4. \\
212 &= 4^4 - 44. \\
213 &= 4^4 - 44 + 4/4. \\
214 &= 4^4 - 44 + (4 + 4)/4. \\
215 &= 4^4 + 4 - 44 - 4/4. \\
216 &= 4^4 + 4 - 44. \\
217 &= 4^4 + 4 - 44 + 4/4. \\
218 &= 4 \times 444/(4 + 4) - 4. \\
219 &= 44 + 4 \times 44 - 4/4. \\
220 &= 44 + 4 \times 44. \\
221 &= 44 + 4 \times 44 + 4/4. \\
222 &= 4 \times 444/(4 + 4). \\
223 &= 4^4 - 44 + 44/4. \\
224 &= 4^4 - 4 \times (4 + 4). \\
225 &= 4^4 - 4 \times (4 + 4) + 4/4. \\
226 &= 4 + 4 \times 444/(4 + 4). \\
227 &= 4^4 + 4 - 44 + 44/4. \\
228 &= 4^4 + 4 - 4 \times (4 + 4). \\
229 &= 4^4 - 4 \times 4 - 44/4. \\
230 &= 4 + 4 + 4 \times 444/(4 + 4). \\
231 &= 44 + 4 \times 44 + 44/4. \\
232 &= 4^4 - 4 \times 4 - 4 - 4. \\
233 &= 4 + 4^4 - 4 \times 4 - 44/4. \\
234 &= 4^4 - 4 \times 44/(4 + 4). \\
235 &= 4^4 - 4 - 4 \times 4 - 4/4. \\
236 &= 4^4 - 4 \times 4 - 4. \\
237 &= 4^4 - 4 \times 4 - 4 + 4/4. \\
238 &= 4^4 - 4 \times 4 - (4 + 4)/4. \\
239 &= 4^4 - 4 \times 4 - 4/4. \\
240 &= 4^4 - 4 \times 4. \\
241 &= 4^4 - 4 \times 4 + 4/4. \\
242 &= 44 \times 44/(4 + 4). \\
243 &= (4 - 4/4)^{(4+4/4)}. \\
244 &= 4^4 - 4 \times 4 + 4. \\
245 &= 4^4 - 44/4. \\
246 &= 4^4 - (44 - 4)/4. \\
247 &= 4^4 - 4 - 4 - 4/4. \\
248 &= 4^4 - 4 - 4. \\
249 &= 4^4 + 4 - 44/4. \\
250 &= 4^4 - 4 - (4 + 4)/4. \\
251 &= 4^4 - 4 - 4/4. \\
252 &= 4^4 - 4. \\
253 &= 4^4 - 4 + 4/4. \\
254 &= 4^4 - (4 + 4)/4. \\
255 &= 4^4 - 4/4. \\
256 &= 4^4. \\
257 &= 4^4 + 4/4. \\
258 &= 4^4 + (4 + 4)/4. \\
259 &= 4^4 + 4 - 4/4. \\
260 &= 4^4 + 4. \\
261 &= 4^4 + 4 + 4/4. \\
262 &= 4^4 + 4 + (4 + 4)/4. \\
263 &= 4^4 + 4 + 4 - 4/4. \\
264 &= 4^4 + 4 + 4. \\
265 &= 4^4 + 4 + 4 + 4/4. \\
266 &= 4^4 + (44 - 4)/4. \\
267 &= 4^4 + 44/4. \\
268 &= 4^4 + 4 + 4 + 4. \\
269 &= 4^4 + 4 + 4 + 4 + 4/4. \\
270 &= 4^4 + 4 + (44 - 4)/4. \\
271 &= 4^4 + 4 + 44/4. \\
272 &= 4^4 + 4 \times 4. \\
273 &= 4^4 + 4 \times 4 + 4/4. \\
274 &= 4^4 + 4 \times 4 + (4 + 4)/4. \\
275 &= 4^4 + 4 + 4 + 44/4. \\
276 &= 4^4 + 4 \times 4 + 4. \\
277 &= 4^4 + 4 \times 4 + 4 + 4/4. \\
278 &= 4^4 + 4 \times 44/(4 + 4). \\
279 &= 4^4 + 4 + 4 + 4 + 44/4. \\
280 &= 4^4 + 4 \times 4 + 4 + 4. \\
281 &= 4^4 + 4 \times 4 + 4 + 4 + 4/4. \\
282 &= 4^4 + 4 + 4 \times 44/(4 + 4). \\
283 &= 4 \times 4 + 4^4 + 44/4. \\
284 &= 44 + 4^4 - 4 \times 4. \\
285 &= 44 + 4^4 - 4 \times 4 - 4/4. \\
286 &= 44 + 44 \times 44/(4 + 4). \\
287 &= 4^4 + 4 \times (4 + 4) - 4/4. \\
288 &= 4^4 + 4 \times (4 + 4). \\
289 &= 44 + 4^4 - 44/4. \\
290 &= 44 + 4^4 - (44 - 4)/4. \\
291 &= 4 \times (4 + 4) + 4^4 + 4 - 4/4. \\
292 &= 4 \times (4 + 4) + 4^4 + 4. \\
293 &= 4 \times (4 + 4) + 4^4 + 4 + 4/4. \\
294 &= 44 + 4^4 - 4 - (4 + 4)/4. \\
295 &= 44 + 4^4 - 4 - 4/4. \\
296 &= 44 + 4^4 - 4. \\
297 &= 44 + 4^4 - 4 + 4/4. \\
298 &= 44 + 4^4 - (4 + 4)/4. \\
299 &= 44 + 4^4 - 4/4. \\
300 &= 44 + 4^4. \\
301 &= 4^4 + 44 + 4/4. \\
302 &= 4^4 + 44 + (4 + 4)/4. \\
303 &= 4^4 + 44 + 4 - 4/4. \\
304 &= 4^4 + 44 + 4. \\
305 &= 4^4 + 44 + 4 + 4/4. \\
306 &= 4^4 + 44 + 4 + (4 + 4)/4. \\
307 &= 4^4 + 44 + 4 + 4 - 4/4. \\
308 &= 4^4 + 44 + 4 + 4. \\
309 &= 4^4 + (4^4 - 44)/4. \\
310 &= 4^4 + 44 + (44 - 4)/4. \\
311 &= 4^4 + 44 + 44/4. \\
312 &= 4^4 + 44 + 4 + 4 + 4. \\
313 &= 4 + 4^4 + (4^4 - 44)/4. \\
314 &= 4^4 - 4 + (4^4 - 4 - 4)/4. \\
315 &= 4^4 - 4 + (4^4 - 4)/4. \\
316 &= 4^4 + 44 + 4 \times 4. \\
317 &= 4^4 - 4 + (4^4 + 4)/4. \\
318 &= 4^4 + (4^4 - 4 - 4)/4. \\
319 &= 4^4 + (4^4 - 4)/4. \\
320 &= 4 \times 4 \times (4 \times 4 + 4). \\
321 &= 4^4 + (4^4 + 4)/4. \\
322 &= 4^4 + (4^4 + 4 + 4)/4. \\
323 &= 4^4 + 4 + (4^4 - 4)/4. \\
324 &= 4 \times (4 - 4/4)^4. \\
325 &= 4^4 + 4 + (4^4 + 4)/4. \\
326 &= 4^4 + 4 + (4^4 + 4 + 4)/4. \\
327 &= 4^4 + 4 + 4 + (4^4 - 4)/4. \\
328 &= 4 + 4 \times (4 - 4/4)^4. \\
329 &= 4^4 + 4 + 4 + (4^4 + 4)/4. \\
330 &= 4^4 + (4^4 + 44 - 4)/4. \\
331 &= 4^4 + (44 + 4^4)/4. \\
332 &= 4 + 4 + 4 \times (4 - 4/4)^4. \\
333 &= 4^4 - 4 + (4 - 4/4)^4. \\
334 &= 444 - (444 - 4)/4. \\
335 &= 4^4 + 4 + (44 + 4^4)/4. \\
336 &= 4 \times (4 \times (4 \times 4 + 4) + 4). \\
337 &= 4^4 + (4 - 4/4)^4. \\
338 &= 4^4 + (4 - 4/4)^4 + 4/4. \\
339 &= 4 \times ((4 - 4/4)^4 + 4) - 4/4. \\
340 &= 4 \times ((4 - 4/4)^4 + 4). \\
341 &= 4^4 + 4 + (4 - 4/4)^4. \\
342 &= 44 \times (4 + 4) - (44 - 4)/4. \\
343 &= (4 + 4 - 4/4)^{(4-4/4)}. \\
344 &= 4^4 + 44 + 44. \\
345 &= 4^4 + 44 + 44 + 4/4. \\
346 &= 44 \times (4 + 4) - 4 - (4 + 4)/4. \\
347 &= 44 \times (4 + 4) - 4 - 4/4. \\
348 &= 44 \times (4 + 4) - 4. \\
349 &= 44 \times (4 + 4) - 4 + 4/4. \\
350 &= 44 \times (4 + 4) - (4 + 4)/4. \\
351 &= 44 \times (4 + 4) - 4/4. \\
352 &= 44 \times (4 + 4). \\
353 &= 44 \times (4 + 4) + 4/4. \\
354 &= 44 \times (4 + 4) + (4 + 4)/4. \\
355 &= 44 \times (4 + 4) + 4 - 4/4. \\
356 &= 44 \times (4 + 4) + 4. \\
357 &= 44 \times (4 + 4) + 4 + 4/4. \\
358 &= 44 \times (4 + 4) + 4 + (4 + 4)/4. \\
359 &= 44 \times (4 + 4) + 4 + 4 - 4/4. \\
360 &= 44 \times (4 + 4) + 4 + 4. \\
361 &= 44 \times (4 + 4) + 4 + 4 + 4/4. \\
362 &= 4^4 - 4 + (444 - 4)/4. \\
363 &= 4^4 - 4 + 444/4. \\
364 &= 44 \times (4 + 4) + 4 + 4 + 4. \\
365 &= (4 + 4/4)^4 - 4^4 - 4. \\
366 &= 4^4 + (444 - 4)/4. \\
367 &= 4^4 + 444/4.
\end{aligned}$$

$$\begin{aligned}
368 &= 4 \times (44 + 44 + 4). \\
369 &= (4 + 4/4)^4 - 4^4. \\
370 &= 4^4 + 4 + (444 - 4)/4. \\
371 &= 4^4 + 4 + 444/4. \\
372 &= 44 \times (4 + 4) + 4 \times 4 + 4. \\
373 &= (4 + 4/4)^4 + 4 - 4^4. \\
374 &= 44 \times (4 \times 4 \times 4 + 4)/(4 + 4). \\
375 &= 4^4 + 4 + 4 + 444/4. \\
376 &= (4 + 4) \times (44 + 4 - 4/4). \\
377 &= (4 + 4/4)^4 - 4^4 + 4 + 4. \\
378 &= 4^4 + (444 + 44)/4. \\
379 &= 444 - (4^4 + 4)/4. \\
380 &= 444 - 4 \times 4 \times 4. \\
381 &= 444 + (4 - 4^4)/4. \\
382 &= 4^4 + 4 \times (4^4 - 4)/(4 + 4). \\
383 &= (4 + 4) \times (44 + 4) - 4/4. \\
384 &= (4 + 4) \times (44 + 4). \\
385 &= (4 + 4) \times (44 + 4) + 4/4. \\
386 &= 4^4 + 4 \times (4^4 + 4)/(4 + 4). \\
387 &= (4 + 4) \times (44 + 4) + 4 - 4/4. \\
388 &= (4 + 4) \times (44 + 4) + 4. \\
389 &= (4 + 4) \times (44 + 4) + 4 + 4/4. \\
390 &= (4 + (4 + 4)/4) \times (4^4 + 4)/4. \\
391 &= 444 - (4^4 - 44)/4. \\
392 &= (4 + 4) \times (44 + 4) + 4 + 4. \\
393 &= (4 + 4) \times (44 + 4) + 4 + 4 + 4/4. \\
394 &= (4 + (4 + 4)/4) \times (4^4 + 4)/4 + 4. \\
395 &= 44 \times (4 + 4) + 44 - 4/4. \\
396 &= 44 \times (4 + 4) + 44. \\
397 &= 44 \times (4 + 4) + 44 + 4/4. \\
398 &= 444 + 44 - (4 + 4)/4. \\
399 &= 4 \times 4^4 - (4 + 4/4)^4. \\
400 &= 444 - 44. \\
401 &= 444 - 44 + 4/4. \\
402 &= 444 - 44 + (4 + 4)/4. \\
403 &= 4 \times 4^4 + 4 - (4 + 4/4)^4. \\
404 &= 444 - 44 + 4. \\
405 &= (4 + 4/4) \times (4 - 4/4)^4. \\
406 &= 444 - 44 + 4 + (4 + 4)/4. \\
407 &= 4 \times 4^4 + 4 + 4 - (4 + 4/4)^4. \\
408 &= 444 - 44 + 4 + 4. \\
409 &= (4 + 4/4) \times (4 - 4/4)^4 + 4. \\
410 &= 4 \times ((4 + 4)^4 + 4)/(44 - 4). \\
411 &= 4^4 + 44 + 444/4. \\
412 &= 444 - 4 \times (4 + 4). \\
413 &= 44 - 4^4 + (4 + 4/4)^4. \\
414 &= 4 \times ((4 + 4)^4 + 4)/(44 - 4) + 4. \\
415 &= 4^4 + 4 \times (44 - 4) - 4/4. \\
416 &= 4^4 + 4 \times (44 - 4). \\
417 &= 4^4 + 4 \times (44 - 4) + 4/4. \\
418 &= 4^4 + 4 \times (44 - 4) + (4 + 4)/4. \\
419 &= (44 \times 44 - 4^4 - 4)/4. \\
420 &= 4^4 + 4 + 4 \times (44 - 4). \\
421 &= 4^4 + 4 \times 44 - 44/4. \\
422 &= 444 - 4 \times 44/(4 + 4). \\
423 &= 444 - 4 \times 4 - 4 - 4/4. \\
424 &= 444 - 4 \times 4 - 4. \\
425 &= 444 - 4 \times 4 - 4 + 4/4. \\
426 &= 444 - 4 \times 4 - (4 + 4)/4. \\
427 &= 444 - 4 \times 4 - 4/4. \\
428 &= 444 - 4 \times 4. \\
429 &= 444 - 4 \times 4 + 4/4. \\
430 &= 4^4 + 4 \times 44 - (4 + 4)/4. \\
431 &= 4^4 + 4 \times 44 - 4/4. \\
432 &= 4^4 + 4 \times 44. \\
433 &= 444 - 44/4. \\
434 &= 444 - (44 - 4)/4. \\
435 &= 444 - 4 - 4 - 4/4. \\
436 &= 444 - 4 - 4. \\
437 &= 444 + 4 - 44/4. \\
438 &= 444 - 4 - (4 + 4)/4. \\
439 &= 444 - 4 - 4/4. \\
440 &= 444 - 4. \\
441 &= 444 - 4 + 4/4. \\
442 &= 444 - (4 + 4)/4. \\
443 &= 444 - 4/4. \\
444 &= 444. \\
445 &= 444 + 4/4. \\
446 &= 444 + (4 + 4)/4. \\
447 &= 444 + 4 - 4/4. \\
448 &= 444 + 4. \\
449 &= 444 + 4 + 4/4. \\
450 &= 444 + 4 + (4 + 4)/4. \\
451 &= 444 + 4 + 4 - 4/4. \\
452 &= 444 + 4 + 4. \\
453 &= 444 + 4 + 4 + 4/4. \\
454 &= 444 + (44 - 4)/4. \\
455 &= 444 + 44/4. \\
456 &= 444 + 4 + 4 + 4. \\
457 &= 444 + 4 + 4 + 4 + 4/4. \\
458 &= 444 + 4 + (44 - 4)/4. \\
459 &= 444 + 4 + 44/4. \\
460 &= 444 + 4 \times 4. \\
461 &= 444 + 4 \times 4 + 4/4. \\
462 &= 444 + 4 \times 4 + (4 + 4)/4. \\
463 &= 444 + 4 + 4 + 44/4. \\
464 &= 444 + 4 \times 4 + 4. \\
465 &= 444 + 4 \times 4 + 4 + 4/4. \\
466 &= 444 + 4 \times 44/(4 + 4). \\
467 &= 4^4 + 4^4 - 44 - 4/4. \\
468 &= 4^4 + 4^4 - 44. \\
469 &= 4^4 + 4^4 - 44 + 4/4. \\
470 &= 444 + 4 + 4 \times 44/(4 + 4). \\
471 &= 444 + 4 \times 4 + 44/4. \\
472 &= 4^4 + 4^4 + 4 - 44. \\
473 &= 44 \times (44 - 4/4)/4. \\
474 &= (44 \times (44 - 4/4) + 4)/4. \\
475 &= 444 + 4 \times (4 + 4) - 4/4. \\
476 &= 444 + 4 \times (4 + 4). \\
477 &= 4 + 44 \times (44 - 4/4)/4. \\
478 &= 4^4 + 4 \times 444/(4 + 4). \\
479 &= (44 \times 44 - 4)/4 - 4. \\
480 &= (4 + 4) \times (4 \times 4 + 44). \\
481 &= (44 \times 44 + 4)/4 - 4. \\
482 &= (44 \times 44 - 4 - 4)/4. \\
483 &= (44 \times 44 - 4)/4. \\
484 &= 44 \times 44/4. \\
485 &= (44 \times 44 + 4)/4. \\
486 &= (44 \times 44 + 4 + 4)/4. \\
487 &= 4 + (44 \times 44 - 4)/4. \\
488 &= 44 + 444. \\
489 &= 4 + (44 \times 44 + 4)/4. \\
490 &= 4 + (44 \times 44 + 4 + 4)/4. \\
491 &= 4 + 4 + (44 \times 44 - 4)/4. \\
492 &= 444 + 44 + 4. \\
493 &= 4 + 4 + (44 \times 44 + 4)/4. \\
494 &= (44 \times 44 + 44 - 4)/4. \\
495 &= 44 \times (44 + 4/4)/4. \\
496 &= 4^4 + 4^4 - 4 \times 4. \\
497 &= 4^4 + 4^4 - 4 \times 4 + 4/4. \\
498 &= 4^4 + 44 \times 44/(4 + 4). \\
499 &= 4 + 44 \times (44 + 4/4)/4. \\
500 &= 4^4 + 4^4 - 4 \times 4 + 4. \\
501 &= 4^4 + 4^4 - 44/4. \\
502 &= 4^4 + 4^4 - (44 - 4)/4. \\
503 &= ((4 + 4) \times (4^4 - 4) - 4)/4. \\
504 &= 4^4 + 4^4 - 4 - 4. \\
505 &= ((4 + 4) \times (4^4 - 4) + 4)/4. \\
506 &= 4^4 + 4^4 - 4 - (4 + 4)/4. \\
507 &= 4^4 + 4^4 - 4 - 4/4. \\
508 &= 4^4 + 4^4 - 4. \\
509 &= 4^4 + 4^4 - 4 + 4/4. \\
510 &= 4^4 + 4^4 - (4 + 4)/4. \\
511 &= 4^4 + 4^4 - 4/4. \\
512 &= 4^4 + 4^4. \\
513 &= 4^4 + 4^4 + 4/4. \\
514 &= 4^4 + 4^4 + (4 + 4)/4. \\
515 &= 4^4 + 4^4 + 4 - 4/4. \\
516 &= 4^4 + 4^4 + 4. \\
517 &= 4^4 + 4^4 + 4 + 4/4. \\
518 &= 4^4 + 4^4 + 4 + (4 + 4)/4. \\
519 &= ((4 + 4) \times (4^4 + 4) - 4)/4. \\
520 &= 4^4 + 4^4 + 4 + 4. \\
521 &= ((4 + 4) \times (4^4 + 4) + 4)/4. \\
522 &= 4^4 + 4^4 + (44 - 4)/4. \\
523 &= 4^4 + 4^4 + 44/4. \\
524 &= 44 \times (4 + 4 + 4) - 4. \\
525 &= 444 + (4 - 4/4)^4. \\
526 &= 44 \times (4 + 4 + 4) - (4 + 4)/4. \\
527 &= 44 \times (4 + 4 + 4) - 4/4. \\
528 &= 44 \times (4 + 4 + 4). \\
529 &= 44 \times (4 + 4 + 4) + 4/4. \\
530 &= 44 \times (4 + 4 + 4) + (4 + 4)/4. \\
531 &= 44 \times (4 + 4 + 4) + 4 - 4/4. \\
532 &= 44 \times (4 + 4 + 4) + 4. \\
533 &= 44 \times (4 + 4 + 4) + 4 + 4/4. \\
534 &= (4 + 4) \times (4^4 + 44/4)/4. \\
535 &= (4 + 4/4) \times (444/4 - 4). \\
536 &= 44 \times (4 + 4 + 4) + 4 + 4. \\
537 &= (4 + 4/4)^4 - 44 - 44. \\
538 &= (4 + 4) \times (4^4 + 44/4)/4 + 4. \\
539 &= 44 \times (4 + 4 + 4) + 44/4. \\
540 &= (4 - 4/4) \times (4 + 44/4). \\
541 &= (4 + 4/4)^4 + 4 - 44 - 44. \\
542 &= (4 + 4) \times (4^4 + 4 + 44/4)/4. \\
543 &= (4 + 4) \times (4 \times (4 \times 4) + 4) - 4/4. \\
544 &= (4 + 4) \times (4 \times (4 \times 4) + 4). \\
545 &= (4 + 4) \times (4 \times (4 \times 4) + 4) + 4/4. \\
546 &= (44 \times 44 + 4^4 - 4 - 4)/4. \\
547 &= (44 \times 44 + 4^4 - 4)/4. \\
548 &= (44 \times 44 + 4^4)/4. \\
549 &= (44 \times 44 + 4^4 + 4)/4. \\
550 &= (4 + 4/4) \times (444 - 4)/4. \\
551 &= 444 - 4 + 444/4. \\
552 &= 4^4 + 4^4 + 44 - 4. \\
553 &= 444 + (444 - 4 - 4)/4. \\
554 &= 444 + (444 - 4)/4. \\
555 &= 444 + 444/4. \\
556 &= 4^4 + 4^4 + 44. \\
557 &= 4^4 + 4^4 + 44 + 4/4. \\
558 &= 444 + 4 + (444 - 4)/4. \\
559 &= 444 + 4 + 444/4. \\
560 &= 4^4 + 4^4 + 44 + 4. \\
561 &= (4 + 4/4)^4 - 4 \times 4 \times 4. \\
562 &= (4 + 4/4)^4 - (4^4 - 4)/4. \\
563 &= (4^4 \times 44 - 4)/(4 \times 4 + 4). \\
564 &= 4 \times (4^4 - 4) - 444. \\
565 &= (4 + 4/4)^4 + 4 - 4 \times 4 \times 4.
\end{aligned}$$

$$\begin{aligned}
566 &= (4 + 4/4)^4 + 4 - (4^4 - 4)/4. \\
567 &= (4 + 4 + 4/4) \times (4^4 - 4)/4. \\
568 &= 4 \times (4^4 - 4) + 4 - 444. \\
569 &= (4 + 4/4)^4 + 4 + 4 - 4 \times 4 \times 4. \\
570 &= 444 + 4 \times (4^4 - 4)/(4 + 4). \\
571 &= (44 \times (44 + 4 + 4) - 4)/4. \\
572 &= 44 \times (4 + 4 + 4) + 44. \\
573 &= (4 + 4/4)^4 - 44 - 4 - 4. \\
574 &= 4^4 + 4^4 + (4^4 - 4 - 4)/4. \\
575 &= 4^4 + 4^4 + (4^4 - 4)/4. \\
576 &= 4 \times 4 \times (4 \times (4 + 4) + 4). \\
577 &= (4 + 4/4)^4 - 44 - 4. \\
578 &= (4 + 4/4)^4 - 44 - 4 + 4/4. \\
579 &= 4 \times 4^4 - 444 - 4/4. \\
580 &= 4 \times 4^4 - 444. \\
581 &= (4 + 4/4)^4 - 44. \\
582 &= (4 + 4/4)^4 - 44 + 4/4. \\
583 &= 44 \times (4^4 - 44)/(4 \times 4). \\
584 &= 4 \times 4^4 - 444 + 4. \\
585 &= (4 + 4/4)^4 - 44 + 4. \\
586 &= (4 + 4/4)^4 - 44 + 4 + 4/4. \\
587 &= 44 \times (4^4 - 44)/(4 \times 4) + 4. \\
588 &= 4 \times 4^4 - 444 + 4 + 4. \\
589 &= (4 + 4/4)^4 - 44 + 4 + 4. \\
590 &= (44 - 4) \times ((4^4 - 4)/4 - 4)/4. \\
591 &= 4 \times 4^4 - 444 + 44/4. \\
592 &= 4 \times (4 \times (4 \times (4 + 4) + 4) + 4). \\
593 &= (4 + 4/4)^4 - 4 \times (4 + 4). \\
594 &= (4 + 4/4)^4 - 4 \times (4 + 4) + 4/4. \\
595 &= (44 \times 44 + 444)/4. \\
596 &= 4 \times (4^4 + 4) - 444. \\
597 &= (4 + 4/4)^4 + 4 - 4 \times (4 + 4). \\
598 &= (4 + 4) \times (44 + 4^4 - 4/4)/4. \\
599 &= ((4 + 4) \times (44 + 4^4) - 4)/4. \\
600 &= (4 + 4) \times (44 + 4^4)/4. \\
601 &= (4 + 4/4)^4 - 4 \times 4 - 4 - 4. \\
602 &= (4 + 4) \times (44 + 4^4 + 4/4)/4. \\
603 &= 4 + ((4 + 4) \times (44 + 4^4) - 4)/4. \\
604 &= 4^4 + (4 + 4) \times 44 - 4. \\
605 &= (4 + 4/4)^4 - 4 \times 4 - 4. \\
606 &= (4 + 4/4)^4 - 4 \times 4 - 4 + 4/4. \\
607 &= 4^4 + (4 + 4) \times 44 - 4/4. \\
608 &= 4^4 + (4 + 4) \times 44. \\
609 &= (4 + 4/4)^4 - 4 \times 4. \\
610 &= (4 + 4/4)^4 - 4 \times 4 + 4/4. \\
611 &= (4 + 4) \times 44 + 4^4 + 4 - 4/4. \\
612 &= (4 + 4) \times 44 + 4^4 + 4. \\
613 &= (4 + 4/4)^4 + 4 - 4 \times 4. \\
614 &= (4 + 4/4)^4 - 44/4. \\
615 &= (4 + 4/4)^4 - (44 - 4)/4. \\
616 &= (4 + 4) \times ((4 - 4/4)^4 - 4). \\
617 &= (4 + 4/4)^4 - 4 - 4. \\
618 &= (4 + 4/4)^4 + 4 - 44/4. \\
619 &= 444 + 4 \times 44 - 4/4. \\
620 &= 444 + 4 \times 44. \\
621 &= (4 + 4/4)^4 - 4. \\
622 &= (4 + 4/4)^4 - 4 + 4/4. \\
623 &= (4 + 4/4)^4 - (4 + 4)/4. \\
624 &= 4 \times (4 \times (44 - 4) - 4). \\
625 &= (4 + 4/4)^4. \\
626 &= (4 + 4/4)^4 + 4/4. \\
627 &= (4 + 4/4)^4 + (4 + 4)/4. \\
628 &= 4 \times (4 \times (44 - 4) - 4) + 4. \\
629 &= (4 + 4/4)^4 + 4. \\
630 &= (4 + 4/4)^4 + 4 + 4/4. \\
631 &= (4 + 4/4)^4 + 4 + (4 + 4)/4. \\
632 &= 4 \times 4 \times (44 - 4) - 4 - 4. \\
633 &= (4 + 4/4)^4 + 4 + 4. \\
634 &= (4 + 4/4)^4 + 4 + 4 + 4/4. \\
635 &= (4 + 4/4)^4 + (44 - 4)/4. \\
636 &= 4 \times 4 \times (44 - 4) - 4. \\
637 &= (4 + 4/4)^4 + 4 + 4 + 4. \\
638 &= 4 \times 4 \times (44 - 4) - (4 + 4)/4. \\
639 &= 4 \times 4 \times (44 - 4) - 4/4. \\
640 &= 4 \times 4 \times (44 - 4). \\
641 &= 4 \times 4 + (4 + 4/4)^4. \\
642 &= 4 \times 4 + (4 + 4/4)^4 + 4/4. \\
643 &= 4 \times 4 \times (44 - 4) + 4 - 4/4. \\
644 &= 4 \times 4 \times (44 - 4) + 4. \\
645 &= 4 \times 4 + (4 + 4/4)^4 + 4. \\
646 &= 4 \times 4 + (4 + 4/4)^4 + 4 + 4/4. \\
647 &= (4 + 4) \times (4 - 4/4)^4 - 4/4. \\
648 &= (4 + 4) \times (4 - 4/4)^4. \\
649 &= 4 \times 4 + (4 + 4/4)^4 + 4 + 4. \\
650 &= (44 - 4) \times (4^4 + 4)/(4 \times 4). \\
651 &= 4 \times 4 \times (44 - 4) + 44/4. \\
652 &= (4 + 4) \times (4 - 4/4)^4 + 4. \\
653 &= (4 + 4/4)^4 + 44 - 4 \times 4. \\
654 &= (44 - 4) \times (4^4 + 4)/(4 \times 4) + 4. \\
655 &= 4 \times (4 \times (44 - 4) + 4) - 4/4. \\
656 &= 4 \times (4 \times (44 - 4) + 4). \\
657 &= 4 \times (4 + 4) + (4 + 4/4)^4. \\
658 &= (4 + 4/4)^4 + 44 - 44/4. \\
659 &= 4 \times 4 \times 44 - 44 - 4/4. \\
660 &= 4 \times 4 \times 44 - 44. \\
661 &= 4 \times (4 + 4) + 4 + (4 + 4/4)^4. \\
662 &= 44 \times (4 + 44/4) + (4 + 4)/4. \\
663 &= 4 \times 4 \times 44 + 4 - 44 - 4/4. \\
664 &= 44 \times (4 + 44/4) + 4. \\
665 &= (4 + 4/4)^4 + 44 - 4. \\
666 &= 444 \times (4 + (4 + 4/4)/4). \\
667 &= 4444/4 - 444. \\
668 &= 4 \times (4 \times 44 - 4 - 4) - 4. \\
669 &= 44 + (4 + 4/4)^4. \\
670 &= 44 + (4 + 4/4)^4 + 4/4. \\
671 &= 4 \times (4 \times 44 - 4 - 4) - 4/4. \\
672 &= 4 \times (4 \times 44 - 4 - 4). \\
673 &= 44 + 4 + (4 + 4/4)^4. \\
674 &= 44 + 4 + (4 + 4/4)^4 + 4/4. \\
675 &= (4 + 44/4) \times (44 + 4/4). \\
676 &= 4 + 4 \times (4 \times 44 - 4 - 4). \\
677 &= 4 + 4 \times (4 \times 44 - 4 - 4) + 4/4. \\
678 &= 4 \times (4 \times 44 - 4) - (44 - 4)/4. \\
679 &= (4 + 44/4) \times (44 + 4/4) + 4. \\
680 &= (4 + 4) \times ((4 - 4/4)^4 + 4). \\
681 &= (4 + 4/4)^4 + 44 + 4 + 4 + 4. \\
682 &= 44 \times (4^4 - 4 - 4)/(4 \times 4). \\
683 &= 4 \times (4 \times 44 - 4) - 4 - 4/4. \\
684 &= 4 \times (4 \times 44 - 4) - 4. \\
685 &= 4 \times 4 + 44 + (4 + 4/4)^4. \\
686 &= 4 \times (4 \times 44 - 4) - (4 + 4)/4. \\
687 &= 4 \times (4 \times 44 - 4) - 4/4. \\
688 &= 4 \times (4 \times 44 - 4). \\
689 &= 4 \times (4 \times 44 - 4) + 4/4. \\
690 &= 4 \times (4 \times 44 - 4) + (4 + 4)/4. \\
691 &= 4 \times (4 \times 44 - 4) + 4 - 4/4. \\
692 &= 4 \times (4 \times 44 - 4) + 4. \\
693 &= 44 \times (4^4 - 4)/(4 \times 4). \\
694 &= 4 \times 4 \times 44 - (44 - 4)/4. \\
695 &= 4^4 + 444 - 4 - 4/4. \\
696 &= 4^4 + 444 - 4. \\
697 &= 4^4 + 444 - 4 + 4/4. \\
698 &= 4^4 + 444 - (4 + 4)/4. \\
699 &= 4^4 + 444 - 4/4. \\
700 &= 4^4 + 444. \\
701 &= 444 + 4^4 + 4/4. \\
702 &= 4 \times 4 \times 44 - (4 + 4)/4. \\
703 &= 4 \times 4 \times 44 - 4/4. \\
704 &= 4 \times 4 \times 44. \\
705 &= 4 \times 4 \times 44 + 4/4. \\
706 &= 4 \times 4 \times 44 + (4 + 4)/4. \\
707 &= 4 \times 4 \times 44 + 4 - 4/4. \\
708 &= 4 \times 4 \times 44 + 4. \\
709 &= 4 \times 4 \times 44 + 4 + 4/4. \\
710 &= 4 \times 4 \times 44 + 4 + (4 + 4)/4. \\
711 &= 4 \times 4 \times 44 + 4 + 4 - 4/4. \\
712 &= 4 \times 4 \times 44 + 4 + 4. \\
713 &= 4 \times 4 \times 44 + 4 + 4 + 4/4. \\
714 &= 4 \times 4 \times 44 + (44 - 4)/4. \\
715 &= 4 \times 4 \times 44 + 44/4. \\
716 &= 4 \times (4 \times 44 + 4) - 4. \\
717 &= 4 \times (4 \times 44 + 4) - 4 + 4/4. \\
718 &= 4 \times (4 \times 44 + 4) - (4 + 4)/4. \\
719 &= 4 \times (4 \times 44 + 4) - 4/4. \\
720 &= 4 \times (4 \times 44 + 4). \\
721 &= 4 \times (4 \times 44 + 4) + 4/4. \\
722 &= 4 \times (4 \times 44 + 4) + (4 + 4)/4. \\
723 &= 4 \times (4 \times 44 + 4) + 4 - 4/4. \\
724 &= 4 \times (4 \times 44 + 4) + 4. \\
725 &= 4 \times (4 \times 44 + 4) + 4 + 4/4. \\
726 &= 44 \times (4^4 + 4 + 4)/(4 \times 4). \\
727 &= 4 \times (4 \times 44 + 4) + 4 + 4 - 4/4. \\
728 &= 4 \times (4 \times 44 + 4) + 4 + 4. \\
729 &= (4 - 4/4)^{(4+(4+4)/4)}. \\
730 &= 44 \times (4^4 + 4 + 4)/(4 \times 4) + 4. \\
731 &= 4 \times (4 \times 44 + 4) + 44/4. \\
732 &= 44 + 4 \times (4 \times 44 - 4). \\
733 &= (4 - 4/4)^{(4+(4+4)/4)} + 4. \\
734 &= (4 + 4) \times (4^4 + 444/4)/4. \\
735 &= (4 - 4/4) \times (4^4 - 44/4). \\
736 &= 4 \times (4 \times 44 + 4 + 4). \\
737 &= 4 \times (4 \times 44 + 4 + 4) + 4/4. \\
738 &= 4^4 + (44 \times 44 - 4 - 4)/4. \\
739 &= 4^4 + (44 \times 44 - 4)/4. \\
740 &= 4 \times (4 \times 44 + 4 + 4) + 4. \\
741 &= 4^4 + (44 \times 44 + 4)/4. \\
742 &= 4^4 + (44 \times 44 + 4 + 4)/4. \\
743 &= 4^4 + 4 + (44 \times 44 - 4)/4. \\
744 &= 44 + 444 + 4^4. \\
745 &= 4^4 + 4 + (44 \times 44 + 4)/4. \\
746 &= 44 + 4 \times 4 \times 44 - (4 + 4)/4. \\
747 &= 44 + 4 \times 4 \times 44 - 4/4. \\
748 &= 44 + 4 \times 4 \times 44. \\
749 &= 44 + 4 \times 4 \times 44 + 4/4. \\
750 &= 44 + 4 \times 4 \times 44 + (4 + 4)/4. \\
751 &= 4 \times (444 - 4^4) - 4/4. \\
752 &= 4 \times (444 - 4^4). \\
753 &= 4 \times (444 - 4^4) + 4/4. \\
754 &= 4 \times (444 - 4^4) + (4 + 4)/4. \\
755 &= (4 - 4/4) \times (4^4 - 4) - 4/4. \\
756 &= (4 - 4/4) \times (4^4 - 4). \\
757 &= (4 - 4/4) \times (4^4 - 4) + 4/4. \\
758 &= (4 - 4/4) \times (4^4 - 4) + (4 + 4)/4. \\
759 &= (4 - 4/4) \times (4^4 - 4 + 4/4). \\
760 &= (4 - 4/4) \times (4^4 - 4) + 4. \\
761 &= (4 - 4/4) \times (4^4 - 4/4) - 4. \\
762 &= (4 - 4/4) \times (4^4 - (4 + 4)/4). \\
763 &= 4 \times 4^4 - 4^4 - 4 - 4/4.
\end{aligned}$$

$$\begin{aligned}
764 &= 4 \times 4^4 - 4^4 - 4. \\
765 &= (4 - 4/4) \times (4^4 - 4/4). \\
766 &= 4 \times 4^4 - 4^4 - (4 + 4)/4. \\
767 &= 4 \times 4^4 - 4^4 - 4/4. \\
768 &= 4 \times 4 \times (44 + 4). \\
769 &= 4 \times 4 \times (44 + 4) + 4/4. \\
770 &= 4 \times 4 \times (44 + 4) + (4 + 4)/4. \\
771 &= (4 - 4/4) \times (4^4 + 4/4). \\
772 &= 4 \times 4 \times (44 + 4) + 4. \\
773 &= 4 \times 4 \times (44 + 4) + 4 + 4/4. \\
774 &= (4 - 4/4) \times (4^4 + (4 + 4)/4). \\
775 &= 4 + ((4 - 4/4) \times (4/4 + (4^4))). \\
776 &= 4 \times 4 \times (44 + 4) + 4 + 4. \\
777 &= (4 - 4/4) \times (((4^4) - 4/4) + 4). \\
778 &= (4 - 4/4) \times (4^4 + (4 + 4)/4) + 4. \\
779 &= 44/4 + 4 \times 4 \times (44 + 4). \\
780 &= (4 - 4/4) \times (4^4 + 4). \\
781 &= (4 - 4/4) \times (4^4 + 4) + 4/4. \\
782 &= (4 - 4/4) \times (4^4 + 4) + (4 + 4)/4. \\
783 &= (4 - 4/4) \times (4^4 + 4 + 4/4). \\
784 &= 4 \times (4 \times (44 + 4) + 4). \\
785 &= 4 \times (4 \times (44 + 4) + 4) + 4/4. \\
786 &= 4 \times (4 \times (44 + 4) + 4) + (4 + 4)/4. \\
787 &= (4 - 4/4) \times (4^4 + 4 + 4/4) + 4. \\
788 &= 4 \times (4 \times (44 + 4) + 4) + 4. \\
789 &= 4 \times (4 \times (44 + 4) + 4) + 4 + 4/4. \\
790 &= (4 - 4/4) \times (4^4 + 4) + (44 - 4)/4. \\
791 &= (4 - 4/4) \times (4^4 + 4) + 44/4. \\
792 &= 44 \times (4 \times 4 + (4 + 4)/4). \\
793 &= 44 \times (4 \times 4 + (4 + 4)/4) + 4/4. \\
794 &= 444 + (4 + 4) \times 44 - (4 + 4)/4. \\
795 &= 444 + (4 + 4) \times 44 - 4/4. \\
796 &= 444 + (4 + 4) \times 44. \\
797 &= 4 \times 44 - 4 + (4 + 4/4)^4. \\
798 &= (4 - 4/4) \times (4^4 + (44 - 4)/4). \\
799 &= (4 \times 4 + 4) \times (44 - 4) - 4/4. \\
800 &= (4 \times 4 + 4) \times (44 - 4). \\
801 &= 4 \times 44 + (4 + 4/4)^4. \\
802 &= 4 \times 44 + (4 + 4/4)^4 + 4/4. \\
803 &= (4 \times 4 + 4) \times (44 - 4) + 4 - 4/4. \\
804 &= (4 \times 4 + 4) \times (44 - 4) + 4. \\
805 &= 4 \times 44 + 4 + (4 + 4/4)^4. \\
806 &= (44 - 4) \times (4 - 4/4)^4/4 - 4. \\
807 &= (4 \times 4 + 4) \times (44 - 4) + 4 + 4 - 4/4. \\
808 &= (4 \times 4 + 4) \times (44 - 4) + 4 + 4. \\
809 &= 4 \times 44 + 4 + 4 + (4 + 4/4)^4. \\
810 &= (44 - 4) \times (4 - 4/4)^4/4. \\
811 &= 4 \times 4^4 + 44 - 4^4 - 4/4. \\
812 &= 4 \times 4 \times (44 + 4) + 44. \\
813 &= 4 \times 4 \times (44 + 4) + 44 + 4/4. \\
814 &= (44 - 4) \times (4 - 4/4)^4/4 + 4. \\
815 &= 4 \times 4 \times 44 + 444/4. \\
816 &= 4 \times (4 \times (44 - 4) + 44). \\
817 &= 4 \times (44 + 4) + (4 + 4/4)^4. \\
818 &= (44 - 4) \times (4 - 4/4)^4/4 + 4 + 4. \\
819 &= ((4 + 4)^4 - 4/4)/(4 + 4/4). \\
820 &= ((4 + 4)^4 + 4)/(4 + 4/4). \\
821 &= 4 \times (44 + 4) + (4 + 4/4)^4 + 4. \\
822 &= (44 \times (44 + 4^4))/4 + 4/4 - 4. \\
823 &= ((4 + 4)^4 - 4/4)/(4 + 4/4) + 4. \\
824 &= ((4 + 4)^4 + 4)/(4 + 4/4) + 4. \\
825 &= 44 \times (44 + 4^4)/(4 \times 4). \\
826 &= (44 \times (44 + 4^4))/4 + 4/4. \\
827 &= 4 \times 4 \times (44 + 4 + 4) - 4 - 4/4. \\
828 &= 4 \times 4 \times (44 + 4 + 4) - 4. \\
829 &= 44 \times (44 + 4^4)/(4 \times 4) + 4. \\
830 &= 4 \times 4 \times (44 + 4 + 4) - (4 + 4)/4. \\
831 &= 4 \times 4 \times (44 + 4 + 4) - 4/4. \\
832 &= 4 \times 4 \times (44 + 4 + 4). \\
833 &= 4 \times 4 \times (44 + 4 + 4) + 4/4. \\
834 &= 4 \times 4 \times (44 + 4 + 4) + (4 + 4)/4. \\
835 &= 4 \times 4 \times (44 + 4 + 4) + 4 - 4/4. \\
836 &= 4 \times 4 \times (44 + 4 + 4) + 4. \\
837 &= 4^4 - 44 + (4 + 4/4)^4. \\
838 &= 4 \times (4^4 - 44) - (44 - 4)/4. \\
839 &= 4444/4 - 4 \times 4 - 4^4. \\
840 &= 4 \times (4^4 - 44) - 4 - 4. \\
841 &= 4^4 - 44 + 4 + (4/4 + 4)^4. \\
842 &= 4 \times (4^4 - 44) - 4 - (4 + 4)/4. \\
843 &= 4 \times (4^4 - 44) - 4 - 4/4. \\
844 &= 4 \times (4^4 - 44) - 4. \\
845 &= 4 \times (4^4 - 44) - 4 + 4/4. \\
846 &= 4 \times (4^4 - 44) - (4 + 4)/4. \\
847 &= 4 \times (4^4 - 44) - 4/4. \\
848 &= 4 \times (4^4 - 44). \\
849 &= 4 \times (4^4 - 44) + 4/4. \\
850 &= 4 \times (4^4 - 44) + (4 + 4)/4. \\
851 &= 4 \times (4^4 - 44) + 4 - 4/4. \\
852 &= 4 \times (4^4 - 44) + 4. \\
853 &= 4 \times (4^4 - 44) + 4 + 4/4. \\
854 &= (4444 - 4)/4 - 4^4. \\
855 &= 4444/4 - 4^4. \\
856 &= 4 \times (4^4 - 44) + 4 + 4. \\
857 &= 4 \times (4^4 - 44) + 4 + 4 + 4/4. \\
858 &= (4444 - 4)/4 - 4^4 + 4. \\
859 &= 4444/4 - 4^4 + 4. \\
860 &= (4 + 4/4) \times (4 \times 44 - 4). \\
861 &= (4 + 4/4) \times (4 \times 44 - 4) + 4/4. \\
862 &= 4 \times (4^4 - 44 + 4) - (4 + 4)/4. \\
863 &= 4 \times (4^4 - 44 + 4) - 4/4. \\
864 &= 4 \times (4^4 - 44 + 4). \\
865 &= 4 \times (4^4 - 44 + 4) + 4/4. \\
866 &= 4 \times (4^4 - 44 + 4) + (4 + 4)/4. \\
867 &= 4 \times (4^4 - 44 + 4) + 4 - 4/4. \\
868 &= 4 \times (4^4 - 44 + 4) + 4. \\
869 &= 44 \times (4 \times 4 + 4) - 44/4. \\
870 &= 4^4 + (4 + 4/4)^4 - 44/4. \\
871 &= 4 \times 4 - 4^4 + 4444/4. \\
872 &= 44 \times (4 \times 4 + 4) - 4 - 4. \\
873 &= 4^4 + (4 + 4/4)^4 - 4 - 4. \\
874 &= 44 \times (4 \times 4 + 4) - 4 - (4 + 4)/4. \\
875 &= 4 \times 44 \times (4 + 4/4) - 4/4. \\
876 &= 44 \times (4 \times 4 + 4) - 4. \\
877 &= 4^4 + (4 + 4/4)^4 - 4. \\
878 &= 44 \times (4 \times 4 + 4) - (4 + 4)/4. \\
879 &= 44 \times (4 \times 4 + 4) - 4/4. \\
880 &= 44 \times (4 \times 4 + 4). \\
881 &= 4^4 + (4 + 4/4)^4. \\
882 &= 4^4 + (4 + 4/4)^4 + 4/4. \\
883 &= 44 \times (4 \times 4 + 4) + 4 - 4/4. \\
884 &= 44 \times (4 \times 4 + 4) + 4. \\
885 &= (4 + 4/4)^4 + 4^4 + 4. \\
886 &= (4 + 4)/4 \times (444 - 4/4). \\
887 &= ((4 + 4) \times 444 - 4)/4. \\
888 &= (4 + 4) \times 444/4. \\
889 &= ((4 + 4) \times 444 + 4)/4. \\
890 &= (4 + 4) \times (444 + 4/4)/4. \\
891 &= 44 \times (4 - 4/4)^4/4. \\
892 &= 444 + 444 + 4. \\
893 &= ((4 + 4) \times 444 + 4)/4 + 4. \\
894 &= (4 + 4) \times (444 + 4/4)/4 + 4. \\
895 &= 44 \times (4 - 4/4)^4/4 + 4. \\
896 &= 4 \times (4^4 - 4 \times (4 + 4))/4. \\
897 &= 4 \times 4 + 4^4 + (4 + 4/4)^4. \\
898 &= 4 \times (4^4 - 4 \times (4 + 4)) + (4 + 4)/4. \\
899 &= ((4 + 4) \times 444 + 44)/4. \\
900 &= 4 \times (4^4 - 4 \times (4 + 4)) + 4. \\
901 &= 4 \times (4^4 - 4 \times (4 + 4)) + 4 + 4/4. \\
902 &= 4 \times 4^4 - (444 + 44)/4. \\
903 &= ((4 + 4) \times 444 + 44)/4 + 4. \\
904 &= 4 \times (4^4 - 4 \times (4 + 4)) + 4 + 4. \\
905 &= 4 \times 4 + ((4 + 4) \times 444 + 4)/4. \\
906 &= 4 + 4 \times 4^4 - (444 + 44)/4. \\
907 &= 4 \times 4 + 44 \times (4 - 4/4)^4/4. \\
908 &= 44 + 4 \times (4^4 - 44 + 4). \\
909 &= 4 \times 4^4 - 4 - 444/4. \\
910 &= 4 \times 4^4 - 4 - (444 - 4)/4. \\
911 &= 4 \times 4^4 - (444 + 4 + 4)/4. \\
912 &= 4 \times (4^4 - 4 \times (4 + 4) + 4). \\
913 &= 4 \times 4^4 - 444/4. \\
914 &= 4 \times 4^4 - (444 - 4)/4. \\
915 &= 4 \times 4^4 - (444 - 4 - 4)/4. \\
916 &= 4 \times (4^4 - 4 \times 4) - 44. \\
917 &= 4 \times 4^4 - 444/4 + 4. \\
918 &= 4 \times 4^4 - (444 - 4)/4 + 4. \\
919 &= 4444/4 - 4 \times (44 + 4). \\
920 &= (4 + 4) \times (4 + 444/4). \\
921 &= 4 \times 4^4 - 444/4 + 4 + 4. \\
922 &= 4 \times 4^4 - (444 - 4)/4 + 4 + 4. \\
923 &= 44 + 44 \times (4 \times 4 + 4) - 4/4. \\
924 &= 44 + (44 \times ((4 \times 4) + 4)). \\
925 &= 44 + 4^4 + (4 + 4/4)^4. \\
926 &= 44 + 4^4 + (4 + 4/4)^4 + 4/4. \\
927 &= 4 \times (4^4 - 4) - (4 - 4/4)^4. \\
928 &= 4 \times (4^4 - 4 \times 4 - 4 - 4). \\
929 &= 4 \times (4^4 + 4) - 444/4. \\
930 &= 4 \times (4^4 + 4) - (444 - 4)/4. \\
931 &= 4 \times (4^4 - 4) - (4 - 4/4)^4 + 4. \\
932 &= 4 \times (4^4 - 4 \times 4 - 4 - 4) + 4. \\
933 &= 4 \times (4^4 + 4) + 4 - 444/4. \\
934 &= (4444 - 4)/4 - 4 \times 44. \\
935 &= 44 \times ((4 - 4/4)^4 + 4)/4. \\
936 &= 4 \times 4^4 - 44 - 44. \\
937 &= 4 \times 4^4 - 44 - 44 + 4/4. \\
938 &= (4^4 \times 44 - 4 - 4)/(4 + 4 + 4). \\
939 &= 4 \times 4^4 - (4 - 4/4)^4 - 4. \\
940 &= 4 \times (4^4 - 4 \times 4 - 4) - 4. \\
941 &= 4 \times (4^4 - 4 \times 4 - 4) - 4 + 4/4. \\
942 &= 4 \times 4^4 - (4 - 4/4)^4 - 4/4. \\
943 &= 4 \times 4^4 - (4 - 4/4)^4. \\
944 &= 4 \times (4^4 - 4 \times 4 - 4). \\
945 &= 4 \times (4^4 - 4 \times 4 - 4) + 4/4. \\
946 &= 44 \times (4 \times 44 - 4)/(4 + 4). \\
947 &= 4 \times 4^4 - (4 - 4/4)^4 + 4. \\
948 &= 4 \times (4^4 - 4 \times 4 - 4) + 4. \\
949 &= 4 \times 4^4 - (44 + 4^4)/4. \\
950 &= 44 \times (4 \times 44 - 4)/(4 + 4) + 4. \\
951 &= 4 \times 4^4 + 4 + 4 - (4 - 4/4)^4. \\
952 &= 4 \times (4^4 - 4 \times 4) - 4 - 4. \\
953 &= 4 \times 4^4 + 4 - (44 + 4^4)/4. \\
954 &= 4 \times 4^4 - (4^4 + 4 + 4)/4 - 4. \\
955 &= 4 \times (4^4 - 4 \times 4) - 4 - 4/4. \\
956 &= 4 \times (4^4 - 4 \times 4) - 4. \\
957 &= 4 \times (4^4 - 4 \times 4) - 4 + 4/4. \\
958 &= 4 \times 4^4 - (4^4 + 4 + 4)/4. \\
959 &= 4 \times (4^4 - 4 \times 4) - 4/4. \\
960 &= 4 \times (4^4 - 4 \times 4).
\end{aligned}$$

$$\begin{aligned}
961 &= 4 \times (4^4 - 4 \times 4) + 4/4. \\
962 &= 4 \times (4^4 - 4 \times 4) + (4 + 4)/4. \\
963 &= 4 \times 4^4 + 4 - (4^4 + 4)/4. \\
964 &= 4 \times (4^4 - 4 \times 4) + 4. \\
965 &= 4 \times (4^4 - 4 \times 4) + 4 + 4/4. \\
966 &= 4 \times (44 \times 44 - 4)/(4 + 4). \\
967 &= (44 \times (44 + 44) - 4)/4. \\
968 &= 4 \times (4^4 - 4 \times 4) + 4 + 4. \\
969 &= 4 \times 4^4 - 44 - 44/4. \\
970 &= 4 \times (44 \times 44 + 4)/(4 + 4). \\
971 &= 4 \times (4^4 - 4 \times 4) + 44/4. \\
972 &= 4 \times (4 - 4/4)^{(4+4/4)}. \\
973 &= 4 \times 4^4 - 44 + 4 - 44/4. \\
974 &= 4 \times (44 \times 44 + 4)/(4 + 4) + 4.
\end{aligned}$$

$$\begin{aligned}
975 &= 4 \times 4^4 - 44 - 4 - 4/4. \\
976 &= 4 \times (4^4 - 4 \times 4 + 4). \\
977 &= 4 \times (4^4 - 4 \times 4 + 4) + 4/4. \\
978 &= 4 \times 4^4 - 44 - (4 + 4)/4. \\
979 &= 4 \times 4^4 - 44 - 4/4. \\
980 &= 4 \times 4^4 - 44. \\
981 &= 4 \times 4^4 - 44 + 4/4. \\
982 &= 4 \times 4^4 - 44 + (4 + 4)/4. \\
983 &= 4 \times 4^4 - 44 + 4 - 4/4. \\
984 &= 4 \times 4^4 - 44 + 4. \\
985 &= 4 \times 4^4 - 44 + 4 + 4/4. \\
986 &= 4 \times 4^4 - 44 + 4 + (4 + 4)/4. \\
987 &= 4 \times 4^4 - 44 + 4 + 4 - 4/4. \\
988 &= 4 \times (4^4 - 4 - 4) - 4.
\end{aligned}$$

$$\begin{aligned}
989 &= 4 \times (4^4 - 4 - 4) - 4 + 4/4. \\
990 &= 4 \times (4^4 - 4 - 4) - (4 + 4)/4. \\
991 &= 4 \times (4^4 - 4 - 4) - 4/4. \\
992 &= 4 \times (4^4 - 4 - 4). \\
993 &= 4 \times (4^4 - 4 - 4) + 4/4. \\
994 &= 4 \times (4^4 - 4 - 4) + (4 + 4)/4. \\
995 &= 4 \times (4^4 - 4 - 4) + 4 - 4/4. \\
996 &= 4 \times (4^4 - 4 - 4) + 4. \\
997 &= 4 \times (4^4 - 4) - 44/4. \\
998 &= 4 \times (4^4 - 4) - (44 - 4)/4. \\
999 &= (4 + 4 + 4/4) \times 444/4. \\
1000 &= 4 \times (4^4 - 4) - 4 - 4.
\end{aligned}$$

## 8. REPRESENTATIONS USING NUMBER 5

$$\begin{aligned}
101 &= 5 \times (5 \times 5 - 5) + 5/5. \\
102 &= 5 \times (5 \times 5 - 5) + (5 + 5)/5. \\
103 &= 5 \times (5 \times 5 - 5) + 5 - (5 + 5)/5. \\
104 &= (5^5 - 5)/(5 \times 5 + 5). \\
105 &= 5 \times (5 \times 5 - 5) + 5. \\
106 &= 555/5 - 5. \\
107 &= (555 + 5)/5 - 5. \\
108 &= 55 + 55 - (5 + 5)/5. \\
109 &= 55 + 55 - 5/5. \\
110 &= 55 + 55. \\
111 &= 555/5. \\
112 &= (555 + 5)/5. \\
113 &= (555 + 5 + 5)/5. \\
114 &= 5 \times 5 \times 5 - 55/5. \\
115 &= 55 + 55 + 5. \\
116 &= 5 + 555/5. \\
117 &= 5 + (555 + 5)/5. \\
118 &= 5 + (555 + 5 + 5)/5. \\
119 &= 5 \times 5 \times 5 - 5 - 5/5. \\
120 &= 5 \times 5 \times 5 - 5. \\
121 &= 5 + 5 + 555/5. \\
122 &= (555 + 55)/5. \\
123 &= 5 \times 5 \times 5 - (5 + 5)/5. \\
124 &= 5 \times 5 \times 5 - 5/5. \\
125 &= 5 \times 5 \times 5. \\
126 &= 5 \times 5 \times 5 + 5/5. \\
127 &= 5 \times 5 \times 5 + (5 + 5)/5. \\
128 &= 5 \times 5 \times 5 + 5 - (5 + 5)/5. \\
129 &= 5 \times 5 \times 5 + 5 - 5/5. \\
130 &= 5 \times 5 \times 5 + 5. \\
131 &= 5 \times 5 \times 5 + 5 + 5/5. \\
132 &= 5 \times 5 \times 5 + 5 + (5 + 5)/5. \\
133 &= 5 \times 5 \times 5 + 5 + 5 - (5 + 5)/5. \\
134 &= 5 \times 5 \times 5 + 5 + 5 - 5/5. \\
135 &= 5 \times 5 \times 5 + 5 + 5. \\
136 &= 5 \times 5 + 555/5. \\
137 &= 5 \times 5 + (555 + 5)/5. \\
138 &= 5 \times (5 \times 55 + 5)/(5 + 5). \\
139 &= 5 \times (5 \times 5 + 5) - 55/5. \\
140 &= 5 \times 5 \times 5 + 5 + 5 + 5. \\
141 &= 5 \times 5 + 5 + 555/5. \\
142 &= 5 \times 5 + 5 + (555 + 5)/5. \\
143 &= 5 + (5 \times 5 \times 55 + 5)/(5 + 5). \\
144 &= (5 + 5/5) \times (5 \times 5 - 5/5). \\
145 &= 5 \times (5 \times 5 + 5) - 5. \\
146 &= 5 \times (5 \times 5 + 5) - 5 + 5/5. \\
147 &= 5 \times 5 + (555 + 55)/5. \\
148 &= 5 \times (5 \times 5 + 5) - (5 + 5)/5.
\end{aligned}$$

$$\begin{aligned}
149 &= 5 \times (5 \times 5 + 5) - 5/5. \\
150 &= 5 \times (5 \times 5 + 5). \\
151 &= 5 \times (5 \times 5 + 5) + 5/5. \\
152 &= 5 \times (5 \times 5 + 5) + (5 + 5)/5. \\
153 &= 5 \times (5 \times 5 + 5) + 5 - (5 + 5)/5. \\
154 &= 5 \times (5 \times 5 + 5) + 5 - 5/5. \\
155 &= 5 \times (5 \times 5 + 5) + 5. \\
156 &= (5^5 - 5)/(5 \times 5 - 5). \\
157 &= 5 \times 5 \times 5 + ((5 + 5)/5)^5. \\
158 &= 5 \times ((5 + 5)/5)^5 - (5 + 5)/5. \\
159 &= (55 + 5^5)/(5 \times 5 - 5). \\
160 &= 5 \times ((5 + 5)/5)^5. \\
161 &= 5 + (5^5 - 5)/(5 \times 5 - 5). \\
162 &= 5 \times 5 \times 5 + 5 + ((5 + 5)/5)^5. \\
163 &= 55 \times 5 - (555 + 5)/5. \\
164 &= 55 \times 5 - 555/5. \\
165 &= 5 + 5 \times ((5 + 5)/5)^5. \\
166 &= 55 + 555/5. \\
167 &= 55 + (555 + 5)/5. \\
168 &= 55 + (555 + 5 + 5)/5. \\
169 &= 55 \times 5 + 5 - 555/5. \\
170 &= 5 \times (5 \times 5 + 5 + 5) - 5. \\
171 &= 55 + 5 + 555/5. \\
172 &= 55 + 5 + (555 + 5)/5. \\
173 &= 5 \times (5 \times 5 + 5 + 5) - (5 + 5)/5. \\
174 &= 5 \times (5 \times 5 + 5 + 5) - 5/5. \\
175 &= 5 \times (5 \times 5 + 5 + 5). \\
176 &= 5 \times (5 \times 5 + 5 + 5) + 5/5. \\
177 &= 55 + (555 + 55)/5. \\
178 &= 55 + 5 \times 5 \times 5 - (5 + 5)/5. \\
179 &= 55 + 5 \times 5 \times 5 - 5/5. \\
180 &= 55 + 5 \times 5 \times 5. \\
181 &= 55 + 5 \times 5 \times 5 + 5/5. \\
182 &= 55 + 5 \times 5 \times 5 + (5 + 5)/5. \\
183 &= (5 - (5 + 5)/5)^5 - 55 - 5. \\
184 &= 5 \times 5 \times 5 + 55 + 5 - 5/5. \\
185 &= 5 \times 5 \times 5 + 55 + 5. \\
186 &= 5 \times 5 \times 5 + 55 + 5 + 5/5. \\
187 &= 55 \times (5 + (55 + 5)/5)/5. \\
188 &= (5 - (5 + 5)/5)^5 - 55. \\
189 &= 5 \times (55 + 5) - 555/5. \\
190 &= 5 \times 5 \times 5 + 55 + 5 + 5. \\
191 &= 5 \times 5 + 55 + 555/5. \\
192 &= (5 + 5/5) \times ((5 + 5)/5)^5. \\
193 &= (5 - (5 + 5)/5)^5 - 55 + 5. \\
194 &= 5 \times 5 \times (5 + 5) - 55 - 5/5. \\
195 &= 5 \times 5 \times (5 + 5) - 55. \\
196 &= 5 \times 5 \times (5 + 5) - 55 + 5/5.
\end{aligned}$$

$$\begin{aligned}
197 &= 5 + (5 + 5/5) \times ((5 + 5)/5)^5. \\
198 &= (5 + 5) \times (5 \times 5 - 5) - (5 + 5)/5. \\
199 &= (5 + 5) \times (5 \times 5 - 5) - 5/5. \\
200 &= (5 + 5) \times (5 \times 5 - 5). \\
201 &= (5 + 5) \times (5 \times 5 - 5) + 5/5. \\
202 &= (5 + 5) \times (5 \times 5 - 5) + (5 + 5)/5. \\
203 &= (5^5 - 5)/(5 + 5 + 5) - 5. \\
204 &= (5 + 5) \times (5 \times 5 - 5) + 5 - 5/5. \\
205 &= (5 + 5) \times (5 \times 5 - 5) + 5. \\
206 &= (5 + 5) \times (5 \times 5 - 5) + 5 + 5/5. \\
207 &= (5^5 - 5 \times 5 + 5)/(5 + 5 + 5). \\
208 &= (5^5 - 5)/(5 + 5 + 5). \\
209 &= (5^5 + 5 + 5)/(5 + 5 + 5). \\
210 &= (5 + 5) \times (5 \times 5 - 5) + 5 + 5. \\
211 &= 55 + (5^5 - 5)/(5 \times 5 - 5). \\
212 &= (55 + 5^5)/(5 + 5 + 5). \\
213 &= (5^5 - 5)/(5 + 5 + 5) + 5. \\
214 &= (5^5 + 5 + 5)/(5 + 5 + 5) + 5. \\
215 &= 55 \times 5 - 55 - 5. \\
216 &= (5 - 5/5) \times (55 - 5/5). \\
217 &= (55 + 5^5)/(5 + 5 + 5) + 5. \\
218 &= (5 - (5 + 5)/5)^5 - 5 \times 5. \\
219 &= 55 \times 5 - 55 - 5/5. \\
220 &= 55 \times (5 - 5/5). \\
221 &= 55 \times (5 - 5/5) + 5/5. \\
222 &= 555 \times (5 + 5)/(5 \times 5). \\
223 &= (5 - (5 + 5)/5)^5 - 5 \times 5 + 5. \\
224 &= (5 - 5/5) \times (55 + 5/5). \\
225 &= 5 \times (55 - 5 - 5). \\
226 &= 5 \times (55 - 5 - 5) + 5/5. \\
227 &= (5 + 5) \times 555/(5 \times 5) + 5. \\
228 &= (5 - 5/5) \times (55 + (5 + 5)/5). \\
229 &= (5 - 5/5) \times (55 + 5/5) + 5. \\
230 &= 5 \times (55 - 5 - 5) + 5. \\
231 &= 5 \times (55 - 5 - 5) + 5 + 5/5. \\
232 &= (5 + 5) \times (5 + 555/5)/5. \\
233 &= (5 - (5 + 5)/5)^5 - 5 - 5. \\
234 &= (5 + 5 - 5/5) \times (5 \times 5 + 5/5). \\
235 &= 5 \times (55 - 5 - 5) + 5 + 5. \\
236 &= 5 \times 5 \times 5 + 555/5. \\
237 &= 5 \times 5 \times 5 + (555 + 5)/5. \\
238 &= (5 - (5 + 5)/5)^5 - 5. \\
239 &= 5 \times 5 \times (5 + 5) - 55/5. \\
240 &= (5 + 5) \times (5 \times 5 - 5/5)^5. \\
241 &= 5 \times 5 \times 5 + 5 + 555/5. \\
242 &= (5 - (5 + 5)/5)^5 - 5/5. \\
243 &= (5 - (5 + 5)/5)^5. \\
244 &= (5 - (5 + 5)/5)^5 + 5/5.
\end{aligned}$$

$$\begin{aligned}
245 &= 5 \times 5 \times (5 + 5) - 5. \\
246 &= 5 \times 5 \times (5 + 5) - 5 + 5/5. \\
247 &= 5 + (5 - (5 + 5)/5)^5 - 5/5. \\
248 &= 5 + (5 - (5 + 5)/5)^5. \\
249 &= 5 \times 5 \times (5 + 5) - 5/5. \\
250 &= 5 \times 5 \times (5 + 5). \\
251 &= 5 \times 5 \times (5 + 5) + 5/5. \\
252 &= 5 \times 5 \times (5 + 5) + (5 + 5)/5. \\
253 &= (5 - (5 + 5)/5)^5 + 5 + 5. \\
254 &= 5 \times 5 \times (5 + 5) + 5 - 5/5. \\
255 &= 5 \times 5 \times (5 + 5) + 5. \\
256 &= (5 - 5/5)^{(5-5/5)}. \\
257 &= (5^5 - 5)/(5 + 5) - 55. \\
258 &= (5^5 + 5)/(5 + 5) - 55. \\
259 &= 5 \times 55 - 5 - 55/5. \\
260 &= 5 \times 5 \times (5 + 5) + 5 + 5. \\
261 &= (5 - 5/5)^{(5-5/5)} + 5. \\
262 &= (5^5 - 5)/(5 + 5) + 5 - 55. \\
263 &= 5 \times 55 - (55 + 5)/5. \\
264 &= 5 \times 55 - 55/5. \\
265 &= 5 \times 55 - 5 - 5. \\
266 &= 5 \times 55 - 5 - 5 + 5/5. \\
267 &= 5 \times 55 - 5 - 5 + (5 + 5)/5. \\
268 &= 5 \times 5 + (5 - (5 + 5)/5)^5. \\
269 &= 5 \times 55 - 5 - 5/5. \\
270 &= 5 \times 55 - 5. \\
271 &= 5 \times 55 - 5 + 5/5. \\
272 &= 5 \times 55 - 5 + (5 + 5)/5. \\
273 &= 5 \times 55 - ((5 + 5)/5). \\
274 &= 5 \times 55 - 5/5. \\
275 &= 5 \times 55. \\
276 &= 5 \times 55 + 5/5. \\
277 &= 5 \times 55 + (5 + 5)/5. \\
278 &= 5 \times 55 + 5 - (5 + 5)/5. \\
279 &= 5 \times 55 + 5 - 5/5. \\
280 &= 5 \times 55 + 5. \\
281 &= 5 \times 55 + 5 + 5/5. \\
282 &= 5 \times 55 + 5 + (5 + 5)/5. \\
283 &= 5 \times 55 + 5 + 5 - (5 + 5)/5. \\
284 &= 5 \times 55 + 5 + 5 - 5/5. \\
285 &= 5 \times 55 + 5 + 5. \\
286 &= 5 \times 55 + 55/5. \\
287 &= 5 \times 55 + (55 + 5)/5. \\
288 &= (5^5 + 5)/(5 + 5) - 5 \times 5. \\
289 &= 5 \times (55 + 5) - 55/5. \\
290 &= 5 \times 55 + 5 + 5 + 5. \\
291 &= 5 \times 55 + 5 + 55/5. \\
292 &= 5 \times 55 + 5 + (55 + 5)/5. \\
293 &= (5^5 + 5)/(5 + 5) + 5 - 5 \times 5. \\
294 &= 5 \times (55 + 5) - 5 - 5/5. \\
295 &= 5 \times (55 + 5) - 5. \\
296 &= 5 \times (55 + 5) - 5 + 5/5. \\
297 &= 5 \times 55 + (55 + 55)/5. \\
298 &= 55 + (5 - (5 + 5)/5)^5. \\
299 &= 5 \times (55 + 5) - 5/5. \\
300 &= 5 \times (55 + 5). \\
301 &= 5 \times (55 + 5) + 5/5. \\
302 &= 5 \times (55 + 5) + (5 + 5)/5. \\
303 &= (5^5 + 5)/(5 + 5) - 5 - 5. \\
304 &= 5 \times (55 + 5) + 5 - 5/5. \\
305 &= 5 \times (55 + 5) + 5. \\
306 &= 5 \times (55 + 5) + 5 + 5/5. \\
307 &= (5^5 - 55)/(5 + 5). \\
308 &= (5^5 + 5)/(5 + 5) - 5. \\
309 &= 5 \times (55 + 5) + 5 + 5 - 5/5. \\
310 &= 5 \times (55 + 5) + 5 + 5. \\
311 &= 5 \times (55 + 5) + 55/5. \\
312 &= (5^5 - 5)/(5 + 5). \\
313 &= (5^5 + 5)/(5 + 5). \\
314 &= (5^5 + 5)/(5 + 5) + 5/5. \\
315 &= (5 \times 5 + 5^5)/(5 + 5). \\
316 &= 5 \times (55 + 5) + 5 + 55/5. \\
317 &= (5^5 - 5)/(5 + 5) + 5. \\
318 &= (5^5 + 5)/(5 + 5) + 5. \\
319 &= (5^5 + 5)/(5 + 5) + 5 + 5/5. \\
320 &= (5 + 5) \times ((5 + 5)/5)^5. \\
321 &= (5 + 5) \times ((5 + 5)/5)^5 + 5/5. \\
322 &= (5^5 - 5)/(5 + 5) + 5 + 5. \\
323 &= (5^5 + 5)/(5 + 5) + 5 + 5. \\
324 &= (5 + 5/5) \times (55 - 5/5). \\
325 &= 5 \times (55 + 5 + 5). \\
326 &= 5 \times (55 + 5 + 5) + 5/5. \\
327 &= 5 + 5 + 5 + (5^5 - 5)/(5 + 5). \\
328 &= 5 + 5 + 5 + (5^5 + 5)/(5 + 5). \\
329 &= 55 + 5 \times 55 - 5/5. \\
330 &= 55 + 5 \times 55. \\
331 &= 55 + 5 \times 55 + 5/5. \\
332 &= 5 \times 5 + (5^5 - 55)/(5 + 5). \\
333 &= 5 \times 5 - 5 + (5^5 + 5)/(5 + 5). \\
334 &= 5 \times 55 + 55 + 5 - 5/5. \\
335 &= 5 \times 55 + 55 + 5. \\
336 &= (5 + 5/5) \times (55 + 5/5). \\
337 &= 5 \times 5 + (5^5 - 5)/(5 + 5). \\
338 &= 5 \times 5 + (5^5 + 5)/(5 + 5). \\
339 &= (5^5 - 55)/5 - 5 \times 55. \\
340 &= 5 \times 55 + 55 + 5 + 5. \\
341 &= 5 + (5 + 5/5) \times (55 + 5/5). \\
342 &= 5 \times 5 + 5 + (5^5 - 5)/(5 + 5). \\
343 &= 5 \times 5 + 5 + (5^5 + 5)/(5 + 5). \\
344 &= (5^5 - 5)/5 - 5 \times 55 - 5. \\
345 &= 5^5 - 5 \times 555 - 5. \\
346 &= (5^5 + 5)/5 - 5 \times 55 - 5. \\
347 &= 55 \times ((5 + 5)/5)^5/5 - 5. \\
348 &= (5^5 - 5 - 5)/5 - 5 \times 55. \\
349 &= (5^5 - 5)/5 - 5 \times 55. \\
350 &= 5 \times (55 + 5 + 5 + 5). \\
351 &= (5^5 + 5)/5 - 5 \times 55. \\
352 &= 55 \times ((5 + 5)/5)^5/5. \\
353 &= (55 \times ((5 + 5)/5)^5 + 5)/5. \\
354 &= (5^5 - 5)/5 + 5 - 5 \times 55. \\
355 &= 55 + 5 \times (55 + 5). \\
356 &= (5^5 + 5)/5 + 5 - 5 \times 55. \\
357 &= 55 \times ((5 + 5)/5)^5/5 + 5. \\
358 &= (55 \times ((5 + 5)/5)^5 + 5)/5 + 5. \\
359 &= (5 + 5/5) \times (55 + 5) - 5/5. \\
360 &= (5 + 5/5) \times (55 + 5). \\
361 &= (5 + 5/5) \times (55 + 5) + 5/5. \\
362 &= 55 + (5^5 - 55)/(5 + 5). \\
363 &= 55 - 5 + (5^5 + 5)/(5 + 5). \\
364 &= 5 \times 5 \times (5 + 5 + 5) - 55/5. \\
365 &= (5 + 5/5) \times (55 + 5) + 5. \\
366 &= (5 + 5/5) \times (55 + 5 + 5/5). \\
367 &= 55 + (5^5 - 5)/(5 + 5). \\
368 &= 55 + (5^5 + 5)/(5 + 5). \\
369 &= 5 \times 5 \times (5 + 5 + 5) - 5 - 5/5. \\
370 &= 5 \times 5 \times (5 + 5 + 5) - 5. \\
371 &= 5 \times 5 \times (5 + 5 + 5) - 5 + 5/5. \\
372 &= 55 + 5 + (5^5 - 5)/(5 + 5). \\
373 &= 55 + 5 + (5^5 + 5)/(5 + 5). \\
374 &= 5 \times 5 \times (5 + 5 + 5) - 5/5. \\
375 &= 5 \times 5 \times (5 + 5 + 5). \\
376 &= 5 \times 5 \times (5 + 5 + 5) + 5/5. \\
377 &= 5 \times 5 \times (5 + 5 + 5) + (5 + 5)/5. \\
378 &= (5 + (5 + 5)/5) \times (55 - 5/5). \\
379 &= 5 \times 5 \times (5 + 5 + 5) + 5 - 5/5. \\
380 &= 5 \times 5 \times (5 + 5 + 5) + 5. \\
381 &= 5 \times 5 \times (5 + 5 + 5) + 5 + 5/5. \\
382 &= 5^5/5 - (5 - (5 + 5)/5)^5. \\
383 &= (5 + (5 + 5)/5) \times (55 - 5/5) + 5. \\
384 &= (55 + 5) \times ((5 + 5)/5)^5/5. \\
385 &= 55 \times (5 + (5 + 5)/5). \\
386 &= 5 \times 55 + 555/5. \\
387 &= 5 \times 55 + (555 + 5)/5. \\
388 &= 5 \times 55 + (555 + 5 + 5)/5. \\
389 &= 5 \times (5 \times 5 + 55) - 55/5. \\
390 &= 55 \times (5 + (5 + 5)/5) + 5. \\
391 &= 5 \times 55 + 5 + 555/5. \\
392 &= (5 + (5 + 5)/5) \times (55 + 5/5). \\
393 &= 5 \times 5 + 55 + (5^5 + 5)/(5 + 5). \\
394 &= (5 - 5/5)^5 - 5^5/5 - 5. \\
395 &= 5 \times (5 \times 5 + 55) - 5. \\
396 &= 5 \times (5 \times 5 + 55) - 5 + 5/5. \\
397 &= (5 + (5 + 5)/5) \times (55 + 5/5) + 5. \\
398 &= (5 - 5/5)^5 - (5^5 + 5)/5. \\
399 &= (5 - 5/5)^5 - 5^5/5. \\
400 &= 5 \times (5 \times 5 + 55). \\
401 &= 5 \times (5 \times 5 + 55) + 5/5. \\
402 &= 5 \times (5 \times 5 + 55) + (5 + 5)/5. \\
403 &= 5 + (5 - 5/5)^5 - (5^5 + 5)/5. \\
404 &= 5 + (5 - 5/5)^5 - 5^5/5. \\
405 &= 5 \times (5 \times 5 + 55) + 5. \\
406 &= 5 \times (5 \times 5 + 55) + 5 + 5/5. \\
407 &= 55 \times (((5 + 5)/5)^5 + 5)/5. \\
408 &= (5 \times 5 - 5/5) \times (5 + (55 + 5)/5). \\
409 &= 5 + 5 + (5 - 5/5)^5 - 5^5/5. \\
410 &= 5 \times (5 \times 5 + 55) + 5 + 5. \\
411 &= 5 \times (5 \times 5 + 55) + 55/5. \\
412 &= 55 \times (5 + ((5 + 5)/5)^5)/5 + 5. \\
413 &= 5 \times (5 \times 5 - 5) + (5^5 + 5)/(5 + 5). \\
414 &= (5 - 5/5)^5 - 555 - 55. \\
415 &= 5 \times (5 \times 5 + 55) + 5 + 5 + 5. \\
416 &= (5 + 55/5) \times (5 \times 5 + 5/5). \\
417 &= (5^5 + 5^5 + 5)/(5 + 5 + 5). \\
418 &= 55 + 55 - 5 + (5^5 + 5)/(5 + 5). \\
419 &= 555 - 5 \times 5 - 555/5. \\
420 &= (55 + 5) \times (5 + (5 + 5)/5). \\
421 &= 5 + (5 + 55/5) \times (5 \times 5 + 5/5). \\
422 &= 5 + (5^5 + 5^5 + 5)/(5 + 5 + 5). \\
423 &= 55 + 55 + (5^5 + 5)/(5 + 5). \\
424 &= (5 - 5/5) \times (555/5 - 5). \\
425 &= 5 \times (5 \times 5 + 55 + 5). \\
426 &= 5 \times (5 \times 5 + 55 + 5) + 5/5. \\
427 &= 5 \times (5 \times 5 + 55 + 5) + (5 + 5)/5. \\
428 &= (5 - 5/5) \times ((555 + 5)/5 - 5). \\
429 &= 555 - 5 \times 5 \times 5 - 5/5. \\
430 &= 555 - 5 \times 5 \times 5. \\
431 &= 555 - 5 \times 5 \times 5 + 5/5. \\
432 &= 5 \times 5 \times 5 + (5^5 - 55)/(5 + 5). \\
433 &= 5 \times 5 \times 5 - 5 + (5^5 + 5)/(5 + 5). \\
434 &= 555 - 5 \times 5 \times 5 + 5 - 5/5. \\
435 &= 555 - 5 \times 5 \times 5 + 5. \\
436 &= 555 - 5 \times 5 \times 5 + 5 + 5/5. \\
437 &= 5 \times 5 \times 5 + (5^5 - 5)/(5 + 5). \\
438 &= 5 \times 5 \times 5 + (5^5 + 5)/(5 + 5). \\
439 &= 555 - 5 - 555/5. \\
440 &= (5 + 5) \times (55 - 55/5). \\
441 &= (5 + 5 + 55/5)^{(5+5/5)}. \\
442 &= 5 \times 5 \times 5 + 5 + (5^5 - 5)/(5 + 5).
\end{aligned}$$



$$\begin{aligned}
443 &= 555 - (555 + 5)/5. \\
444 &= (5 - 5/5) \times 555/5. \\
445 &= 555 - 55 - 55. \\
446 &= 5 + (55/5 + 5 + 5)^{(5+5)/5}. \\
447 &= (5^5 + 5 - 5/5)/(5 + (5 + 5)/5). \\
448 &= (5 - 5/5) \times (555 + 5)/5. \\
449 &= 5 + (5 - 5/5) \times 555/5. \\
450 &= (5 + 5) \times (55 - 5 - 5). \\
451 &= (5 + 5) \times (55 - 5 - 5) + 5/5. \\
452 &= (5 + 5) \times (55 - 5 - 5) + (5 + 5)/5. \\
453 &= 5 + (5 - 5/5) \times (555 + 5)/5. \\
454 &= 5 + 5 + (5 - 5/5) \times 555/5. \\
455 &= (5 + 5) \times (55 - 5 - 5) + 5. \\
456 &= (5 + 5) \times (55 - 5 - 5) + 5 + 5/5. \\
457 &= ((5 + 5)/5)^{(5+5-5/5)} - 55. \\
458 &= (5 \times 5 \times 5 \times 55 - 5)/(5 + 5 + 5). \\
459 &= (5^5 - 555)/5 - 55. \\
460 &= (5 + 5) \times (55 - 5 - 5) + 5 + 5. \\
461 &= (5 + 5) \times (55 - 5 - 5) + 55/5. \\
462 &= 55 \times ((5 + 5)/5)^5 + 5 + 5)/5. \\
463 &= 5 \times (5 \times 5 + 5) + (5^5 + 5)/(5 + 5). \\
464 &= (5 - 5/5) \times (5 + 555/5). \\
465 &= 5 \times (5 \times 5 \times 5 - ((5 + 5)/5)^5). \\
466 &= (5^5 + 5)/5 - 5 \times ((5 + 5)/5)^5. \\
467 &= 5 \times (5 \times 5 + 5) + 5 + (5^3 - 5)/(5 + 5). \\
468 &= (5 - 5/5) \times (5 + (555 + 5)/5). \\
469 &= (5 - 5/5)^5 - 555. \\
470 &= 5 \times (5 \times (5 \times 5 - 5) - 5) - 5. \\
471 &= 5 \times (5 \times (5 \times 5 - 5) - 5) - 5 + 5/5. \\
472 &= 55 + (5^5 + 5^5 + 5)/(5 + 5 + 5). \\
473 &= 55 \times (55 - (55 + 5)/5)/5. \\
474 &= 5 + (5 - 5/5)^5 - 555. \\
475 &= 5 \times (5 \times (5 \times 5 - 5) - 5). \\
476 &= 5 \times (5 \times (5 \times 5 - 5) - 5) + 5/5. \\
477 &= 5 \times (5 \times (5 \times 5 - 5) - 5) + (5 + 5)/5. \\
478 &= 5 + 55 \times (55 - (55 + 5)/5)/5. \\
479 &= (5 - 5/5)^5 + 5 + 5 - 555. \\
480 &= 5 \times (5 \times (5 \times 5 - 5) - 5) + 5. \\
481 &= (5555 - 5^5)/5 - 5. \\
482 &= (5555 - 5^5 + 5)/5 - 5. \\
483 &= 5 \times 55 + (5^5 - 5)/(5 + 5 + 5). \\
484 &= 55 \times (55 - 55/5)/5. \\
485 &= 5 \times (5 \times (5 \times 5 - 5) - 5) + 5 + 5. \\
486 &= (5555 - 5^5)/5. \\
487 &= (5555 + 5 - 5^5)/5. \\
488 &= (5 - 5/5) \times (555 + 55)/5. \\
489 &= 555 - 55 - 55/5. \\
490 &= 555 - 55 - 5 - 5. \\
491 &= 5 + (5555 - 5^5)/5. \\
492 &= 5 + (5555 - 5^5 + 5)/5. \\
493 &= 555 - 55 - 5 - (5 + 5)/5. \\
494 &= 555 - 55 - 5 - 5/5. \\
495 &= 555 - 55 - 5. \\
496 &= 555 - 55 - 5 + 5/5. \\
497 &= 555 - 55 - 5 + (5 + 5)/5. \\
498 &= 555 - 55 - (5 + 5)/5. \\
499 &= 555 - 55 - 5/5. \\
500 &= 555 - 55. \\
501 &= 5 \times 5 \times (5 \times 5 - 5) + 5/5. \\
502 &= 555 - 55 + (5 + 5)/5. \\
503 &= (5^5 - 555 - 55)/5. \\
504 &= 555 - 55 + 5 - 5/5. \\
505 &= 5 \times 5 \times (5 \times 5 - 5) + 5. \\
506 &= 5 \times 5 \times (5 \times 5 - 5) + 5 + 5/5. \\
507 &= ((5 + 5)/5)^{(5+5-5/5)} - 5. \\
508 &= (5^5 - 555 - 5)/5 - 5. \\
509 &= (5^5 - 555)/5 - 5. \\
510 &= 5 \times 5 \times (5 \times 5 - 5) + 5 + 5. \\
511 &= 555 - 55 + 55/5. \\
512 &= ((5 + 5)/5)^{(5+5-5/5)}. \\
513 &= (5^5 - 555 - 5)/5. \\
514 &= (5^5 - 555)/5. \\
515 &= 5^5/5 - 55 - 55. \\
516 &= (5^5 + 5)/5 - 55 - 55. \\
517 &= 5 + ((5 + 5)/5)^{(5+5-5/5)}. \\
518 &= 5 + (5^5 - 555 - 5)/5. \\
519 &= 5 + (5^5 - 555)/5. \\
520 &= (5^5 - 5)/(5 + 5/5). \\
521 &= (5^5 + 5/5)/(5 + 5/5). \\
522 &= 5 + 5 + ((5 + 5)/5)^{(5+5-5/5)}. \\
523 &= 555 - ((5 + 5)/5)^5. \\
524 &= 5 + 5 + (5^5 - 555)/5. \\
525 &= 5 \times (5 \times (5 \times 5 - 5) + 5). \\
526 &= 5 + (5^5 + 5/5)/(5 + 5/5). \\
527 &= 555 - 5 \times 5 - 5 + (5 + 5)/5. \\
528 &= 555 + 5 - ((5 + 5)/5)^5. \\
529 &= 555 - 5 \times 5 - 5/5. \\
530 &= 555 - 5 \times 5. \\
531 &= 555 - 5 \times 5 + 5/5. \\
532 &= 555 - 5 \times 5 + (5 + 5)/5. \\
533 &= 555 - (55 + 55)/5. \\
534 &= 555 - 5 \times 5 + 5 - 5/5. \\
535 &= 555 - 5 \times 5 + 5. \\
536 &= 555 - 5 \times 5 + 5 + 5/5. \\
537 &= 555 - 5 \times 5 + 5 + (5 + 5)/5. \\
538 &= 555 - 5 - (55 + 5)/5. \\
539 &= 555 - 5 - 55/5. \\
540 &= (5 + 5) \times (55 - 5/5). \\
541 &= (5 + 5) \times (55 - 5/5) + 5/5. \\
542 &= 555 - ((55 + 5 + 5)/5). \\
543 &= 555 - (55 + 5)/5. \\
544 &= 555 - 55/5. \\
545 &= 555 - 5 - 5. \\
546 &= 555 - 5 - 5 + 5/5. \\
547 &= 555 - 5 - 5 + (5 + 5)/5. \\
548 &= 555 - 5 - (5 + 5)/5. \\
549 &= 555 - 5 - 5/5. \\
550 &= 555 - 5. \\
551 &= 555 - 5 + 5/5. \\
552 &= 555 - 5 + (5 + 5)/5. \\
553 &= 555 - (5 + 5)/5. \\
554 &= 555 - 5/5. \\
555 &= 555. \\
556 &= 555 + 5/5. \\
557 &= 555 + (5 + 5)/5. \\
558 &= 555 + 5 - (5 + 5)/5. \\
559 &= 555 + 5 - 5/5. \\
560 &= 555 + 5. \\
561 &= 555 + 5 + 5/5. \\
562 &= 555 + 5 + (5 + 5)/5. \\
563 &= 555 + 5 + 5 - (5 + 5)/5. \\
564 &= 555 + 5 + 5 - 5/5. \\
565 &= 555 + 5 + 5. \\
566 &= 555 + 55/5. \\
567 &= 555 + (55 + 5)/5. \\
568 &= (5^5 - 5 - 5)/5 - 55. \\
569 &= (5^5 - 5)/5 - 55. \\
570 &= 5^5/5 - 55. \\
571 &= (5^5 + 5)/5 - 55. \\
572 &= (5^5 + 5 + 5)/5 - 55. \\
573 &= 5 - 55 + (5^5 - 5 - 5)/5. \\
574 &= 5 - 55 + (5^5 - 5)/5. \\
575 &= 5 - 55 + 5^5/5. \\
576 &= 5 - 55 + (5^5 + 5)/5. \\
577 &= 5 - 55 + (5^5 + 5 + 5)/5. \\
578 &= 5 \times 5 + 555 - (5 + 5)/5. \\
579 &= 5 \times 5 + 555 - 5/5. \\
580 &= 5 \times 5 + 555. \\
581 &= 5 \times 5 + 555 + 5/5. \\
582 &= 5 \times 5 + 555 + (5 + 5)/5. \\
583 &= 55 \times (55 - (5 + 5)/5)/5. \\
584 &= 555 + 5 \times 5 + 5 - 5/5. \\
585 &= 555 + 5 \times 5 + 5. \\
586 &= 555 + 5 \times 5 + 5 + 5/5. \\
587 &= 555 + ((5 + 5)/5)^5. \\
588 &= 5 \times 55 + (5^5 + 5)/(5 + 5). \\
589 &= (5^5 - 55)/5 - 5 \times 5. \\
590 &= 555 + 5 \times 5 + 5 + 5. \\
591 &= 555 + 5 \times 5 + 55/5. \\
592 &= 555 + 5 + ((5 + 5)/5)^5. \\
593 &= 5^5/5 - ((5 + 5)/5)^5. \\
594 &= 55 \times (55 - 5/5)/5. \\
595 &= 5^5/5 - 5 \times 5 - 5. \\
596 &= (5^5 + 5)/5 - 5 \times 5 - 5. \\
597 &= (5^5 + 5 + 5)/5 - 5 \times 5 - 5. \\
598 &= 5 \times (5 \times 5 \times 5 - 5) - (5 + 5)/5. \\
599 &= 5 \times (5 \times 5 \times 5 - 5) - 5/5. \\
600 &= 5 \times (5 \times 5 \times 5 - 5). \\
601 &= (5^5 + 5)/5 - 5 \times 5. \\
602 &= (5^5 + 5 + 5)/5 - 5 \times 5. \\
603 &= (5^5 - 55 - 55)/5. \\
604 &= (55 \times 55 - 5)/5. \\
605 &= 55 \times 55/5. \\
606 &= (55 \times 55 + 5)/5. \\
607 &= (55 \times 55 + 5 + 5)/5. \\
608 &= (5^5 - 55 - 5)/5 - 5. \\
609 &= (5^5 - 55)/5 - 5. \\
610 &= 555 + 55. \\
611 &= 5 + (55 \times 55 + 5)/5. \\
612 &= (5^5 - 55 - 5 - 5)/5. \\
613 &= (5^5 - 55 - 5)/5. \\
614 &= (5^5 - 55)/5. \\
615 &= 5^5/5 - 5 - 5. \\
616 &= (5^5 + 5)/5 - 5 - 5. \\
617 &= (5^5 + 5 + 5)/5 - 5 - 5. \\
618 &= (5^5 - 5 - 5)/5 - 5. \\
619 &= (5^5 - 5)/5 - 5. \\
620 &= 5^5/5 - 5. \\
621 &= (5^5 + 5)/5 - 5. \\
622 &= (5^5 + 5 + 5)/5 - 5. \\
623 &= (5^5 - 5 - 5)/5. \\
624 &= (5^5 - 5)/5. \\
625 &= 5^5/5. \\
626 &= (5^5 + 5)/5. \\
627 &= (5^5 + 5 + 5)/5. \\
628 &= 5 + (5^5 - 5 - 5)/5. \\
629 &= 5 + (5^5 - 5)/5. \\
630 &= 5 + 5^5/5. \\
631 &= 5 + (5^5 + 5)/5. \\
632 &= 5 + (5^5 + 5 + 5)/5. \\
633 &= 5 + 5 + (5^5 - 5 - 5)/5. \\
634 &= 5 + 5 + (5^5 - 5)/5. \\
635 &= 5 + 5 + 5^5/5. \\
636 &= (55 + 5^5)/5. \\
637 &= (55 + 5^5 + 5)/5. \\
638 &= (55 + 5^5 + 5 + 5)/5.
\end{aligned}$$

$$\begin{aligned}
639 &= 5 + 5 + 5 + (5^5 - 5)/5. \\
640 &= 5 + 5 + 5 + 5^5/5. \\
641 &= 5 + (55 + 5^5)/5. \\
642 &= 5 + (55 + 5^5 + 5)/5. \\
643 &= 5 + (55 + 5^5 + 5 + 5)/5. \\
644 &= 5 \times 5 - 5 + (5^5 - 5)/5. \\
645 &= 5 \times 5 - 5 + 5^5/5. \\
646 &= 5 + 5 + (55 + 5^5)/5. \\
647 &= (55 + 55 + 5^5)/5. \\
648 &= 5 \times 5 + (5^5 - 5 - 5)/5. \\
649 &= 5 \times 5 + (5^5 - 5)/5. \\
650 &= 5 \times (5 \times 5 \times 5 + 5). \\
651 &= 5 \times 5 + (5^5 + 5)/5. \\
652 &= 5 \times 5 + (5^5 + 5 + 5)/5. \\
653 &= 5 + 5 \times 5 + (5^5 - 5 - 5)/5. \\
654 &= 5 + 5 \times 5 + (5^5 - 5)/5. \\
655 &= 5 + 5 \times 5 + 5^5/5. \\
656 &= 5 + 5 \times 5 + (5^5 + 5)/5. \\
657 &= 5^5/5 + ((5 + 5)/5)^5. \\
658 &= (5^5 + 5)/5 + ((5 + 5)/5)^5. \\
659 &= (55 \times (55 + 5) - 5)/5. \\
660 &= 55 \times (55 + 5)/5. \\
661 &= 5 \times 5 + (55 + 5^5)/5. \\
662 &= 5 + ((5 + 5)/5)^5 + 5^5/5. \\
663 &= 5 + (5^5 + 5)/5 + ((5 + 5)/5)^5. \\
664 &= 5 + (55 \times (55 + 5) - 5)/5. \\
665 &= 5 + 55 \times (55 + 5)/5. \\
666 &= 555 + 555/5. \\
667 &= 555 + (555 + 5)/5. \\
668 &= 55 + (5^5 - 55 - 5)/5. \\
669 &= 55 + (5^5 - 55)/5. \\
670 &= 55 - 5 - 5 + 5^5/5. \\
671 &= 5 + 555 + 555/5. \\
672 &= (5 + 5/5) \times (555 + 5)/5. \\
673 &= 55 - 5 + (5^5 - 5 - 5)/5. \\
674 &= 55 - 5 + (5^5 - 5)/5. \\
675 &= 5 \times (5 \times 5 \times 5 + 5 + 5). \\
676 &= 55 - 5 + (5^5 + 5)/5. \\
677 &= 55 - 5 + (5^5 + 5 + 5)/5. \\
678 &= 55 + (5^5 - 5 - 5)/5. \\
679 &= 55 + (5^5 - 5)/5. \\
680 &= 55 + 5^5/5. \\
681 &= 55 + (5^5 + 5)/5. \\
682 &= 55 + (5^5 + 5 + 5)/5. \\
683 &= 55 + 5 + (5^5 - 5 - 5)/5. \\
684 &= 55 + 5 + (5^5 - 5)/5. \\
685 &= 55 + 5 + 5^5/5. \\
686 &= 55 + 5 + (5^5 + 5)/5. \\
687 &= 55 + 5 + (5^5 + 5 + 5)/5. \\
688 &= (55 \times 5 \times 5 \times 5 + 5)/(5 + 5). \\
689 &= 55 + 5 + 5 + (5^5 - 5)/5. \\
690 &= 55 + 5 + 5 + 5^5/5. \\
691 &= 55 + (55 + 5^5)/5. \\
692 &= 55 + (55 + 5^5 + 5)/5. \\
693 &= 5 + (5 \times 5 \times 5 \times 55 + 5)/(5 + 5). \\
694 &= 55 + 5 + 5 + 5 + (5^5 - 5)/5. \\
695 &= 5 \times 5 \times (5 \times 5 + 5) - 55. \\
696 &= 55 + 5 + (55 + 5^3)/5. \\
697 &= 55 + 5 + (55 + 5^5 + 5)/5. \\
698 &= 5 \times (5 + 5 + 5) + (5^5 - 5 - 5)/5. \\
699 &= 5 \times (5 + 5 + 5) + (5^5 - 5)/5. \\
700 &= 5 \times (5 \times 5 \times 5 + 5 + 5 + 5). \\
701 &= 5 \times (5 + 5 + 5) + (5^5 + 5)/5. \\
702 &= 55 + (55 + 55 + 5^5)/5. \\
703 &= 5 \times 5 + 55 + (5^5 - 5 - 5)/5. \\
704 &= 5 \times 5 + 55 + (5^5 - 5)/5. \\
705 &= 5 \times 5 + 55 + 5^5/5. \\
706 &= 5 \times 5 + 55 + (5^5 + 5)/5. \\
707 &= 5 \times 5 + 55 + (5^5 + 5 + 5)/5. \\
708 &= (55 + 5) \times (55 + 5 - 5/5)/5. \\
709 &= 5 \times 5 + 55 + 5 + (5^5 - 5)/5. \\
710 &= 5 \times 5 + 55 + 5 + 5^5/5. \\
711 &= (555 + 5^5)/5 - 5 \times 5. \\
712 &= 55 + ((5 + 5)/5)^5 + 5^5/5. \\
713 &= (55 \times (55 + 5 + 5) - 5 - 5)/5. \\
714 &= (55 \times (55 + 5 + 5) - 5)/5. \\
715 &= 55 \times (55 + 5 + 5)/5. \\
716 &= (55 \times (55 + 5 + 5) + 5)/5. \\
717 &= (55 \times (55 + 5 + 5) + 5 + 5)/5. \\
718 &= 5 \times 5 \times (5 \times 5 + 5) - ((5 + 5)/5)^5. \\
719 &= ((55 + 5)^{(5+5)/5} - 5)/5. \\
720 &= (5 \times 5 \times 5 - 5) \times (5 + 5/5). \\
721 &= ((55 + 5)^{(5+5)/5} + 5)/5. \\
722 &= ((55 + 5)^{(5+5)/5} + 5 + 5)/5. \\
723 &= 5 \times (5 \times 5 - 5) + (5^5 - 5 - 5)/5. \\
724 &= 5 \times (5 \times 5 - 5) + (5^5 - 5)/5. \\
725 &= 5 \times (5 \times (5 \times 5 + 5) - 5). \\
726 &= 5 \times (5 \times (5 \times 5 + 5) - 5) + 5/5. \\
727 &= (555 + 5^5 + 5)/5 - 5 - 5. \\
728 &= (55 + 5/5) \times (55 + 5 + 5)/5. \\
729 &= (5 - (5 + 5)/5)^{(5+5)/5}. \\
730 &= 5 + 5 \times (5 \times (5 \times 5 + 5) - 5). \\
731 &= (555 + 5^5)/5 - 5. \\
732 &= (555 + 5^5 + 5)/5 - 5. \\
733 &= 55 + 55 + (5^5 - 5 - 5)/5. \\
734 &= 5 + (5 - (5 + 5)/5)^{(5+5)/5}. \\
735 &= 55 + 55 + 5^5/5. \\
736 &= (555 + 5^5)/5. \\
737 &= (555 + 5^5 + 5)/5. \\
738 &= (555 + 5^5 + 5 + 5)/5. \\
739 &= 5 \times 5 \times 5 + (5^5 - 55)/5. \\
740 &= 5 \times 5 \times (5 \times 5 + 5) - 5 - 5. \\
741 &= 5 + (555 + 5^5)/5. \\
742 &= 5 + (555 + 5^5 + 5)/5. \\
743 &= 5 + (555 + 5^5 + 5 + 5)/5. \\
744 &= 5 \times 5 \times 5 - 5 + (5^5 - 5)/5. \\
745 &= 5 \times 5 \times (5 \times 5 + 5) - 5. \\
746 &= 5 + 5 + (555 + 5^5)/5. \\
747 &= (555 + 55 + 5^5)/5. \\
748 &= 5 \times 5 \times 5 + (5^5 - 5 - 5)/5. \\
749 &= 5 \times 5 \times 5 + (5^5 - 5)/5. \\
750 &= 5 \times 5 \times (5 \times 5 + 5). \\
751 &= 5 \times 5 \times (5 \times 5 + 5) + 5/5. \\
752 &= 5 \times 5 \times 5 + (5^5 + 5 + 5)/5. \\
753 &= 5 \times 5 \times 5 + 5 + (5^5 - 5 - 5)/5. \\
754 &= 5 \times 5 \times 5 + 5 + (5^5 - 5)/5. \\
755 &= 5 + 5 \times 5 \times (5 \times 5 + 5). \\
756 &= 5 + 5 \times 5 \times (5 \times 5 + 5) + 5/5. \\
757 &= 5 + 5 \times 5 \times (5 \times 5 + 5) + (5 + 5)/5. \\
758 &= 5 \times 5 \times 5 + 5 + 5 + (5^5 - 5 - 5)/5. \\
759 &= 5 \times 5 \times 5 + 5 + 5 + (5^5 - 5)/5. \\
760 &= 5 + 5 + 5 \times 5 \times (5 \times 5 + 5). \\
761 &= 5 \times 5 + (555 + 5^5)/5. \\
762 &= 5 \times 5 + (555 + 5^5 + 5)/5. \\
763 &= 555 + (5^5 - 5)/(5 + 5 + 5). \\
764 &= 5 \times (5 \times 5 + 5) + (5^5 - 55)/5. \\
765 &= 5 + 5 + 5 + 5 \times 5 \times (5 \times 5 + 5). \\
766 &= 5 + 5 \times 5 + (555 + 5^5)/5. \\
767 &= 5 + 5 \times 5 + (555 + 5^5 + 5)/5. \\
768 &= (5 \times 5 - 5/5) \times ((5 + 5)/5)^5. \\
769 &= (5 - 5/5)^5 - 5 \times (55 - 5) - 5. \\
770 &= 55 \times (5 + 5 + 5 - 5/5). \\
771 &= 55 \times (5 + 5 + 5 - 5/5) + 5/5. \\
772 &= 555 \times (5 + (5 + 5)/5)/5 - 5. \\
773 &= 5 + (5 \times 5 - 5/5) \times ((5 + 5)/5)^5. \\
774 &= (5 - 5/5)^5 - 5 \times (55 - 5). \\
775 &= 5 \times (5 \times (5 \times 5 + 5) + 5). \\
776 &= 5 \times (5 \times (5 \times 5 + 5) + 5) + 5/5. \\
777 &= 555 \times (5 + (5 + 5)/5)/5. \\
778 &= (5^5 - 5)/(5 - 5/5) - (5 + 5)/5. \\
779 &= (5^5 - 5)/(5 - 5/5) - 5/5. \\
780 &= (5^5 - 5)/(5 - 5/5). \\
781 &= (5^5 - 5/5)/(5 - 5/5). \\
782 &= 5 + 555 \times (5 + (5 + 5)/5)/5. \\
783 &= (5^5 - 5/5)/(5 - 5/5) + (5 + 5)/5. \\
784 &= (5^5 + 55/5)/(5 - 5/5). \\
785 &= 5 + (5^5 - 5)/(5 - 5/5). \\
786 &= 5 + (5^5 - 5/5)/(5 - 5/5). \\
787 &= 5 + 5 + 555 \times (5 + (5 + 5)/5)/5. \\
788 &= 5 + (5^5 + 5 + (5 + 5)/5)/(5 - 5/5). \\
789 &= 5 + (5^5 + 55/5)/(5 - 5/5). \\
790 &= 5 + 5 + (5^5 - 5)/(5 - 5/5). \\
791 &= 55 + (555 + 5^5)/5. \\
792 &= 55 + (555 + 5^5 + 5)/5. \\
793 &= 555 - 5 + (5 - (5 + 5)/5)^5. \\
794 &= 5 \times 5 \times ((5 + 5)/5)^5 - 5 - 5/5. \\
795 &= (55 + 5^5)/(5 - 5/5). \\
796 &= 55 + 5 + (555 + 5^5)/5. \\
797 &= 55 + 5 + (555 + 5^5 + 5)/5. \\
798 &= 555 + (5 - (5 + 5)/5)^5. \\
799 &= 5 \times 5 \times ((5 + 5)/5)^5 - 5/5. \\
800 &= 5 \times 5 \times ((5 + 5)/5)^5. \\
801 &= 5 \times 5 \times ((5 + 5)/5)^5 + 5/5. \\
802 &= 5 \times 5 \times ((5 + 5)/5)^5 + (5 + 5)/5. \\
803 &= 5 + 555 + (5 - (5 + 5)/5)^5. \\
804 &= 5 + 5 \times 5 \times ((5 + 5)/5)^5 - 5/5. \\
805 &= 5 + 5 \times 5 \times ((5 + 5)/5)^5. \\
806 &= 5 + 5 \times 5 \times ((5 + 5)/5)^5 + 5/5. \\
807 &= 5 + 5 \times 5 \times ((5 + 5)/5)^5 + (5 + 5)/5. \\
808 &= 555 + 5 + 5 + (5 - (5 + 5)/5)^5. \\
809 &= 55 \times (5 + 5 + 5) - 5 - 55/5. \\
810 &= (5 + 5 + 5) \times (55 - 5/5). \\
811 &= (5 + 5 + 5) \times (55 - 5/5) + 5/5. \\
812 &= (5 + (5 + 5)/5) \times (5 + 555/5). \\
813 &= 55 \times (5 + 5 + 5) - (55 + 5)/5. \\
814 &= 55 \times (5 + 5 + 5) - 55/5. \\
815 &= 55 \times (5 + 5 + 5) - 5 - 5. \\
816 &= 55 \times (5 + 5 + 5) - 5 - 5 + 5/5. \\
817 &= 55 \times (5 + 5 + 5) - 5 - 5 + (5 + 5)/5. \\
818 &= 55 \times (5 + 5 + 5) - 5 - (5 + 5)/5. \\
819 &= 55 \times (5 + 5 + 5) - 5 - 5/5. \\
820 &= 55 \times (5 + 5 + 5) - 5. \\
821 &= 55 \times (5 + 5 + 5) - 5 + 5/5. \\
822 &= 55 \times (5 + 5 + 5) - 5 + (5 + 5)/5. \\
823 &= 55 \times (5 + 5 + 5) - (5 + 5)/5. \\
824 &= 55 \times (5 + 5 + 5) - 5/5. \\
825 &= 55 \times (5 + 5 + 5). \\
826 &= 55 \times (5 + 5 + 5) + 5/5. \\
827 &= 55 \times (5 + 5 + 5) + (5 + 5)/5. \\
828 &= 55 \times (5 + 5 + 5) + 5 - (5 + 5)/5. \\
829 &= 55 \times (5 + 5 + 5) + 5 - 5/5. \\
830 &= 55 \times (5 + 5 + 5) + 5. \\
831 &= 55 \times (5 + 5 + 5) + 5 + 5/5. \\
832 &= (5 \times 5 + 5/5) \times ((5 + 5)/5)^5. \\
833 &= 5^5/5 + (5^5 - 5)/(5 + 5 + 5). \\
834 &= 55 \times (5 + 5 + 5) + 5 + 5 - 5/5.
\end{aligned}$$

$$\begin{aligned}
835 &= 55 \times (5 + 5 + 5) + 5 + 5. \\
836 &= 55 \times (5 + 5 + 5) + 55/5. \\
837 &= 55 \times (5 + 5 + 5) + (55 + 5)/5. \\
838 &= 5 + 5^5/5 + (5^5 - 5)/(5 + 5 + 5). \\
839 &= (5 + 5 + 5) \times (55 + 5/5) - 5/5. \\
840 &= (5 + 5 + 5) \times (55 + 5/5). \\
841 &= (5 \times 5 + 5 - 5/5)^{(5+5)/5}. \\
842 &= 5 + 5 + (5 \times 5 + 5/5) \times ((5 + 5)/5)^5. \\
843 &= 5^5/5 - 5 \times 5 + (5 - (5 + 5)/5)^5. \\
844 &= 5 \times 55 - 55 + (5^5 - 5)/5. \\
845 &= (5 + 5 + 5) \times (55 + 5/5) + 5. \\
846 &= (5 \times 5 + 5 - 5/5)^{(5+5)/5} + 5. \\
847 &= (555 + 555 + 5^5)/5. \\
848 &= (5 + 55/5) \times (55 - (5 + 5)/5). \\
849 &= 5 \times 5 + 55 \times (5 + 5 + 5) - 5/5. \\
850 &= 5 \times (5 \times (5 \times 5 + 5 + 5) - 5). \\
851 &= 5 \times 5 + 55 \times (5 + 5 + 5) + 5/5. \\
852 &= 5 + (555 + 555 + 5^5)/5. \\
853 &= 5 + (55/5 + 5) \times (55 - (5 + 5)/5). \\
854 &= 555 + 5 \times (55 + 5) - 5/5. \\
855 &= 555 + 5 \times (55 + 5). \\
856 &= 555 + 5 \times (55 + 5) + 5/5. \\
857 &= 55 \times (5 + 5 + 5) + ((5 + 5)/5)^5. \\
858 &= 5^5/5 + (5 - (5 + 5)/5)^5 - 5 - 5. \\
859 &= (5 + 55/5) \times (55 - 5/5) - 5. \\
860 &= 5 + 5 \times (55 + 5) + 555. \\
861 &= 5 \times 5 \times 5 + (555 + 5^5)/5. \\
862 &= 555 + (5^5 - 55)/(5 + 5). \\
863 &= 5^5/5 + (5 - (5 + 5)/5)^5 - 5. \\
864 &= (5 + 55/5) \times (55 - 5/5). \\
865 &= 5 \times 5 \times (5 \times 5 + 5 + 5) - 5 - 5. \\
866 &= 5 \times 5 \times 5 + 5 + (555 + 5^5)/5. \\
867 &= 555 + (5^5 - 5)/(5 + 5). \\
868 &= 5^5/5 + (5 - (5 + 5)/5)^5. \\
869 &= 5 + (5 + 55/5) \times (55 - 5/5). \\
870 &= 5 \times 5 \times (5 \times 5 + 5 + 5) - 5. \\
871 &= 5 \times 5 \times (5 \times 5 + 5 + 5) - 5 + 5/5. \\
872 &= 555 + 5 + (5^5 - 5)/(5 + 5). \\
873 &= 5^5/5 + 5 + (5 - (5 + 5)/5)^5. \\
874 &= 5 \times 5 \times (5 + 5) + (5^5 - 5)/5. \\
875 &= 5 \times 5 \times (5 \times 5 + 5 + 5). \\
876 &= 5 \times 5 \times (5 \times 5 + 5 + 5) + 5/5. \\
877 &= 5 \times 5 \times (5 \times 5 + 5 + 5) + (5 + 5)/5. \\
878 &= 55 \times (5 + 55/5) - (5 + 5)/5. \\
879 &= 55 \times (5 + 55/5) - 5/5. \\
880 &= 55 \times (5 + 55/5). \\
881 &= 55 \times (5 + 55/5) + 5/5. \\
882 &= 55 \times (5 + 55/5) + (5 + 5)/5. \\
883 &= 55 \times (5 + 55/5) + 5 - (5 + 5)/5. \\
884 &= 55 \times (5 + 55/5) + 5 - 5/5. \\
885 &= 55 \times (5 + 55/5) + 5. \\
886 &= 55 \times (5 + 55/5) + 5 + 5/5. \\
887 &= 55 \times (5 + 55/5) + 5 + (5 + 5)/5. \\
888 &= 5 \times 55 + (5^5 - 55 - 5)/5. \\
889 &= 5 \times 55 + (5^5 - 55)/5. \\
890 &= 5 + 5 + 55 \times (5 + 55/5). \\
891 &= 5 \times 55 - 5 - 5 + (5^5 + 5)/5. \\
892 &= 5 \times 5 + 555 + (5^5 - 5)/(5 + 5). \\
893 &= 5 \times 55 - 5 + (5^5 - 5 - 5)/5. \\
894 &= 5 \times 55 - 5 + (5^5 - 5)/5. \\
895 &= 5 \times 55 - 5 + 5^5/5. \\
896 &= 5 \times 55 - 5 + (5^5 + 5)/5. \\
897 &= 5 \times 55 - 5 + (5^5 + 5 + 5)/5. \\
898 &= 5 \times 55 + (5^5 - 5 - 5)/5. \\
899 &= 5 \times 55 + (5^5 - 5)/5. \\
900 &= 5 \times (5 \times 5 \times 5 + 55). \\
901 &= 5 \times 55 + (5^5 + 5)/5. \\
902 &= 5 \times 55 + (5^5 + 5 + 5)/5. \\
903 &= 5 \times 55 + 5 + (5^5 - 5 - 5)/5. \\
904 &= 5 \times 55 + 5 + (5^5 - 5)/5. \\
905 &= 5 \times 55 + 5 + 5^5/5. \\
906 &= 5 \times 55 + 5 + (5^5 + 5)/5. \\
907 &= 5 \times 55 + 5 + (5^5 + 5 + 5)/5. \\
908 &= (5 - 5/5)^5 - 5 - 555/5. \\
909 &= 5 \times 55 + 5 + 5 + (5^5 - 5)/5. \\
910 &= 5 \times 55 + 5 + 5 + 5^5/5. \\
911 &= 5 \times 55 + (55 + 5^5)/5. \\
912 &= 5 \times 55 + (55 + 5^5 + 5)/5. \\
913 &= (5 - 5/5)^5 - 555/5. \\
914 &= (5 - 5/5)^5 - 55 - 55. \\
915 &= (5 + 5 + 5) \times (55 + 5 + 5/5). \\
916 &= 5 \times 55 + 5 + (55 + 5^5)/5. \\
917 &= 5 \times 55 + 5 + (55 + 5^5 + 5)/5. \\
918 &= (5 - 5/5)^5 - 555/5 + 5. \\
919 &= (5 - 5/5)^5 - 55 - 55 + 5. \\
920 &= 5 \times (55 + 5) - 5 + 5^5/5. \\
921 &= 5 \times (55 + 5) - 5 + (5^5 + 5)/5. \\
922 &= 555 + 55 + (5^5 - 5)/(5 + 5). \\
923 &= 5 \times (55 + 5) + (5^5 - 5 - 5)/5. \\
924 &= (5 - 5/5)^5 - 5 \times (5 \times 5 - 5). \\
925 &= 5 \times (5 \times 5 \times 5 + 55 + 5). \\
926 &= 5 \times (55 + 5) + (5^5 + 5)/5. \\
927 &= 5 \times (55 + 5) + (5^5 + 5 + 5)/5. \\
928 &= ((5 + 5)/5)^5 \times (5 \times 5 + 5 - 5/5). \\
929 &= 5 - 5 \times (5 \times 5 - 5) + (5 - 5/5)^5. \\
930 &= 5 + 5 \times (55 + 5) + 5^5/5. \\
931 &= 5 + 5 \times (55 + 5) + (5^5 + 5)/5. \\
932 &= 5^5/5 + (5^5 - 55)/(5 + 5). \\
933 &= 5^5/5 + (5^5 + 5)/(5 + 5) - 5. \\
934 &= 55 \times (5 + (55 + 5)/5) - 5/5. \\
935 &= 55 \times (5 + (55 + 5)/5). \\
936 &= 55 \times (5 + (55 + 5)/5) + 5/5. \\
937 &= (5^5 - 5)/(5 + 5) + 5^5/5. \\
938 &= (5^5 + 5)/(5 + 5) + 5^5/5. \\
939 &= (5^5 + 5)/5 + (5^5 + 5)/(5 + 5). \\
940 &= 55 \times (5 + (55 + 5)/5) + 5. \\
941 &= 55 \times (5 + (55 + 5)/5) + 5 + 5/5. \\
942 &= (5^5 - 5)/(5 + 5) + 5^5/5 + 5. \\
943 &= (5^5 + 5)/(5 + 5) + 5^5/5 + 5. \\
944 &= (5 - 5/5)^5 - 5 \times 5 - 55. \\
945 &= 5 \times 5 \times (55 + 5) - 555. \\
946 &= 55 \times (555/5 - 5 \times 5)/5. \\
947 &= (5^5 - 5)/(5 + 5) + 5^5/5 + 5 + 5. \\
948 &= (5^5 + 5)/(5 + 5) + 5^5/5 + 5 + 5. \\
949 &= (5 - 5/5)^5 - 5 \times (5 + 5 + 5). \\
950 &= (5 + 5) \times (5 \times (5 \times 5 - 5) - 5). \\
951 &= (5 + 5) \times (5 \times (5 \times 5 - 5) - 5) + 5/5. \\
952 &= (5 - 5/5) \times ((5 - (5 + 5)/5)^5 - 5). \\
953 &= 55 + 5 \times 55 + (5^5 - 5 - 5)/5. \\
954 &= (5 - 5/5)^5 + 5 - 5 \times (5 + 5 + 5). \\
955 &= 5 + (5 + 5) \times (5 \times (5 \times 5 - 5) - 5). \\
956 &= 55 + 5 \times 55 + (5^5 + 5)/5. \\
957 &= 55 \times (55 + ((5 + 5)/5)^5)/5. \\
958 &= (5 - 5/5)^5 - 55 - 55/5. \\
959 &= (5 - 5/5)^5 - 55 - 5 - 5. \\
960 &= (5 \times 5 + 5) \times ((5 + 5)/5)^5. \\
961 &= (5 \times 5 + 5 + 5/5)^{(5+5)/5}. \\
962 &= (5 \times 5 + 5/5) \times (5 + ((5 + 5)/5)^5). \\
963 &= (5 - 5/5)^5 - 55 - 5 - 5/5. \\
964 &= (5 - 5/5)^5 - 55 - 5. \\
965 &= 5 + (5 \times 5 + 5) \times ((5 + 5)/5)^5. \\
966 &= 5 + (5 \times 5 + 5 + 5/5)^{(5+5)/5}. \\
967 &= (5 - 5/5)^5 - (55 + (5 + 5)/5). \\
968 &= (5 - 5/5)^5 - 55 - 5/5. \\
969 &= (5 - 5/5)^5 - 55. \\
970 &= (5 - 5/5)^5 - 55 + 5/5. \\
971 &= (5 - 5/5)^{(5+5)/5} - 5^5. \\
972 &= (5 - 5/5) \times (5 - (5 + 5)/5)^5. \\
973 &= (5 - 5/5)^5 + 5 - 55 - 5/5. \\
974 &= (5 - 5/5)^5 + 5 - 55. \\
975 &= 5 \times (5 \times 5 \times (5 + 5) - 55). \\
976 &= 5 - 5^5 + (5 - 5/5)^{(5+5)/5}. \\
977 &= 5 + (5 - 5/5) \times (5 - (5 + 5)/5)^5. \\
978 &= (5 - 5/5)^5 + 5 + 5 - 55 - 5/5. \\
979 &= (5 - 5/5)^5 + 5 + 5 - 55. \\
980 &= 5 + 5 \times (5 \times 5 \times (5 + 5) - 55). \\
981 &= 5555/5 - 5 \times 5 \times 5 - 5. \\
982 &= (5 - 5/5) \times (5 - (5 + 5)/5)^5 + 5 + 5. \\
983 &= (5 - 5/5)^5 - 55/5 - 5 \times 5 - 5. \\
984 &= (5 - 5/5)^5 - 55 + 5 + 5 + 5. \\
985 &= 5 + 5 \times (5 \times 5 \times (5 + 5) - 55) + 5. \\
986 &= 5555/5 - 5 \times 5 \times 5. \\
987 &= (5 - 5/5)^5 - 5 - ((5 + 5)/5)^5. \\
988 &= (5 - 5/5)^5 - 5 \times 5 - 55/5. \\
989 &= (5 - 5/5)^5 - 5 \times 5 - 5 - 5. \\
990 &= (5 + 5) \times (5 \times (5 \times 5 - 5) - 5/5). \\
991 &= 5 + 5555/5 - 5 \times 5 \times 5. \\
992 &= (5 - 5/5)^5 - ((5 + 5)/5)^5. \\
993 &= (5 - 5/5)^5 - 5 \times 5 - 5 - 5/5. \\
994 &= (5 - 5/5)^5 - 5 \times 5 - 5. \\
995 &= 5 \times (5 + 5) \times (5 \times 5 - 5) - 5. \\
996 &= 5 \times (5 + 5) \times (5 \times 5 - 5) - 5 + 5/5. \\
997 &= (5 - 5/5)^5 - ((5 + 5)/5)^5 + 5. \\
998 &= (5 - 5/5)^5 - 5 \times 5 - 5/5. \\
999 &= (5 - 5/5)^5 - 5 \times 5. \\
1000 &= 5 \times (5 + 5) \times (5 \times 5 - 5).
\end{aligned}$$

## 9. REPRESENTATIONS USING NUMBER 6

$$\begin{aligned}
101 &= 66 + 6 \times 6 - 6/6. \\
102 &= 66 + 6 \times 6. \\
103 &= 66 + 6 \times 6 + 6/6. \\
104 &= (666 - 6)/6 - 6. \\
105 &= 666/6 - 6. \\
106 &= (666 + 6)/6 - 6. \\
107 &= 6 \times (6 + 6 + 6) - 6/6. \\
108 &= 6 \times (6 + 6 + 6). \\
109 &= (666 - 6 - 6)/6. \\
110 &= (666 - 6)/6. \\
111 &= 666/6. \\
112 &= (666 + 6)/6. \\
113 &= (666 + 6 + 6)/6. \\
114 &= 6 \times (6 + 6 + 6) + 6. \\
115 &= 6 \times (6 + 6 + 6) + 6 + 6/6.
\end{aligned}$$

$$\begin{aligned}
116 &= 6 + (666 - 6)/6. & 182 &= 6 \times (6 \times 6 - 6) + (6 + 6)/6. & 248 &= 66 \times 66/(6 + 6 + 6) + 6. \\
117 &= 6 + 666/6. & 183 &= 66 + 6 + 666/6. & 249 &= (6 \times 6/(6 + 6))^{6-6/6} + 6. \\
118 &= 6 + (666 + 6)/6. & 184 &= 66 + 6 + (666 + 6)/6. & 250 &= 6 \times (6 \times 6 + 6) - (6 + 6)/6. \\
119 &= 6 + (666 + 6 + 6)/6. & 185 &= 6 \times (6 \times 6 - 6) + 6 - 6/6. & 251 &= 6 \times (6 \times 6 + 6) - 6/6. \\
120 &= 6 \times (6 + 6 + 6) + 6 + 6. & 186 &= 6 \times (6 \times 6 - 6) + 6. & 252 &= 6 \times (6 \times 6 + 6). \\
121 &= 66 \times 66/(6 \times 6). & 187 &= 6 \times (6 \times 6 - 6) + 6 + 6/6. & 253 &= 6 \times (6 \times 6 + 6) + 6/6. \\
122 &= (666 + 66)/6. & 188 &= 6 \times (6 \times 6 - 6) + 6 + (6 + 6)/6. & 254 &= 6 \times (6 \times 6 + 6) + (6 + 6)/6. \\
123 &= 6 + 6 + 666/6. & 189 &= 66 + 6 + 6 + 666/6. & 255 &= 6 \times (6 \times 6 + 6) + 6 \times 6/(6 + 6). \\
124 &= 6 + 6 + (666 + 6)/6. & 190 &= (6 - 6/6) \times (6 \times 6 + (6 + 6)/6). & 256 &= ((6 + 6)/6)^{6+(6+6)/6}. \\
125 &= 66 + 66 - 6 - 6/6. & 191 &= 6 \times (6 \times 6 - 6) + 66/6. & 257 &= 6 \times (6 \times 6 + 6) + 6 - 6/6. \\
126 &= 66 + 66 - 6. & 192 &= 6 \times (6 \times 6 - 6) + 6 + 6. & 258 &= 6 \times (6 \times 6 + 6) + 6. \\
127 &= 6 + 66 \times 66/(6 \times 6). & 193 &= 6 \times (6 \times 6 - 6) + 6 + 6 + 6/6. & 259 &= 6 \times (6 \times 6 + 6) + 6 + 6/6. \\
128 &= ((6 + 6)/6)^{6+(6+6)/6}. & 194 &= 66 + ((6 + 6)/6)^{6+(6+6)/6}. & 260 &= 6 \times (6 \times 6 + 6) + 6 + (6 + 6)/6. \\
129 &= 6 + 6 + 6 + 666/6. & 195 &= 6 \times (6 \times 66 - 6)/(6 + 6). & 261 &= 6 \times (6 \times 6 + 6) + 6 + 6 \times 6/(6 + 6). \\
130 &= 66 + ((6 + 6)/6)^6. & 196 &= 66 + 66 + ((6 + 6)/6)^6. & 262 &= ((6 + 6)/6)^{6+(6+6)/6} + 6. \\
131 &= 66 + 66 - 6/6. & 197 &= (66 \times (6 + 6 + 6) - 6)/6. & 263 &= 6 \times (6 \times 6 + 6) + 66/6. \\
132 &= 66 + 66. & 198 &= 6 \times 6 \times 66/(6 + 6). & 264 &= 6 \times (6 \times 6 + 6) + 6 + 6. \\
133 &= 66 + 66 + 6/6. & 199 &= 6 \times 6 \times 6 - 6 - 66/6. & 265 &= 6 \times (6 \times 6 + 6) + 6 + 6 + 6/6. \\
134 &= 66 + 66 + (6 + 6)/6. & 200 &= 6 \times 6 \times 6 - 6 - (66 - 6)/6. & 266 &= (6 + 6/6) \times (6 \times 6 + (6 + 6)/6). \\
135 &= 6 + 6 + 6 + 6 + 666/6. & 201 &= 6 \times (6 \times 66 + 6)/(6 + 6). & 267 &= 6 \times 666/(6 + 6) - 66. \\
136 &= 66 + 6 + ((6 + 6)/6)^6. & 202 &= 6 \times 6 \times 6 - 6 - 6 - (6 + 6)/6. & 268 &= (66 + 6/6) \times (6 - (6 + 6)/6). \\
137 &= 66 + 6 + 66 - 6/6. & 203 &= 6 \times 6 \times 6 - 6 - 6 - 6/6. & 269 &= 6 \times (6 \times 6 + 6) + 6 + 66/6. \\
138 &= 66 + 66 + 6. & 204 &= 6 \times 6 \times 6 - 6 - 6. & 270 &= 666 - 6 \times 66. \\
139 &= 66 + 66 + 6 + 6/6. & 205 &= 6 \times 6 \times 6 - 66/6. & 271 &= 66 + 6 \times 6 \times 6 - 66/6. \\
140 &= 66 + 66 + 6 + (6 + 6)/6. & 206 &= 6 \times 6 \times 6 - (66 - 6)/6. & 272 &= (6+6/6) \times (6 \times 6 + (6+6)/6) + 6. \\
141 &= 6 \times 6 - 6 + 666/6. & 207 &= 6 + 6 \times (6 \times 66 + 6)/(6 + 6). & 273 &= 6 - 66 + 6 \times 666/(6 + 6). \\
142 &= (6 + 6) \times (6 + 6) - (6 + 6)/6. & 208 &= 6 \times 6 \times 6 - 6 - (6 + 6)/6. & 274 &= 6 \times 6 \times 6 - 6 + ((6 + 6)/6)^6. \\
143 &= (6 + 6) \times (6 + 6) - 6/6. & 209 &= 6 \times 6 \times 6 - 6 - 6/6. & 275 &= 66 + 6 \times 6 \times 6 - 6 - 6/6. \\
144 &= (6 + 6) \times (6 + 6). & 210 &= 6 \times 6 \times 6 - 6. & 276 &= 66 + 6 \times 6 \times 6 - 6. \\
145 &= (6 + 6) \times (6 + 6) + 6/6. & 211 &= 6 \times 6 \times 6 - 6 + 6/6. & 277 &= 66 + 6 \times 6 \times 6 - 6 + 6/6. \\
146 &= 6 \times 6 + (666 - 6)/6. & 212 &= 6 \times 6 \times 6 - 6 + (6 + 6)/6. & 278 &= 66 + 6 \times 6 \times 66/(6 + 6 + 6). \\
147 &= 66 + 6 \times 66/6. & 213 &= 6 \times 6 \times 6 - 6 \times 6/(6 + 6). & 279 &= 6 \times 66 - 6 - 666/6. \\
148 &= 6 \times 6 + (666 + 6)/6. & 214 &= 6 \times 6 \times 6 - (6 + 6)/6. & 280 &= 6 \times 6 \times 6 + ((6 + 6)/6)^6. \\
149 &= (6 + 6) \times (6 + 6) + 6 - 6/6. & 215 &= 6 \times 6 \times 6 - 6/6. & 281 &= 66 + 6 \times 6 \times 6 - 6/6. \\
150 &= (6 + 6) \times (6 + 6) + 6. & 216 &= 6 \times 6 \times 6. & 282 &= 66 + 6 \times 6 \times 6. \\
151 &= (6 + 6) \times (6 + 6) + 6 + 6/6. & 217 &= 6 \times 6 \times 6 + 6/6. & 283 &= 66 + 6 \times 6 \times 6 + 6/6. \\
152 &= 6 \times 6 \times 6 - ((6 + 6)/6)^6. & 218 &= 6 \times 6 \times 6 + (6 + 6)/6. & 284 &= 66 + 6 \times 6 \times 6 + (6 + 6)/6. \\
153 &= 6 \times 6 + 6 + 666/6. & 219 &= 6 \times 6 \times 6 + 6 \times 6/(6 + 6). & 285 &= 6 \times 66 - 666/6. \\
154 &= 6 \times 6 + 6 + (666 + 6)/6. & 220 &= 6 + 6 \times 6 \times 6 - (6 + 6)/6. & 286 &= 6 \times 6 \times 6 + ((6 + 6)/6)^6 + 6. \\
155 &= (6 + 6) \times (6 + 6) + 66/6. & 221 &= 6 + 6 \times 6 \times 6 - 6/6. & 287 &= 6 \times (6 \times 6 + 6 + 6) - 6/6. \\
156 &= (6 + 6) \times (6 + 6) + 6 + 6. & 222 &= 6 + 6 \times 6 \times 6. & 288 &= 6 \times (6 \times 6 + 6 + 6). \\
157 &= (6 + 6) \times (6 + 6) + 6 + 6 + 6/6. & 223 &= 6 + 6 \times 6 \times 6 + 6/6. & 289 &= 6 \times (6 \times 6 + 6 + 6) + 6/6. \\
158 &= 6 \times 6 \times 6 + 6 - ((6 + 6)/6)^6. & 224 &= 6 + 6 \times 6 \times 6 + (6 + 6)/6. & 290 &= 6 \times (6 \times 6 + 6 + 6) + (6 + 6)/6. \\
159 &= 6 \times 6 + 6 + 6 + 666/6. & 225 &= 6 \times 6 \times 6 + 6 + 6 \times 6/(6 + 6). & 291 &= 6 + 6 \times 66 - 666/6. \\
160 &= 6 \times 6 + 6 + 6 + (666 + 6)/6. & 226 &= 6 \times 6 \times 6 + (66 - 6)/6. & 292 &= 6 \times 6 \times 6 + 6 + 6 + ((6 + 6)/6)^6. \\
161 &= (6 + 6) \times (6 + 6) + 6 + 66/6. & 227 &= 6 \times 66 + 6 \times 6/6. & 293 &= 6 \times (6 \times 6 + 6 + 6) + 6 - 6/6. \\
162 &= (6 + 6) \times (6 + 6) + 6 + 6 + 6. & 228 &= 6 \times 6 \times 6 + 6 + 6. & 294 &= 6 \times (6 \times 6 + 6 + 6) + 6. \\
163 &= 6 \times (6 \times 6 - 6) - 6 - 66/6. & 229 &= 6 \times 6 \times 6 + 6 + 6 + 6/6. & 295 &= 6 \times (6 \times 6 + 6 + 6) + 6 + 6/6. \\
164 &= 6 \times 6 + ((6 + 6)/6)^{6+(6+6)/6}. & 230 &= 6 \times 6 \times 6 + 6 + 6 + (6 + 6)/6. & 296 &= (6 + (6 + 6)/6) \times (6 \times 6 + 6/6). \\
165 &= 66 \times (6 \times 6 - 6)/(6 + 6). & 231 &= 66 \times (6 \times 6 + 6)/(6 + 6). & 297 &= 6 \times 6 \times 66/(6 + (6 + 6)/6). \\
166 &= 66 + 6 \times 6 + ((6 + 6)/6)^6. & 232 &= 6 \times 6 \times 6 + 6 + (66 - 6)/6. & 298 &= 6 \times (6 \times 6 + 6 + 6) + (66 - 6)/6. \\
167 &= 66 + 6 \times 6 + 66 - 6/6. & 233 &= 6 \times 6 \times 6 + 6 + 66/6. & 299 &= 6 \times (6 \times 6 + 6 + 6) + 66/6. \\
168 &= 66 + 6 \times 6 + 66. & 234 &= 6 \times 6 \times 6 + 6 + 6 + 6. & 300 &= (66 - 6) \times (6 - 6/6). \\
169 &= (6 + 6 + 6/6)^{6+(6+6)/6}. & 235 &= 6 \times 6 \times 6 + 6 + 6 + 6 + 6/6. & 301 &= (66 - 6) \times (6 - 6/6) + 6/6. \\
170 &= 66 - 6 + (666 - 6)/6. & 236 &= 66 \times 66/(6 + 6 + 6) - 6. & 302 &= (6+(6+6)/6) \times (6 \times 6 + 6/6) + 6. \\
171 &= 66 - 6 + 666/6. & 237 &= 66 \times (6 \times 6 + 6)/(6 + 6) + 6. & 303 &= 6 \times 6 \times 66/(6 + (6 + 6)/6) + 6. \\
172 &= 66 - 6 + (666 + 6)/6. & 238 &= 6 \times 6 \times 6 + (66 + 66)/6. & 304 &= (6 + (6 + 6)/6) \times (6 \times 6 + (6 + 6)/6). \\
173 &= 6 \times (6 \times 6 - 6) - 6 - 6/6. & 239 &= 6 \times 6 \times 6 + 6 + 6 + 66/6. & 305 &= (6 - 6/6) \times (66 - 6 + 6/6). \\
174 &= 6 \times (6 \times 6 - 6) - 6. & 240 &= 6 \times (6 \times 6 + 6) - 6 - 6. & 306 &= (66 - 6) \times (6 - 6/6) + 6. \\
175 &= 6 \times (6 \times 6 - 6) - 6 + 6/6. & 241 &= 6 \times (6 \times 6 + 6) - 66/6. & 307 &= (66 - 6) \times (6 - 6/6) + 6 + 6/6. \\
176 &= 66 + (666 - 6)/6. & 242 &= 66 \times 66/(6 + 6 + 6). & 308 &= 66 + 66 \times 66/(6 + 6 + 6). \\
177 &= 66 + 666/6. & 243 &= (6 \times 6/(6 + 6))^{6-6/6}. & 309 &= 66 + (6 \times 6/(6 + 6))^{6-6/6}. \\
178 &= 66 + (666 + 6)/6. & 244 &= 6 \times 6 \times 6 - 6 + ((6 + 6)/6)^6. & 310 &= (6 - 6/6) \times (66 - 6 + (6 + 6)/6). \\
179 &= 6 \times (6 \times 6 - 6) - 6/6. & 245 &= (6 + 6/6) \times (6 \times 6 - 6/6). & 311 &= (6 - 6/6) \times (66 - 6 + 6/6) + 6. \\
180 &= 6 \times (6 \times 6 - 6). & 246 &= 6 \times (6 \times 6 + 6) - 6. & 312 &= 6 \times (((6 + 6)/6)^6 - 6 - 6). \\
181 &= 6 \times (6 \times 6 - 6) + 6/6. & 247 &= 6 \times (6 \times 6 + 6) - 6 + 6/6. & & &
\end{aligned}$$

$$\begin{aligned}
313 &= 6 \times (66 - 6 - 6) - 66/6. \\
314 &= (6 - 6/6) \times ((6 + 6)/6)^6 - 6. \\
315 &= 6 \times (666 - 6 \times 6)/(6 + 6). \\
316 &= 6 \times (6 \times 6 + 6) + ((6 + 6)/6)^6. \\
317 &= 66 + 6 \times (6 \times 6 + 6) - 6/6. \\
318 &= 66 + 6 \times (6 \times 6 + 6). \\
319 &= 66 + 6 \times (6 \times 6 + 6) + 6/6. \\
320 &= (6 - 6/6) \times ((6 + 6)/6)^6. \\
321 &= 6 \times 6 \times 6 - 6 + 666/6. \\
322 &= 6 \times (66 - 6 - 6) - (6 + 6)/6. \\
323 &= 6 \times (66 - 6 - 6) - 6/6. \\
324 &= 6 \times (66 - 6 - 6). \\
325 &= 6 \times (66 - 6 - 6) + 6/6. \\
326 &= (6 - 6/6) \times ((6 + 6)/6)^6 + 6. \\
327 &= 6 \times 66 + 6 \times 66/6. \\
328 &= 6 \times 6 \times 6 + (666 + 6)/6. \\
329 &= 6 \times 66 - 66 - 6/6. \\
330 &= 6 \times 66 - 66. \\
331 &= 6 \times 66 - 66 + 6/6. \\
332 &= 6 \times 66 - ((6 + 6)/6)^6. \\
333 &= 6 \times 666/(6 + 6). \\
334 &= 6 \times 666/(6 + 6) + 6/6. \\
335 &= (6 - 6/6) \times (66 + 6/6). \\
336 &= 66 \times (6 - 6/6) + 6. \\
337 &= 66 \times (6 - 6/6) + 6 + 6/6. \\
338 &= 6 \times 66 + 6 - ((6 + 6)/6)^6. \\
339 &= 6 \times 666/(6 + 6) + 6. \\
340 &= (6 - 6/6) \times (66 + (6 + 6)/6). \\
341 &= (6 - 6/6) \times (66 + 6/6) + 6. \\
342 &= 66 \times (6 - 6/6) + 6 + 6. \\
343 &= (6 + 6/6)^6 \times 6/(6 + 6). \\
344 &= 6 \times 66 + 6 + 6 - ((6 + 6)/6)^6. \\
345 &= 6 \times 666/(6 + 6) + 6 + 6. \\
346 &= (6 - 6/6) \times (66 + (6 + 6)/6) + 6. \\
347 &= 6 \times (66 - 6) - 6 - 6 - 6/6. \\
348 &= 6 \times (66 - 6) - 6 - 6. \\
349 &= 6 \times (66 - 6) - 66/6. \\
350 &= (6 - 6/6) \times (6 + ((6 + 6)/6)^6). \\
351 &= 6 \times (666 + 6 \times 6)/(6 + 6). \\
352 &= 6 \times (66 - 6) - 6 - (6 + 6)/6. \\
353 &= 6 \times (66 - 6) - 6 - 6/6. \\
354 &= 6 \times (66 - 6) - 6. \\
355 &= 6 \times (66 - 6) - 6 + 6/6. \\
356 &= 6 \times (66 - 6) - 6 + (6 + 6)/6. \\
357 &= 66 \times 66/(6 + 6) - 6. \\
358 &= 6 \times (66 - 6) - (6 + 6)/6. \\
359 &= 6 \times (66 - 6) - 6/6. \\
360 &= 6 \times (66 - 6). \\
361 &= 6 \times (66 - 6) + 6/6. \\
362 &= 6 \times (66 - 6) + (6 + 6)/6. \\
363 &= 66 \times 66/(6 + 6). \\
364 &= 6 \times (66 - 6) + 6 - (6 + 6)/6. \\
365 &= 6 \times (66 - 6) + 6 - 6/6. \\
366 &= 6 \times (66 - 6) + 6. \\
367 &= 6 \times (66 - 6) + 6 + 6/6. \\
368 &= 6 \times (66 - 6) + 6 + (6 + 6)/6. \\
369 &= 66 \times 66/(6 + 6) + 6. \\
370 &= 6 \times (66 - 6) + (66 - 6)/6. \\
371 &= 6 \times (66 - 6) + 66/6. \\
372 &= 6 \times (66 - 6) + 6 + 6. \\
373 &= 6 \times (66 - 6) + 6 + 6 + 6/6. \\
374 &= 66 \times (6 \times 6 - (6 + 6)/6)/6. \\
375 &= 66 \times 66/(6 + 6) + 6 + 6. \\
376 &= 6 \times (66 - 6) + 6 + (66 - 6)/6. \\
377 &= 6 \times (66 - 6) + 6 + 66/6. \\
378 &= 6 \times 66 - 6 - 6 - 6. \\
379 &= 6 \times 66 - 6 - 66/6. \\
380 &= 6 \times 66 - 6 - (66 - 6)/6. \\
381 &= 66 \times 66/(6 + 6) + 6 + 6 + 6. \\
382 &= 6 \times 66 - 6 - 6 - (6 + 6)/6. \\
383 &= 6 \times 66 - 6 - 6 - 6/6. \\
384 &= 6 \times ((6 + 6)/6)^6. \\
385 &= 6 \times 66 - 66/6. \\
386 &= 6 \times 66 - (66 - 6)/6. \\
387 &= 6 \times 66 - (66 - 6 - 6)/6. \\
388 &= 6 \times 66 - 6 - (6 + 6)/6. \\
389 &= 6 \times 66 - 6 - 6/6. \\
390 &= 6 \times 66 - 6. \\
391 &= 6 \times 66 - 6 + 6/6. \\
392 &= 6 \times 66 - 6 + (6 + 6)/6. \\
393 &= 6 \times 66 - 6 \times 6/(6 + 6). \\
394 &= 6 \times 66 - (6 + 6)/6. \\
395 &= 6 \times 66 - 6/6. \\
396 &= 6 \times 66. \\
397 &= 6 \times 66 + 6/6. \\
398 &= 6 \times 66 + (6 + 6)/6. \\
399 &= 6 \times 66 + 6 \times 6/(6 + 6). \\
400 &= 6 \times 66 + 6 - (6 + 6)/6. \\
401 &= 6 \times 66 + 6 - 6/6. \\
402 &= 6 \times 66 + 6. \\
403 &= 6 + 6 \times 66 + 6/6. \\
404 &= 6 + 6 \times 66 + (6 + 6)/6. \\
405 &= 6 + 6 \times 66 + 6 \times 6/(6 + 6). \\
406 &= 6 \times 66 + (66 - 6)/6. \\
407 &= 6 \times 66 + 66/6. \\
408 &= 6 \times 66 + 6 + 6. \\
409 &= 6 \times 66 + 6 + 6 + 6/6. \\
410 &= 6 \times 66 + 6 + 6 + (6 + 6)/6. \\
411 &= 6 \times 66 + 6 + 6 + 6 \times 6/(6 + 6). \\
412 &= 6 \times 66 + 6 + (66 - 6)/6. \\
413 &= 6 \times 66 + 6 + 66/6. \\
414 &= 6 \times 66 + 6 + 6 + 6. \\
415 &= 6 \times 66 + 6 + 6 + 6 + 6/6. \\
416 &= 6 \times 66 + 6 + 6 + 6 + (6 + 6)/6. \\
417 &= 6 \times (66 + (6 \times 6 + 6)/(6 + 6)). \\
418 &= 6 \times 66 + (66 + 66)/6. \\
419 &= 6 \times 66 + 6 + 6 + 66/6. \\
420 &= 6 \times (6 + ((6 + 6)/6)^6). \\
421 &= 6 \times (66 + 6) - 66/6. \\
422 &= 6 \times (66 + 6) + (6 - 66)/6. \\
423 &= 66 - 6 + 66 \times 66/(6 + 6). \\
424 &= 6 \times (66 - 6) + ((6 + 6)/6)^6. \\
425 &= 6 \times (66 + 6) - 6 - 6/6. \\
426 &= 6 \times (66 + 6) - 6. \\
427 &= 6 \times (66 + 6) - 6 + 6/6. \\
428 &= 6 \times (66 + 6) - 6 + (6 + 6)/6. \\
429 &= 66 + 66 \times 66/(6 + 6). \\
430 &= 6 \times (66 + 6) - (6 + 6)/6. \\
431 &= 6 \times (66 + 6) - 6/6. \\
432 &= 6 \times (66 + 6). \\
433 &= 6 \times (66 + 6) + 6/6. \\
434 &= 6 \times (66 + 6) + (6 + 6)/6. \\
435 &= 6 \times (66 + 6) + 6 \times 6/(6 + 6). \\
436 &= 6 \times (66 + 6) + 6 - (6 + 6)/6. \\
437 &= 6 \times (66 + 6) + 6 - 6/6. \\
438 &= 6 \times (66 + 6) + 6. \\
439 &= 6 \times (66 + 6) + 6 + 6/6. \\
440 &= 6 \times (66 + 6) + 6 + (6 + 6)/6. \\
441 &= 6 \times (66 + 6) + 6 + 6 \times 6/(6 + 6). \\
442 &= 6 \times (66 + 6) + (66 - 6)/6. \\
443 &= 6 \times (66 + 6) + 66/6. \\
444 &= 6 \times (66 + 6) + 6 + 6. \\
445 &= 6 \times (66 + 6) + 6 + 6 + 6/6. \\
446 &= 6 \times (66 + 6) + 6 + 6 + (6 + 6)/6. \\
447 &= (6 + 6/6) \times ((6 + 6)/6)^6 - 6/6. \\
448 &= (6 + 6/6) \times ((6 + 6)/6)^6. \\
449 &= 6 \times (66 + 6) + 6 + 66/6. \\
450 &= 666 - 6 \times 6 \times 6. \\
451 &= 66 + 6 \times 66 - 66/6. \\
452 &= 66 + 6 \times 66 - (66 - 6)/6. \\
453 &= 66 + 6 \times 66 - (66 - 6 - 6)/6. \\
454 &= (6 + 6/6) \times ((6 + 6)/6)^6 + 6. \\
455 &= (6/6 + 6) \times (66 - 6/6). \\
456 &= 66 + 6 \times 66 - 6. \\
457 &= 66 + 6 \times 66 - 6 + 6/6. \\
458 &= 66 + 6 \times 66 - 6 + (6 + 6)/6. \\
459 &= 66 + 6 \times 66 - 6 \times 6/(6 + 6). \\
460 &= 6 \times 66 + ((6 + 6)/6)^6. \\
461 &= 66 + 6 \times 66 - 6/6. \\
462 &= 66 + 6 \times 66. \\
463 &= 66 + 6 \times 66 + 6/6. \\
464 &= 66 + 6 \times 66 + (6 + 6)/6. \\
465 &= 66 + 6 \times 66 + 6 \times 6/(6 + 6). \\
466 &= 6 \times 66 + 6 + ((6 + 6)/6)^6. \\
467 &= 6 \times (66 + 6 + 6) - 6/6. \\
468 &= 6 \times (66 + 6 + 6). \\
469 &= 6 \times (66 + 6 + 6) + 6/6. \\
470 &= 6 \times (66 + 6 + 6) + (6 + 6)/6. \\
471 &= 6 \times (66 - 6) + 666/6. \\
472 &= 6 \times 66 + 6 + 6 + ((6 + 6)/6)^6. \\
473 &= 6 \times (66 + 6 + 6) + 6 - 6/6. \\
474 &= 6 \times (66 + 6 + 6) + 6. \\
475 &= 6 \times (66 + 6 + 6) + 6 + 6/6. \\
476 &= (6 + 6/6) \times (66 + (6 + 6)/6). \\
477 &= 6 \times (66 - 6) + 6 + 666/6. \\
478 &= 6 \times (66 + 6 + 6) + (66 - 6)/6. \\
479 &= 6 \times (66 + 6 + 6) + 66/6. \\
480 &= 6 \times (66 + 6 + 6) + 6 + 6. \\
481 &= (6 + 6 + 6/6) \times (6 \times 6 + 6/6). \\
482 &= (6 + 6/6) \times (66 + (6 + 6)/6) + 6. \\
483 &= (6 + 6/6) \times (66 + 6 \times 6/(6 + 6)). \\
484 &= ((66 + 66)/6)^{(6+6)/6}. \\
485 &= 6 \times (66 + 6 + 6) + 6 + 66/6. \\
486 &= 666 - 6 \times (6 \times 6 - 6). \\
487 &= (6 + 6 + 6/6) \times (6 \times 6 + 6/6) + 6. \\
488 &= (6 + (6 + 6)/6) \times (66 - 6 + 6/6). \\
489 &= 666 - 66 - 666/6. \\
490 &= (6 + 6/6) \times (6 + ((6 + 6)/6)^6). \\
491 &= 6 \times 6 + (6 + 6/6) \times (66 - 6/6). \\
492 &= 66 + 6 \times (66 + 6) - 6. \\
493 &= (6 + 6) \times (6 \times 6 + 6) - 66/6. \\
494 &= (6 + 6) \times (6 \times 6 + 6) - (66 - 6)/6. \\
495 &= 6 \times 66 - 6 - 6 + 666/6. \\
496 &= ((6 + 6)/6)^6 + 6 \times (66 + 6). \\
497 &= 66 + 6 \times (66 + 6) - 6/6. \\
498 &= 66 + 6 \times (66 + 6). \\
499 &= 66 + 6 \times (66 + 6) + 6/6. \\
500 &= 66 + 6 \times (66 + 6) + (6 + 6)/6. \\
501 &= 6 \times 66 - 6 + 666/6. \\
502 &= (6 + 6) \times (6 \times 6 + 6) - (6 + 6)/6. \\
503 &= (6 + 6) \times (6 \times 6 + 6) - 6/6. \\
504 &= (6 + 6) \times (6 \times 6 + 6). \\
505 &= (6 + 6) \times (6 \times 6 + 6) + 6/6. \\
506 &= (6 + 6) \times (6 \times 6 + 6) + (6 + 6)/6. \\
507 &= 6 \times 66 + 666/6. \\
508 &= 6 \times 66 + (666 + 6)/6. \\
509 &= (6 + 6) \times (6 \times 6 + 6) + 6 - 6/6. \\
510 &= (6 + 6) \times (6 \times 6 + 6) + 6.
\end{aligned}$$

$$\begin{aligned}
511 &= (6+6) \times (6 \times 6 + 6) + 6 + 6/6. \\
512 &= ((6+6)/6)^{(6+6 \times 6/(6+6))}. \\
513 &= 6 \times 66 + 6 + 666/6. \\
514 &= 6 \times 66 + 6 + (666+6)/6. \\
515 &= (6+6) \times (6 \times 6 + 6) + 66/6. \\
516 &= (6+6) \times (6 \times 6 + 6) + 6 + 6. \\
517 &= 66 \times (66 + 6 \times 6/6)/6. \\
518 &= ((6+6)/6)^{(6+6 \times 6/(6+6))} + 6. \\
519 &= 6 \times 66 + 6 + 6 + 666/6. \\
520 &= (6 + (6+6)/6) \times (66 - 6/6). \\
521 &= (6+6) \times (6 \times 6 + 6) + 6 + 66/6. \\
522 &= 666 - (6+6) \times (6+6). \\
523 &= 6 + 66 \times (66 + 6 \times 6/6)/6. \\
524 &= 6 \times 66 + ((6+6)/6)^{(6+6/6)}. \\
525 &= (6 - 6/6) \times (666/6 - 6). \\
526 &= (6 + (6+6)/6) \times (66 - 6/6) + 6. \\
527 &= 66 \times (6 + (6+6)/6) - 6/6. \\
528 &= 66 \times (6 + (6+6)/6). \\
529 &= 66 \times (6 + (6+6)/6) + 6/6. \\
530 &= 66 \times (6 + (6+6)/6) + (6+6)/6. \\
531 &= (6 - 6/6) \times (666/6 - 6) + 6. \\
532 &= (6/6+6) \times (6+6+((6+6)/6)^6). \\
533 &= 66 \times (6 + (6+6)/6) + 6 - 6/6. \\
534 &= 66 \times (6 + (6+6)/6) + 6. \\
535 &= 66 \times (6 + (6+6)/6) + 6 + 6/6. \\
536 &= (6 + (6+6)/6) \times (66 + 6/6). \\
537 &= 6 \times (66 + 6) - 6 + 666/6. \\
538 &= 666 - ((6+6)/6)^{(6+6/6)}. \\
539 &= (6 + 6/6) \times (66 + 66/6). \\
540 &= (6 + 6 + 6) \times (6 \times 6 - 6). \\
541 &= (6 + 6 + 6) \times (6 \times 6 - 6) + 6/6. \\
542 &= (6 + (6+6)/6) \times (66 + 6/6) + 6. \\
543 &= 6 \times (66 + 6) + 666/6. \\
544 &= 666 - (666 + 66)/6. \\
545 &= (6 + 6/6) \times (66 + 66/6) + 6. \\
546 &= (6 + 6 + 6) \times (6 \times 6 - 6) + 6. \\
547 &= (6+6+6) \times (6 \times 6 - 6) + 6 + 6/6. \\
548 &= 666 - 6 - (666 + 6)/6. \\
549 &= 666 - 6 - 666/6. \\
550 &= (6 - 6/6) \times (666 - 6)/6. \\
551 &= (6+6+6) \times (6 \times 6 - 6) + 66/6. \\
552 &= (6+6+6) \times (6 \times 6 - 6) + 6 + 6. \\
553 &= (6 + 6/6) \times (66 + 6 + 6 + 6/6). \\
554 &= 666 - (666 + 6)/6. \\
555 &= 666 - 666/6. \\
556 &= (6666 + 6)/(6 + 6). \\
557 &= (6666 + 6)/(6 + 6) + 6/6. \\
558 &= 666 - 6 \times (6 + 6 + 6). \\
559 &= 666 - 6 \times (6 + 6 + 6) + 6/6. \\
560 &= (6 - 6/6) \times (666 + 6)/6. \\
561 &= 666 \times (6 - 6/6)/6 + 6. \\
562 &= (6666 + 6)/(6 + 6) + 6. \\
563 &= 666 - 66 - 6 \times 6 - 6/6. \\
564 &= (6 + 6) \times (66 + 6 \times 6/6). \\
565 &= (6 + 6) \times (66 + 6 \times 6/6) + 6/6. \\
566 &= (6 - 6/6) \times (666 + 6)/6 + 6. \\
567 &= 666 \times (6 - 6/6)/6 + 6 + 6. \\
568 &= (6666 + 6)/(6 + 6) + 6 + 6. \\
569 &= 66 + (6+6) \times (6 \times 6 + 6) - 6/6. \\
570 &= 66 + (6+6) \times (6 \times 6 + 6). \\
571 &= 66 + (6+6) \times (6 \times 6 + 6) + 6/6. \\
572 &= 66 \times (((6+6)/6)^6 - 6 - 6)/6. \\
573 &= 66 + 6 \times 66 + 666/6. \\
574 &= 6 \times (66 + 6 \times 6 - 6) - (6+6)/6. \\
575 &= 6 \times (66 + 6 \times 6 - 6) - 6/6. \\
576 &= 6 \times (66 + 6 \times 6 - 6). \\
577 &= 6 \times (66 + 6 \times 6 - 6) + 6/6. \\
578 &= 6 \times (66 + 6 \times 6 - 6) + (6+6)/6. \\
579 &= 6 \times 66 + 6 \times 6 \times 66/(6+6). \\
580 &= (6 - 6/6) \times (6 + (666 - 6)/6). \\
581 &= 6 \times (66 + 6 \times 6 - 6) + 6 - 6/6. \\
582 &= 6 \times (66 + 6 \times 6 - 6) + 6. \\
583 &= 6 \times (66 + 6 \times 6 - 6) + 6 + 6/6. \\
584 &= (6 + (6+6)/6) \times (66 + 6 + 6/6). \\
585 &= (6 - 6/6) \times (6 + 666/6). \\
586 &= (((6+6)/6)^{(6+6)} + 6)/(6+6/6). \\
587 &= 666 - 66 - 6 - 6 - 6/6. \\
588 &= 666 - 66 - 6 - 6. \\
589 &= 666 - 66 - 66/6. \\
590 &= 666 - 66 - (66 - 6)/6. \\
591 &= (6 - 6/6) \times (6 + 666/6) + 6. \\
592 &= 6 \times 6 + (6666 + 6)/(6+6). \\
593 &= 666 - 66 - 6 - 6/6. \\
594 &= 666 - 66 - 6. \\
595 &= 666 - 66 - 6 + 6/6. \\
596 &= 666 - 6 - ((6+6)/6)^6. \\
597 &= 666 - 66 - 6 \times 6/(6+6). \\
598 &= 666 - 66 - (6+6)/6. \\
599 &= 666 - 66 - 6/6. \\
600 &= 666 - 66. \\
601 &= 666 - 66 + 6/6. \\
602 &= 666 - ((6+6)/6)^6. \\
603 &= 666 - ((6+6)/6)^6 + 6/6. \\
604 &= 666 - 66 + 6 - (6+6)/6. \\
605 &= 666 - 66 + 6 - 6/6. \\
606 &= 666 - 66 + 6. \\
607 &= 666 - 66 + 6 + 6/6. \\
608 &= 666 + 6 - ((6+6)/6)^6. \\
609 &= 6 \times (66 + 6 \times 6) - 6 \times 6/(6+6). \\
610 &= 6 \times (66 + 6 \times 6) - (6+6)/6. \\
611 &= 6 \times (66 + 6 \times 6) - 6/6. \\
612 &= 6 \times (66 + 6 \times 6). \\
613 &= 6 \times (66 + 6 \times 6) + 6/6. \\
614 &= 6 \times (66 + 6 \times 6) + (6+6)/6. \\
615 &= (66 \times 66 - 666)/6. \\
616 &= 6 \times (66 + 6 \times 6) + 6 - (6+6)/6. \\
617 &= 6 \times (66 + 6 \times 6) + 6 - 6/6. \\
618 &= 6 \times (66 + 6 \times 6) + 6. \\
619 &= 6 \times (66 + 6 \times 6) + 6 + 6/6. \\
620 &= 6 \times (66 + 6 \times 6) + 6 + (6+6)/6. \\
621 &= 6 + (66 \times 66 - 666)/6. \\
622 &= 66 + (6666 + 6)/(6+6). \\
623 &= 6 \times (66 + 6 \times 6) + 66/6. \\
624 &= 666 - 6 \times 6 - 6. \\
625 &= (6 - 6/6)^{(6-(6+6)/6)}. \\
626 &= (6 - 6/6)^{(6-(6+6)/6)} + 6/6. \\
627 &= 666 - 6 - 6 \times 66/(6+6). \\
628 &= 666 - 6 \times 6 - (6+6)/6. \\
629 &= 666 - 6 \times 6 - 6/6. \\
630 &= 666 - 6 \times 6. \\
631 &= 666 - 6 \times 6 + 6/6. \\
632 &= 666 - 6 \times 6 + (6+6)/6. \\
633 &= 666 - 6 \times 66/(6+6). \\
634 &= 666 - 6 \times 6 + 6 - (6+6)/6. \\
635 &= 666 - 6 \times 6 + 6 - 6/6. \\
636 &= 666 - 6 \times 6 + 6. \\
637 &= 666 - 6 \times 6 + 6 + 6/6. \\
638 &= 66 \times (((6+6)/6)^6 - 6)/6. \\
639 &= 666 - 6 \times 66/(6+6) + 6. \\
640 &= (66 - 6) \times ((6+6)/6)^6/6. \\
641 &= 666 - 66 + 6 \times 6/6. \\
642 &= 6 \times 6 \times (6 + 6 + 6) - 6. \\
643 &= 6 \times 6 \times (6 + 6 + 6) - 6 + 6/6. \\
644 &= 666 - (66 + 66)/6. \\
645 &= 6 \times (6 \times 6 \times 6 \times 6 - 6)/(6+6). \\
646 &= 6 \times 6 \times (6 + 6 + 6) - (6+6)/6. \\
647 &= 6 \times 6 \times (6 + 6 + 6) - 6/6. \\
648 &= 6 \times 6 \times (6 + 6 + 6). \\
649 &= 666 - 6 - 66/6. \\
650 &= 666 - 6 - (66 - 6)/6. \\
651 &= 6 \times (6 \times 6 \times 6 \times 6 + 6)/(6+6). \\
652 &= 666 - 6 - 6 - (6+6)/6. \\
653 &= 666 - 6 - 6 - 6/6. \\
654 &= 666 - 6 - 6. \\
655 &= 666 - 66/6. \\
656 &= 666 - (66 - 6)/6. \\
657 &= 666 - (66 - 6 - 6)/6. \\
658 &= 666 - 6 - (6+6)/6. \\
659 &= 666 - 6 - 6/6. \\
660 &= 666 - 6. \\
661 &= 666 - 6 + 6/6. \\
662 &= 666 - 6 + (6+6)/6. \\
663 &= 666 - 6 \times 6/(6+6). \\
664 &= 666 - (6+6)/6. \\
665 &= 666 - 6/6. \\
666 &= 666. \\
667 &= 666 + 6/6. \\
668 &= 666 + (6+6)/6. \\
669 &= 666 + 6 \times 6/(6+6). \\
670 &= 666 + 6 - (6+6)/6. \\
671 &= 666 + 6 - 6/6. \\
672 &= 666 + 6. \\
673 &= 666 + 6 + 6/6. \\
674 &= 666 + 6 + (6+6)/6. \\
675 &= 666 + 6 + 6 \times 6/(6+6). \\
676 &= 666 + (66 - 6)/6. \\
677 &= 666 + 66/6. \\
678 &= 666 + 6 + 6. \\
679 &= 666 + 6 + 6 + 6/6. \\
680 &= 666 + 6 + 6 + (6+6)/6. \\
681 &= 66 \times (6+6) - 666/6. \\
682 &= 666 + 6 + (66 - 6)/6. \\
683 &= 666 + 6 + 66/6. \\
684 &= 666 + 6 + 6 + 6. \\
685 &= 666 + 6 + 6 + 6 + 6/6. \\
686 &= 666 + 6 + 6 + 6 + (6+6)/6. \\
687 &= (6 \times 6/(6+6))^6 - 6 \times 6 - 6. \\
688 &= 666 + (66 + 66)/6. \\
689 &= 666 + 6 + 6 + 66/6. \\
690 &= 666 + 6 + 6 + 6 + 6. \\
691 &= 66 + 6 \times 66 - 66/6. \\
692 &= 66 + 6 \times 66 - (66 - 6)/6. \\
693 &= (6 \times 6/(6+6))^6 - 6 \times 6. \\
694 &= 666 + 6 + (66 + 66)/6. \\
695 &= 66 + 6 \times 66 - 6 - 6/6. \\
696 &= 66 + 6 \times 66 - 6. \\
697 &= 66 + 6 \times 66 - 6 + 6/6. \\
698 &= 66 \times ((6+6)/6)^6/6 - 6. \\
699 &= (6 \times 6/(6+6))^6 - 6 \times 6 + 6. \\
700 &= 66 + 6 \times 66 - (6+6)/6. \\
701 &= 66 + 6 \times 66 - 6/6. \\
702 &= 66 + 6 \times 66. \\
703 &= 66 + 6 \times 66 + 6/6. \\
704 &= 66 \times ((6+6)/6)^6/6. \\
705 &= (66 \times ((6+6)/6)^6 + 6)/6. \\
706 &= 666 + 6 \times 6 + 6 - (6+6)/6. \\
707 &= 666 + 6 \times 6 + 6 - 6/6. \\
708 &= 666 + 6 \times 6 + 6.
\end{aligned}$$

$$\begin{aligned}
709 &= 666 + 6 \times 6 + 6 + 6/6. \\
710 &= 66 \times ((6 + 6)/6)^6/6 + 6. \\
711 &= (6 \times 6/(6 + 6))^6 - 6 - 6 - 6. \\
712 &= 66 + 6 \times 66 + (66 - 6)/6. \\
713 &= 66 + 6 \times 66 + 66/6. \\
714 &= (6 + 6) \times (66 - 6) - 6. \\
715 &= 66 \times (66 - 6/6)/6. \\
716 &= (66 \times (66 - 6/6) + 6)/6. \\
717 &= (6 \times 6/(6 + 6))^6 - 6 - 6. \\
718 &= (6 + 6) \times (66 - 6) - (6 + 6)/6. \\
719 &= (6 + 6) \times (66 - 6) - 6/6. \\
720 &= (6 + 6) \times (66 - 6). \\
721 &= (6 + 6) \times (66 - 6) + 6/6. \\
722 &= (6 + 6) \times (66 - 6) + (6 + 6)/6. \\
723 &= (6 \times 6/(6 + 6))^6 - 6. \\
724 &= (66 \times 66 - 6 - 6)/6. \\
725 &= (66 \times 66 - 6)/6. \\
726 &= 66 \times 66/6. \\
727 &= (66 \times 66 + 6)/6. \\
728 &= (6 \times 6/(6 + 6))^6 - 6/6. \\
729 &= (6 \times 6/(6 + 6))^6. \\
730 &= (6 \times 6/(6 + 6))^6 + 6/6. \\
731 &= 6 + (66 \times 66 - 6)/6. \\
732 &= 66 + 666. \\
733 &= (66 \times 66 + 6)/6 + 6. \\
734 &= (66 \times 66 + 6 + 6)/6 + 6. \\
735 &= (6 \times 6/(6 + 6))^6 + 6. \\
736 &= (6 \times 6/(6 + 6))^6 + 6 + 6/6. \\
737 &= 66 \times (66 + 6/6)/6. \\
738 &= 666 + 66 + 6. \\
739 &= (66 \times 66 + 6)/6 + 6 + 6. \\
740 &= (6 \times 6/(6 + 6))^6 + 66/6. \\
741 &= (6 \times 6/(6 + 6))^6 + 6 + 6. \\
742 &= (6 \times 6/(6 + 6))^6 + 6 + 6 + 6/6. \\
743 &= 66 \times (66 + 6/6)/6 + 6. \\
744 &= 666 + 66 + 6 + 6. \\
745 &= (66 \times 66 + 6)/6 + 6 + 6 + 6. \\
746 &= (6 \times 6/(6 + 6))^6 + 6 + 66/6. \\
747 &= (6 \times 6/(6 + 6))^6 + 6 + 6 + 6. \\
748 &= 66 \times (66 + (6 + 6)/6). \\
749 &= 66 \times (66 + 6/6)/6 + 6 + 6. \\
750 &= 66 \times (6 + 6) - 6 \times 6 - 6. \\
751 &= 66 + 6 \times 6 \times (66 - 6/6)/6. \\
752 &= (6 \times 6/(6 + 6))^6 + 6 + 6 + 66/6. \\
753 &= (6 \times 6/(6 + 6))^6 + 6 + 6 + 6 + 6. \\
754 &= 66 \times (66 + (6 + 6)/6)/6 + 6. \\
755 &= 66 \times (6 + 6) - 6 \times 6 - 6/6. \\
756 &= 6 \times (66 + 66 - 6). \\
757 &= 6 \times (66 + 66 - 6) + 6/6. \\
758 &= 6 \times (66 + 66 - 6) + (6 + 6)/6. \\
759 &= 6 \times 6 - 6 + (6 \times 6/(6 + 6))^6. \\
760 &= 6 \times 6 + (66 \times 66 - 6 - 6)/6. \\
761 &= 6 \times 6 + (66 \times 66 - 6)/6. \\
762 &= 6 \times (66 + 66 - 6) + 6. \\
763 &= 6 \times 6 + (66 \times 66 + 6)/6. \\
764 &= 6 \times 6 + (6 \times 6/(6 + 6))^6 - 6/6. \\
765 &= 6 \times 6 + (6 \times 6/(6 + 6))^6. \\
766 &= 6 \times 6 + (6 \times 6/(6 + 6))^6 + 6/6. \\
767 &= (6 + 6) \times ((6 + 6)/6)^6 - 6/6. \\
768 &= (6 + 6) \times ((6 + 6)/6)^6. \\
769 &= (6 + 6) \times ((6 + 6)/6)^6 + 6/6. \\
770 &= (6 + 6/6) \times (666 - 6)/6. \\
771 &= 666 - 6 + 666/6. \\
772 &= 666 - 6 + (666 + 6)/6. \\
773 &= (6 + 6) \times ((6 + 6)/6)^6 + 6 - 6/6. \\
774 &= (6 + 6) \times ((6 + 6)/6)^6 + 6. \\
775 &= 66 \times (6 + 6) - 6 - 66/6. \\
776 &= 666 + (666 - 6)/6. \\
777 &= 666 + 666/6. \\
778 &= 666 + (666 + 6)/6. \\
779 &= 66 \times (6 + 6) - 6 - 6 - 6/6. \\
780 &= (6 + 6) \times (66 - 6/6). \\
781 &= 66 \times (6 + 6) - 66/6. \\
782 &= 66 \times (6 + 6) - (66 - 6)/6. \\
783 &= 666 + 6 + 666/6. \\
784 &= (6 + 6/6) \times (666 + 6)/6. \\
785 &= 66 \times (6 + 6) - 6 - 6/6. \\
786 &= 66 \times (6 + 6) - 6. \\
787 &= 66 \times (6 + 6) - 6 + 6/6. \\
788 &= 66 \times (6 + 6) - 6 + (6 + 6)/6. \\
789 &= 66 - 6 + (6 \times 6/(6 + 6))^6. \\
790 &= 66 \times (6 + 6) - (6 + 6)/6. \\
791 &= 66 \times (6 + 6) - 6/6. \\
792 &= 66 \times (6 + 6). \\
793 &= 66 \times (6 + 6) + 6/6. \\
794 &= 66 \times (6 + 6) + (6 + 6)/6. \\
795 &= 66 + (6 \times 6/(6 + 6))^6. \\
796 &= 66 \times (6 + 6) + 6 - (6 + 6)/6. \\
797 &= 66 \times (6 + 6) + 6 - 6/6. \\
798 &= 66 \times (6 + 6) + 6. \\
799 &= 66 \times (6 + 6) + 6 + 6/6. \\
800 &= 66 \times (6 + 6) + 6 + (6 + 6)/6. \\
801 &= (6 \times 6/(6 + 6))^6 + 66 + 6. \\
802 &= 66 \times (6 + 6) + (66 - 6)/6. \\
803 &= 66 \times (6 + 6) + 66/6. \\
804 &= 66 \times (6 + 6) + 6 + 6. \\
805 &= 66 \times (6 + 6) + 6 + 6 + 6/6. \\
806 &= 66 \times (6 + 6) + 6 + 6 + (6 + 6)/6. \\
807 &= 66 + 6 + 6 + (6 \times 6/(6 + 6))^6. \\
808 &= 66 \times (6 + 6) + 6 + (66 - 6)/6. \\
809 &= 66 \times (6 + 6) + 6 + 66/6. \\
810 &= 66 \times (6 + 6) + 6 + 6 + 6. \\
811 &= 66 \times (6 + 6) + 6 + 6 + 6 + 6/6. \\
812 &= (6 + 6/6) \times (6 + (666 - 6)/6). \\
813 &= 66 + 6 \times 66 + 666/6. \\
814 &= 66 \times (66 + 6 + (6 + 6)/6)/6. \\
815 &= 66 \times (6 + 6) + 6 + 6 + 66/6. \\
816 &= (6 + 6) \times (66 + (6 + 6)/6). \\
817 &= 66 + 6 \times 6 \times (6 + 6) - 66/6. \\
818 &= (((6 + 6)/6)^{6+6} - 6)/(6 - 6/6). \\
819 &= (6 + 6/6) \times (6 + 666/6). \\
820 &= 66 \times (6 + 6) + 6 + (66 + 66)/6. \\
821 &= 66 + 6 \times 6 \times (6 + 6) - 6 - 6/6. \\
822 &= 66 + 6 \times 6 \times (6 + 6) - 6. \\
823 &= 66 + 6 \times 6 \times (6 + 6) - 6 + 6/6. \\
824 &= 6 + (((6 + 6)/6)^{6+6} - 6)/(6 - 6/6). \\
825 &= (6 + 6/6) \times (6 + 666/6) + 6. \\
826 &= 66 + 6 \times 6 \times (6 + 6) - (6 + 6)/6. \\
827 &= 66 + 6 \times 6 \times (6 + 6) - 6/6. \\
828 &= 6 \times (66 + 66 + 6). \\
829 &= 66 + 6 \times 6 \times (6 + 6) + 6/6. \\
830 &= 66 + 6 \times 6 \times (6 + 6) + (6 + 6)/6. \\
831 &= 66 + 6 \times 6 + (6 \times 6/(6 + 6))^6. \\
832 &= (6 + 6 + 6/6) \times ((6 + 6)/6)^6. \\
833 &= 66 \times (6 + 6) + 6 \times 6 + 6 - 6/6. \\
834 &= 66 \times (6 + 6) + 6 \times 6 + 6. \\
835 &= 66 \times (6 + 6) + 6 \times 6 + 6 + 6/6. \\
836 &= (66 \times 66 + 666 - 6)/6. \\
837 &= (66 \times 66 + 666)/6. \\
838 &= (66 \times 66 + 666 + 6)/6. \\
839 &= 66 + 6 \times 6 \times (6 + 6) + 66/6. \\
840 &= (6 + 6) \times (6 + ((6 + 6)/6)^6). \\
841 &= (6 \times 6 - 6 - 6/6)^{((6+6)/6)}. \\
842 &= (66 \times (66 + 66/6) + 6)/6 - 6. \\
843 &= (66 \times 66 + 666)/6 + 6. \\
844 &= 66 \times (6 + 6) - 6 - 6 + ((6 + 6)/6)^6. \\
845 &= (6 + 6 + 6/6) \times (66 - 6/6). \\
846 &= 666 + 6 \times (6 \times 6 - 6). \\
847 &= 66 \times (66 + 66/6)/6. \\
848 &= (66 \times (66 + 66/6) + 6)/6. \\
849 &= (66 \times 66 + 666)/6 + 6 + 6. \\
850 &= 66 \times (6 + 6) - 6 + ((6 + 6)/6)^6. \\
851 &= (6 + 6 + 6/6) \times (66 - 6/6) + 6. \\
852 &= 66 + 66 \times (6 + 6) - 6. \\
853 &= 6 \times (6 + 6) \times (6 + 6) - 66/6. \\
854 &= (6 + 6/6) \times (666 + 66)/6. \\
855 &= 6 \times 6 + (6 + 6/6) \times (6 + 666/6). \\
856 &= 66 \times (6 + 6) + ((6 + 6)/6)^6. \\
857 &= 66 + 66 \times (6 + 6) - 6/6. \\
858 &= 66 + 66 \times (6 + 6). \\
859 &= 66 + 66 \times (6 + 6) + 6/6. \\
860 &= 66 + 66 \times (6 + 6) + (6 + 6)/6. \\
861 &= 66 + (((6 + 6)/6)^6 + 66). \\
862 &= 6 \times (6 + 6) \times (6 + 6) - (6 + 6)/6. \\
863 &= 6 \times (6 + 6) \times (6 + 6) - 6/6. \\
864 &= 6 \times (6 + 6) \times (6 + 6). \\
865 &= 6 \times (6 + 6) \times (6 + 6) + 6/6. \\
866 &= 6 \times (6 + 6) \times (6 + 6) + (6 + 6)/6. \\
867 &= 6 \times (6 + 6) \times (6 + 6) + 6 \times 6/(6 + 6). \\
868 &= 6 \times (6 + 6) \times (6 + 6) + 6 - (6 + 6)/6. \\
869 &= 6 \times (6 + 6) \times (6 + 6) + 6 - 6/6. \\
870 &= 6 \times (6 + 6) \times (6 + 6) + 6. \\
871 &= 6 \times (6 + 6) \times (6 + 6) + 6 + 6/6. \\
872 &= 6 \times (6 + 6) \times (6 + 6) + 6 + (6 + 6)/6. \\
873 &= (6 + 6) \times (6 + 6) + (6 \times 6/(6 + 6))^6. \\
874 &= 6 \times (6 + 6) \times (6 + 6) + (66 - 6)/6. \\
875 &= 6 \times (6 + 6) \times (6 + 6) + 66/6. \\
876 &= 6 \times (6 + 6) \times (6 + 6) + 6 + 6. \\
877 &= 6 \times (6 + 6) \times (6 + 6) + 6 + 6 + 6/6. \\
878 &= 6 \times (6 + 6) \times (6 + 6) + 6 + 6 + (6 + 6)/6. \\
879 &= (6 + 6) \times (6 + 6) + 6 + (6 \times 6/(6 + 6))^6. \\
880 &= 666 + 6 \times 6 \times 6 - (6 + 6)/6. \\
881 &= 666 + 6 \times 6 \times 6 - 6/6. \\
882 &= 666 + 6 \times 6 \times 6. \\
883 &= 666 + 6 \times 6 \times 6 + 6/6. \\
884 &= 666 + 6 \times 6 \times 6 + (6 + 6)/6. \\
885 &= (6 - 6/6) \times (66 + 666/6). \\
886 &= 666 + 6 \times 6 \times 6 + 6 - (6 + 6)/6. \\
887 &= 666 + 6 \times 6 \times 6 + 6 - 6/6. \\
888 &= 666 + 6 \times 6 \times 6 + 6. \\
889 &= 666 + 6 \times 6 \times 6 + 6 + 6/6. \\
890 &= 666 + 6 \times 6 \times 6 + 6 + (6 + 6)/6. \\
891 &= (6 - 6/6) \times (66 + 666/6) + 6. \\
892 &= 66 + 6 \times 6 \times (6 + 6) + ((6 + 6)/6)^6. \\
893 &= 666 + 6 \times 66 + 6 \times 6/6. \\
894 &= 6 \times ((6 + 6) \times (6 + 6) + 6) - 6. \\
895 &= 6666/6 - 6 \times 6 \times 6. \\
896 &= (6/6 + 6) \times ((6 + 6)/6)^{6+6/6}. \\
897 &= 66 \times (6 + 6) - 6 + 666/6. \\
898 &= 6 \times ((6 + 6) \times (6 + 6) + 6) - (6 + 6)/6. \\
899 &= 6 \times ((6 + 6) \times (6 + 6) + 6) - 6/6.
\end{aligned}$$

$$\begin{aligned}
900 &= 6 \times ((6+6) \times (6+6) + 6). \\
901 &= 6 \times ((6+6) \times (6+6) + 6) + 6/6. \\
902 &= 6 \times ((6+6) \times (6+6) + 6) + (6+6)/6. \\
903 &= 66 \times (6+6) + 666/6. \\
904 &= 66 \times (6+6) + (666+6)/6. \\
905 &= 6 \times ((6+6) \times (6+6) + 6) + 6 - 6/6. \\
906 &= 6 \times ((6+6) \times (6+6) + 6) + 6. \\
907 &= 6 \times ((6+6) \times (6+6) + 6) + 6 + 6/6. \\
908 &= 6 \times ((6+6) \times (6+6) + 6) + 6 + (6+6)/6. \\
909 &= 66 \times (6+6) + 6 + 666/6. \\
910 &= (6+6/6) \times (66 + ((6+6)/6)^6). \\
911 &= 6 \times ((6+6) \times (6+6) + 6) + 66/6. \\
912 &= 6 \times ((6+6) \times (6+6) + 6) + 6 + 6. \\
913 &= 66 \times (66 + 6 + 66/6)/6. \\
914 &= 66 \times (6+6) + (666 + 66)/6. \\
915 &= 66 \times (6+6) + 6 + 6 + 666/6. \\
916 &= (6+6/6) \times (66 + ((6+6)/6)^6) + 6. \\
917 &= 666 + 6 \times (6 \times 6 + 6) - 6/6. \\
918 &= 666 + 6 \times (6 \times 6 + 6). \\
919 &= 666 + 6 \times (6 \times 6 + 6) + 6/6. \\
920 &= 666 + 6 \times (6 \times 6 + 6) + (6+6)/6. \\
921 &= 66 \times (6+6) + 6 + 6 + 6 + 666/6. \\
922 &= 66 + 66 \times (6+6) + ((6+6)/6)^6. \\
923 &= (6+6+6/6) \times (66 + 6 - 6/6). \\
924 &= 66 \times (6+6 + (6+6)/6). \\
925 &= 66 \times (6+6 + (6+6)/6) + 6/6. \\
926 &= 66 \times (6+6 + (6+6)/6) + (6+6)/6. \\
927 &= 66 + 66 + 66 + (6 \times 6 / (6+6))^6. \\
928 &= 6 \times (6+6) \times (6+6) + ((6+6)/6)^6. \\
929 &= 66 + 6 \times (6+6) \times (6+6) - 6/6. \\
930 &= 66 + 6 \times (6+6) \times (6+6). \\
931 &= 66 + 6 \times (6+6) \times (6+6) + 6/6. \\
932 &= 66 + 6 \times (6+6) \times (6+6) + (6+6)/6.
\end{aligned}$$

$$\begin{aligned}
933 &= 6 \times 6 \times 6 - 6 - 6 + (6 \times 6 / (6+6))^6. \\
934 &= (6+6) \times (66+6+6) - (6+6)/6. \\
935 &= (6+6) \times (66+6+6) - 6/6. \\
936 &= (6+6) \times (66+6+6). \\
937 &= (6+6) \times (66+6+6) + 6/6. \\
938 &= (6+6) \times (66+6+6) + (6+6)/6. \\
939 &= 6 \times 6 \times 6 + (6 \times 6 / (6+6))^6 - 6. \\
940 &= (6+6) \times (66+6+6) + 6 - (6+6)/6. \\
941 &= (6+6) \times (66+6+6) + 6 - 6/6. \\
942 &= (6+6) \times (66+6+6) + 6. \\
943 &= (6+6) \times (66+6+6) + 6 + 6/6. \\
944 &= (6+6) \times (66+6+6) + 6 + (6+6)/6. \\
945 &= 6 \times 6 \times 6 + (6 \times 6 / (6+6))^6. \\
946 &= 6 \times 6 \times 6 + (6 \times 6 / (6+6))^6 + 6/6. \\
947 &= (6+6) \times (66+6+6) + 66/6. \\
948 &= (6+6) \times (66+6+6) + 6 + 6. \\
949 &= (6+6+6/6) \times (66+6+6/6). \\
950 &= (6 \times 6 - 66/6) \times (6 \times 6 + (6+6)/6). \\
951 &= 6 \times 6 \times 6 + 6 + (6 \times 6 / (6+6))^6. \\
952 &= 6 \times 66 + (6666 + 6) / (6+6). \\
953 &= (6+6) \times (66+6+6) + 6 + 66/6. \\
954 &= 666 + 6 \times (6 \times 6 + 6 + 6). \\
955 &= (6 \times 6 - 6 + 6/6)^{(6+6)/6} - 6. \\
956 &= (6 \times 6 - 66/6) \times (6 \times 6 + (6+6)/6) + 6. \\
957 &= 66 \times (6 \times (6 \times 6 - 6) - 6) / (6+6). \\
958 &= ((6+6)/6)^{(66-6)/6} - 66. \\
959 &= (6+6/6) \times (66+66+6-6/6). \\
960 &= (66-6) \times (6 + (66-6)/6). \\
961 &= (6 \times 6 - 6 + 6/6)^{(6+6)/6}. \\
962 &= (6 \times 6 - 6 + 6/6)^{(6+6)/6} + 6/6. \\
963 &= 66 \times (6 \times (6 \times 6 - 6) - 6) / (6+6) + 6. \\
964 &= ((6+6)/6)^{(66-6)/6} - 66 + 6.
\end{aligned}$$

$$\begin{aligned}
965 &= 66 + 6 \times (6+6) \times (6+6) + 6 - 6/6. \\
966 &= 66 + 6 \times (6+6) \times (6+6) + 6. \\
967 &= (6 \times 6 - 6 + 6/6)^{(6+6)/6} + 6. \\
968 &= 66 \times (66 + (66+66)/6)/6. \\
969 &= 6 \times 6 \times (6 \times 6 - 6) - 666/6. \\
970 &= 6 \times 6 \times (6 \times 6 - 6) - (666-6)/6. \\
971 &= (6+6+6) \times (66-6-6) - 6/6. \\
972 &= (6+6+6) \times (66-6-6). \\
973 &= (6+6+6) \times (66-6-6) + 6/6. \\
974 &= (6+6+6) \times (66-6-6) + (6+6)/6. \\
975 &= 6 \times (6+6) \times (6+6) + 666/6. \\
976 &= (666+66) \times (6 + (6+6)/6)/6. \\
977 &= (6+6+6) \times (66-6-6) + 6 - 6/6. \\
978 &= (6+6+6) \times (66-6-6) + 6. \\
979 &= 6666/6 - 66 - 66. \\
980 &= (6 \times 6 - 6/6) \times (6 + (66+66)/6). \\
981 &= 6 \times (6 \times 6 + 6) + (6 \times 6 / (6+6))^6. \\
982 &= ((6+6)/6)^{(66-6)/6} - 6 \times 6 - 6. \\
983 &= (6+6+6) \times (66-6-6) + 66/6. \\
984 &= (6+6+6) \times (66-6-6) + 6 + 6. \\
985 &= 6 - 66 - 66 + 6666/6. \\
986 &= (6+66/6) \times (((6+6)/6)^6 - 6). \\
987 &= 6 \times (66 \times (6 \times 6 - 6) - 6) / (6+6). \\
988 &= ((6+6)/6)^{(66-6)/6} - 6 \times 6. \\
989 &= 666 + 6 \times (66-6-6) - 6/6. \\
990 &= 666 + 6 \times (66-6-6). \\
991 &= 666 + 6 \times (66-6-6) + 6/6. \\
992 &= (6+66/6) \times (((6+6)/6)^6 - 6) + 6. \\
993 &= 6 \times (66 \times (6 \times 6 - 6) + 6) / (6+6). \\
994 &= ((66-6)/6)^6 \times 6 / (6+6) - 6. \\
995 &= 666 + 6 \times 66 - 66 - 6/6. \\
996 &= (6+6) \times (66+6+66/6). \\
997 &= 6 \times 6 + (6 \times 6 - 6 + 6/6)^{(6+6)/6}. \\
998 &= 666 + 6 \times 66 - ((6+6)/6)^6. \\
999 &= 6 \times 666 / (6 - (6+6)/6). \\
1000 &= ((66-6)/6)^6 \times 6 / (6+6).
\end{aligned}$$

## 10. REPRESENTATIONS USING NUMBER 7

$$\begin{aligned}
101 &= 7777/77. \\
102 &= 77 + 7 + 7 + 77/7. \\
103 &= (777 - 7)/7 - 7. \\
104 &= 777/7 - 7. \\
105 &= 7 \times (7+7) + 7. \\
106 &= 7 \times (7+7) + 7 + 7/7. \\
107 &= (777 - 77)/7 + 7. \\
108 &= 7777/77 + 7. \\
109 &= (777 - 7 - 7)/7. \\
110 &= (777 - 7)/7. \\
111 &= 777/7. \\
112 &= (777 + 7)/7. \\
113 &= (7 + 7 + 777)/7. \\
114 &= ((7+7)/7)^7 - 7 - 7. \\
115 &= (777 + 77)/7 - 7. \\
116 &= 7 \times (7+7) + 7 + 77/7. \\
117 &= (777 - 77)/7 + 7. \\
118 &= 7 + 777/7. \\
119 &= 7 \times 7 + 77 - 7. \\
120 &= 77 + 7 \times 7 - 7 + 7/7. \\
121 &= ((7+7)/7)^7 - 7. \\
122 &= (777 + 77)/7. \\
123 &= (777 + 77 + 7)/7.
\end{aligned}$$

$$\begin{aligned}
124 &= 7 + 7 + (777 - 7)/7. \\
125 &= 7 + 7 + 777/7. \\
126 &= 7 \times 7 + 77. \\
127 &= 77 + 7 \times 7 + 7/7. \\
128 &= ((7+7)/7)^7. \\
129 &= 7 + (777 + 77)/7. \\
130 &= ((7+7)/7)^7 + (7+7)/7. \\
131 &= 7 + 7 + 7 + (777 - 7)/7. \\
132 &= 7 + 7 + 7 + 777/7. \\
133 &= 7 \times 7 + 77 + 7. \\
134 &= 77 + 7 \times 7 + 7 + 7/7. \\
135 &= 7 + ((7+7)/7)^7. \\
136 &= 7 + 7/7 + ((7+7)/7)^7. \\
137 &= 7 \times 7 + 77 + 77/7. \\
138 &= 7 \times 7 + 77 + (77+7)/7. \\
139 &= 7 \times (7+7+7) - 7 - 7/7. \\
140 &= 7 \times (7+7+7) - 7. \\
141 &= ((7+7) \times (77-7) + 7)/7. \\
142 &= 7 + 7 + ((7+7)/7)^7. \\
143 &= 77 + 77 - 77/7. \\
144 &= (7+7/7) \times (7+77/7). \\
145 &= 7 \times (7+7+7) - (7+7)/7. \\
146 &= 7 \times (7+7+7) - 7/7.
\end{aligned}$$

$$\begin{aligned}
147 &= 7 \times (7+7+7). \\
148 &= 7 \times (7+7+7) + 7/7. \\
149 &= 7 \times (7+7+7) + (7+7)/7. \\
150 &= 777 + 7 \times 77/77. \\
151 &= 7 + (7+77/7) \times (7+7/7). \\
152 &= 77 + 77 - (7+7)/7. \\
153 &= 77 + 77 - 7/7. \\
154 &= 77 + 77. \\
155 &= 77 + 77 + 7/7. \\
156 &= 77 + 77 + (7+7)/7. \\
157 &= 77 + 77 + (7+7+7)/7. \\
158 &= 7 \times (7+7+7) + 77/7. \\
159 &= 7 \times 7 + (777 - 7)/7. \\
160 &= 777 + 7 \times 7/7. \\
161 &= 77 + 77 + 7. \\
162 &= 77 + 77 + 7 + 7/7. \\
163 &= 7 + (7+7) \times (77+77)/7. \\
164 &= 77 + 77 + (77-7)/7. \\
165 &= 77 \times (7+7+7/7)/7. \\
166 &= 7 \times 7 + 7 + (777-7)/7. \\
167 &= 7 \times 7 + 7 + 777/7. \\
168 &= 77 + 77 + 7 + 7. \\
169 &= 77 + 77 + 7 + 7 + 7/7.
\end{aligned}$$



$$\begin{aligned}
170 &= 7 \times 7 - 7 + ((7+7)/7)^7. \\
171 &= 7 \times 7 + (777 + 77)/7. \\
172 &= 77 + 77 + 7 + 77/7. \\
173 &= 77 + 7 \times (7+7) + (7+7)/7. \\
174 &= 77 + 7 \times (7+7) - 7/7. \\
175 &= 77 + 7 \times (7+7). \\
176 &= 77 + 7 \times (7+7) + 7/7. \\
177 &= 7 \times 7 + ((7+7)/7)^7. \\
178 &= 77 + 7777/77. \\
179 &= ((7+7)/7)^{(7+7/7)} - 77. \\
180 &= 77 - 7 + (777 - 7)/7. \\
181 &= 77 - 7 + 777/7. \\
182 &= 77 + 7 + 7 \times (7+7). \\
183 &= 7 \times (7+7) + 77 + 7 + 7/7. \\
184 &= 7 \times 7 + 7 + ((7+7)/7)^7. \\
185 &= (7+7) \times (7+7) - 77/7. \\
186 &= (7+7) \times (7+7) - (77-7)/7. \\
187 &= 77 + (777 - 7)/7. \\
188 &= 77 + 777/7. \\
189 &= (7+7) \times (7+7) - 7. \\
190 &= (7+7) \times (7+7) - 7 + 7/7. \\
191 &= 77 + ((7+7)/7)^7 - 7 - 7. \\
192 &= (7 \times 7 - 7/7) \times (77/7 - 7). \\
193 &= (7+7) \times (7+7) - (7+7+7)/7. \\
194 &= (7+7) \times (7+7) - (7+7)/7. \\
195 &= (7+7) \times (7+7) - 7/7. \\
196 &= (7+7) \times (7+7). \\
197 &= (7+7) \times (7+7) + 7/7. \\
198 &= 77/7 \times (7+77/7). \\
199 &= 77 + (777 + 77)/7. \\
200 &= (7+7) \times (7+7) + 77/7 - 7. \\
201 &= (7+7) \times (7+7) + 7 - (7+7)/7. \\
202 &= (7+7) \times (7+7) + 7 - 7/7. \\
203 &= (7+7) \times (7+7) + 7. \\
204 &= (7+7) \times (7+7) + 7 + 7/7. \\
205 &= 77 + ((7+7)/7)^7. \\
206 &= (7+7) \times (7+7) + (77-7)/7. \\
207 &= (7+7) \times (7+7) + 77/7. \\
208 &= 7 \times (7+7) + (777 - 7)/7. \\
209 &= 7 \times (7+7) + 777/7. \\
210 &= (7+7) \times (7+7+7/7). \\
211 &= (7+7) \times (7+7) + 7+7+7/7. \\
212 &= 77 + ((7+7)/7)^7 + 7. \\
213 &= 7 \times (7+7+7) + 77 - 77/7. \\
214 &= (7+7) \times (7+7) + 7 + 77/7. \\
215 &= 7 \times 7 \times 7 - ((7+7)/7)^7. \\
216 &= (7-7/7)^{(7+7+7)/7}. \\
217 &= 7 \times (7 \times 7 - 7) - 77. \\
218 &= 7 \times (7 \times 7 - 7) - 77 + 7/7. \\
219 &= 77 + 7 + 7 + ((7+7)/7)^7. \\
220 &= 77 \times (7+7+7-7/7)/7. \\
221 &= 77 + (7+77/7) \times (7+7/7). \\
222 &= 777 \times (7+7)/(7 \times 7). \\
223 &= 77 + 7 \times (7+7+7) - 7/7. \\
224 &= 77 + 7 \times (7+7+7). \\
225 &= (7+7+7/7)^{(7+7)/7}. \\
226 &= 7 \times (7+7) + ((7+7)/7)^7. \\
227 &= 7 \times (7 \times 7 - 7 - 7) - 7 - 77/7. \\
228 &= (7 \times 7 - 77/7) \times (7 - 7/7). \\
229 &= (7+7) \times 777/(7 \times 7) + 7. \\
230 &= (77 \times (7+7+7) - 7)/7. \\
231 &= 77 + 77 + 77. \\
232 &= 7 \times 7 \times 7 - 777/7. \\
233 &= 7 \times 7 \times 7 - (777 - 7)/7. \\
234 &= (7+7+7)/7 \times (77 + 7/7). \\
235 &= 7 \times (7+7+7) + 77 + 77/7. \\
236 &= (7+7) \times (7+777/7)/7. \\
237 &= (777 - 7/7) - 7 \times 77. \\
238 &= 777 - 77 \times 7. \\
239 &= 777 - 77 \times 7 + 7/7. \\
240 &= (7 - (7+7)/7) \times (7 \times 7 - 7/7). \\
241 &= (7 - 7/7) \times (7 \times 7 - 7) - 77/7. \\
242 &= 77 \times (7+7+7+7/7)/7. \\
243 &= 7 \times (7 \times 7 - 7 - 7) - (7+7)/7. \\
244 &= 7 \times (7 \times 7 - 7 - 7) - 7/7. \\
245 &= 7 \times (7 \times 7 - 7 - 7). \\
246 &= 7 \times (7 \times 7 - 7 - 7) + 7/7. \\
247 &= 7 \times (7 \times 7 - 7 - 7) + (7+7)/7. \\
248 &= 77 + (7 \times 7 \times 7 - 7)/(7+7). \\
249 &= ((7+7)/7)^{(7+7/7)} - 7. \\
250 &= (7 \times 7 + 7/7) \times (7 - (7+7)/7). \\
251 &= 7 \times (7 \times 7 - 7 - 7) + 7 - 7/7. \\
252 &= (7+7) \times (7+77/7). \\
253 &= 7 \times (7 \times 7 - 7 - 7) + 7 + 7/7. \\
254 &= 7 \times 7 + 77 + ((7+7)/7)^7. \\
255 &= 7 \times 7 \times 7 - 77 - 77/7. \\
256 &= ((7+7)/7)^{(7+7/7)}. \\
257 &= ((7+7)/7)^{(7+7/7)} + 7/7. \\
258 &= (7-7/7) \times (7 \times 7 - 7 + 7/7). \\
259 &= 7 \times 7 \times 7 - 77 - 7. \\
260 &= 7 \times 7 \times 7 - 77 - 7 + 7/7. \\
261 &= 7 \times 7 \times 7 - 77 - 7 + (7+7)/7. \\
262 &= 7 \times 7 \times 7 - 77 + 7 - 77/7. \\
263 &= 7 + ((7+7)/7)^{(7+7/7)}. \\
264 &= 7 \times 7 \times 7 - 77 - (7+7)/7. \\
265 &= 7 \times 7 \times 7 - 77 - 7/7. \\
266 &= 7 \times 7 \times 7 - 77. \\
267 &= 7 \times 7 \times 7 - 77 + 7/7. \\
268 &= 7 \times 7 \times 7 - 77 + (7+7)/7. \\
269 &= 7 \times (7 \times 77 - 7/7)/(7+7). \\
270 &= (7+7+7/7) \times (7+77/7). \\
271 &= 7 \times 7 \times 7 + 7 - 77 - (7+7)/7. \\
272 &= 7 \times 7 \times 7 - 77 + 7 - 7/7. \\
273 &= 7 \times 7 \times 7 - 77 + 7. \\
274 &= 7 \times 7 \times 7 - 77 + 7 + 7/7. \\
275 &= (7+7+77/7) \times 77/7. \\
276 &= 7 \times (7 \times 7 - 7) - 7 - 77/7. \\
277 &= 7 \times 7 \times 7 - 77 + 77/7. \\
278 &= 7 \times 7 \times 7 - 77 + (77+7)/7. \\
279 &= 7 \times (7 \times 7 - 7) - 7 - 7 - 7/7. \\
280 &= 7 \times (7 \times 7 - 7) - 7 - 7. \\
281 &= 7 \times (7 \times 7 - 7) - 7 - 7 + 7/7. \\
282 &= (7 \times 7 - (7+7)/7) \times (7-7/7). \\
283 &= 7 \times (7 \times 7 - 7) - 77/7. \\
284 &= 7 \times (7 \times 7 - 7) - (77-7)/7. \\
285 &= 7 \times (7 \times 7 - 7) - 7 - (7+7)/7. \\
286 &= 7 \times (7 \times 7 - 7) - 7 - 7/7. \\
287 &= 7 \times (7 \times 7 - 7) - 7. \\
288 &= 7 \times (7 \times 7 - 7) - 7 + 7/7. \\
289 &= 7 \times (7 \times 7 - 7) - 7 + (7+7)/7. \\
290 &= 7 \times (7 \times 7 - 7) + 7 - 77/7. \\
291 &= 7 \times (7 \times 7 - 7) - (7+7+7)/7. \\
292 &= 7 \times (7 \times 7 - 7) - (7+7)/7. \\
293 &= 7 \times (7 \times 7 - 7) - 7/7. \\
294 &= 7 \times (7 \times 7 - 7). \\
295 &= 7 \times (7 \times 7 - 7) + 7/7. \\
296 &= 7 \times (7 \times 7 - 7) + (7+7)/7. \\
297 &= 7 \times (7 \times 7 - 7) + (7+7+7)/7. \\
298 &= 7 \times (7 \times 7 - 7) - 7 + 77/7. \\
299 &= 7 \times (7 \times 7 - 7) + 7 - (7+7)/7. \\
300 &= 7 \times (7 \times 7 - 7) + 7 - 7/7. \\
301 &= 7 \times (7 \times 7 - 7) + 7. \\
302 &= 7 \times (7 \times 7 - 7) + 7 + 7/7. \\
303 &= 7 \times (7 \times 7 - 7) + 7 + (7+7)/7. \\
304 &= (7 \times 7 - 77/7) \times (7+7/7). \\
305 &= 7 \times (7 \times 7 - 7) + 77/7. \\
306 &= 7 \times (7 \times 7 - 7) + (77+7)/7. \\
307 &= 7 \times (7 \times 7 - 7) + 7 + 7 - 7/7. \\
308 &= 77 \times (77/7 - 7). \\
309 &= 7 \times (7 \times 7 - 7) + 7 + 7 + 7/7. \\
310 &= 7 \times (7 \times 7 - 7) + 7 + 7 + (7+7)/7. \\
311 &= 7 \times 7 \times 7 - 7 - 7 - 7 - 77/7. \\
312 &= 7 \times (7 \times 7 - 7) + 7 + 77/7. \\
313 &= 7 \times (7 \times 7 - 7) + 7 + (77+7)/7. \\
314 &= 7 \times (7 \times 7 + 7) - 77 - 7/7. \\
315 &= 7 \times (7 \times 7 + 7) - 77. \\
316 &= 7 \times (7 \times 7 + 7) - 77 + 7/7. \\
317 &= (7+77/7)^{(7+7/7)} - 7. \\
318 &= 7 \times 7 \times 7 - 7 - 7 - 77/7. \\
319 &= 7 \times 7 \times 7 - 7 - 7 - (77-7)/7. \\
320 &= (7+7/7) \times (7 \times 7 - 7 - (7+7)/7). \\
321 &= 7 \times 7 \times 7 - (77+77)/7. \\
322 &= 7 \times 7 \times 7 - 7 - 7 - 7. \\
323 &= 7 \times 7 \times 7 - 7 - 7 - 7 + 7/7. \\
324 &= (77/7 + 7)^{(7+7/7)}. \\
325 &= 7 \times 7 \times 7 - 7 - 77/7. \\
326 &= 7 \times 7 \times 7 - 7 - (77-7)/7. \\
327 &= 7 \times 7 \times 7 - 7 - 7 - (7+7)/7. \\
328 &= 7 \times 7 \times 7 - 7 - 7 - 7/7. \\
329 &= 7 \times 7 \times 7 - 7 - 7. \\
330 &= 7 \times 7 \times 7 - 7 - 7 + 7/7. \\
331 &= 7 \times 7 \times 7 - (77+7)/7. \\
332 &= 7 \times 7 \times 7 - 77/7. \\
333 &= 7 \times 7 \times 7 - (77-7)/7. \\
334 &= 7 \times 7 \times 7 - 7 - (7+7)/7. \\
335 &= 7 \times 7 \times 7 - 7 - 7/7. \\
336 &= 7 \times 7 \times 7 - 7. \\
337 &= 7 \times 7 \times 7 - 7 + 7/7. \\
338 &= 7 \times 7 \times 7 - 7 + (7+7)/7. \\
339 &= 7 \times 7 \times 7 + 7 - 77/7. \\
340 &= 7 \times 7 \times 7 - (7+7+7)/7. \\
341 &= 7 \times 7 \times 7 - (7+7)/7. \\
342 &= 7 \times 7 \times 7 - 7/7. \\
343 &= 7 \times 7 \times 7. \\
344 &= 7 \times 7 \times 7 + 7/7. \\
345 &= 7 \times 7 \times 7 + (7+7)/7. \\
346 &= 7 \times 7 \times 7 + (7+7+7)/7. \\
347 &= 7 \times 7 \times 7 - 7 + 77/7. \\
348 &= 7 \times 7 \times 7 + 7 - (7+7)/7. \\
349 &= 7 \times 7 \times 7 + 7 - 7/7. \\
350 &= 7 \times 7 \times 7 + 7. \\
351 &= 7 \times 7 \times 7 + 7 + 7/7. \\
352 &= 7 \times 7 \times 7 + 7 + (7+7)/7. \\
353 &= 7 \times 7 \times 7 + (77-7)/7. \\
354 &= 7 \times 7 \times 7 + 77/7. \\
355 &= 7 \times 7 \times 7 + (77+7)/7. \\
356 &= 7 \times 7 \times 7 + 7 + 7 - 7/7. \\
357 &= 7 \times 7 \times 7 + 7 + 7. \\
358 &= 7 \times 7 \times 7 + 7 + 7 + 7/7. \\
359 &= 7 \times 7 \times 7 + 7 + 7 + (7+7)/7. \\
360 &= (7 \times 7 + 77/7) \times (7 - 7/7). \\
361 &= 7 \times 7 \times 7 + 7 + 77/7. \\
362 &= 7 \times 7 \times 7 + 7 + (77+7)/7. \\
363 &= 7 \times 7 \times 7 + 7 + 7 - 7/7. \\
364 &= 7 \times 7 \times 7 + 7 + 7 + 7. \\
365 &= 7 \times 7 \times 7 + (77+77)/7. \\
366 &= 7 \times 7 \times 7 + 7 + 7 + (7+7)/7. \\
367 &= 7 \times 7 \times 7 + 7 + 7 + (77-7)/7.
\end{aligned}$$

$$\begin{aligned}
368 &= 7 \times 7 \times 7 + 7 + 7 + 77/7. \\
369 &= 7 \times 7 \times 7 + 7 + 7 + (77+7)/7. \\
370 &= 7 \times (7 \times 7 - 7) + 77 - 7/7. \\
371 &= 7 \times (7 \times 7 - 7) + 77. \\
372 &= 7 \times (7 \times 7 - 7) + 77 + 7/7. \\
373 &= 7 \times (7 \times 7 + 7) - 7 - (77+7)/7. \\
374 &= 7 \times (7 \times 7 + 7) - 7 - 77/7. \\
375 &= 7 \times 7 \times 7 + 7 + 7 + 77/7. \\
376 &= (7 \times 7 - (7+7)/7) \times (7+7/7). \\
377 &= 7 \times (7 \times 7 + 7) - 7 - 7 - 7/7. \\
378 &= 7 \times (7 \times 7 + 7) - 7 - 7. \\
379 &= 7 \times (7 \times 7 + 7) - 7 - 7 + 7/7. \\
380 &= (7 - (7+7)/7) \times (77 - 7/7). \\
381 &= 7 \times (7 \times 7 + 7) - 77/7. \\
382 &= 7 \times (7 \times 7 + 7) - (77 - 7)/7. \\
383 &= 7 \times (7 \times 7 + 7) - 7 - (7+7)/7. \\
384 &= 7 \times (7 \times 7 + 7) - 7 - 7/7. \\
385 &= 7 \times (7 \times 7 + 7) - 7. \\
386 &= 7 \times (7 \times 7 + 7) - 7 + 7/7. \\
387 &= 7 \times (7 \times 7 + 7) - 7 + (7+7)/7. \\
388 &= 7 \times (7 \times 7 + 7) + 7 - 77/7. \\
389 &= 7 \times (7 \times 7 + 7) - (7+7+7)/7. \\
390 &= 7 \times (7 \times 7 + 7) - (7+7)/7. \\
391 &= 7 \times (7 \times 7 + 7) - 7/7. \\
392 &= 7 \times (7 \times 7 + 7). \\
393 &= 7 \times (7 \times 7 + 7) + 7/7. \\
394 &= 7 \times (7 \times 7 + 7) + (7+7)/7. \\
395 &= 7 \times (7 \times 7 + 7) + (7+7+7)/7. \\
396 &= 7 \times (7 \times 7 + 7) - 7 + 77/7. \\
397 &= 7 \times (7 \times 7 + 7) + 7 - (7+7)/7. \\
398 &= 7 \times (7 \times 7 + 7) + 7 - 7/7. \\
399 &= 7 \times (7 \times 7 + 7) + 7. \\
400 &= 7 \times (7 \times 7 + 7) + 7 + 7/7. \\
401 &= 7 \times (7 \times 7 + 7) + (7+7)/7 + 7. \\
402 &= 7 \times (7 \times 7 + 7) + (77 - 7)/7. \\
403 &= 7 \times (7 \times 7 + 7) + 77/7. \\
404 &= 7 \times (7 \times 7 + 7) + (77+7)/7. \\
405 &= 7 \times (7 \times 7 + 7) + 7 + 7 - 7/7. \\
406 &= 7 \times (7 \times 7 + 7) + 7 + 7. \\
407 &= 7 \times (7 \times 7 + 7) + 7 + 7 + 7/7. \\
408 &= (7 \times 7 + (7+7)/7) \times (7+7/7). \\
409 &= 7 \times 7 \times 7 + 77 - 77/7. \\
410 &= 7 \times (7 \times 7 + 7) + 7 + 77/7. \\
411 &= 7 \times 77 - ((7+7)/7)^2. \\
412 &= 7 \times 7 \times 7 - 7 + 77 - 7/7. \\
413 &= 7 \times (77 - 7) - 77. \\
414 &= 7 \times (77 - 7) - 77 + 7/7. \\
415 &= (77+7-7/7) \times (7 - (7+7)/7). \\
416 &= (77 \times 77 - 7)/(7+7) - 7. \\
417 &= 77 \times 7 - (777+77)/7. \\
418 &= 77/7 \times (7 \times 7 - 77/7). \\
419 &= 7 \times 7 \times 7 + 77 - 7/7. \\
420 &= 7 \times 7 \times 7 + 77. \\
421 &= 7 \times 7 \times 7 + 77 + 7/7. \\
422 &= 7 \times 7 \times 7 + 77 + (7+7)/7. \\
423 &= 7 \times 7 \times 7 + 77 + (7+7+7)/7. \\
424 &= 7 \times (77 - 7) - 77 + 77/7. \\
425 &= 7 + 7 \times 7 \times 7 + 77 - (7+7)/7. \\
426 &= 7 \times 7 \times 7 + 77 + 7 - 7/7. \\
427 &= 7 \times 7 \times 7 + 77 + 7. \\
428 &= 77 \times 7 - 777/7. \\
429 &= 77 \times 7 - (777 - 7)/7. \\
430 &= 7 \times (7 \times 7 + 7 + 7) - 77/7. \\
431 &= 7 \times 7 \times 7 + 77 + 77/7. \\
432 &= (7 \times 7 - 7/7) \times (7 + (7+7)/7). \\
433 &= 7 \times (77 - 7 - 7) - 7 - 7/7. \\
434 &= 7 \times (77 - 7 - 7) - 7. \\
435 &= 7 \times 77 - (777/7 - 7). \\
436 &= 7 \times 77 + 7 - (777 - 7)/7. \\
437 &= 7 \times (77 - 7 - 7) + 7 - 77/7. \\
438 &= 7 \times 7 \times 7 + 77 + 7 + 77/7. \\
439 &= 7 \times (77 - 7 - 7) - (7+7)/7. \\
440 &= 7 \times (77 - 7 - 7) - 7/7. \\
441 &= 7 \times (77 - 7 - 7). \\
442 &= 7 \times (77 - 7) - 7 \times 7 + 7/7. \\
443 &= 7 \times (77 - 7 - 7) + (7+7)/7. \\
444 &= 777 \times (77/7 - 7)/7. \\
445 &= 7 \times (77 - 7 - 7) - 7 + 77/7. \\
446 &= (7 \times 7 + 7) \times (7 + 7/7) - (7 + 7)/7. \\
447 &= 7 \times (77 - 7 - 7) + 7 - 7/7. \\
448 &= 7 \times (77 - 7 - 7) + 7. \\
449 &= 7 \times (77 - 7 - 7) + 7 + 7/7. \\
450 &= (7 \times 7 + 7/7) \times (7 + (7+7)/7). \\
451 &= 7 \times 77 - 77 - 77/7. \\
452 &= 7 \times (7 \times 7 + 7 + 7) + 77/7. \\
453 &= 7 \times 7 \times 7 + (777 - 7)/7. \\
454 &= 7 \times 777 + 7 \times 7/7. \\
455 &= 7 \times 77 - 77 - 7. \\
456 &= (7 - 7/7) \times (77 - 7/7). \\
457 &= 7 \times 77 - 77 - 7 + (7+7)/7. \\
458 &= 7 \times 77 - 77 + 7 - 77/7. \\
459 &= 7 \times 77 - 77 - (7+7+7)/7. \\
460 &= 7 \times 77 - 77 - (7+7)/7. \\
461 &= 7 \times 77 - 77 - 7/7. \\
462 &= 7 \times 77 - 77. \\
463 &= 7 \times 77 - 77 + 7/7. \\
464 &= 7 \times 77 - 77 + (7+7)/7. \\
465 &= (77 - 7) \times 7 - 7 - 7 - 77/7. \\
466 &= 7 \times 77 + 77/7 - 77 - 7. \\
467 &= 7 \times 77 - 77 + 7 - (7+7)/7. \\
468 &= (77 + 7/7) \times (7 - 7/7). \\
469 &= 7 \times 77 - 77 + 7. \\
470 &= 7 \times 77 - 77 + 7 + 7/7. \\
471 &= 7 \times 7 \times 7 + ((7+7)/7)^2. \\
472 &= 7 \times (77 - 7) - 7 - 77/7. \\
473 &= 7 \times 77 - 77 + 77/7. \\
474 &= (77 + (7+7)/7) \times (7 - 7/7). \\
475 &= 7 \times (77 - 7) - 7 - 7 - 7/7. \\
476 &= 7 \times (77 - 7) - 7 - 7. \\
477 &= 7 \times (77 - 7) - 7 - 7 + 7/7. \\
478 &= 7 + ((7+7)/7)^2 + 7 \times 7 \times 7. \\
479 &= 7 \times (77 - 7) - 77/7. \\
480 &= (7 \times 7 - 7/7) \times (77 - 7)/7. \\
481 &= 7 \times (77 - 7) - 7 - (7+7)/7. \\
482 &= 7 \times (77 - 7) - 7 - 7/7. \\
483 &= 7 \times (77 - 7) - 7. \\
484 &= 7 \times (77 - 7) - 7 + 7/7. \\
485 &= 7 \times (77 - 7) - 7 + (7+7)/7. \\
486 &= 7 \times (77 - 7) + 7 - 77/7. \\
487 &= 7 \times (77 - 7) - (7+7+7)/7. \\
488 &= 7 \times (77 - 7) - (7+7)/7. \\
489 &= 7 \times (77 - 7) - 7/7. \\
490 &= 7 \times (77 - 7). \\
491 &= 7 \times (77 - 7) + 7/7. \\
492 &= 7 \times (77 - 7) + (7+7)/7. \\
493 &= 7 \times (77 - 7) + (7+7+7)/7. \\
494 &= 7 \times (77 - 7) - 7 + 77/7. \\
495 &= 7 \times (77 - 7) + 7 - (7+7)/7. \\
496 &= 7 \times (77 - 7) + 7 - 7/7. \\
497 &= 7 \times (77 - 7) + 7. \\
498 &= 7 \times (77 - 7) + 7 + 7/7. \\
499 &= 7 \times (77 - 7) + 7 + (7+7)/7. \\
500 &= 7 \times (77 - 7) + (77 - 7)/7. \\
501 &= 7 \times (77 - 7) + 77/7. \\
502 &= 7 \times (77 - 7) + (7+77)/7. \\
503 &= 7 \times (7 \times 7 + 7) + 777/7. \\
504 &= 7 \times (77 - 7) + 7 + 7. \\
505 &= 7 \times (77 - 7) + 7 + 7 + 7/7. \\
506 &= 7 \times (77 - 7) + 7 + 7 + (7+7)/7. \\
507 &= 7 \times 77 - 7 - 7 - 7 - 77/7. \\
508 &= 7 \times (77 - 7) + 7 + 77/7. \\
509 &= 7 \times (77 + 7) - 77 - (7+7)/7. \\
510 &= 7 \times (77 + 7) - 77 - 7/7. \\
511 &= 7 \times (77 + 7) - 77. \\
512 &= ((7+7)/7)^{(7+(7+7)/7)}. \\
513 &= 7 \times (77 + 7) - 77 + (7+7)/7. \\
514 &= 7 \times 77 - 7 - 7 - 77/7. \\
515 &= 7 \times (77 - 7) + 7 + 7 + 77/7. \\
516 &= 7 \times 77 - 7 - 7 - 7 - (7+7)/7. \\
517 &= 7 \times 77 - 7 - 7 - 7 - 7/7. \\
518 &= 7 \times 77 - 7 - 7 - 7. \\
519 &= 7 \times 77 - 7 - 7 - 7 + 7/7. \\
520 &= 7 \times 77 - 7 - (77+7)/7. \\
521 &= 7 \times 77 - 7 - 77/7. \\
522 &= 7 \times 77 - 7 - (77 - 7)/7. \\
523 &= 7 \times 77 - 7 - 7 - (7+7)/7. \\
524 &= 7 \times 77 - 7 - 7 - 7/7. \\
525 &= 7 \times 77 - 7 - 7. \\
526 &= 7 \times 77 - 7 - 7 + 7/7. \\
527 &= 77 \times 7 - (77+7)/7. \\
528 &= 7 \times 77 - 77/7. \\
529 &= 7 \times 77 + (7 - 77)/7. \\
530 &= 7 \times 77 - 7 - (7+7)/7. \\
531 &= 7 \times 77 - 7 - 7/7. \\
532 &= 7 \times 77 - 7. \\
533 &= 7 \times 77 - 7 + 7/7. \\
534 &= 7 \times 77 - 7 + (7+7)/7. \\
535 &= 7 \times 77 + 7 - 77/7. \\
536 &= 7 \times 77 - (7+7+7)/7. \\
537 &= 7 \times 77 - (7+7)/7. \\
538 &= 7 \times 77 - 7/7. \\
539 &= 7 \times 77. \\
540 &= 7 \times 77 + 7/7. \\
541 &= 7 \times 77 + (7+7)/7. \\
542 &= 7 \times 77 + (7+7+7)/7. \\
543 &= 7 \times 77 - 7 + 77/7. \\
544 &= 7 \times 77 + 7 - (7+7)/7. \\
545 &= 7 \times 77 + 7 - 7/7. \\
546 &= 7 \times 77 + 7. \\
547 &= 7 \times 77 + 7 + 7/7. \\
548 &= 7 \times 77 + 7 + (7+7)/7. \\
549 &= 7 \times 77 + (77 - 7)/7. \\
550 &= 7 \times 77 + 77/7. \\
551 &= 7 \times 77 + (77+7)/7. \\
552 &= 7 \times 77 + 7 + 7 - 7/7. \\
553 &= 7 \times 77 + 7 + 7. \\
554 &= 7 \times 77 + 7 + 7 + 7/7. \\
555 &= 7 \times 77 + 7 + 7 + (7+7)/7. \\
556 &= 7 \times 77 + 7 + (77 - 7)/7. \\
557 &= 7 \times 77 + 7 + 77/7. \\
558 &= 7 \times 7 \times (7+7) - ((7+7)/7)^2. \\
559 &= 7 \times 77 + 7 + 7 + 7 - 7/7. \\
560 &= (77 - 7) \times (7+7/7). \\
561 &= 7 \times 77 + 7 + 7 + 7 + 7/7. \\
562 &= 7 + (7777 - 7)/(7+7). \\
563 &= 7 + (7777 + 7)/(7+7). \\
564 &= 7 \times 77 + 7 + 7 + 77/7. \\
565 &= 7 \times 77 + 7 + 7 + (77+7)/7.
\end{aligned}$$

$$\begin{aligned}
566 &= 7 \times (77 - 7) + 77 - 7/7. \\
567 &= 7 \times (77 - 7) + 77. \\
568 &= 7 \times (77 - 7) + 77 + 7/7. \\
569 &= 7 \times (77 + 7) - 7 - (77 + 7)/7. \\
570 &= 7 \times (77 + 7) - 7 - 77/7. \\
571 &= 7 \times 77 + 7 + 7 + 7 + 77/7. \\
572 &= 7777/7 - 7 \times 77. \\
573 &= 7 \times (77 + 7) - 7 - 7 - 7/7. \\
574 &= 7 \times (77 + 7) - 7 - 7. \\
575 &= 7 \times (77 + 7) - 7 - 7 + 7/7. \\
576 &= 7 \times (77 + 7) - (77 + 7)/7. \\
577 &= 7 \times (77 + 7) - 77/7. \\
578 &= 7 \times (77 + 7) - (77 - 7)/7. \\
579 &= 7 \times (77 + 7) - 7 - (7 + 7)/7. \\
580 &= 7 \times (77 + 7) - 7 - 7/7. \\
581 &= 7 \times (77 + 7) - 7. \\
582 &= 7 \times (77 + 7) - 7 + 7/7. \\
583 &= 7 \times (77 + 7) - 7 + (7 + 7)/7. \\
584 &= 7 \times (77 + 7) + 7 - 77/7. \\
585 &= 7 \times (77 + 7) - (7 + 7 + 7)/7. \\
586 &= 7 \times (77 + 7) - (7 + 7)/7. \\
587 &= 7 \times (77 + 7) - 7/7. \\
588 &= 7 \times (77 + 7). \\
589 &= 7 \times (77 + 7) + 7/7. \\
590 &= 7 \times (77 + 7) + (7 + 7)/7. \\
591 &= 7 \times (77 + 7) + (7 + 7 + 7)/7. \\
592 &= 7 \times (77 + 7) - 7 + 77/7. \\
593 &= 7 \times (77 + 7) + 7 - (7 + 7)/7. \\
594 &= 7 \times (77 + 7) + 7 - 7/7. \\
595 &= 7 \times (77 + 7) + 7. \\
596 &= 7 \times (77 + 7) + 7 + 7/7. \\
597 &= 7 \times (77 + 7) + 7 + (7 + 7)/7. \\
598 &= 7 \times (77 + 7) + (77 - 7)/7. \\
599 &= 7 \times (77 + 7) + 77/7. \\
600 &= (7 + 7/7) \times (77 - (7 + 7)/7). \\
601 &= 7 \times (77 + 7) + 7 + 7 - 7/7. \\
602 &= 7 \times (77 + 7) + 7 + 7. \\
603 &= 7 \times (77 + 7) + 7 + 7 + 7/7. \\
604 &= 7 \times (77 + 7) + 7 + 7 + (7 + 7)/7. \\
605 &= 7 \times 77 + 77 - 77/7. \\
606 &= 7 \times (77 + 7) + 7 + 77/7. \\
607 &= 7 \times (77 + 7) + 7 + (77 + 7)/7. \\
608 &= (7 + 7/7) \times (77 - 7/7). \\
609 &= 7 \times 77 + 77 - 7. \\
610 &= 77 \times (7 + 7/7) - 7 + 7/7. \\
611 &= 7 \times 77 + 77 - 7 + (7 + 7)/7. \\
612 &= 7 \times 77 + 77 + 7 - 77/7. \\
613 &= 7 \times (77 + 7) + 7 + 7 + 77/7. \\
614 &= 7 \times 77 + 77 - (7 + 7)/7. \\
615 &= 7 \times 77 + 77 - 7/7. \\
616 &= 7 \times 77 + 77. \\
617 &= 7 \times 77 + 77 + 7/7. \\
618 &= 7 \times 77 + 77 + (7 + 7)/7. \\
619 &= 7 \times 77 + 77 + (7 + 7 + 7)/7. \\
620 &= 7 \times 77 + 77 - 7 + 77/7. \\
621 &= (77 - 7 - 7/7) \times (7 + (7 + 7)/7). \\
622 &= 7 \times 77 + 77 + 7 - 7/7. \\
623 &= 7 \times 77 + 77 + 7. \\
624 &= (77 + 7/7) \times (7 + 7/7). \\
625 &= (7 - (7 + 7)/7) \times (77/7 - 7). \\
626 &= 7 \times (77 + 7 + 7) - 77/7. \\
627 &= 7 \times 77 + 77 + 77/7. \\
628 &= 7 \times (7 + 7 + 77) - 7 - (7 + 7)/7. \\
629 &= 7 \times (77 + 7 + 7) - 7 - 7/7. \\
630 &= 7 \times (77 + 7 + 7) - 7. \\
631 &= 7 \times (7 \times (7 + 7) - 7) - 7 + 7/7. \\
632 &= (7 + 7/7) \times (77 + (7 + 7)/7). \\
633 &= 7 \times (77 + 7 + 7) + 7 - 77/7. \\
634 &= 7 \times 77 + 77 + 7 + 77/7. \\
635 &= 7 \times (77 + 7 + 7) - (7 + 7)/7. \\
636 &= 7 \times (77 + 7 + 7) - 7/7. \\
637 &= 7 \times (77 + 7 + 7). \\
638 &= 7 \times (77 + 7 + 7) + 7/7. \\
639 &= 7 \times (77 + 7 + 7) + (7 + 7)/7. \\
640 &= (7 - (7 + 7)/7) \times ((7 + 7)/7)^2. \\
641 &= 7 \times (77 + 7 + 7) - 7 + 77/7. \\
642 &= 777 - ((7 + 7)/7)^2 - 7. \\
643 &= 7 \times 77 - 7 + 777/7. \\
644 &= 7 \times (77 + 7 + 7) + 7. \\
645 &= 7 \times (77 + 7 + 7) + 7 + 7/7. \\
646 &= 7 \times (77 + 7 + 7) + 7 + (7 + 7)/7. \\
647 &= 7 + (7 - (7 + 7)/7) \times ((7 + 7)/7)^2. \\
648 &= 7 \times (77 + 7 + 7) + 77/7. \\
649 &= 777 - ((7 + 7)/7)^2. \\
650 &= 7 \times 77 + 777/7. \\
651 &= 777 - 7 \times 7 - 77. \\
652 &= 777 - 7 - 7 - 777/7. \\
653 &= 77 \times (77/7 + 7 \times 7)/7 - 7. \\
654 &= 7 \times (77 + 7) + 77 - 77/7. \\
655 &= 7 + 7 \times (77 + 7 + 7) + 77/7. \\
656 &= 777 + 7 - ((7 + 7)/7)^2. \\
657 &= 77 \times 7 + 7 + 777/7. \\
658 &= 7 \times (77 + 7) - 7 + 77. \\
659 &= 777 - 7 - 777/7. \\
660 &= 77/7 \times (7 \times 7 + 77/7). \\
661 &= 77 \times 7 + (777 + 77)/7. \\
662 &= 77 + 7 \times (77 + 7) - (7 + 7 + 7)/7. \\
663 &= 77 + 7 \times (77 + 7) - (7 + 7)/7. \\
664 &= 77 + 7 \times (77 + 7) - 7/7. \\
665 &= (77 + ((77 + 7) \times 7)). \\
666 &= 777 - 777/7. \\
667 &= ((7 \times 77) + (((7 + 7)/7)^2)). \\
668 &= (777 + (((7 - 777) + 7)/7)). \\
669 &= 7 \times 7 \times (7 + 7) - 7 - (77 - 7)/7. \\
670 &= 7 \times 7 \times (7 + 7) - 7 - 7 - (7 + 7)/7. \\
671 &= 7 \times 7 \times (7 + 7) - 7 - 7 - 7/7. \\
672 &= (77 + 7) \times (7 + 7/7). \\
673 &= 777 + 7 - 777/7. \\
674 &= 7 \times 77 + 7 + ((7 + 7)/7)^2. \\
675 &= 7 \times 7 \times (7 + 7) - 77/7. \\
676 &= 7 \times 7 \times (7 + 7) - (77 - 7)/7. \\
677 &= 7 \times 7 \times (7 + 7) - 7 - (7 + 7)/7. \\
678 &= 7 \times 7 \times (7 + 7) - 7 - 7/7. \\
679 &= 7 \times 7 \times (7 + 7) - 7. \\
680 &= 7 \times 7 \times (7 + 7) - 7 + 7/7. \\
681 &= 7 \times 7 \times (7 + 7) - 7 + (7 + 7)/7. \\
682 &= 7 \times 7 \times (7 + 7) + 7 - 77/7. \\
683 &= 7 \times 7 \times (7 + 7) - (7 + 7 + 7)/7. \\
684 &= 7 \times 7 \times (7 + 7) - (7 + 7)/7. \\
685 &= 7 \times 7 \times (7 + 7) - 7/7. \\
686 &= 7 \times 7 \times (7 + 7). \\
687 &= 7 \times 7 \times (7 + 7) + 7/7. \\
688 &= 7 \times 7 \times (7 + 7) + (7 + 7)/7. \\
689 &= 777 - 77 - 77/7. \\
690 &= 7 \times 7 \times (7 + 7) - 7 + 77/7. \\
691 &= 7 \times 7 \times (7 + 7) + 7 - (7 + 7)/7. \\
692 &= 7 \times 7 \times (7 + 7) + 7 - 7/7. \\
693 &= 7 \times 7 \times (7 + 7) + 7. \\
694 &= 7 \times 7 \times (7 + 7) + 7 + 7/7. \\
695 &= 7 \times 7 \times (7 + 7) + 7 + (7 + 7)/7. \\
696 &= 7 \times 7 \times (7 + 7) + (77 - 7)/7. \\
697 &= 7 \times 7 \times (7 + 7) + 77/7. \\
698 &= 777 - 77 - (7 + 7)/7. \\
699 &= 777 - 77 - 7/7. \\
700 &= 777 - 77. \\
701 &= 777 - 77 + 7/7. \\
702 &= (77 + 7/7) \times (7 + (7 + 7)/7). \\
703 &= 7 \times 7 \times (7 + 7) + 7 - (7 - 77)/7. \\
704 &= 7 \times 7 \times (7 + 7) + 7 + 77/7. \\
705 &= 777 - 77 + 7 - (7 + 7)/7. \\
706 &= 777 - 77 + 7 - 7/7. \\
707 &= 777 - 77 + 7. \\
708 &= 777 - 77 + 7 + 7/7. \\
709 &= 777 - 77 + 7 + (7 + 7)/7. \\
710 &= 777 - 7 \times 7 - 7 - 77/7. \\
711 &= 777 - 77 + 77/7. \\
713 &= 777 + 7 + 7 - 77 - 7/7. \\
713 &= 777 - 77 + 7 + 7 - 7/7. \\
714 &= 777 - 77 + 7 + 7. \\
715 &= 777 - 77 + 7 + 7 + 7/7. \\
716 &= 7 \times (77 + 7) + ((7 + 7)/7)^2. \\
717 &= 777 - 7 \times 7 - 77/7. \\
718 &= 777 - 77 + 7 + 77/7. \\
719 &= 777 - 7 - 7 \times 7 - (7 + 7)/7. \\
720 &= 777 - 7 \times 7 - 7 - 7/7. \\
721 &= 777 - 7 \times 7 - 7. \\
722 &= 777 - 7 \times 7 - 7 + 7/7. \\
723 &= 777 - 7 \times 7 - 7 + (7 + 7)/7. \\
724 &= 7 \times ((7 + 7) \times 7 + 7) - 77/7. \\
725 &= 777 - 7 \times 7 - (7 + 7 + 7)/7. \\
726 &= 777 - 7 \times 7 - (7 + 7)/7. \\
727 &= 777 - 7 \times 7 - 7/7. \\
728 &= 777 - 7 \times 7. \\
729 &= 777 - 7 \times 7 + 7/7. \\
730 &= 777 - 7 \times 7 + (7 + 7)/7. \\
731 &= 777 - 7 \times 7 + (7 + 7 + 7)/7. \\
732 &= 777 - 7 \times 7 - 7 + 77/7. \\
733 &= 7 \times (7 \times (7 + 7) + 7) - (7 + 7)/7. \\
734 &= 7 \times (7 \times (7 + 7) + 7) - 7/7. \\
735 &= 7 \times (7 \times (7 + 7) + 7). \\
736 &= 7 \times (7 \times (7 + 7) + 7) + 7/7. \\
737 &= 7 \times (7 \times (7 + 7) + 7) + (7 + 7)/7. \\
738 &= 777 - 7 \times 7 + (77 - 7)/7. \\
739 &= 777 - 7 \times 7 + 77/7. \\
740 &= 7 \times (7 \times (7 + 7) + 7) + 7 - (7 + 7)/7. \\
741 &= 7 \times (7 \times (7 + 7) + 7) + 7 - 7/7. \\
742 &= 7 \times (7 \times (7 + 7) + 7) + 7. \\
743 &= 7 \times (7 \times (7 + 7) + 7) + 7 + 7/7. \\
744 &= 7 \times 77 + 77 + ((7 + 7)/7)^2. \\
745 &= 777 - 7 - 7 - 7 - 77/7. \\
746 &= 7 \times (7 \times (7 + 7) + 7) + 77/7. \\
747 &= 7 \times (7 \times (7 + 7) + 7) + (77 + 7)/7. \\
748 &= 777 - 77 + 7 \times 7 - 7/7. \\
749 &= 777 + 7 \times 7 - 77. \\
750 &= (7 + 7 + 7/7) \times (7 \times 7 + 7/7). \\
751 &= 777 - 7 - 7 - (77 + 7)/7. \\
752 &= 777 - 7 - 7 - 77/7. \\
753 &= 777 - (7 \times 7 \times 7 - 7)/(7 + 7). \\
754 &= 777 - 7 - 7 - 7 - (7 + 7)/7. \\
755 &= 777 - 7 - 7 - 7 - 7/7. \\
756 &= 777 - 7 - 7 - 7. \\
757 &= 777 - 7 - 7 - 7 + 7/7. \\
758 &= 777 - 7 - (77 + 7)/7. \\
759 &= 777 - 7 - 777/7. \\
760 &= 777 - 7 - (77 - 7)/7. \\
761 &= 777 - 7 - 7 - (7 + 7)/7. \\
762 &= 777 - 7 - 7 - 7/7.
\end{aligned}$$

$$\begin{aligned}
763 &= 777 - 7 - 7. \\
764 &= 777 - 7 - 7 + 7/7. \\
765 &= 777 - (77 + 7)/7. \\
766 &= 777 - 77/7. \\
767 &= 777 - (77 - 7)/7. \\
768 &= 777 - 7 - (7 + 7)/7. \\
769 &= 777 - 7 - 7/7. \\
770 &= 777 - 7. \\
771 &= 777 - 7 + 7/7. \\
772 &= 777 - 7 + (7 + 7)/7. \\
773 &= 777 + 7 - 77/7. \\
774 &= 777 - (7 + 7 + 7)/7. \\
775 &= 777 - (7 + 7)/7. \\
776 &= 777 - 7/7. \\
777 &= 777. \\
778 &= 777 + 7/7. \\
779 &= 777 + (7 + 7)/7. \\
780 &= 777 + 7 + 7 - 77/7. \\
781 &= 777 - 7 + 77/7. \\
782 &= 777 + 7 - (7 + 7)/7. \\
783 &= 777 + 7 - 7/7. \\
784 &= 777 + 7. \\
785 &= 777 + 7 + 7/7. \\
786 &= 777 + 7 + (7 + 7)/7. \\
787 &= 777 + (77 - 7)/7. \\
788 &= 777 + 77/7. \\
789 &= 777 + (77 + 7)/7. \\
790 &= 777 + 7 + 7 - 7/7. \\
791 &= 777 + 7 + 7. \\
792 &= 777 + 7 + 7 + 7/7. \\
793 &= 777 + 7 + 7 + (7 + 7)/7. \\
794 &= 777 + 7 + (77 - 7)/7. \\
795 &= 777 + 7 + 77/7. \\
796 &= 777 + 7 + (77 + 7)/7. \\
797 &= 777 + 7 + 7 + 7 - 7/7. \\
798 &= 777 + 7 + 7 + 7. \\
799 &= 777 + 7 + 7 + 7 + 7/7. \\
800 &= (7 \times 7 + 7/7) \times (7 + 7 + (7 + 7)/7). \\
801 &= 777 + 7 + 7 + (77 - 7)/7. \\
802 &= 777 + 7 + 7 + 77/7. \\
803 &= 777 + 7 + 7 + (77 + 7)/7. \\
804 &= 777 + 77 - 7 \times 7 - 7/7. \\
805 &= 777 + 77 - 7 \times 7. \\
806 &= 777 + 77 - 7 \times 7 + 7/7. \\
807 &= 7 \times 7 \times (7 + 7) + ((7 + 7)/7)^2 - 7. \\
808 &= 777 + 7 \times 7 - 7 - 77/7. \\
809 &= 777 + 7 + 7 + 7 + 77/7. \\
810 &= (7 - 7/7) \times (7 + ((7 + 7)/7)^2). \\
811 &= 777 - 77 + 777/7. \\
812 &= 777 + 7 \times 7 - 7 - 7. \\
813 &= 777 + 7 \times 7 - 7 - 7 + 7/7. \\
814 &= 7 \times 7 \times (7 + 7) + ((7 + 7)/7)^2. \\
815 &= 777 + 7 \times 7 - 77/7. \\
816 &= 777 + 7 \times 7 - (77 - 7)/7. \\
817 &= 777 + 7 \times 7 - 7 - (7 + 7)/7. \\
818 &= 777 + 7 \times 7 - 7 - 7/7. \\
819 &= 777 + 7 \times 7 - 7. \\
820 &= 777 + 7 \times 7 - 7 + 7/7. \\
821 &= 777 + 7 \times 7 - 7 + (7 + 7)/7. \\
822 &= 777 + 7 \times 7 + 7 - 77/7. \\
823 &= 777 + 7 \times 7 - (7 + 7 + 7)/7. \\
824 &= 777 + 7 \times 7 - (7 + 7)/7. \\
825 &= 777 + 7 \times 7 - 7/7. \\
826 &= 777 + 7 \times 7. \\
827 &= 777 + 7 \times 7 + 7/7. \\
828 &= 777 + 7 \times 7 + (7 + 7)/7. \\
829 &= (77 - 7/7) \times 77/7 - 7. \\
830 &= 777 + 7 \times 7 - 7 + 77/7. \\
831 &= 777 + 7 \times 7 + 7 - (7 + 7)/7. \\
832 &= 777 + 7 \times 7 + 7 - 7/7. \\
833 &= 777 + 7 \times 7 + 7. \\
834 &= 777 + 7 \times 7 + 7/7. \\
835 &= 77 \times 77/7 - (77 + 7)/7. \\
836 &= 77 \times (77 - 7/7)/7. \\
837 &= 777 + 7 \times 7 + 77/7. \\
838 &= (77 \times 77 - 7 - 7)/7 - 7. \\
839 &= (77 \times 77 - 7)/7 - 7. \\
840 &= 77 \times 77/7 - 7. \\
841 &= (77 \times 77 + 7)/7 - 7. \\
842 &= (77 \times 77 + 7 + 7)/7 - 7. \\
843 &= 777 + 77 - 77/7. \\
844 &= 777 + 7 \times 7 + 7 + 77/7. \\
845 &= 77 \times 77/7 - (7 + 7)/7. \\
846 &= 77 \times 77/7 - 7/7. \\
847 &= 77 \times 77/7. \\
848 &= 77 \times 77/7 + 7/7. \\
849 &= 77 \times 77/7 + (7 + 7)/7. \\
850 &= (77 - 7)/7 \times (77 + 7 + 7/7). \\
851 &= 77 \times (77 + 7/7)/7 - 7. \\
852 &= 777 + 77 - (7 + 7)/7. \\
853 &= 777 + 77 - 7/7. \\
854 &= 777 + 77. \\
855 &= 777 + 77 + 7/7. \\
856 &= 777 + 77 + (7 + 7)/7. \\
857 &= 77 \times (77 + 7/7)/7 - 7/7. \\
858 &= 77 \times (77 + 7/7)/7. \\
859 &= 777 + 77 + 7 - (7 + 7)/7. \\
860 &= 777 + 77 + 7 - 7/7. \\
861 &= 777 + 77 + 7. \\
862 &= 777 + 77 + 7 + 7/7. \\
863 &= 777 + 77 + 7 + (7 + 7)/7. \\
864 &= (7 + 77/7) \times (7 \times 7 - 7/7). \\
865 &= 777 + 77 + 77/7. \\
866 &= 777 + 77 + (77 + 7)/7. \\
867 &= 7 \times (77 + 7 \times 7) - 7 - 7 - 7/7. \\
868 &= 777 + 77 + 7 + 7. \\
869 &= 77 \times (77 + (7 + 7)/7)/7. \\
870 &= 7 \times (7 \times 7 + 77) - (77 + 7)/7. \\
871 &= 7 \times (7 \times 7 + 77) - 77/7. \\
872 &= 777 + 77 + 7 + 77/7. \\
873 &= 7 \times (7 \times 7 + 77) - 7 - (7 + 7)/7. \\
874 &= 777 + 7 \times (7 + 7) - 7/7. \\
875 &= 777 + 7 \times (7 + 7). \\
876 &= 777 + 7 \times (7 + 7) + 7/7. \\
877 &= 7 \times (7 \times 7 + 77) - 7 + (7 + 7)/7. \\
878 &= 777 + 777/77. \\
879 &= 7 \times (7 \times 7 + 77) - (7 + 7 + 7)/7. \\
880 &= (7 + 7/7) \times (777 - 7)/7. \\
881 &= 7 \times (7 \times 7 + 77) - 7/7. \\
882 &= 7 \times (7 \times 7 + 77). \\
883 &= 7 \times (7 \times 7 + 77) + 7/7. \\
884 &= 7 \times (7 \times 7 + 77) + (7 + 7)/7. \\
885 &= 7 \times ((7 + 7)/7)^2 - 77/7. \\
886 &= 777 + (777 - 7 - 7)/7. \\
887 &= 777 + (777 - 7)/7. \\
888 &= 777 + 777/7. \\
889 &= 7 \times ((7 + 7)/7)^2 - 7. \\
890 &= 7 \times (7 \times 7 + 77) + 7 + 7/7. \\
891 &= 777 - 7 - 7 + ((7 + 7)/7)^2. \\
892 &= 7 - 77/7 + ((7 + 7)/7)^2 \times 7. \\
893 &= 7 \times (7 \times 7 + 77) + 77/7. \\
894 &= 7 \times ((7 + 7)/7)^2 - (7 + 7)/7. \\
895 &= 7 \times ((7 + 7)/7)^2 - 7/7. \\
896 &= 7 \times ((7 + 7)/7)^2. \\
897 &= 7 \times ((7 + 7)/7)^2 + 7/7. \\
898 &= 777 - 7 + ((7 + 7)/7)^2. \\
899 &= 777 + (777 + 77)/7. \\
900 &= (7 \times 7 + 7/7) \times (77/7 + 7). \\
901 &= 7 \times ((7 + 7)/7)^2 + 7 - (7 + 7)/7. \\
902 &= 7 \times ((7 + 7)/7)^2 + 7 - 7/7. \\
903 &= 7 \times ((7 + 7)/7)^2 + 7. \\
904 &= 7 \times ((7 + 7)/7)^2 + 7 + 7/7. \\
905 &= 777 + ((7 + 7)/7)^2. \\
906 &= 77 \times (77 + 7 - 7/7)/7 - 7. \\
907 &= 7 \times ((7 + 7)/7)^2 + 77/7. \\
908 &= 7 \times ((7 + 7)/7)^2 + (77 + 7)/7. \\
909 &= 7 \times ((7 + 7)/7)^2 + 7 + 7 - 7/7. \\
910 &= (77 - 7) \times (7 + 7 - 7/7). \\
911 &= 7 \times ((7 + 7)/7)^2 + 7 + 7 + 7/7. \\
912 &= (77 + 7) \times (77 - 7/7)/7. \\
913 &= 77 \times (77 + 7 - 7/7)/7. \\
914 &= 7 \times ((7 + 7)/7)^2 + 7 + 77/7. \\
915 &= 7777/7 - (7 + 7) \times (7 + 7). \\
916 &= (77 \times (77 + 7) - 7)/7 - 7. \\
917 &= 77 \times (77 + 7)/7 - 7. \\
918 &= (77 \times (77 + 7) + 7)/7 - 7. \\
919 &= 777 + 7 + 7 + ((7 + 7)/7)^2. \\
920 &= 77 \times (77 + 7 - 7/7)/7 + 7. \\
921 &= 77 \times (77 + 7 + 7/7)/7 - 7 - 7. \\
922 &= 77 \times (77 + 7)/7 - (7 + 7)/7. \\
923 &= 77 \times (77 + 7)/7 - 7/7. \\
924 &= 77 \times (77 + 7)/7. \\
925 &= (77 \times (77 + 7) + 7)/7. \\
926 &= 77 \times (77 + 7)/7 + (7 + 7)/7. \\
927 &= 77 \times (77 + 7 - 7/7)/7 + 7 + 7. \\
928 &= 77 \times (77 + 7 + 7/7)/7 - 7. \\
929 &= 7 \times (7 \times 7 + 77 + 7) - (7 + 7)/7. \\
930 &= 7 \times (7 \times 7 + 77 + 7) - 7/7. \\
931 &= 7 \times (7 \times 7 + 77 + 7). \\
932 &= 7 \times (7 \times 7 + 77 + 7) + 7/7. \\
933 &= 7 \times (7 \times 7 + 77 + 7) + (7 + 7)/7. \\
934 &= 7 \times (7 + ((7 + 7)/7)^2) - 77/7. \\
935 &= 77 \times (77 + 7 + 7/7)/7. \\
936 &= (77 + 7) \times (77 + 7/7)/7. \\
937 &= 7 \times (7 \times 7 + 7 + 77) + 7 - 7/7. \\
938 &= 7 \times (7 \times 7 + 7 + 77) + 7. \\
939 &= 7 \times (7 \times 7 + 7 + 77) + 7 + 7/7. \\
940 &= 7 + 7 \times (7 \times 7 + 77 + 7) + (7 + 7)/7. \\
941 &= (7 \times 7 + 77 + 7) \times 7 + (77 - 7)/7. \\
942 &= 7 \times (7 \times 7 + 77 + 7) + 77/7. \\
943 &= 7 \times (((7 + 7)/7)^2 + 7) - (7 + 7)/7. \\
944 &= (7 + 777/7) \times (7 + 7/7). \\
945 &= 7 \times (((7 + 7)/7)^2 + 7). \\
946 &= 7 \times (((7 + 7)/7)^2 + 7) + 7/7. \\
947 &= 7 \times (((7 + 7)/7)^2 + 7) + (7 + 7)/7. \\
948 &= (77 + 7) \times (77 + (7 + 7)/7)/7. \\
949 &= 7 \times (7 \times 7 + 77 + 7) + 7 + 77/7. \\
950 &= (7 \times 7 + 7/7) \times (7 + (77 + 7)/7). \\
951 &= 7 \times 7 \times (7 + 7 + 7) - 77 - 7/7. \\
952 &= 7 \times (7 + ((7 + 7)/7)^2) + 7. \\
953 &= 7 \times 7 \times (7 + 7 + 7) - 77 + 7/7. \\
954 &= 777 + 7 \times 7 + ((7 + 7)/7)^2. \\
955 &= (7 + 7) \times (77 - 7 - 7/7) - 77/7. \\
956 &= 7 \times (7 + ((7 + 7)/7)^2) + 77/7. \\
957 &= (777 + 77 \times 77 - 7)/7. \\
958 &= (777 + 77 \times 77)/7. \\
959 &= 7 \times (7 \times 7 + 77) + 77.
\end{aligned}$$

$$\begin{aligned}
960 &= 7 \times (77 + 7 \times 7) + 77 + 7/7. \\
961 &= 77 \times (77 + 77/7)/7 - 7. \\
962 &= (7 + 7) \times (77 - 7) - 7 - 77/7. \\
963 &= (77-7) \times (7+7) - 7 + (7-77)/7. \\
964 &= 7777/7 - 7 \times (7 + 7 + 7). \\
965 &= 777 + 77 + 777/7. \\
966 &= (7 + 7) \times (77 - 7 - 7/7). \\
967 &= 77 \times (7 + 7) - 777/7. \\
968 &= 77 \times (77 + 77/7)/7. \\
969 &= (7 + 7) \times (77 - 7) - 77/7. \\
970 &= (7 + 7) \times (77 - 7) - (77 - 7)/7. \\
971 &= (7+7) \times (77-7) - 7 - (7+7)/7. \\
972 &= (7 + 7) \times (77 - 7) - 7 - 7/7. \\
973 &= (7 + 7) \times (77 - 7) - 7.
\end{aligned}$$

$$\begin{aligned}
974 &= (7 + 7) \times (77 - 7) - 7 + 7/7. \\
975 &= (7+7) \times (77-7) - 7 + (7+7)/7. \\
976 &= (7 + 7) \times (77 - 7) + 7 - 77/7. \\
977 &= (7+7) \times (77-7) - (7+7+7)/7. \\
978 &= (7 + 7) \times (77 - 7) - (7 + 7)/7. \\
979 &= (7 + 7) \times (77 - 7) - 7/7. \\
980 &= (7 + 7) \times (77 - 7). \\
981 &= (7 + 7) \times (77 - 7) + 7/7. \\
982 &= (7 + 7) \times (77 - 7) + (7 + 7)/7. \\
983 &= (7+7) \times (77-7) + (7+7+7)/7. \\
984 &= (7 + 7) \times (77 - 7) - 7 + 77/7. \\
985 &= (7+7) \times (77-7) + 7 - (7+7)/7. \\
986 &= (7 + 7) \times (77 - 7) + 7 - 7/7. \\
987 &= (7 + 7) \times (77 - 7) + 7.
\end{aligned}$$

$$\begin{aligned}
988 &= (7 + 7) \times (77 - 7) + 7 + 7/7. \\
989 &= (7+7) \times (77-7) + 7 + (7+7)/7. \\
990 &= (7 + 7 + 7/7) \times (77 - 77/7). \\
991 &= (7 + 7) \times (77 - 7) + 77/7. \\
992 &= (7 + 7) \times (77 - 7) + (77 + 7)/7. \\
993 &= (7 + 7) \times (77 - 7) + 7 + 7 - 7/7. \\
994 &= (7 + 7) \times (77 - 7) + 7 + 7. \\
995 &= (7 + 7) \times (77 - 7) + 7 + 7 + 7/7. \\
996 &= (7 + 77) \times (7 + 77 - 7/7)/7. \\
997 &= (7+7) \times (77-7) + 7 + (77-7)/7. \\
998 &= (7 + 7) \times (77 - 7) + 7 + 77/7. \\
999 &= 777 \times (7 + (7 + 7)/7)/7. \\
1000 &= (7+7+7-7/7) \times (7 \times 7 + 7/7).
\end{aligned}$$

## 11. REPRESENTATIONS USING NUMBER 8

$$\begin{aligned}
101 &= 8888/88. \\
102 &= (888 - 8)/8 - 8. \\
103 &= (888 - 8 \times 8)/8. \\
104 &= 88 + 8 + 8. \\
105 &= 88 + 8 + 8 + 8/8. \\
106 &= 88 + 8 + (88 - 8)/8. \\
107 &= 88 + 8 + 88/8. \\
108 &= 8 + (888 - 88)/8. \\
109 &= (888 - 8 - 8)/8. \\
110 &= (888 - 8)/8. \\
111 &= 888/8. \\
112 &= (888 + 8)/8. \\
113 &= (888 + 8 + 8)/8. \\
114 &= (888 + 88)/8 - 8. \\
115 &= 888/8 + 8 \times 8/(8 + 8). \\
116 &= 8 + 8 + (888 - 88)/8. \\
117 &= 8 \times (8 + 8) - 88/8. \\
118 &= 8 + (888 - 8)/8. \\
119 &= 8 + 888/8. \\
120 &= 8 \times (8 + 8) - 8. \\
121 &= 88 \times 88/(8 \times 8). \\
122 &= (888 + 88)/8. \\
123 &= 88 + 8 + 8 + 8 + 88/8. \\
124 &= 8 \times (8 + 8) - 8 \times 8/(8 + 8). \\
125 &= 8 \times (8 + 8) + 8 - 88/8. \\
126 &= 8 \times (8 + 8) - (8 + 8)/8. \\
127 &= 8 \times (8 + 8) - 8/8. \\
128 &= 8 \times (8 + 8). \\
129 &= 8 \times (8 + 8) + 8/8. \\
130 &= 8 \times (8 + 8) + (8 + 8)/8. \\
131 &= 8 \times (8 + 8) - 8 + 88/8. \\
132 &= 8 \times (8 + 8) + 8 \times 8/(8 + 8). \\
133 &= (8 + 88/8) \times (8 - 8/8). \\
134 &= +8 \times (8 + 8) + 8 - (8 + 8)/8. \\
135 &= 8 \times (8 + 8) + 8 - 8/8. \\
136 &= 8 \times (8 + 8) + 8. \\
137 &= 8 \times (8 + 8) + 8 + 8/8. \\
138 &= 8 \times (8 + 8) + (88 - 8)/8. \\
139 &= 8 \times (8 + 8) + 88/8. \\
140 &= 8 \times (8 + 8) + (88 + 8)/8. \\
141 &= 88 + 8 \times 8 - 88/8. \\
142 &= 88 + 8 \times 8 - 8 - (8 + 8)/8. \\
143 &= 88 + 8 \times 8 - 8 - 8/8. \\
144 &= 88 + 8 \times 8 - 8. \\
145 &= 88 + 8 \times 8 - 8 + 8/8. \\
146 &= 88 + 8 \times 8 - 8 + (8 + 8)/8. \\
147 &= 8 \times (8 + 8) + 8 + 88/8. \\
148 &= 888/(8 - (8 + 8)/8).
\end{aligned}$$

$$\begin{aligned}
149 &= 88 + 8 \times 8 + 8 - 88/8. \\
150 &= 88 + 8 \times 8 - (8 + 8)/8. \\
151 &= 88 + 8 \times 8 - 8/8. \\
152 &= 88 + 8 \times 8. \\
153 &= 88 + 8 \times 8 + 8/8. \\
154 &= 88 + 8 \times 8 + (8 + 8)/8. \\
155 &= 88 + 8 \times 8 - 8 + 88/8. \\
156 &= 88 + 8 \times 8 + 8 \times 8/(8 + 8). \\
157 &= 88 + 8 \times 8 + (88 - 8)/(8 + 8). \\
158 &= 88 + 8 \times 8 + 8 - (8 + 8)/8. \\
159 &= 88 + 8 \times 8 + 8 - 8/8. \\
160 &= 88 + 8 \times 8 + 8. \\
161 &= 88 + 8 \times 8 + 8 + 8/8. \\
162 &= 88 + 8 \times 8 + 8 + (8 + 8)/8. \\
163 &= 88 + 8 \times 8 + 88/8. \\
164 &= 88 + 88 - (88 + 8)/8. \\
165 &= 88 + 88 - 88/8. \\
166 &= 88 + 88 - 8 - (8 + 8)/8. \\
167 &= 88 + 88 - 8 - 8/8. \\
168 &= 88 + 88 - 8. \\
169 &= 88 + 88 - 8 + 8/8. \\
170 &= (8 + 8 + 8/8) \times (88 - 8)/8. \\
171 &= (8 + 88/8) \times (8 + 8/8). \\
172 &= 88 + 88 - 8 \times 8/(8 + 8). \\
173 &= 88 + 88 + 8 - 88/8. \\
174 &= 88 + 88 - (8 + 8)/8. \\
175 &= 88 + 88 - 8/8. \\
176 &= 88 + 88. \\
177 &= 88 + 88 + 8/8. \\
178 &= 88 + 88 + (8 + 8)/8. \\
179 &= 88 + 88 - 8 + 88/8. \\
180 &= (88 + (8 + 8)/8) \times (8 + 8)/8. \\
181 &= 8 \times (8 + 8 + 8) - 88/8. \\
182 &= 8 \times (8 + 8 + 8) - 8 - (8 + 8)/8. \\
183 &= 88 + 88 + 8 - 8/8. \\
184 &= 88 + 88 + 8. \\
185 &= 88 + 88 + 8 + 8/8. \\
186 &= 88 + 88 + (88 - 8)/8. \\
187 &= 88 + 88 + 88/8. \\
188 &= 88 + (888 - 88)/8. \\
189 &= 88 + 8888/88. \\
190 &= 8 \times (8 + 8 + 8) - (8 + 8)/8. \\
191 &= 8 \times (8 + 8 + 8) - 8/8. \\
192 &= 8 \times (8 + 8 + 8). \\
193 &= 8 \times (8 + 8 + 8) + 8/8. \\
194 &= 8 \times (8 + 8 + 8) + (8 + 8)/8. \\
195 &= 88 + 88 + 8 + 88/8. \\
196 &= 8 \times (8 + 8 + 8) + 8 \times 8/(8 + 8).
\end{aligned}$$

$$\begin{aligned}
197 &= 88 + (888 - 8 - 8)/8. \\
198 &= 88 + (888 - 8)/8. \\
199 &= 88 + 888/8. \\
200 &= 8 \times (8 + 8 + 8) + 8. \\
201 &= 8 \times (8 + 8 + 8) + 8 + 8/8. \\
202 &= 8 \times (8 + 8 + 8) + (88 - 8)/8. \\
203 &= 8 \times (8 + 8 + 8) + 88/8. \\
204 &= 8 \times (8 + 8 + 8) + (88 + 8)/8. \\
205 &= 8 \times (8 + 8) + 88 - 88/8. \\
206 &= 88 + 8 + (888 - 8)/8. \\
207 &= 88 + 8 + 888/8. \\
208 &= 88 + 8 \times (8 + 8) - 8. \\
209 &= 88 + 8 \times (8 + 8) - 8 + 8/8. \\
210 &= 88 + (888 + 88)/8. \\
211 &= 8 \times (8 + 8 + 8) + 8 + 88/8. \\
212 &= 8 \times (8 + 8 + 8) + 8 + (88 + 8)/8. \\
213 &= 88 + 8 \times (8 + 8) + 8 - 88/8. \\
214 &= 88 + 8 \times (8 + 8) - (8 + 8)/8. \\
215 &= 88 + 8 \times (8 + 8) - 8/8. \\
216 &= 88 + 8 \times (8 + 8). \\
217 &= 88 + 8 \times (8 + 8) + 8/8. \\
218 &= 88 + 8 \times (8 + 8) + (8 + 8)/8. \\
219 &= 88 + 8 \times (8 + 8) - 8 + 88/8. \\
220 &= (888 - 8) \times (8 + 8)/(8 \times 8). \\
221 &= 888 \times (8 + 8)/(8 \times 8) - 8/8. \\
222 &= 888 \times (8 + 8)/(8 \times 8). \\
223 &= 88 + 8 \times (8 + 8) + 8 - 8/8. \\
224 &= 88 + 8 \times (8 + 8) + 8. \\
225 &= (8 + 8 - 8/8)^{(8+8)/8}. \\
226 &= (888 + 8 + 8) \times (8 + 8)/(8 \times 8). \\
227 &= 88 + 8 \times (8 + 8) + 88/8. \\
228 &= (8 + 88/8) \times (88 + 8)/8. \\
229 &= 8 \times (8 + 8) + 8888/88. \\
230 &= 8 + 888 \times (8 + 8)/(8 \times 8). \\
231 &= 8 \times (8 + 8) - 8 + 888/8. \\
232 &= 88 + 88 + 8 \times 8 - 8. \\
233 &= 8 + (8 + 8 - 8/8)^{(8+8)/8}. \\
234 &= (8+8+8+(8+8)/8) \times (8+8)/8. \\
235 &= 8 \times (8 + 8) + 88 + 8 + 88/8. \\
236 &= ((8 + 8)/8)^8 - 8 - (88 + 8)/8. \\
237 &= ((8 + 8)/8)^8 - 8 - 88/8. \\
238 &= 8 \times (8 + 8) + (888 - 8)/8. \\
239 &= 8 \times (8 + 8) + 888/8. \\
240 &= 88 + 88 + 8 \times 8. \\
241 &= (8 + 8) \times (8 + 8 - 8/8) + 8/8. \\
242 &= (88 + 88) \times 88/(8 \times 8). \\
243 &= ((8 + 8 + 8)/8)^{(8-(8+8+8)/8)}. \\
244 &= (8 + 8) \times (8 + 8) - (88 + 8)/8.
\end{aligned}$$

$$\begin{aligned}
245 &= (8+8) \times (8+8) - 88/8. \\
246 &= (8+8) \times (8+8) - (88-8)/8. \\
247 &= (8+8) \times (8+8) - 8-8/8. \\
248 &= (8+8) \times (8+8) - 8. \\
249 &= (8+8) \times (8+8) - 8+8/8. \\
250 &= (8+8) \times (8+8) - 8+(8+8)/8. \\
251 &= 88+88+8 \times 8+88/8. \\
252 &= 8 \times (8 \times 8 \times 8 - 8)/(8+8). \\
253 &= (8+8) \times (8+8) + 8 - 88/8. \\
254 &= (8+8) \times (8+8) - (8+8)/8. \\
255 &= (8+8) \times (8+8) - 8/8. \\
256 &= (8+8) \times (8+8). \\
257 &= (8+8) \times (8+8) + 8/8. \\
258 &= (8+8) \times (8+8) + (8+8)/8. \\
259 &= (8+8) \times (8+8) + (8+8+8)/8. \\
260 &= 8 \times (8 \times 8 \times 8 + 8)/(8+8). \\
261 &= (8+8+8) \times (88-8)/8. \\
262 &= (8+8) \times (8+8) + 8 - (8+8)/8. \\
263 &= (8+8) \times (8+8) + 8-8/8. \\
264 &= (8+8) \times (8+8) + 8. \\
265 &= (8+8) \times (8+8) + 8+8/8. \\
266 &= (8+8) \times (8+8) + 8+(8+8)/8. \\
267 &= (8+8) \times (8+8) + 88/8. \\
268 &= (8+8) \times (8+8) + (88+8)/8. \\
269 &= 8 \times (8+8+8) + 88 - 88/8. \\
270 &= (8+8) \times (8+8) + 8+8 - (8+8)/8. \\
271 &= (8+8) \times (8+8+8/8) - 8/8. \\
272 &= (8+8) \times (8+8+8/8). \\
273 &= (8+8) \times (8+8+8/8) + 8/8. \\
274 &= (8+8) \times (8+8) + 8+8 + (8+8)/8. \\
275 &= (8+8) \times (8+8) + 8+88/8. \\
276 &= (8+8) \times (8+8) + 8+(88+8)/8. \\
277 &= 88+8 \times (8+8+8) - (8+8+8)/8. \\
278 &= (8 \times (8+8) + 88/8) \times (8+8)/8. \\
279 &= 8 \times (8+8+8) + 88 - 8/8. \\
280 &= 8 \times (8+8+8) + 88. \\
281 &= 8 \times (8+8+8) + 88+8/8. \\
282 &= 8 \times (8+8+8) + 88+(8+8)/8. \\
283 &= 8 \times (8+8+8) + 88-8+88/8. \\
284 &= 8 \times 8 \times (8 \times 8 + 8 - 8/8)/(8+8). \\
285 &= ((8+8+8) \times (88+8) - 8 - 8-8)/8. \\
286 &= ((8+8+8) \times (88+8) - 8-8)/8. \\
287 &= ((8+8+8) \times (88+8) - 8)/8. \\
288 &= (8+8+8) \times (88+8)/8. \\
289 &= (8+8+8/8)^{(8+8)/8}. \\
290 &= ((8+8+8) \times (88+8) + 8+8)/8. \\
291 &= 8 \times (8+8+8) + 88+88/8. \\
292 &= 8 \times (8+8+8) + 88+(88+8)/8. \\
293 &= ((8+8)/8)^8 + 888/(8+8+8). \\
294 &= 8+8 \times 8+888 \times (8+8)/(8 \times 8). \\
295 &= 8 \times 8 \times (8 \times 8 + 8)/(8+8) + 8-8/8. \\
296 &= 8 \times 888/(8+8+8). \\
297 &= (8+8+8/8)^{(8+8)/8} + 8. \\
298 &= 8 \times 888/(8+8+8) + (8+8)/8. \\
299 &= 8 \times 8 \times (8 \times 8 + 8)/(8+8) + 88/8. \\
300 &= 8 \times 8 \times (8 \times 8 + 88/8)/(8+8). \\
301 &= (8+8) \times (8+8) + 8 \times 8 - 8 - 88/8. \\
302 &= (8+8) \times (8 \times 8 + 88 - 8/8)/8. \\
303 &= (8+8) \times (8+88/8) - 8/8. \\
304 &= (8+8) \times (8+88/8). \\
305 &= (8+8) \times (8+88/8) + 8/8. \\
306 &= (8+8+(8+8)/8) \times (8+8+8/8). \\
307 &= 8 \times (88 \times 8 - 88)/(8+8) - 8/8. \\
308 &= 8 \times (88 \times 8 - 88)/(8+8). \\
309 &= (8+8+8) \times (888/8 - 8)/8. \\
310 &= 88+888 \times (8+8)/(8 \times 8). \\
311 &= 8 \times (8+8+8) + 8+888/8. \\
312 &= (8+8) \times (8+8) + 8 \times 8 - 8. \\
313 &= (8+8) \times (8+8) + 8 \times 8 - 8+8/8. \\
314 &= (8+8) \times (8+8) + 8 \times 8 - 8 + (8+8)/8. \\
315 &= (8 \times 8 - 8/8) \times (8 - (8+8+8)/8). \\
316 &= (8+8) \times (8+8) + 8 \times (8 - 8/(8+8)). \\
317 &= (8+8) \times (8+8) + 8 \times 8 + 8 - 88/8. \\
318 &= (8+8) \times (8+8) + 8 \times 8 - (8+8)/8. \\
319 &= (8+8) \times (8+8) + 8 \times 8 - 8/8. \\
320 &= (8+8) \times (8+8) + 8 \times 8. \\
321 &= (8+8) \times (8+8) + 8 \times 8 + 8/8. \\
322 &= (8+8) \times (8+8) + 8 \times 8 + (8+8)/8. \\
323 &= (8+8) \times (8+8) + 8 \times 8 - 8 + 88/8. \\
324 &= (8+8+(8+8)/8)^{(8+8)/8}. \\
325 &= 888 \times (8+8+8)/(8 \times 8) - 8. \\
326 &= (8+8) \times (8+8) + 8 \times 8 + 8 - (8+8)/8. \\
327 &= 8 \times (8+8) + 88+888/8. \\
328 &= (8+8) \times (8+8) + 8 \times 8 + 8. \\
329 &= (8-8/8) \times (8 \times 8 - 8 - 8-8/8). \\
330 &= (8 - (8+8)/8) \times (8 \times 8 - 8 - 8/8). \\
331 &= (8+8) \times (8+8) + 88/8 + 8 \times 8. \\
332 &= (888 \times (88/8 - 8) - 8)/8. \\
333 &= 888 \times (88/8 - 8)/8. \\
334 &= 8 \times 8 \times 8 - 88 - 88 - (8+8)/8. \\
335 &= 8 \times 8 \times 8 - 88 - 88 - 8/8. \\
336 &= 8 \times 8 \times 8 - 88 - 88. \\
337 &= 8 \times (8 \times 8 - 8) - 888/8. \\
338 &= (8+8) \times (8+8) + 88 - 8 + (8+8)/8. \\
339 &= (8+8) \times (8+8) + 8 \times 8 + 8 + 88/8. \\
340 &= 8 \times 8 \times 88/(8+8) - (88+8)/8. \\
341 &= 888 \times (88/8 - 8)/8 + 8. \\
342 &= (8 - (8+8)/8) \times (8 \times 8 - 8+8/8). \\
343 &= (8-8/8)^{(8+8+8)/8}. \\
344 &= (8+8) \times (8+8) + 88. \\
345 &= (8+8) \times (8+8) + 88+8/8. \\
346 &= (8+8) \times (8+8) + 88+(8+8)/8. \\
347 &= 8 \times 8 \times 88/(8+8) - 8-8+88/8. \\
348 &= 8 \times (8 \times 88 - 8)/(8+8). \\
349 &= 8 \times 8 \times 88/(8+8) + 8 - 88/8. \\
350 &= 8 \times 8 \times 88/(8+8) - (8+8)/8. \\
351 &= 8 \times 8 \times 88/(8+8) - 8/8. \\
352 &= 8 \times 8 \times 88/(8+8). \\
353 &= 8 \times 8 \times 88/(8+8) + 8/8. \\
354 &= 8 \times 8 \times 88/(8+8) + (8+8)/8. \\
355 &= 8 \times 8 \times 88/(8+8) + (8+8+8)/8. \\
356 &= 8 \times 8 \times (88+8/8)/(8+8). \\
357 &= (8+8+8) \times (8+888/8)/8. \\
358 &= 8 \times (8 \times 8 - 8) - 88 - (8+8)/8. \\
359 &= 8 \times (8 \times 8 - 8) - 88 - 8/8. \\
360 &= 8 \times (8 \times 8 - 8) - 88. \\
361 &= (8+88/8)^{(8+8)/8}. \\
362 &= 8 \times (8 \times 8 - 8) - 88 + (8+8)/8. \\
363 &= 8 \times 8 \times 88/(8+8) + 88/8. \\
364 &= 8+8 \times (8 \times 88+8)/(8+8). \\
365 &= (8+8) \times (8+8+8) - 8 - 88/8. \\
366 &= 888 - 8 \times 8 \times 8 - 8 - (8+8)/8. \\
367 &= (8+8) \times (8+8) + 888/8. \\
368 &= 888 - 8 \times 8 \times 8 - 8. \\
369 &= (8+88/8)^{(8+8)/8} + 8. \\
370 &= 888 - 8 \times 8 \times 8 - 8 + (8+8)/8. \\
371 &= 8 \times (8 \times 8 - 8) - 88 + 88/8. \\
372 &= (8+8) \times (8+8+8) - (88+8)/8. \\
373 &= (8+8) \times (8+8+8) - 88/8. \\
374 &= 888 - 8 \times 8 \times 8 - (8+8)/8. \\
375 &= 888 - 8 \times 8 \times 8 - 8/8. \\
376 &= 888 - 8 \times 8 \times 8. \\
377 &= 888 - 8 \times 8 \times 8 + 8/8. \\
378 &= 888 - 8 \times 8 \times 8 + (8+8)/8. \\
379 &= 888 - 8 \times 8 \times 8 + (8+8+8)/8. \\
380 &= (8+8) \times (8+8+8) - 8 \times 8/(8+8). \\
381 &= 8 \times (8 \times 8 - 8 - 8) + 8 - 88/8. \\
382 &= 8 \times (8 \times 8 - 8 - 8) - (8+8)/8. \\
383 &= (8+8) \times (8+8+8) - 8/8. \\
384 &= (8+8) \times (8+8+8). \\
385 &= (8+8) \times (8+8+8) + 8/8. \\
386 &= (8+8) \times (8+8+8) + (8+8)/8. \\
387 &= (8+8) \times (8+8+8) + (8+8+8)/8. \\
388 &= (8+8) \times (8+8+8) + 8 \times 8/(8+8). \\
389 &= (8+8) \times (8+8+8) + 8 - (8+8+8)/8. \\
390 &= (8+8) \times (8+8+8) + 8 - (8+8)/8. \\
391 &= (8+8) \times (8+8+8) + 8 - 8/8. \\
392 &= (8+8) \times (8+8+8) + 8. \\
393 &= 8 \times 8 \times 8 - 8 - 888/8. \\
394 &= (8+8) \times (8+8+8) + (88-8)/8. \\
395 &= (8+8) \times (8+8+8) + 88/8. \\
396 &= (8+8) \times (8+8+8) + (88+8)/8. \\
397 &= 8 \times (8 \times 88 + 88)/(8+8) + 8/8. \\
398 &= (8+8) \times (88+888/8)/8. \\
399 &= (8+8) \times (8+8+8) + 8+8-8/8. \\
400 &= (8+8) \times (8+8+8) + 8+8. \\
401 &= 8 \times 8 \times 8 - 888/8. \\
402 &= 8 \times 8 \times 8 - (888-8)/8. \\
403 &= 8 \times (8 \times 8 - 8 - 8) + 8+88/8. \\
404 &= 8+88 \times (8 \times 8+8)/(8+8). \\
405 &= (8+8/8) \times (8 \times 8 - 8 - 88/8). \\
406 &= (8+8+8) \times (8+8+8/8) - (8+8)/8. \\
407 &= (8+8+8) \times (8+8+8/8) - 8/8. \\
408 &= (8+8+8) \times (8+8+8/8). \\
409 &= 8 \times 8 \times 8 + 8 - 888/8. \\
410 &= 8 \times 8 \times 8 + 8 - (888-8)/8. \\
411 &= (8+8) \times (8+8+8) + 8+8+88/8. \\
412 &= 8 \times 8 \times (888/8 - 8)/(8+8). \\
413 &= 8 \times 8 \times 8 - 88 - 88/8. \\
414 &= 8 \times 8 \times 8 - 88 - (88-8)/8. \\
415 &= 8 \times 8 \times 8 - 88 - 8 - 8/8. \\
416 &= 8 \times 8 \times 8 - 88 - 8. \\
417 &= 8 \times 8 \times 8 - 88 - 8 + 8/8. \\
418 &= 8 \times 8 \times 8 - 88 - 8 + (8+8)/8. \\
419 &= 8 \times 8 \times 8 - 88 - 8 + (8+8+8)/8. \\
420 &= 8 \times 8 \times 8 - 88 - 8 \times 8/(8+8).
\end{aligned}$$

$$\begin{aligned}
421 &= 8 \times 8 \times 8 - 88 - (8 + 8 + 8)/8. \\
422 &= 8 \times 8 \times 8 - 88 - (8 + 8)/8. \\
423 &= 8 \times 8 \times 8 - 88 - 8/8. \\
424 &= 8 \times 8 \times 8 - 88. \\
425 &= 8 \times 8 \times 8 - 88 + 8/8. \\
426 &= 8 \times 8 \times 8 - 88 + (8 + 8)/8. \\
427 &= 8 \times 8 \times 8 - 88 + (8 + 8 + 8)/8. \\
428 &= 8 \times 8 \times 8 - 88 + 8 \times 8/(8 + 8). \\
429 &= 8 \times (8 \times 8 - 8) - 8 - 88/8. \\
430 &= 8 \times 8 \times 8 + 8 - 88 - (8 + 8)/8. \\
431 &= 8 \times 8 \times 8 + 8 - 88 - 8/8. \\
432 &= 8 \times 8 \times 8 - 88 + 8. \\
433 &= 8 \times 8 \times 8 - 88 + 8 + 8/8. \\
434 &= (8 - 8/8) \times (8 \times 8 - (8 + 8)/8). \\
435 &= 8 \times 8 \times 8 - 88 + 88/8. \\
436 &= 8 \times 888/(8 + 8) - 8. \\
437 &= 8 \times (8 \times 8 - 8) - 88/8. \\
438 &= 8 \times (8 \times 8 - 8) - (88 - 8)/8. \\
439 &= 8 \times (8 \times 8 - 8) - 8 - 8/8. \\
440 &= 8 \times (8 \times 8 - 8) - 8. \\
441 &= 8 \times (8 \times 8 - 8) - 8 + 8/8. \\
442 &= 8 \times (8 \times 8 - 8) - 8 + (8 + 8)/8. \\
443 &= 8 \times 888/(8 + 8) - 8/8. \\
444 &= 8 \times 888/(8 + 8). \\
445 &= 8 \times (8 \times 8 - 8) + 8 - 88/8. \\
446 &= 8 \times (8 \times 8 - 8) - (8 + 8)/8. \\
447 &= 8 \times (8 \times 8 - 8) - 8/8. \\
448 &= 8 \times (8 \times 8 - 8). \\
449 &= 8 \times (8 \times 8 - 8) + 8/8. \\
450 &= 8 \times (8 \times 8 - 8) + (8 + 8)/8. \\
451 &= 8 \times (8 \times 8 - 8) - 8 + 88/8. \\
452 &= 8 \times 888/(8 + 8) + 8. \\
453 &= 8 \times (8 \times 8 - 8) + 8 - (8 + 8 + 8)/8. \\
454 &= 8 \times (8 \times 8 - 8) + 8 - (8 + 8)/8. \\
455 &= 8 \times (8 \times 8 - 8) + 8 - 8/8. \\
456 &= 8 \times (8 \times 8 - 8) + 8. \\
457 &= 8 \times (8 \times 8 - 8) + 8 + 8/8. \\
458 &= 8 \times (8 \times 8 - 8) + 8 + (8 + 8)/8. \\
459 &= 8 \times (8 \times 8 - 8) + 88/8. \\
460 &= 8 \times (8 \times 8 - 8) + (88 + 8)/8. \\
461 &= 8 \times (8 \times 8 - 8) + 8 + 8 - (8 + 8 + 8)/8. \\
462 &= (8 \times 8 + (8 + 8)/8) \times (8 - 8/8). \\
463 &= 8 \times (8 \times 8 - 8) + 8 + 8 - 8/8. \\
464 &= 8 \times (8 \times 8 - 8) + 8 + 8. \\
465 &= 8 \times (8 \times 8 - 8) + 8 + 8 + 8/8. \\
466 &= 8 \times (8 \times 8 - 8) + 8 + 8 + (8 + 8)/8. \\
467 &= 8 \times (8 \times 8 - 8) + 8 + 88/8. \\
468 &= 8 \times 8 \times 8 - 8 \times 88/(8 + 8). \\
469 &= (8 - 8/8) \times (8 \times 8 + (8 + 8 + 8)/8). \\
470 &= 8 \times (8 \times 8 - 8) + (88 + 88)/8. \\
471 &= (8 + 8) \times (8 + 8 + 8) + 88 - 8/8. \\
472 &= (8 + 8) \times (8 + 8 + 8) + 88. \\
473 &= (8 + 8) \times (8 + 8 + 8) + 88 + 8/8. \\
474 &= (88 - 8 - 8/8) \times (8 - (8 + 8)/8). \\
475 &= 8 \times 8 \times 8 - 888/(8 + 8 + 8). \\
476 &= 8 \times (8 + 8)/(8 + 8) \times (8 - 8/8). \\
477 &= 8 \times 8 \times 8 - 8 - 8 - 8 - 88/8. \\
478 &= 8 \times 8 \times (8 - 8)/(8 + 8) - (8 + 8)/8. \\
479 &= 8 \times 8 \times (8 - 8)/(8 + 8) - 8/8. \\
480 &= 8 \times 8 \times (8 - 8)/(8 + 8). \\
481 &= 8 \times 8 \times (8 - 8)/(8 + 8) + 8/8. \\
482 &= 8 \times 8 \times (8 - 8)/(8 + 8) + (8 + 8)/8. \\
483 &= 8 \times 8 \times (8 - 8)/(8 + 8) + (8 + 8 + 8)/8. \\
484 &= ((88 + 88)/8)^{(8+8)/8}. \\
485 &= 8 \times 8 \times 8 - 8 - 8 - 88/8. \\
486 &= (88 - 8 + 8/8) \times (8 - (8 + 8)/8). \\
487 &= 8 \times 8 \times 8 - 8 - 8 - 8 - 8/8. \\
488 &= 8 \times 8 \times 8 - 8 - 8 - 8. \\
489 &= 8 \times 8 \times 8 - 8 - 8 - 8 + 8/8. \\
490 &= 8 \times 8 \times 8 - 8 - 8 - 8 + (8 + 8)/8. \\
491 &= 8 \times 8 \times 8 - 8 - 8 - 8 + (8 + 8 + 8)/8. \\
492 &= 8 \times (8 \times 8 - 8)/(8 + 8) - 8 - 8. \\
493 &= 8 \times 8 \times 8 - 8 - 88/8. \\
494 &= 8 \times 8 \times 8 - 8 - 8 - (8 + 8)/8. \\
495 &= 8 \times 8 \times 8 - 8 - 8 - 8/8. \\
496 &= 8 \times 8 \times 8 - 8 - 8. \\
497 &= 8 \times 8 \times 8 - 8 - 8 + 8/8. \\
498 &= 8 \times 8 \times 8 - 8 - 8 + (8 + 8)/8. \\
499 &= 8 \times 8 \times 8 - (88 + 8 + 8)/8. \\
500 &= 8 \times 8 \times 8 - (88 + 8)/8. \\
501 &= 8 \times 8 \times 8 - 88/8. \\
502 &= 8 \times 8 \times 8 - (88 - 8)/8. \\
503 &= 8 \times 8 \times 8 - 8 - 8/8. \\
504 &= 8 \times 8 \times 8 - 8. \\
505 &= 8 \times 8 \times 8 - 8 + 8/8. \\
506 &= 8 \times 8 \times 8 - 8 + (8 + 8)/8. \\
507 &= 8 \times 8 \times 8 - 8 - 8 + 88/8. \\
508 &= 8 \times (8 \times 8 - 8)/(8 + 8). \\
509 &= 8 \times 8 \times 8 - (8 + 8 + 8)/8. \\
510 &= 8 \times 8 \times 8 - (8 + 8)/8. \\
511 &= 8 \times 8 \times 8 - 8/8. \\
512 &= 8 \times 8 \times 8. \\
513 &= 8 \times 8 \times 8 + 8/8. \\
514 &= 8 \times 8 \times 8 + (8 + 8)/8. \\
515 &= 8 \times 8 \times 8 - 8 + 88/8. \\
516 &= 8 \times (8 \times 8 + 8)/(8 + 8). \\
517 &= 8 \times 8 \times 8 + 8 - (8 + 8 + 8)/8. \\
518 &= 8 \times 8 \times 8 + 8 - (8 + 8)/8. \\
519 &= 8 \times 8 \times 8 + 8 - 8/8. \\
520 &= 8 \times 8 \times 8 + 8. \\
521 &= 8 \times 8 \times 8 + 8 + 8/8. \\
522 &= 8 \times 8 \times 8 + (88 - 8)/8. \\
523 &= 8 \times 8 \times 8 + 88/8. \\
524 &= 8 \times 8 \times 8 + (88 + 8)/8. \\
525 &= 8 \times 8 \times 8 + 8 + 8 + 8 - 88/8. \\
526 &= 8 \times 8 \times 8 + 8 + 8 - (8 + 8)/8. \\
527 &= 8 \times 8 \times 8 + 8 + 8 - 8/8. \\
528 &= 8 \times 8 \times 8 + 8 + 8. \\
529 &= 8 \times 8 \times 8 + 8 + 8 + 8/8. \\
530 &= 8 \times 8 \times 8 + 8 + 8 + (8 + 8)/8. \\
531 &= 8 \times 8 \times 8 + 8 + 88/8. \\
532 &= 8 \times 8 \times 8 + 8 + (88 + 8)/8. \\
533 &= 8 \times 8 \times 8 + 8 + (88 + 8 + 8)/8. \\
534 &= 8 \times 8 \times 8 + 8 + 8 + 8 - (8 + 8)/8. \\
535 &= 8 \times 8 \times 8 + 8 + 8 + 8 - 8/8. \\
536 &= 8 \times (8 \times 8 - 8) + 88. \\
537 &= 8 \times (8 \times 8 - 8) + 88 + 8/8. \\
538 &= 8 \times (8 \times 8 - 8) + 88 + (8 + 8)/8. \\
539 &= 8 \times 8 \times 8 + 8 + 8 + 88/8. \\
540 &= 8 \times 8 \times 8 + 8 + 8 + (88 + 8)/8. \\
541 &= (88 - 8) \times 8 - 88 - 88/8. \\
542 &= 8 \times 8 \times (8 + 8)/(8 + 8) - (8 + 8)/8. \\
543 &= 8 \times 8 \times (8 + 8)/(8 + 8) - 8/8. \\
544 &= 8 \times 8 \times (8 + 8)/(8 + 8). \\
545 &= 8 \times 8 \times (8 + 8)/(8 + 8) + 8/8. \\
546 &= 8 \times 8 \times (8 + 8)/(8 + 8) + (8 + 8)/8. \\
547 &= 8 \times 8 \times 8 + 8 + 8 + 8 + 88/8. \\
548 &= 8 \times (88 - 8 - 8)/(8 + 8) - 88. \\
549 &= 8 \times (8 \times 8 + 8) - 8 - 8 - 88/8. \\
550 &= 8 \times (88 - 8) - 88 - (8 + 8)/8. \\
551 &= 8 \times (88 - 8) - 88 - 8/8. \\
552 &= 8 \times (88 - 8) - 88. \\
553 &= 8 \times (88 - 8) - 88 + 8/8. \\
554 &= 8 \times (88 - 8) - 88 + (8 + 8)/8. \\
555 &= 888 \times (8 - (8 + 8 + 8)/8)/8. \\
556 &= 8 \times 8 \times 8 + 8 \times 88/(8 + 8). \\
557 &= 8 \times (8 \times 8 + 8) - 8 - 88/8. \\
558 &= (8 + 8/8) \times (8 \times 8 - (8 + 8)/8). \\
559 &= (8 \times 8 - 8) \times 8 + 888/8. \\
560 &= 8 \times 8 \times 8 + 8 \times 8 - 8 - 8. \\
561 &= 8 \times 8 \times 8 + 8 \times 8 - 8 - 8 + 8/8. \\
562 &= 8 \times (8 + 8 \times 8) - 8 - 8 + (8 + 8)/8. \\
563 &= 8 \times (8 \times 8 + 8) - (88 + 8 + 8)/8. \\
564 &= 8 \times (8 \times 8 + 8 - 8)/(8 + 8) - 8. \\
565 &= 8 \times (8 \times 8 + 8) - 88/8. \\
566 &= 8 \times (8 \times 8 + 8) - 8 - (8 + 8)/8. \\
567 &= (8 + 8/8) \times (8 \times 8 - 8/8). \\
568 &= 8 \times (8 \times 8 + 8) - 8. \\
569 &= 8 \times (8 \times 8 + 8) - 8 + 8/8. \\
570 &= 8 \times (8 \times 8 + 8) - 8 + (8 + 8)/8. \\
571 &= 8 \times (8 + 8 \times 8) - 8 - 8 + 88/8. \\
572 &= 8 \times (8 \times 8 + 8 - 8)/(8 + 8). \\
573 &= 8 \times (8 \times 8 + 8) - (8 + 8 + 8)/8. \\
574 &= 8 \times (8 \times 8 + 8) - (8 + 8)/8. \\
575 &= 8 \times (8 \times 8 + 8) - 8/8. \\
576 &= 8 \times (8 \times 8 + 8). \\
577 &= 8 \times (8 \times 8 + 8) + 8/8. \\
578 &= 8 \times (8 \times 8 + 8) + (8 + 8)/8. \\
579 &= 8 \times (8 \times 8 + 8) + (8 + 8 + 8)/8. \\
580 &= 8 \times (8 \times 8 + 8 + 8)/(8 + 8). \\
581 &= 8 \times (8 \times 8 + 8) + 8 + 8 - 88/8. \\
582 &= 8 \times (8 \times 8 + 8) + 8 - (8 + 8)/8. \\
583 &= 8 \times (8 \times 8 + 8) + 8 - 8/8. \\
584 &= 8 \times (8 \times 8 + 8) + 8. \\
585 &= 8 \times (8 \times 8 + 8) + 8 + 8/8. \\
586 &= 8 \times (8 \times 8 + 8) + 8 + (8 + 8)/8. \\
587 &= 8 \times (8 \times 8 + 8) + 88/8. \\
588 &= 8 \times (8 \times 8 + 8) + (88 + 8)/8. \\
589 &= 8 \times 8 \times 8 - 88/8 + 88. \\
590 &= 8 \times 8 \times 8 + 88 - 8 - (8 + 8)/8. \\
591 &= 8 \times 8 \times 8 + 88 - 8 - 8/8. \\
592 &= 8 \times 8 \times 8 + 88 - 8. \\
593 &= 8 \times 88 - 888/8. \\
594 &= 8 \times 88 - (888 - 8)/8. \\
595 &= (8 + 88 - 88/8) \times (8 - 8/8). \\
596 &= 8 \times (8 \times 8 - 8)/(8 + 8) + 88. \\
597 &= 88 \times (8 - 8/8) - 8 - 88/8. \\
598 &= 8 \times 8 \times 8 + 88 - (8 + 8)/8. \\
599 &= 8 \times 8 \times 8 + 88 - 8/8. \\
600 &= 8 \times 8 \times 8 + 88. \\
601 &= 8 \times 8 \times 8 + 88 + 8/8. \\
602 &= 8 \times 8 \times 8 + 88 + (8 + 8)/8. \\
603 &= 88 \times 8 - 8888/88. \\
604 &= 8 \times 8 \times 8 + 88 + 8 \times 8/(8 + 8). \\
605 &= 88 \times 8 - 88 - 88/8. \\
606 &= 8 \times 88 - 88 - 8 - (8 + 8)/8. \\
607 &= 8 \times 88 - 88 - 8 - 8/8. \\
608 &= 8 \times 88 - 88 - 8. \\
609 &= (8 - 8/8) \times (88 - 8/8). \\
610 &= 88 \times 8 - 88 - 8 + (8 + 8)/8. \\
611 &= 8 \times 8 \times 8 + 88 + 88/8. \\
612 &= 8 \times (88 - 8)/(8 + 8) - 88. \\
613 &= 8 \times (88 - 8) - 8 - 8 - 88/8. \\
614 &= 8 \times 88 - 88 - (8 + 8)/8. \\
615 &= 8 \times 88 - 88 - 8/8.
\end{aligned}$$

$$\begin{aligned}
616 &= 8 \times 88 - 88. \\
617 &= 8 \times 88 - 88 + 8/8. \\
618 &= 8 \times 88 - 88 + (8 + 8)/8. \\
619 &= 8 \times 88 - 88 + (8 + 8 + 8)/8. \\
620 &= 88 \times (8 - 8/8) + 8 \times 8/(8 + 8). \\
621 &= 8 \times (88 - 8) - 8 - 88/8. \\
622 &= 88 \times 8 - 88 + 8 - (8 + 8)/8. \\
623 &= 8 \times 8 \times 8 + 888/8. \\
624 &= 8 \times 88 - 88 + 8. \\
625 &= 8 \times 88 - 88 + 8 + 8/8. \\
626 &= 8 \times 88 - 88 + 8 + (8 + 8)/8. \\
627 &= 8 \times 88 - 88 + 88/8. \\
628 &= 8 \times (88 - 8) - (88 + 8)/8. \\
629 &= 8 \times (88 - 8) - 88/8. \\
630 &= 8 \times (88 - 8) - (88 - 8)/8. \\
631 &= 8 \times (88 - 8) - 8 - 8/8. \\
632 &= 8 \times (88 - 8) - 8. \\
633 &= 8 \times (88 - 8) - 8 + 8/8. \\
634 &= 8 \times (88 - 8) - 8 + (8 + 8)/8. \\
635 &= 8 \times (88 - 8) - 8 - 8 + 88/8. \\
636 &= 8 \times (88 - 8 - 8/(8 + 8)). \\
637 &= 8 \times (88 - 8) + 8 - 88/8. \\
638 &= 8 \times (88 - 8) - (8 + 8)/8. \\
639 &= 8 \times (88 - 8) - 8/8. \\
640 &= 8 \times (88 - 8). \\
641 &= 8 \times (88 - 8) + 8/8. \\
642 &= 8 \times (88 - 8) + (8 + 8)/8. \\
643 &= 8 \times (88 - 8) - 8 + 88/8. \\
644 &= 8 \times (88 - 8 + 8/(8 + 8)). \\
645 &= 8 \times (88 - 8) + 8 - (8 + 8 + 8)/8. \\
646 &= 8 \times (88 - 8) + 8 - (8 + 8)/8. \\
647 &= 8 \times (88 - 8) + 8 - 8/8. \\
648 &= 8 \times (88 - 8) + 8. \\
649 &= 8 \times (88 - 8) + 8 + 8/8. \\
650 &= 8 \times (88 - 8) + (88 - 8)/8. \\
651 &= 8 \times (88 - 8) + 88/8. \\
652 &= 8 \times (88 - 8) + (88 + 8)/8. \\
653 &= 8 \times (88 - 8) + (88 + 8 + 8)/8. \\
654 &= 8 \times (88 - 8) + 8 + 8 - (8 + 8)/8. \\
655 &= 8 \times (88 - 8) + 8 + 8 - 8/8. \\
656 &= 8 \times (88 - 8) + 8 + 8. \\
657 &= 8 \times (88 - 8) + 8 + 8 + 8/8. \\
658 &= 8 \times (88 - 8) + 8 + 8 + (8 + 8)/8. \\
659 &= 8 \times (88 - 8) + 8 + 88/8. \\
660 &= 8 \times 88 \times (8 - 8/(8 + 8))/8. \\
661 &= 8 \times (8 \times 8 + 8) + 88 - (8 + 8 + 8)/8. \\
662 &= 8 \times (8 \times 8 + 8) + 88 - (8 + 8)/8. \\
663 &= 8 \times (8 \times 8 + 8) + 88 - 8/8. \\
664 &= 8 \times (8 \times 8 + 8) + 88. \\
665 &= 8 \times (8 \times 8 + 8) + 88 + 8/8. \\
666 &= 888 \times (8 - (8 + 8)/8)/8. \\
667 &= 8 \times (88 - 8) + 8 + 8 + 88/8. \\
668 &= 8 \times (88 + 8) - 88 - (88 + 8)/8. \\
669 &= 8 \times (88 + 8) - 88 - 88/8. \\
670 &= (88 + 8) \times (8 - 8/8) - (8 + 8)/8. \\
671 &= (88 + 8) \times (8 - 8/8) - 8/8. \\
672 &= (88 + 8) \times (8 - 8/8). \\
673 &= (8 - 8/8) \times (88 + 8) + 8/8. \\
674 &= (8 - 8/8) \times (88 + 8) + (8 + 8)/8. \\
675 &= (8 \times 8 + 88/8) \times (8 + 8/8). \\
676 &= 8 \times 88 - 8 - 8 - (88 + 8)/8. \\
677 &= 8 \times 88 - 8 - 8 - 88/8. \\
678 &= 8 \times (88 + 8) - 88 - (8 + 8)/8. \\
679 &= 8 \times (88 + 8) - 88 - 8/8. \\
680 &= 8 \times (88 + 8) - 88. \\
681 &= 8 \times (88 + 8) - 88 + 8/8. \\
682 &= 8 \times 88 - (88 + 88)/8. \\
683 &= 8 \times 88 - (88 + 88 - 8)/8. \\
684 &= 8 \times 88 - 8 - (88 + 8)/8. \\
685 &= 8 \times 88 - 8 - 88/8. \\
686 &= 8 \times 88 - 8 - 8 - (8 + 8)/8. \\
687 &= 8 \times 88 - 8 - 8 - 8/8. \\
688 &= 8 \times 88 - 8 - 8. \\
689 &= 8 \times 88 - 8 - 8 + 8/8. \\
690 &= 8 \times 88 - 8 - 8 + (8 + 8)/8. \\
691 &= 8 \times 88 - (88 + 8 + 8)/8. \\
692 &= 8 \times 88 - (88 + 8)/8. \\
693 &= 8 \times 88 - 88/8. \\
694 &= 8 \times 88 - (88 - 8)/8. \\
695 &= 8 \times 88 - 8 - 8/8. \\
696 &= 8 \times 88 - 8. \\
697 &= 8 \times 88 - 8 + 8/8. \\
698 &= 8 \times 88 - 8 + (8 + 8)/8. \\
699 &= 8 \times 88 - 8 + (8 + 8 + 8)/8. \\
700 &= 8 \times 88 - 8 \times 8/(8 + 8). \\
701 &= 8 \times 88 + 8 - 88/8. \\
702 &= 8 \times 88 - (8 + 8)/8. \\
703 &= 8 \times 88 - 8/8. \\
704 &= 8 \times 88. \\
705 &= 8 \times 88 + 8/8. \\
706 &= 8 \times 88 + (8 + 8)/8. \\
707 &= 8 \times 88 - 8 + 88/8. \\
708 &= 8 \times (88 + 8/(8 + 8)). \\
709 &= 8 \times 88 + 8 - (8 + 8 + 8)/8. \\
710 &= 8 \times 88 + 8 - (8 + 8)/8. \\
711 &= 8 \times 88 + 8 - 8/8. \\
712 &= 8 \times 88 + 8. \\
713 &= 8 \times 88 + 8 + 8/8. \\
714 &= 8 \times 88 + 8 + (8 + 8)/8. \\
715 &= 8 \times 88 + 88/8. \\
716 &= 8 \times 88 + (88 + 8)/8. \\
717 &= 8 \times 88 + (88 + 8 + 8)/8. \\
718 &= 8 \times 88 + 8 + 8 - (8 + 8)/8. \\
719 &= 8 \times 88 + 8 + 8 - 8/8. \\
720 &= 8 \times 88 + 8 + 8. \\
721 &= 8 \times 88 + 8 + 8 + 8/8. \\
722 &= 8 \times 88 + 8 + 8 + (8 + 8)/8. \\
723 &= 88 \times 8 + 8 + 88/8. \\
724 &= 8 \times (88 + 8/(8 + 8)) + 8 + 8. \\
725 &= 8 \times 88 + (88 + 88 - 8)/8. \\
726 &= 8 \times 88 + (88 + 88)/8. \\
727 &= 8 \times (88 - 8) + 88 - 8/8. \\
728 &= 8 \times (88 - 8) + 88. \\
729 &= 8 \times (88 - 8) + 88 + 8/8. \\
730 &= 8 \times (88 - 8) + 88 + (8 + 8)/8. \\
731 &= 8 \times (88 - 8) + 88 - 8 + 88/8. \\
732 &= 8 \times (88 + 8/(8 + 8)) + 8 + 8 + 8. \\
733 &= 888 - 88 - 8 \times 8 - (8 + 8 + 8)/8. \\
734 &= 888 - 88 - 8 \times 8 - (8 + 8)/8. \\
735 &= 888 - 88 - 8 \times 8 - 8/8. \\
736 &= 888 - 88 - 8 \times 8. \\
736 &= 888 - 88 - 8 \times 8. \\
737 &= 888 - 88 - 8 \times 8 + 8/8. \\
738 &= 888 - 88 - 8 \times 8 + (8 + 8)/8. \\
739 &= 8 \times (88 - 8) + 88 + 88/8. \\
740 &= 8 \times (88 - 8) + 88 + (88 + 8)/8. \\
741 &= 8 \times (88 + 8) - 8 - 8 - 88/8. \\
742 &= 8 \times (88 + 8) - 8 - 8 - (88 - 8)/8. \\
743 &= 8 \times (88 + 8) - 8 - 8 - 8 - 8/8. \\
744 &= 8 \times (88 + 8) - 8 - 8 - 8. \\
745 &= 8 \times (88 + 8) - 8 - 8 - 8 + 8/8. \\
746 &= 8 \times (88 + 8) - (88 + 88)/8. \\
747 &= 888 - 88 - 8 \times 8 + 88/8. \\
748 &= 8 \times (88 + 8) - 8 - (88 + 8)/8. \\
749 &= 8 \times (88 + 8) - 8 - 88/8. \\
750 &= 8 \times (88 + 8) - 8 - (88 - 8)/8. \\
751 &= 8 \times (88 + 8) - 8 - 8 - 8/8. \\
752 &= 8 \times (88 + 8) - 8 - 8. \\
753 &= 8 \times (88 + 8) - 8 - 8 + 8/8. \\
754 &= 8 \times (88 + 8) - 8 - 8 + (8 + 8)/8. \\
755 &= 8 \times (88 + 8) - (88 + 8 + 8)/8. \\
756 &= 8 \times (88 + 8) - (88 + 8)/8. \\
757 &= 8 \times (88 + 8) - 88/8. \\
758 &= 8 \times (88 + 8) - (88 - 8)/8. \\
759 &= 8 \times (88 + 8) - 8 - 8/8. \\
760 &= 8 \times (88 + 8) - 8. \\
761 &= 8 \times (88 + 8) - 8 + 8/8. \\
762 &= 8 \times (88 + 8) - 8 + (8 + 8)/8. \\
763 &= 8 \times (88 + 8) - 8 + (8 + 8 + 8)/8. \\
764 &= 8 \times (88 + 8 - 8/(8 + 8)). \\
765 &= 8 \times (88 + 8) + 8 - 88/8. \\
766 &= (88 + 8) \times 8 - (8 + 8)/8. \\
767 &= (88 + 8) \times 8 - 8/8. \\
768 &= (88 + 8) \times 8. \\
769 &= (88 + 8) \times 8 + 8/8. \\
770 &= (88 + 8) \times 8 + (8 + 8)/8. \\
771 &= 8 \times (88 + 8) - 8 + 88/8. \\
772 &= 8 \times (88 + 8) + 8 \times 8/(8 + 8). \\
773 &= 8 \times (88 + 8) + 8 + 8 - 88/8. \\
774 &= 8 \times (88 + 8) + 8 - (8 + 8)/8. \\
775 &= 8 \times (88 + 8) + 8 - 8/8. \\
776 &= 8 \times (88 + 8) + 8. \\
777 &= 888 - 888/8. \\
778 &= 8 \times (88 + 8) + 8 + (8 + 8)/8. \\
779 &= 8 \times (88 + 8) + 88/8. \\
780 &= 8 \times (88 + 8 + 8/(8 + 8)) + 8. \\
781 &= 8 \times 88 + 88 - 88/8. \\
782 &= 8 \times (88 + 8) + 8 + 8 - (8 + 8)/8. \\
783 &= 8 \times (88 + 8) + 8 + 8 - 8/8. \\
784 &= 8 \times 88 + 88 - 8. \\
785 &= 888 + 8 - 888/8. \\
786 &= 8 \times (88 + 8) + 8 + (88 - 8)/8. \\
787 &= 8 \times (88 + 8) + 8 + 88/8. \\
788 &= 8 \times (88 - 8/(8 + 8)) + 88. \\
789 &= 888 - 88 - 88/8. \\
790 &= 8 \times 88 + 88 - (8 + 8)/8. \\
791 &= 8 \times 88 + 88 - 8/8. \\
792 &= 8 \times 88 + 88. \\
793 &= 8 \times 88 + 88 + 8/8. \\
794 &= 8 \times 88 + 88 + (8 + 8)/8. \\
795 &= 8 \times 88 + 88 + (8 + 8 + 8)/8. \\
796 &= 888 - 88 - 8 \times 8/(8 + 8). \\
797 &= 888 - 88 - (8 + 8 + 8)/8. \\
798 &= 888 - 88 - (8 + 8)/8. \\
799 &= 888 - 88 - 8/8. \\
800 &= 888 - 88. \\
801 &= 888 - 88 + 8/8. \\
802 &= 888 - 88 + (8 + 8)/8. \\
803 &= 88 \times (8 \times 8 + 8 + 8/8)/8. \\
804 &= 88 + 8 + 8 \times (88 + 8/(8 + 8)). \\
805 &= 8 \times 88 + 8888/88. \\
806 &= 8 \times 88 - 8 + (888 - 8)/8. \\
807 &= 888 - 88 + 8 - 8/8. \\
808 &= 888 - 88 + 8. \\
809 &= 888 - 88 + 8 + 8/8. \\
810 &= 888 - 88 + (88 - 8)/8. \\
811 &= 888 - 88 + 88/8.
\end{aligned}$$



$$\begin{aligned}
812 &= 888 - 8 \times 8 - (88 + 8)/8. & 874 &= 888 - 8 - 8 + (8 + 8)/8. & 938 &= 88 \times (88 - (8 + 8)/8) - 8. \\
813 &= 888 - 8 \times 8 - 88/8. & 875 &= 888 - (88 + 8 + 8)/8. & 939 &= 888 + 8 \times 8 - (88 + 8 + 8)/8. \\
814 &= 8 \times 88 + (888 - 8)/8. & 876 &= 888 - (88 + 8)/8. & 940 &= 888 + 8 + 88 \times 8/(8 + 8). \\
815 &= 8 \times 88 + 888/8. & 877 &= 888 - 88/8. & 941 &= 888 + 8 \times 8 - 88/8. \\
816 &= 888 - 8 \times 8 - 8. & 878 &= 888 - (88 - 8)/8. & 942 &= 888 + 8 \times 8 - 8 - (8 + 8)/8. \\
817 &= 888 - 8 \times 8 - 8 + 8/8. & 879 &= 888 - 8 - 8/8. & 943 &= 888 + 8 \times 8 - 8 - 8/8. \\
818 &= 888 - 8 \times 8 - 8 + (8 + 8)/8. & 880 &= 888 - 8. & 944 &= 888 + 8 \times 8 - 8. \\
819 &= 888 - 88 + 8 + 88/8. & 881 &= 888 - 8 + 8/8. & 945 &= 888 + 8 \times 8 - 8 + 8/8. \\
820 &= 888 - 8 \times (8 + 8/(8 + 8)). & 882 &= 888 - 8 + (8 + 8)/8. & 946 &= 888 + 8 \times 8 - 8 + (8 + 8)/8. \\
821 &= 888 - 8 \times 8 - (8 + 8 + 8)/8. & 883 &= 888 - 8 - 8 + 88/8. & 947 &= 888 + 8 \times 8 - 8 + (8 + 8 + 8)/8. \\
822 &= 888 - 8 \times 8 - (8 + 8)/8. & 884 &= 888 - 8 \times 8/(8 + 8). & 948 &= 888 + 8 \times (8 - 8/(8 + 8)). \\
823 &= 888 - 8 \times 8 - 8/8. & 885 &= 888 + 8 - 88/8. & 949 &= 8 \times (8 \times (8 + 8) - 8) - 88/8. \\
824 &= 888 - 8 \times 8. & 886 &= 888 - (8 + 8)/8. & 950 &= 888 + 8 \times 8 - (8 + 8)/8. \\
825 &= 888 - 8 \times 8 + 8/8. & 887 &= 888 - 8/8. & 951 &= 888 + 8 \times 8 - 8/8. \\
826 &= 888 - 8 \times 8 + (8 + 8)/8. & 888 &= 888. & 952 &= 888 + 8 \times 8. \\
827 &= 888 - 8 \times 8 + (8 + 8 + 8)/8. & 890 &= 888 + (8 + 8)/8. & 953 &= 888 + 8 \times 8 + 8/8. \\
828 &= 888 - 8 \times (8 - 8/(8 + 8)). & 891 &= 888 - 8 + 88/8. & 954 &= 888 + 8 \times 8 + (8 + 8)/8. \\
829 &= 8 \times (88 + 8 + 8) + 8 - 88/8. & 892 &= 888 + 8 \times 8/(8 + 8). & 955 &= 888 + 8 \times 8 + (8 + 8 + 8)/8. \\
830 &= 8 \times (88 + 8 + 8) - (8 + 8)/8. & 893 &= 888 + 8 + 8 - 88/8. & 956 &= 888 + 8 \times (8 + 8/(8 + 8)). \\
831 &= 8 \times (88 + 8 + 8) - 8/8. & 894 &= 888 + 8 - (8 + 8)/8. & 957 &= 88 \times (88 - 8/8)/8. \\
832 &= 8 \times (88 + 8 + 8). & 895 &= 888 + 8 - 8/8. & 958 &= 8 \times (8 \times (8 + 8) - 8) - (8 + 8)/8. \\
833 &= 8 \times (88 + 8 + 8) + 8/8. & 896 &= 888 + 8. & 959 &= 8 \times (8 \times (8 + 8) - 8) - 8/8. \\
834 &= 8 \times (88 + 8 + 8) + (8 + 8)/8. & 897 &= 888 + 8 + 8/8. & 960 &= 8 \times (8 \times (8 + 8) - 8). \\
835 &= 888 - 8 \times 8 + 88/8. & 898 &= 888 + 8 + (8 + 8)/8. & 961 &= 8 \times (8 \times (8 + 8) - 8) + 8/8. \\
836 &= 8 \times (88 + 8 + 8 + 8/(8 + 8)). & 899 &= 888 + 88/8. & 962 &= 8 \times (8 \times (8 + 8) - 8) + (8 + 8)/8. \\
837 &= 8 \times (88 + 8 + 8) + 8 - (8 + & 900 &= 888 + (88 + 8)/8. & 963 &= 888 + 8 \times 8 + 88/8. \\
8 + 8)/8. & 901 &= 888 + (88 + 8 + 8)/8. & 964 &= 8 \times (8 \times (8 + 8) - 8 + 8/(8 + 8)). \\
838 &= 8 \times (88 + 8 + 8) + 8 - (8 + 8)/8. & 902 &= 888 + 8 + 8 - (8 + 8)/8. & 965 &= 888 + 88 - 88/8. \\
839 &= 8 \times (88 + 8 + 8) + 8 - 8/8. & 903 &= 888 + 8 + 8 - 8/8. & 966 &= (88 \times 88 - 8 - 8)/8. \\
840 &= 8 \times (88 + 8 + 8) + 8. & 904 &= 888 + 8 + 8. & 967 &= (88 \times 88 - 8)/8. \\
841 &= 8 \times (88 + 8 + 8) + 8 + 8/8. & 905 &= 888 + 8 + 8 + 8/8. & 968 &= 88 \times 88/8. \\
842 &= 8 \times (88 + 8 + 8) + (88 - 8)/8. & 906 &= 888 + 8 + (88 - 8)/8. & 969 &= (88 \times 88 + 8)/8. \\
843 &= 8 \times (88 + 8 + 8) + 88/8. & 907 &= 888 + 8 + 88/8. & 970 &= (88 \times 88 + 8 + 8)/8. \\
844 &= 888 - 8 \times 88/(8 + 8). & 908 &= 888 + 8 + (88 + 8)/8. & 971 &= (8 \times (8 + 8) - 8) \times 8 + 88/8. \\
845 &= 8 \times (88 + 8 + 8) + (88 + 8 + 8)/8. & 909 &= 888 + 8 + (88 + 8 + 8)/8. & 972 &= 888 + 88 - 8 \times 8/(8 + 8). \\
846 &= (8 + 8/8) \times (88 + 8 - (8 + 8)/8). & 910 &= 888 + (88 + 88)/8. & 973 &= 888 + 88 - (8 + 8 + 8)/8. \\
847 &= 8 \times (88 + 8 + 8) + 8 + 8 - 8/8. & 911 &= 888 + 8 + 8 + 8 - 8/8. & 974 &= 888 + 88 - (8 + 8)/8. \\
848 &= (8 + 8) \times (8 \times 8 - 88/8). & 912 &= 888 + 8 + 8 + 8. & 975 &= 888 + 88 - 8/8. \\
849 &= 8 \times (88 + 8) + 88 - 8 + 8/8. & 913 &= 888 + 8 + 8 + 8 + 8/8. & 976 &= 888 + 88. \\
850 &= 8 \times (88 + 8 + 8) + 8 + (88 - 8)/8. & 914 &= 888 + 8 + 8 + 8 + (8 + 8)/8. & 977 &= 888 + 88 + 8/8. \\
851 &= 8 \times (88 + 8 + 8) + 8 + 88/8. & 915 &= 888 + 8 + 8 + 88/8. & 978 &= 888 + 88 + (8 + 8)/8. \\
852 &= 8 \times (88 + 8 + 8) + 8 + (88 + 8)/8. & 916 &= 888 + 8 + 8 + (88 + 8)/8. & 979 &= 88 \times (88 + 8/8)/8. \\
853 &= 888 - 8 - 8 - 8 - 88/8. & 917 &= 888 + 8 + (88 + 88 - 8)/8. & 980 &= 888 + 88 + 8 \times 8/(8 + 8). \\
854 &= 8 \times (88 + 8) + 88 - (8 + 8)/8. & 918 &= 888 + 8 + (88 + 88)/8. & 981 &= 888 + 88 + 8 - (8 + 8 + 8)/8. \\
855 &= 8 \times (88 + 8) + 88 - 8/8. & 919 &= 888 + 8 + 8 + 8 + 8 - 8/8. & 982 &= 888 + 88 + 8 - (8 + 8)/8. \\
856 &= 8 \times (88 + 8) + 88. & 920 &= 888 + 8 + 8 + 8 + 8. & 983 &= 888 + 88 + 8 - 8/8. \\
857 &= 8 \times (88 + 8) + 88 + 8/8. & 921 &= 888 + 8 + 8 + 8 + 8 + 8/8. & 984 &= 888 + 88 + 8. \\
858 &= 8 \times (88 + 8) + 88 + (8 + 8)/8. & 922 &= 888 + 8 + 8 + 8 + 8 + (8 + 8)/8. & 985 &= 888 + 88 + 8 + 8/8. \\
859 &= 8 \times (88 + 8) + 88 + (8 + 8 + 8)/8. & 923 &= 888 + 8 + 8 + 8 + 88/8. & 986 &= 888 + 88 + 8 + (8 + 8)/8. \\
860 &= 88 + 8 \times (88 + 8 + 8/(8 + 8)). & 924 &= 888 + 8 + 8 + 8 + (88 + 8)/8. & 987 &= 888 + 88 + 88/8. \\
861 &= 888 - 8 - 8 - 88/8. & 925 &= 888 + 888/(8 + 8 + 8). & 988 &= 888 + 88 + (88 + 8)/8. \\
862 &= 888 - 8 - 8 - (88 - 8)/8. & 926 &= 8 \times 88 + 888 \times (8 + 8)/(8 \times 8). & 989 &= 888 + 8888/88. \\
863 &= 888 - 8 - 8 - 8 - 8/8. & 927 &= (8 + 8/8) \times (888/8 - 8). & 990 &= 88 \times (88 + (8 + 8)/8)/8. \\
864 &= 888 - 8 - 8 - 8. & 928 &= 888 + 8 + 8 + 8 + 8 + 8. & 991 &= 888 + 888/8 - 8. \\
865 &= 888 - 8 - 8 - 8 + 8/8. & 929 &= 888 + 8 + 8 + 8 + 8 + 8 + 8/8. & 992 &= 888 + 88 + 8 + 8. \\
866 &= 888 - 8 - 8 - 8 + (8 + 8)/8. & 930 &= (8 \times 8 - (8 + 8)/8) \times (8 + 8 - 8/8). & 993 &= 888 + 88 + 8 + 8 + 8/8. \\
867 &= 8 \times (88 + 8) + 88 + 88/8. & 931 &= 888 + 8 + 8 + 8 + 8 + 88/8. & 994 &= 888 + 88 + 8 + 8 + (8 + 8)/8. \\
868 &= 888 - 8 - (88 + 8)/8. & 932 &= 888 + 8 \times 88/(8 + 8). & 995 &= 888 + 88 + 8 + 88/8. \\
869 &= 888 - 8 - 88/8. & 933 &= 888 + 8 \times 8 - 8 - 88/8. & 996 &= 888 + 88 + 8 + (88 + 8)/8. \\
870 &= 888 - 8 - (88 - 8)/8. & 934 &= 888 + 8 \times 8 - 8 - 8 - (8 + 8)/8. & 997 &= 888 + (888 - 8 - 8)/8. \\
871 &= 888 - 8 - 8 - 8/8. & 935 &= 888 + 8 \times 8 - 8 - 8 - 8/8. & 998 &= 888 + (888 - 8)/8. \\
872 &= 888 - 8 - 8. & 936 &= 888 + 8 \times 8 - 8 - 8. & 999 &= 888 + 888/8. \\
873 &= 888 - 8 - 8 + 8/8. & 937 &= 888 + 8 \times 8 - 8 - 8 + 8/8. & 1000 &= 888 + 88 + 8 + 8 + 8.
\end{aligned}$$

## 12. REPRESENTATIONS USING NUMBER 9

$$\begin{aligned}
101 &= 99 + (9 + 9)/9. \\
102 &= 999/9 - 9. \\
103 &= (999 + 9)/9 - 9. \\
104 &= (999 + 9 + 9)/9 - 9. \\
105 &= 99 + (99 + 9)/(9 + 9). \\
106 &= 99 + 9 - (9 + 9)/9. \\
107 &= 99 + 9 - 9/9. \\
108 &= 99 + 9. \\
109 &= (9 + (9/9)) + 99. \\
110 &= (999 - 9)/9. \\
111 &= 999/9. \\
112 &= (999 + 9)/9. \\
113 &= ((9 + 9) + 999)/9. \\
114 &= (999 + 9 + 9 + 9)/9. \\
115 &= 99 + 9 + 9 - (9 + 9)/9. \\
116 &= 99 + 9 + 9 - 9/9. \\
117 &= 99 + 9 + 9. \\
118 &= 99 + 9 + 9 + 9/9. \\
119 &= 9 + (999 - 9)/9. \\
120 &= 9 + 999/9. \\
121 &= 9 + (999 + 9)/9. \\
122 &= (999 + 99)/9. \\
123 &= (999 + 99 + 9)/9. \\
124 &= 99 + 9 + 9 + 9 - (9 + 9)/9. \\
125 &= 99 + 9 + 9 + 9 - 9/9. \\
126 &= 99 + 9 + 9 + 9. \\
127 &= 99 + 9 + 9 + 9 + 9/9. \\
128 &= 99 + 9 + 9 + 9 + 99/9. \\
129 &= 9 + 9 + 999/9. \\
130 &= 9 + 9 + (999 + 9)/9. \\
131 &= 9 + (999 + 99)/9. \\
132 &= 99 \times (99 + 9)/(9 \times 9). \\
133 &= 9 \times (9 + 9) - 9 - 9 - 99/9. \\
134 &= 99 + 9 + 9 + 9 + 9 - 9/9. \\
135 &= 99 + 9 + 9 + 9 + 9. \\
136 &= (9 - 9/9) \times (9 + 9 - 9/9). \\
137 &= 99 + 9 + 9 + 9 + 99/9. \\
138 &= 9 + 9 + 9 + 999/9. \\
139 &= 9 + 9 + 9 + (999 + 9)/9. \\
140 &= 9 + 9 + (999 + 99)/9. \\
141 &= 9 \times (9 + 9) - 9 - (99 + 9)/9. \\
142 &= 9 \times (9 + 9) - 9 - 99/9. \\
143 &= 9 \times (9 + 9) - 9 - 9 - 9/9. \\
144 &= (9 + 9) \times (9 - 9/9). \\
145 &= 9 \times (9 + 9) - 9 - 9 + 9/9. \\
146 &= 9 \times (9 + 9) - 9 - 9 + (9 + 9)/9. \\
147 &= 9 + 9 + 9 + 9 + 999/9. \\
148 &= 99 + (99 \times 9 - 9)/(9 + 9). \\
149 &= 9 \times (9 + 9) - (99 + 9 + 9)/9. \\
150 &= 9 \times (9 + 9) - (99 + 9)/9. \\
151 &= 9 \times (9 + 9) - 99/9. \\
152 &= 9 \times (9 + 9) - 9 - 9/9. \\
153 &= 9 \times (9 + 9) - 9. \\
154 &= 9 \times (9 + 9) - 9 + 9/9. \\
155 &= 9 \times (9 + 9) - 9 + (9 + 9)/9. \\
156 &= 9 \times (9 + 9) - 9 + (9 + 9 + 9)/9. \\
157 &= ((9 + 9)/9)^{(9-9/9)} - 99. \\
158 &= 9 \times (9 + 9) - (9 \times 9 - 9)/(9 + 9). \\
159 &= 9 \times (9 + 9) - (9 + 9 + 9)/9. \\
160 &= 9 \times (9 + 9) - (9 + 9)/9. \\
161 &= 9 \times (9 + 9) - 9/9. \\
162 &= 9 \times (9 + 9). \\
163 &= 9 \times (9 + 9) + 9/9. \\
164 &= 9 \times (9 + 9) + (9 + 9)/9. \\
165 &= 9 \times (9 + 9) + (9 + 9 + 9)/9. \\
166 &= (9 + 9)/9 \times (9 \times 9 + (9 + 9)/9). \\
167 &= 9 \times (9 + 9) + (99 - 9)/(9 + 9). \\
168 &= 9 \times (9 + 9) + 9 - (9 + 9 + 9)/9. \\
169 &= 9 \times 9 + 99 - 99/9. \\
170 &= 9 \times (9 + 9) + 9 - 9/9. \\
171 &= 9 \times (9 + 9) + 9. \\
172 &= 9 \times (9 + 9) + 9 + 9/9. \\
173 &= 9 \times (9 + 9) + 99/9. \\
174 &= 9 \times (9 + 9) + (99 + 9)/9. \\
175 &= ((9 + 9)/9)^{(9-9/9)} - 9 \times 9. \\
176 &= (9 + 9) \times (99 - 99/9)/9. \\
177 &= 99 + 9 \times 9 - (9 + 9 + 9)/9. \\
178 &= 99 + 9 \times 9 - (9 + 9)/9. \\
179 &= 99 + 9 \times 9 - 9/9. \\
180 &= 99 + 9 \times 9. \\
181 &= 99 + 9 \times 9 + 9/9. \\
182 &= 9 \times (9 + 9) + 9 + 99/9. \\
183 &= 9 \times 9 - 9 + 999/9. \\
184 &= 9 \times (9 + 9) + (99 + 99)/9. \\
185 &= 99 + 99 - (99 + 9 + 9)/9. \\
186 &= 99 + 99 - (99 + 9)/9. \\
187 &= 99 + 99 - 99/9. \\
188 &= 99 + 99 - 9 - 9/9. \\
189 &= 99 + 99 - 9. \\
190 &= 99 + 99 - 9 + 9/9. \\
191 &= 99 + 9 \times 9 + 99/9. \\
192 &= 9 \times 9 + 999/9. \\
193 &= 9 \times 9 + (999 + 9)/9. \\
194 &= 9 \times 9 + (999 + 9 + 9)/9. \\
195 &= 99 + 99 - (9 + 9 + 9)/9. \\
196 &= 99 + 99 - (9 + 9)/9. \\
197 &= 99 + 99 - 9/9. \\
198 &= 99 + 99. \\
199 &= 99 + 99 + 9/9. \\
200 &= 99 + 99 + (9 + 9)/9. \\
201 &= 99 - 9 + 999/9. \\
202 &= 99 - 9 + (999 + 9)/9. \\
203 &= 9 \times 9 + (999 + 99)/9. \\
204 &= (9 + 9) \times (999/9 - 9)/9. \\
205 &= 99 + 99 + 9 - (9 + 9)/9. \\
206 &= 99 + 99 + 9 - 9/9. \\
207 &= 99 + 99 + 9. \\
208 &= 99 + 99 + 9 + 9/9. \\
209 &= 99 + (999 - 9)/9. \\
210 &= 99 + 999/9. \\
211 &= 99 + (999 + 9)/9. \\
212 &= 99 + (999 + 9 + 9)/9. \\
213 &= (9 + 9) \times (9 + 9) - 999/9. \\
214 &= 99 + (9 + 9) \times (9 - 9/9)/9. \\
215 &= 99 + 99 + 9 + 9 - 9/9. \\
216 &= 99 + 99 + 9 + 9. \\
217 &= 9 \times 9 \times 9 - ((9 + 9)/9)^9. \\
218 &= 99 + 9 + (999 - 9)/9. \\
219 &= 99 + 9 + 999/9. \\
220 &= 99 \times (9 + 99/9)/9. \\
221 &= 99 + (999 + 99)/9. \\
222 &= 999 \times (9 + 9)/(9 \times 9). \\
223 &= 9 \times (9 + 9 + 9) - 9 - 99/9. \\
224 &= 9 \times (9 + 9 + 9) - 9 - 9 - 9/9. \\
225 &= 9 \times (9 + 9 + 9) - 9 - 9. \\
226 &= (9 + 9) \times (9 + 9) - 99 + 9/9. \\
227 &= 99 + 9 + 9 + (999 - 9)/9. \\
228 &= 99 + 9 + 9 + 999/9. \\
229 &= 9 + 99 \times (9 + 99/9)/9. \\
230 &= 99 + 9 + (999 + 99)/9. \\
231 &= 9 \times (9 + 9 + 9) - (99 + 9)/9. \\
232 &= 9 \times (9 + 9 + 9) - 99/9. \\
233 &= 9 \times (9 + 9 + 9) - 9 - 9/9. \\
234 &= 9 \times (9 + 9 + 9) - 9. \\
235 &= 9 \times (9 + 9 + 9) - 9 + 9/9. \\
236 &= 9 \times (9 + 9 + 9) - 9 + (9 + 9)/9. \\
237 &= 9 \times (9 + 9 + 9) - 9 + (9 + 9 + 9)/9. \\
238 &= ((9 + 9)/9)^{(9-9/9)} - 9 - 9. \\
239 &= 9 \times (9 + 9 + 9) - (9 + 9 + 9 + 9)/9. \\
240 &= 9 \times (9 + 9 + 9) - (9 + 9 + 9)/9. \\
241 &= 9 \times (9 + 9 + 9) - (9 + 9)/9. \\
242 &= 9 \times (9 + 9 + 9) - 9/9. \\
243 &= 9 \times (9 + 9 + 9). \\
244 &= 9 \times (9 + 9 + 9) + 9/9. \\
245 &= 9 \times (9 + 9 + 9) + (9 + 9)/9. \\
246 &= 9 \times (9 \times 9 \times 9 + 9)/(9 + 9 + 9). \\
247 &= ((9 + 9)/9)^{(9-9/9)} - 9. \\
248 &= (9 \times 9 + 9)/(9 + 9) + 9 \times (9 + 9 + 9). \\
249 &= 9 + (9 + 9) \times (9 + 999/9)/9. \\
250 &= 9 \times (9 + 9) + 99 - 99/9. \\
251 &= 9 \times (9 + 9 + 9) + 9 - 9/9. \\
252 &= 9 \times (9 + 9 + 9) + 9. \\
253 &= 9 \times (9 + 9 + 9) + 9 + 9/9. \\
254 &= 9 \times (9 + 9 + 9) + 99/9. \\
255 &= ((9 + 9)/9)^{(9-9/9)} - 9/9. \\
256 &= ((9 + 9)/9)^{(9-9/9)}. \\
257 &= ((9 + 9)/9)^{(9-9/9)} + 9/9. \\
258 &= 9 \times (9 + 9) + 99 - (9 + 9 + 9)/9. \\
259 &= 9 \times (9 + 9) + 99 - (9 + 9)/9. \\
260 &= 9 \times (9 + 9) + 99 - 9/9. \\
261 &= 9 \times (9 + 9) + 99. \\
262 &= 9 \times (9 + 9) + 99 + 9/9. \\
263 &= 9 \times (9 + 9 + 9) + 9 + 99/9. \\
264 &= 9 \times (9 + 9) - 9 + 999/9. \\
265 &= ((9 + 9)/9)^{(9-9/9)} + 9. \\
266 &= ((9 + 9)/9)^{(9-9/9)} + 9 + 9/9. \\
267 &= ((9 + 9)/9)^{(9-9/9)} + 99/9. \\
268 &= 9 \times 9 + 99 + 99 - 99/9. \\
269 &= 999 - 9 \times 9 \times 9 - 9/9. \\
270 &= 999 - 9 \times 9 \times 9. \\
271 &= 999 - 9 \times 9 \times 9 + 9/9. \\
272 &= 9 \times (9 + 9) + 99 + 99/9. \\
273 &= 9 \times (9 + 9) + 999/9. \\
274 &= 9 \times (9 + 9) + (999 + 9)/9. \\
275 &= 99 \times (9 + 9 + 9 - (9 + 9)/9)/9. \\
276 &= (9 + 9 + 9) \times (9 \times 9 + 99/9)/9. \\
277 &= 99 + 99 + 9 \times 9 - (9 + 9)/9. \\
278 &= 99 + 99 + 9 \times 9 - 9/9. \\
279 &= 99 + 99 + 9 \times 9. \\
280 &= 99 + 99 + 9 \times 9 + 9/9. \\
281 &= 999 - 9 \times 9 \times 9 + 99/9. \\
282 &= 9 \times (9 + 9) + 9 + 999/9. \\
283 &= 9 \times (9 + 9) + 9 + (999 + 9)/9. \\
284 &= 9 \times (9 + 9) + (999 + 99)/9. \\
285 &= 99 + 99 + 99 - (99 + 9)/9. \\
286 &= 99/9 \times (9 + 9 + 9 - 9/9). \\
287 &= 99 + 99 + 99 - 9 - 9/9. \\
288 &= 99 + 99 + 99 - 9. \\
289 &= (9 + 9 - 9/9)^{(9 + 9)/9}. \\
290 &= (9 + 9/9) \times (9 + 9 + 99/9). \\
291 &= 99 + 9 \times 9 + 999/9. \\
292 &= 99 + 9 \times 9 + (999 + 9)/9. \\
293 &= (9 + 9) \times (9 + 9) - 9 - (99 + 99)/9. \\
294 &= (9 + 9 + 9) \times (99 - 9/9)/9. \\
295 &= (9 + 9) \times (9 + 9) - 9 - 9 - 99/9. \\
296 &= 99 + 99 + 99 - 9/9. \\
297 &= 99 + 99 + 99.
\end{aligned}$$

$$\begin{aligned}
298 &= 99 + 99 + 99 + 9/9. \\
299 &= (99 \times (9 + 9 + 9) + 9 + 9)/9. \\
300 &= (9 + 9 + 9) \times (99 + 9/9)/9. \\
301 &= (9 + 99/9)^{(9 + 9)/9} - 99. \\
302 &= (9 + 9) \times (9 \times (9 + 9) - 99/9)/9. \\
303 &= (9 + 9) \times (9 + 9) - 9 - (99 + 9)/9. \\
304 &= (9 + 9) \times (9 + 9) - 9 - 99/9. \\
305 &= (9 + 9) \times (9 + 9) - 9 - 9 - 9/9. \\
306 &= (9 + 9) \times (9 + 9 - 9/9). \\
307 &= (9 + 9) \times (9 + 9) - 9 - 9 + 9/9. \\
308 &= 99 \times (9 + 9 + 9 + 9/9)/9. \\
309 &= 99 + 99 + 999/9. \\
310 &= 99 + 99 + (999 + 9)/9. \\
311 &= (9 + 9) \times (9 + 9) - (99 + 9 + 9)/9. \\
312 &= (9 + 9) \times (9 + 9) - (99 + 9)/9. \\
313 &= (9 + 9) \times (9 + 9) - 99/9. \\
314 &= (9 + 9) \times (9 + 9) - 9 - 9/9. \\
315 &= (9 + 9) \times (9 + 9) - 9. \\
316 &= (9 + 9) \times (9 + 9) - 9 + 9/9. \\
317 &= (9 + 9) \times (9 + 9) - 9 + (9 + 9)/9. \\
318 &= 99 + 99 + 9 + 999/9. \\
319 &= 99 \times (9 + 9 + 99/9)/9. \\
320 &= (9 + 9 + 9 + 9) \times (9 \times 9 - 9/9)/9. \\
321 &= (9 + 9) \times (9 + 9) - (9 + 9 + 9)/9. \\
322 &= (9 + 9) \times (9 + 9) - (9 + 9)/9. \\
323 &= (9 + 9) \times (9 + 9) - 9/9. \\
324 &= (9 + 9) \times (9 + 9). \\
325 &= (9 + 9) \times (9 + 9) + 9/9. \\
326 &= (9 + 9) \times (9 + 9) + (9 + 9)/9. \\
327 &= (9 + 9) \times (9 + 9) + (9 + 9 + 9)/9. \\
328 &= (9 \times 9 \times 9 + 9) \times (9 - 9/9)/(9 + 9). \\
329 &= (9 + 9) \times (9 + 9) + (99 - 9)/(9 + 9). \\
330 &= 9 \times 99 \times (9 + 9/9)/(9 + 9 + 9). \\
331 &= (9 + 9) \times (9 + 9) + 9 - (9 + 9)/9. \\
332 &= (9 + 9) \times (9 + 9) + 9 - 9/9. \\
333 &= (9 + 9) \times (9 + 9) + 9. \\
334 &= (9 + 9) \times (9 + 9) + 9 + 9/9. \\
335 &= (9 + 9) \times (9 + 9) + 99/9. \\
336 &= (9 + 9) \times (9 + 9) + (99 + 9)/9. \\
337 &= 9 \times 9 + ((9 + 9)/9)^{(9-9/9)}. \\
338 &= 9 \times 9 + ((9 + 9)/9)^{(9-9/9)} + 9/9. \\
339 &= 9 \times (9 + 9 + 9) + 99 - (9 + 9 + 9)/9. \\
340 &= (9 + 9 - 9/9) \times (9 + 99/9). \\
341 &= 9 \times (9 + 9 + 9) + 99 - 9/9. \\
342 &= 9 \times (9 + 9 + 9) + 99. \\
343 &= 9 \times (9 + 9 + 9) + 99 + 9/9. \\
344 &= (9 + 9) \times (9 + 9) + 9 + 99/9. \\
345 &= 9 \times (9 + 9 + 9) - 9 + 999/9. \\
346 &= ((9 + 9)/9) \times ((9 + 9) \times 9 + 99/9). \\
347 &= 9 \times (9 \times 99 + 9/9)/(9 + 9) - 99. \\
348 &= (9 + 9 + 99/9) \times (99 + 9)/9. \\
349 &= ((9 + 9)/9)^9 - 9 \times (9 + 9) - 9/9. \\
350 &= ((9 + 9)/9)^9 - 9 \times (9 + 9). \\
351 &= 9 \times (9 + 9 + 9) + 99 + 9. \\
352 &= (9 + 9 + 9/9)(9 + 9)/9 - 9. \\
353 &= (9 + 9) \times (9 + 9) + 9 + 9 + 99/9. \\
354 &= 9 \times (9 + 9 + 9) + 999/9. \\
355 &= 99 + ((9 + 9)/9)^{(9-9/9)}. \\
356 &= 9 \times (9 \times 9 \times 9 + 9/9)/(9 + 9) - 9. \\
357 &= (9 + (9 + 99)/9) \times (9 + 9 - 9/9). \\
358 &= (9 + 9) \times (9 + 99/9) - (9 + 9)/9. \\
359 &= (9 + 9) \times (9 + 99/9) - 9/9. \\
360 &= (9 + 9) \times (9 + 99/9). \\
361 &= (9 + 9 + 9/9)^{(9 + 9)/9}. \\
362 &= (9 + 9 + 9/9)^{(9 + 9)/9} + 9/9. \\
363 &= 9 \times (9 + 9 + 9) + 9 + 999/9. \\
364 &= 9 \times (9 \times 9 \times 9 - 9/9)/(9 + 9). \\
365 &= 9 \times (9 \times 9 \times 9 + 9/9)/(9 + 9). \\
366 &= 9 \times (999 + 99)/(9 + 9 + 9). \\
367 &= 9 \times 9 + 99 \times (9 + 9 - 9/9)/9. \\
368 &= 9 + 9 + ((9 + 9)/9)^9 - 9 \times (9 + 9). \\
369 &= (9 + 9) \times (9 + 99/9) + 9. \\
370 &= 9 \times 99 - 9 - ((9 + 9)/9)^9. \\
371 &= (9 + 9) \times (99/9 + 9) + 99/9. \\
372 &= 9 \times (9 + 9) + 99 + 999/9. \\
373 &= 9999/9 - 9 \times 9 \times 9 - 9. \\
374 &= (99 + 99) \times (9 + 9 - 9/9)/9. \\
375 &= (9 + 9) \times (9 + 9 + 9) - 999/9. \\
376 &= (9 + 9 + 9 + 9 + 99/9) \times (9 - 9/9)/9. \\
377 &= (9 + 9) \times (9 + (9 + 99)/9) - 9/9. \\
378 &= ((99 + 9)/9 + 9) \times (9 + 9). \\
379 &= 9 \times 99 - ((9 + 9)/9)^9. \\
380 &= (99/9 + 9) \times (9 + 9 + 9/9). \\
381 &= 9 \times (9 + 9) + 9 + 99 + 999/9. \\
382 &= 9999/9 - 9 \times 9 \times 9. \\
383 &= (9999 + 9)/9 - 9 \times 9 \times 9. \\
384 &= (9 \times 9 + 999/9) \times (9 + 9)/9. \\
385 &= 99 \times (9 + 9 + 9 + 9 - 9/9)/9. \\
386 &= (9 + 9) \times (9 + 9 + 9) - 99 - 9/9. \\
387 &= (9 + 9) \times (9 + 9 + 9) - 99. \\
388 &= 9 \times 99 - ((9 + 9)/9)^9 + 9. \\
389 &= (9 + 9 + 9/9) \times (9 + 99/9) + 9. \\
390 &= (999/9 + 9 - 9 \times 9) \times (9 + 9/9). \\
391 &= (9 + 99/9)^{(9 + 9)/9} - 9. \\
392 &= (9 \times 9 - 9) \times (99 - 9/9)/(9 + 9). \\
393 &= (9 + 9) \times (9 + 9) + 9 \times 9 - (99 + 9)/9. \\
394 &= (9 + 9) \times (9 + 9) + 9 \times 9 - 99/9. \\
395 &= ((9 + 9)/9)^9 - 9 - 99 - 9. \\
396 &= (9 + 9) \times (99 + 99)/9. \\
397 &= ((9 + 9) \times (99 + 99) + 9)/9. \\
398 &= (9 + 9) \times (99 + 99 + 9/9)/9. \\
399 &= (9 + 99/9)^{(9 + 9)/9} - 9/9. \\
400 &= (9 + 99/9)^{(9 + 9)/9}. \\
401 &= ((9 + 9)/9)^9 - 999/9. \\
402 &= ((9 + 9)/9)^9 - 99 - 99/9. \\
403 &= ((9 + 9)/9)^9 - 99 - 9 - 9/9. \\
404 &= ((9 + 9)/9)^9 - 99 - 9. \\
405 &= (9 + 9) \times (9 + 9) + 9 \times 9. \\
406 &= (9 + 9) \times (9 + 9) + 9 \times 9 + 9/9. \\
407 &= 99 \times (9 + 9 + 9 + 9 + 9/9)/9. \\
408 &= 99 + 99 + 99 + 999/9. \\
409 &= (9 + 99/9)^{(9 + 9)/9} + 9. \\
410 &= ((9 + 9)/9)^9 + 9 - 999/9. \\
411 &= ((9 + 9)/9)^9 - 99 - (9 + 9)/9. \\
412 &= ((9 + 9)/9)^9 - 99 - 9/9. \\
413 &= ((9 + 9)/9)^9 - 99. \\
414 &= (9 + 9) \times (9 + 9) + 99 - 9. \\
415 &= (9 + 9) \times (9 + 9) + 99 - 9 + 9/9. \\
416 &= (9 + 9) \times (9 + 9) + 9 \times 9 + 99/9. \\
417 &= (9 + 9) \times (9 + 9) + 9 \times 9 + (99 + 9)/9. \\
418 &= (9 + 99/9)^{(9 + 9)/9} + 9 + 9. \\
419 &= ((9 + 9)/9)^9 - 9 \times 9 - (99 + 9)/9. \\
420 &= (9 + 9) \times (99 + 999/9)/9. \\
421 &= ((9 + 9)/9)^9 - 99 + 9 - 9/9. \\
422 &= ((9 + 9)/9)^9 - 99 + 9. \\
423 &= (9 + 9) \times (9 + 9) + 99. \\
424 &= (9 + 9) \times (9 + 9) + 99 + 9/9. \\
425 &= (9 + 9) \times (9 + 9) + 99 + (9 + 9)/9. \\
426 &= (9 + 9) \times (9 + 9) - 9 + 999/9. \\
427 &= (9 + 9) \times (9 + 9) - 9 + (999 + 9)/9. \\
428 &= ((9 + 9)/9)^9 - 9 \times 9 - (9 + 9 + 9)/9. \\
429 &= ((9 + 9)/9)^9 - 9 \times 9 - (9 + 9)/9. \\
430 &= ((9 + 9)/9)^9 - 9 \times 9 - 9/9. \\
431 &= ((9 + 9)/9)^9 - 9 \times 9. \\
432 &= (9 + 9) \times (9 + 9) + 99 + 9. \\
433 &= (9 + 9) \times (9 + 9) + 99 + 9 + 9/9. \\
434 &= (9 + 9) \times (9 + 9) + (999 - 9)/9. \\
435 &= (9 + 9) \times (9 + 9) + 999/9. \\
436 &= (9 + 9) \times (9 + 9) + (999 + 9)/9. \\
437 &= 9 \times (9 \times 99 + 9/9)/(9 + 9) - 9. \\
438 &= 9 \times (9 \times 9 - 9) - 99 - 999/9. \\
439 &= ((9 + 9)/9)^9 + 9 - 9 \times 9 - 9/9. \\
440 &= ((9 + 9)/9)^9 + 9 - 9 \times 9. \\
441 &= 9 \times (99 \times 9 - 9)/(9 + 9). \\
442 &= (9 + 9 + 9 - 9/9) \times (9 + 9 - 9/9). \\
443 &= (9 + 9) \times (9 + 9) + 99 + 9 + 99/9. \\
444 &= 999 \times (9 + 9 + 9 + 9)/(9 \times 9). \\
445 &= 9 \times (9 \times 99 - 9/9)/(9 + 9). \\
446 &= 9 \times (9 \times 99 + 9/9)/(9 + 9). \\
447 &= 9 \times (9 \times 99 + 9/9)/(9 + 9) + 9/9. \\
448 &= (9 - 9/9) \times (9 + 999)/(9 + 9). \\
449 &= ((9 + 9)/9)^9 + 9 + 9 - 9 \times 9. \\
450 &= 9 \times (9 \times 99 + 9)/(9 + 9). \\
451 &= 9 \times (99 \times 9 + 99/9)/(9 + 9). \\
452 &= 9 \times (9 \times 99 + 9)/(9 + 9) + (9 + 9)/9. \\
453 &= 9 \times (9 + 9 + 9) + 99 + 999/9. \\
454 &= 9 \times (99 \times 9 - 9/9)/(9 + 9) + 9. \\
455 &= 9 \times (99 \times 9 + 9/9)/(9 + 9) + 9. \\
456 &= (9 + 9 + 9 + 99/9) \times (9 + 99)/9. \\
457 &= (9 + 9 + 9) \times (9 + 9) - 9 - 9 - 99/9. \\
458 &= ((9 + 9)/9)^9 + 9 + 9 + 9 - 9 \times 9. \\
459 &= (9 + 9 + 9) \times (9 + 9 - 9/9). \\
460 &= 9 \times (99 + 9) - ((9 + 9)/9)^9. \\
461 &= (9 \times 9 - 99/9) \times (9 - 9/9) - 99. \\
462 &= 9 \times (9 - 9 \times 9) + (9999 - 9)/9. \\
463 &= 9 \times (9 - 9 \times 9) + 9999/9. \\
464 &= (9 + 9 + 99/9) \times (9 + 9 - (9 + 9)/9). \\
465 &= (9 + 9) \times (9 + 9 + 9) - 9 - (99 + 9)/9. \\
466 &= (9 + 9) \times (9 + 9 + 9) - 9 - 99/9. \\
467 &= (9 + 9) \times (9 + 9 + 9 - 9/9) - 9/9. \\
468 &= (9 + 9) \times (9 + 9 + 9 - 9/9). \\
469 &= (9 + 9) \times (9 + 9 + 9) - 9 - 9 + 9/9. \\
470 &= (9 + 9) \times (9 + 9 + 9) - 9 - 9 + (9 + 9)/9. \\
471 &= (9 + 9) \times (9 + 9 + 9) - 9 - 9 + (9 + 9 + 9)/9. \\
472 &= (9 + 99/9)^{(9 + 9)/9} + 9 \times 9 - 9. \\
473 &= 9 \times 9 \times 9 - ((9 + 9)/9)^{(9-9/9)}. \\
474 &= (9 + 9) \times (9 + 9 + 9) - (9 + 99)/9. \\
475 &= (9 + 9) \times (9 + 9 + 9) - 99/9. \\
476 &= (9 + 9) \times (9 + 9 + 9) - 9 - 9/9. \\
477 &= (9 + 9) \times (9 + 9 + 9) - 9. \\
478 &= (9 + 9) \times (9 + 9 + 9) - 9 + 9/9. \\
479 &= (9 + 9) \times (9 + 9 + 9) - 9 + (9 + 9)/9. \\
480 &= (9 + 9) \times (9 + 9 + 9) - 9 + (99 + 9 + 9)/9. \\
481 &= 9 \times 9 + (9 + 99/9)^{(9 + 9)/9}.
\end{aligned}$$

$$\begin{aligned}
482 &= (9+9) \times (9+9+9) - (9 \times 9-9)/(9+9). \\
483 &= (9+9+9) \times ((9+9) \times 9-9/9)/9. \\
484 &= ((99+99)/9)/(9+9)/9. \\
485 &= (9+9) \times (9+9+9) - 9/9. \\
486 &= (9+9) \times (9+9+9). \\
487 &= (9+9) \times (9+9+9) + 9/9. \\
488 &= (9+9) \times (9+9+9) + (9+9)/9. \\
489 &= (9+9+9) \times (9 \times (9+9)+9/9)/9. \\
490 &= (99-9/9) \times (99-9)/(9+9). \\
491 &= ((9+9)/9)^9 - 9 - (9+99)/9. \\
492 &= ((9+9)/9)^9 - 9 - 99/9. \\
493 &= ((9+9)/9)^9 - 9 - 9 - 9/9. \\
494 &= ((9+9)/9)^9 - 9 - 9. \\
495 &= (9+9) \times (9+9+9) + 9. \\
496 &= (9+9) \times (9+9+9) + 9+9/9. \\
497 &= (9+9) \times (9+9+9) + 99/9. \\
498 &= (9+9) \times (9+9+9) + (99+9)/9. \\
499 &= (99/9+9)(9+9)/9 + 99. \\
500 &= ((9+9)/9)^9 - (9+99)/9. \\
501 &= ((9+9)/9)^9 - 99/9. \\
502 &= ((9+9)/9)^9 - 9 - 9/9. \\
503 &= ((9+9)/9)^9 - 9. \\
504 &= ((9+9)/9)^9 - 9 + 9/9. \\
505 &= ((9+9)/9)^9 - 9 + (9+9)/9. \\
506 &= ((9+9)/9)^9 - 9 + (9+9+9)/9. \\
507 &= ((9+9)/9)^9 - (9 \times 9+9)/(9+9). \\
508 &= ((9+9)/9)^9 - (9 \times 9-9)/(9+9). \\
509 &= ((9+9)/9)^9 - (9+9+9)/9. \\
510 &= ((9+9)/9)^9 - (9+9)/9. \\
511 &= ((9+9)/9)^9 - 9/9. \\
512 &= ((9+9)/9)^9. \\
513 &= ((9+9)/9)^9 + 9/9. \\
514 &= ((9+9)/9)^9 + (9+9)/9. \\
515 &= ((9+9)/9)^9 + (9+9+9)/9. \\
516 &= ((9+9)/9)^9 + (9 \times 9-9)/(9+9). \\
517 &= ((9+9)/9)^9 + (9 \times 9+9)/(9+9). \\
518 &= ((9+9)/9)^9 + 9 - (9+9+9)/9. \\
519 &= ((9+9)/9)^9 + 9 - (9+9)/9. \\
520 &= ((9+9)/9)^9 + 9 - 9/9. \\
521 &= ((9+9)/9)^9 + 9. \\
522 &= ((9+9)/9)^9 + 9 + 9/9. \\
523 &= ((9+9)/9)^9 + 99/9. \\
524 &= ((9+9)/9)^9 + (99+9)/9. \\
525 &= ((9+9)/9)^9 + (99+9+9)/9. \\
526 &= ((9+9)/9)^9 + (99+9+9+9)/9. \\
528 &= ((9+9)/9)^9 + 9+9 - (9+9+9)/9. \\
528 &= ((9+9)/9)^9 + 9+9 - (9+9)/9. \\
529 &= ((9+9)/9)^9 + 9+9 - 9/9. \\
530 &= ((9+9)/9)^9 + 9+9. \\
531 &= 9 \times 9 \times 9 - 99 - 99. \\
532 &= ((9+9)/9)^9 + 9 + 99/9. \\
533 &= ((9+9)/9)^9 + 9 + (99+9)/9. \\
534 &= ((9+9)/9)^9 + 9 + (99+9+9)/9. \\
535 &= 9 \times (9 \times 9-9) - (999+9+9)/9. \\
536 &= 9 \times (9 \times 9-9) - (999+9)/9. \\
537 &= 9 \times (9 \times 9-9) - 999/9. \\
538 &= ((9+9)/9)^9 + 9+9+9 - 9/9. \\
539 &= ((9+9)/9)^9 + 9+9+9. \\
540 &= (9+9+9) \times (9+99)/9. \\
541 &= 9 \times (9 \times 9-9) - 9 - 99+9/9. \\
542 &= 9 \times (9 \times 9-9) - 9 - 99+ (9+9)/9. \\
543 &= (9+9+9) \times (99+9/9+9 \times 9)/9. \\
554 &= 9 \times (9 \times 9-9-9) - (99+9+9)/9. \\
545 &= 99+9 \times (9 \times 99+9/9)/(9+9). \\
546 &= 9 \times (9 \times 9-9) - (999/9-9). \\
547 &= 9 \times (9 \times 9-9-9) - 9 - 99/9. \\
548 &= 9 \times (9 \times 9-9) - 99 - 9/9. \\
549 &= 9 \times (9 \times 9-9) - 99. \\
550 &= 9 \times (9 \times 9-9) - 99 + 9/9. \\
551 &= 9 \times (9 \times 9-9) - 99 + (9+9)/9. \\
552 &= (9 \times 9 - (99+9)/9) \times (9-9/9). \\
553 &= (9 \times 9 - (9+9)/9) \times (9 - (9+9)/9). \\
554 &= 9 \times (9 \times 9 - 9 - 9) - (99 + 9 + 9)/9. \\
555 &= 9 \times (9 \times 9 - 9 - 9) - (99 + 9)/9. \\
556 &= 9 \times (9 \times 9 - 9 - 9) - 99/9. \\
557 &= 9 \times (9 \times 9 - 9 - 9) - 9 - 9/9. \\
558 &= 9 \times (9 \times 9 - 9 - 9) - 9. \\
559 &= 9 \times (9 \times 9 - 9 - 9) - 9 + 9/9. \\
560 &= (9 \times 9 - 99/9) \times (9 - 9/9). \\
561 &= 9 \times (9 \times 9 - 9 - 9) - 9 + (9 + 9 + 9)/9. \\
562 &= 9 \times (9 + 9) + (9 + 99/9)(9 + 9)/9. \\
563 &= 9 \times (9 \times 9 - 9 - 9) - (9 + 9 + 9 + 9)/9. \\
564 &= 9 \times (9 \times 9 - 9 - 9) - (9 + 9 + 9)/9. \\
565 &= 9 \times (9 \times 9 - 9 - 9) - (9 + 9)/9. \\
566 &= 9 \times (9 \times 9 - 9 - 9) - 9/9. \\
567 &= 9 \times (9 \times 9 - 9 - 9). \\
568 &= 9 \times (9 \times 9 - 9 - 9) + 9/9. \\
569 &= 9 \times (9 \times 9 - 9 - 9) + (9 + 9)/9. \\
570 &= 9 \times (9 \times 9 - 9 - 9) + (9 + 9 + 9)/9. \\
571 &= 9 \times (9 \times 9 - 9 - 9) + (9 + 9 + 9 + 9)/9. \\
572 &= (9 + 9 + 9 - 9/9) \times (99 + 99)/9. \\
573 &= 9 \times 9 + ((9 + 9)/9)^9 - 9 - 99/9. \\
574 &= (9 - (9 + 9)/9) \times (9 \times 9 + 9/9). \\
575 &= (9 \times 9 - 9) \times (9 - 9/9) - 9/9. \\
576 &= (9 \times 9 - 9) \times (9 - 9/9). \\
577 &= (9 \times 9 - 9) \times (9 - 9/9) + 9/9. \\
578 &= 9 \times (9 \times 9 - 9 - 9) + 99/9. \\
579 &= 9 \times (9 \times 9 - 9 - 9) + (99 + 9)/9. \\
580 &= (9 + 9 + 99/9) \times (9 + 99/9). \\
581 &= (9 \times 9 + (9 + 9)/9) \times (9 - (9 + 9)/9). \\
582 &= 9 \times 9 + ((9 + 9)/9)^9 - 99/9. \\
583 &= 9 \times 9 + ((9 + 9)/9)^9 - 9 - 9/9. \\
584 &= 9 \times 9 + ((9 + 9)/9)^9 - 9. \\
585 &= 9 \times (9 \times 9 - 9 - 9) + 9 + 9. \\
586 &= 9 \times (9 \times 9 - 9 - 9) + 9 + 9 + 9/9. \\
587 &= 9 \times (9 \times 9 - 9 - 9) + 9 + 99/9. \\
588 &= (99 - 9/9) \times (9 - (9 + 9)/9). \\
589 &= 9 \times 9 + 9 + (9 \times 999 - 9)/(9 + 9). \\
590 &= 9 \times 9 + ((9 + 9)/9)^9 - (9 + 9 + 9)/9. \\
591 &= 9 \times 9 + ((9 + 9)/9)^9 - (9 + 9)/9. \\
592 &= 9 \times 9 + ((9 + 9)/9)^9 - 9/9. \\
593 &= 9 \times 9 + ((9 + 9)/9)^9. \\
594 &= 99 \times (99 + 9)/(9 + 9). \\
595 &= 99 \times (99 + 9)/(9 + 9) + 9/9. \\
596 &= 99 \times (99 + 9)/(9 + 9) + (9 + 9)/9. \\
597 &= (9 + 9) \times (9 + 9 + 9) + 999/9. \\
598 &= 9 \times 9 \times 9 - 9 - (99 + 999)/9. \\
599 &= 9999/9 - ((9 + 9)/9)^9. \\
600 &= (99 + 9) \times (99 + 9/9)/(9 + 9). \\
601 &= ((9 + 9)/9)^9 + 99 - 9 - 9/9. \\
602 &= ((9 + 9)/9)^9 + 99 - 9. \\
603 &= ((9 + 9)/9)^9 + 99 - 9 + 9/9. \\
604 &= ((9 + 9)/9)^9 + 99 - 9 + (9 + 9)/9. \\
605 &= 99 \times (999 - 9)/(9 \times (9 + 9)). \\
606 &= 9 \times 9 \times 9 - (999 + 99 + 9)/9. \\
607 &= 9 \times 9 \times 9 - (999 + 99)/9. \\
608 &= 9 \times 9 \times 9 - 99 \times 99/(9 \times 9). \\
609 &= 9 \times 9 \times 9 - 9 - 999/9. \\
610 &= ((9 + 9)/9)^9 + 99 - 9/9. \\
611 &= ((9 + 9)/9)^9 + 99. \\
612 &= 9 \times 9 \times 9 - 9 - 9 - 99. \\
613 &= 9 \times 9 \times 9 - 9 - 9 - 99 + 9/9. \\
614 &= ((9 + 9)/9)^9 - 9 + 999/9. \\
615 &= 9 \times 9 \times 9 - (999 + 9 + 9 + 9)/9. \\
616 &= 9 \times 9 \times 9 - (999 + 9 + 9)/9. \\
617 &= 9 \times 9 \times 9 - (999 + 9)/9. \\
618 &= 9 \times 9 \times 9 - 999/9. \\
619 &= 9 \times 9 \times 9 - 99 - 99/9. \\
620 &= 9 \times 9 \times 9 - 99 - 9 - 9/9. \\
621 &= 9 \times 9 \times 9 - 99 - 9. \\
622 &= 9 \times 9 \times 9 - 9 - 99 + 9/9. \\
623 &= ((9 + 9)/9)^9 + 999/9. \\
624 &= (9 - 9/9) \times (9 \times 9 - (9 + 9 + 9)/9). \\
625 &= (9 + 9 + 9 - (9 + 9)/9)/(9 + 9)/9. \\
626 &= 9 + 9 \times 9 \times 9 - (999 + 9)/9. \\
627 &= 9 \times 9 \times 9 + 9 - 999/9. \\
628 &= 9 \times 9 \times 9 - 99 - (9 + 9)/9. \\
629 &= 9 \times 9 \times 9 - 99 - 9/9. \\
630 &= 9 \times 9 \times 9 - 99. \\
631 &= 9 \times 9 \times 9 - 99 + 9/9. \\
632 &= 9 \times 9 \times 9 - 99 + (9 + 9)/9. \\
633 &= 9 \times 9 \times 9 - 99 + (9 + 9 + 9)/9. \\
634 &= 9 \times 9 \times 9 - 99 + (9 + 9 + 9 + 9)/9. \\
635 &= 9 \times 99 - ((9 + 9)/9)^{(9-9/9)}. \\
636 &= 9 \times (9 \times 9 - 9) - (99 + 9)/9. \\
637 &= 9 \times (9 \times 9 - 9) - 99/9. \\
638 &= 9 \times (9 \times 9 - 9) - 9 - 9/9. \\
639 &= 9 \times (9 \times 9 - 9) - 9. \\
640 &= 9 \times (9 \times 9 - 9) - 9 + 9/9. \\
641 &= 9 \times (9 \times 9 - 9) - 9 + (9 + 9)/9. \\
642 &= 9 \times (9 \times 9 - 9) - 9 + (9 + 9 + 9)/9. \\
643 &= 9 \times (9 \times 9 - 9) - (99 - 9)/(9 + 9). \\
644 &= (9 \times 9 + 99/9) \times (9 - (9 + 9)/9). \\
645 &= 9 \times (9 \times 9 - 9) - (9 + 9 + 9)/9. \\
646 &= 9 \times (9 \times 9 - 9) - (9 + 9)/9. \\
647 &= 9 \times (9 \times 9 - 9) - 9/9. \\
648 &= 9 \times (9 \times 9 - 9). \\
649 &= 9 \times (9 \times 9 - 9) + 9/9. \\
650 &= 9 \times (9 \times 9 - 9) + (9 + 9)/9. \\
651 &= 9 \times (9 \times 9 - 9) + (9 + 9 + 9)/9. \\
652 &= 9 \times (9 \times 9 - 9) + (9 \times 9 - 9)/(9 + 9). \\
653 &= 9 \times (9 \times 9 - 9) + (99 - 9)/(9 + 9). \\
654 &= 9 \times (9 \times 9 - 9) + 9 - (9 + 9 + 9)/9. \\
655 &= 9 \times (9 \times 9 - 9) + 9 - (9 + 9)/9. \\
656 &= 9 \times (9 \times 9 - 9) + 9 - 9/9. \\
657 &= 9 \times (9 \times 9 - 9) + 9. \\
658 &= 9 \times (9 \times 9 - 9) + 9 + 9/9. \\
659 &= 9 \times (9 \times 9 - 9) + 99/9. \\
660 &= 9 \times (9 \times 9 - 9) + (99 + 9)/9. \\
661 &= 9 \times (9 \times 9 - 9) + (99 + 9 + 9)/9. \\
662 &= 9 \times (9 \times 9 - 9) + 9 + (99 - 9)/(9 + 9). \\
663 &= 9 \times (9 \times 9 - 9) + 9 + 9 - (9 + 9 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
664 &= (9 \times 9 + (9+9)/9) \times (9-9/9). \\
665 &= 9 \times (9 \times 9 - 9) + 9 + 9 - 9/9. \\
666 &= 9 \times (9 \times 9 - 9) + 9 + 9. \\
667 &= 9 \times (9 \times 9 - 9) + 9 + 9 + 9/9. \\
668 &= 9 \times (9 \times 9 - 9) + 9 + 99/9. \\
669 &= 9 \times (9 \times 9 - 9) + 9 + (99+9)/9. \\
670 &= 9 \times (9 \times 9 - 9) + (99+99)/9. \\
671 &= 99 \times (9 \times 9 - 9 - 99/9)/9. \\
672 &= (9-9/9) \times (9 \times 9 + (9+9+9)/9). \\
673 &= 9 \times (9+9) + ((9+9)/9)^9 - 9/9. \\
674 &= 9 \times (9+9) + ((9+9)/9)^9. \\
675 &= 9 \times (9 \times 9 - 9) + 9 + 9 + 9. \\
676 &= (9+9+9-9/9)^{(9+9)/9}. \\
677 &= 9 \times (9 \times 9 - 9) + 9 + 9 + 99/9. \\
678 &= 999/9 + 9 \times (9 \times 9 - 9 - 9). \\
679 &= 9 \times 9 \times 9 - (9 \times 99 + 9)/(9+9). \\
680 &= 9 \times 9 \times 9 - (9 \times 99 - 9)/(9+9). \\
681 &= -999/9 + 99 \times (9-9/9). \\
682 &= (9 - (9+9)/9) \times 99 - 99/9. \\
683 &= ((9+9)/9)^9 + 9 + 9 \times (9+9). \\
684 &= 99 \times (9 - (9+9)/9) - 9. \\
685 &= (9-9/9) \times (99-9/9) - 99. \\
686 &= (9 - (9+9)/9) \times (99-9/9). \\
687 &= (99 - (99+9)/9) \times (9-9/9) - 9. \\
688 &= 9 \times 9 \times 9 - (9 \times 9 \times 9)/(9+9). \\
689 &= 9 \times 9 \times 9 - (9 \times 9 \times 9 - 9)/(9+9). \\
690 &= 9 \times (99-9) - 9 - 999/9. \\
691 &= 9 \times 9 \times 9 - 9 - 9 - 9 - 99/9. \\
692 &= 99 \times (9 - (9+9)/9) - 9/9. \\
693 &= 99 \times (9 - (9+9)/9). \\
694 &= 99 \times (9 - (9+9)/9) + 9/9. \\
695 &= 99 \times (9 - (9+9)/9) + (9+9)/9. \\
696 &= (9-9/9) \times (99 - (99+9)/9). \\
697 &= 9 \times (99-9) - (999+9+9)/9. \\
698 &= 9 \times (99-9) - (999+9)/9. \\
699 &= 9 \times (9 \times 9 + 9) - 999/9. \\
700 &= 9 \times 9 \times 9 - 9 - 9 - 99/9. \\
701 &= 9 \times 9 \times 9 - 9 - 9 - 9 - 9/9. \\
702 &= 9 \times (99-9) - 99-9. \\
703 &= 9 \times 9 \times 9 - 9 - 9 - 9 + 9/9. \\
704 &= (99 - 99/9) \times (9-9/9). \\
705 &= 9 \times 9 \times 9 - (99+99+9+9)/9. \\
706 &= 9 \times 9 \times 9 - (99+99+9)/9. \\
707 &= 9 \times 9 \times 9 - (99+99)/9. \\
708 &= 9 \times 9 \times 9 - 9 - (99+9)/9. \\
709 &= 9 \times 9 \times 9 - 9 - 99/9. \\
710 &= 9 \times 9 \times 9 - 9 - 9 - 9/9. \\
711 &= 9 \times 9 \times 9 - 9 - 9. \\
712 &= 9 \times 9 \times 9 - 9 - 9 + 9/9. \\
713 &= 9 \times 9 \times 9 - 9 - 9 + (9+9)/9. \\
714 &= 9 \times 9 \times 9 - 9 - 9 + (9+9+9)/9. \\
715 &= 9 \times 9 \times 9 - 9 - (99-9)/(9+9). \\
716 &= 9 \times 9 \times 9 - (99+9+9)/9. \\
717 &= 9 \times 9 \times 9 - (99+9)/9. \\
718 &= 9 \times 9 \times 9 - 9 - (9+9)/9. \\
719 &= 9 \times 9 \times 9 - 9 - 9/9. \\
720 &= 9 \times 9 \times 9 - 9. \\
721 &= 9 \times 9 \times 9 - 9 + 9/9. \\
722 &= 9 \times 9 \times 9 - 9 + (9+9)/9. \\
723 &= 9 \times 9 \times 9 - 9 + (9+9+9)/9. \\
724 &= 9 \times 9 \times 9 - (99-9)/(9+9). \\
725 &= 9 \times 9 \times 9 - (9+9+9+9)/9. \\
726 &= 9 \times 9 \times 9 - (9+9+9)/9. \\
727 &= 9 \times 9 \times 9 - (9+9)/9. \\
728 &= 9 \times 9 \times 9 - 9/9. \\
729 &= 9 \times 9 \times 9. \\
730 &= 9 \times 9 \times 9 + 9/9. \\
731 &= 9 \times 9 \times 9 + (9+9)/9. \\
732 &= 9 \times 9 \times 9 + (9+9+9)/9. \\
733 &= 9 \times 9 \times 9 + (9 \times 9 - 9)/(9+9). \\
734 &= 9 \times 9 \times 9 + (99-9)/(9+9). \\
735 &= 9 \times 9 \times 9 + (99+9)/(9+9). \\
736 &= 9 \times 9 \times 9 + 9 - (9+9)/9. \\
737 &= 9 \times 9 \times 9 + 9 - 9/9. \\
738 &= 9 \times 9 \times 9 + 9. \\
739 &= 9 \times 9 \times 9 + 9 + 9/9. \\
740 &= 9 \times 9 \times 9 + 99/9. \\
741 &= 9 \times 9 \times 9 + (99+9)/9. \\
742 &= 9 \times 9 \times 9 + (99+9+9)/9. \\
743 &= 9 \times 9 \times 9 + (99-9)/(9+9). \\
744 &= 9 \times 9 \times 9 + 9 - (9+9+9)/9. \\
745 &= 9 \times 9 \times 9 + 9 + 9 - (9+9)/9. \\
746 &= 9 \times 9 \times 9 + 9 + 9 - 9/9. \\
747 &= 9 \times 9 \times 9 + 9 + 9. \\
748 &= 9 \times 9 \times 9 + 9 + 9 + 9/9. \\
749 &= 9 \times 9 \times 9 + 9 + 99/9. \\
750 &= 9 \times 9 \times 9 + 9 + (99+9)/9. \\
751 &= 9 \times 9 \times 9 + (99+99)/9. \\
752 &= 9 \times 9 \times 9 + (99+99+9)/9. \\
753 &= 9 \times 99 - 999/9 - 9 - 9 - 9. \\
754 &= 9 \times 9 \times 9 + 9 + 9 + 9 - (9+9)/9. \\
755 &= 9 \times 9 \times 9 + 9 + 9 + 9 - 9/9. \\
756 &= 9 \times 9 \times 9 + 9 + 9 + 9. \\
757 &= 9 \times 9 \times 9 + 9 + 9 + 9 + 9/9. \\
758 &= 9 \times 9 \times 9 + 9 + 9 + 99/9. \\
759 &= 9 \times (9 \times 9 - 9) + 999/9. \\
760 &= 9 \times 9 \times 9 + 9 + (99+99)/9. \\
761 &= 99 \times (9 \times 9 - 99/9)/9 - 9. \\
762 &= 9 \times 99 - 9 - 9 - 999/9. \\
763 &= (9/9 + 99+9) \times (9 - (9+9)/9). \\
764 &= 9 \times 9 \times 9 + 9 + 9 + 9 + 9 - 9/9. \\
765 &= 9 \times 9 \times 9 + 9 + 9 + 9 + 9. \\
766 &= 9 \times 9 \times 9 + 9 + 9 + 9 + 9 + 9/9. \\
767 &= 9 \times 9 \times 9 + 9 + 9 + 9 + 99/9. \\
768 &= (9-9/9) \times (99 - (9+9+9)/9). \\
769 &= 9 \times 99 - (99+999)/9. \\
770 &= 99 \times (9 \times 9 - 99/9)/9. \\
771 &= 9 \times 99 - 9 - 999/9. \\
772 &= 9 \times 99 - 9 - 99 - 99/9. \\
773 &= 9 \times 99 - 99 - 9 - 9 - 9/9. \\
774 &= 9 \times 99 - 99 - 9 - 9. \\
775 &= (99 - 9/9) \times (9 - 9/9) - 9. \\
776 &= (9 - 9/9) \times (99 - (9+9)/9). \\
777 &= 999 \times (9 - (9+9)/9)/9. \\
778 &= 9 \times 9 \times 9 + (9 \times 99 - 9)/(9+9). \\
779 &= 9 \times 99 - (999+9)/9. \\
780 &= 9 \times 99 - 999/9. \\
781 &= 9 \times 99 - 99 - 99/9. \\
782 &= 9 \times 99 - 99 - 9 - 9/9. \\
783 &= 9 \times 99 - 99 - 9. \\
784 &= 9 \times 99 - 99 - 9 + 9/9. \\
785 &= 9 \times 99 - 99 - 9 + (9+9)/9. \\
786 &= 9 \times 99 - 99 - 9 + (9+9+9)/9. \\
787 &= 9999/9 - (9+9) \times (9+9). \\
788 &= 9 \times 99 + 9 - (999+9)/9. \\
789 &= 9 \times 99 + 9 - 999/9. \\
790 &= 9 \times (9 \times 9 + 9) - 9 - 99/9. \\
791 &= 9 \times 99 - 99 - 9/9. \\
792 &= 9 \times 99 - 99. \\
793 &= 9 \times 99 - 99 + 9/9. \\
794 &= 9 \times 99 - 99 + (9+9)/9. \\
795 &= 9 \times 99 - 99 + (9+9+9)/9. \\
796 &= 9 \times 99 - 99 + (9+9+9+9)/9. \\
797 &= 9 \times (99-9) - (99+9+9)/9. \\
798 &= 9 \times (99-9) - (99+9)/9. \\
799 &= 9 \times (99-9) - 99/9. \\
800 &= 9 \times (99-9) - 9 - 9/9. \\
801 &= 9 \times (99-9) - 9. \\
802 &= 9 \times (99-9) - 9 + 9/9. \\
803 &= 9 \times 99 - 99 + 99/9. \\
804 &= 9 \times (99-9) - 9 + (9+9+9)/9. \\
805 &= 9 \times (99-9) - (99-9)/(9+9). \\
806 &= 9 \times (99-9) - (9+9+9+9)/9. \\
807 &= 9 \times (99-9) - (9+9+9)/9. \\
808 &= 9 \times (99-9) - (9+9)/9. \\
809 &= 9 \times (99-9) - 9/9. \\
810 &= 9 \times (99-9). \\
811 &= 9 \times (99-9) + 9/9. \\
812 &= 9 \times (99-9) + (9+9)/9. \\
813 &= 9 \times (99-9) + (9+9+9)/9. \\
814 &= 9 \times (99-9) + (9 \times 9 - 9)/(9+9). \\
815 &= 9 \times (99-9) + (99-9)/(9+9). \\
816 &= 9 \times 9 \times 9 + 99 - (99+9)/9. \\
817 &= 9 \times 9 \times 9 + 99 - 99/9. \\
818 &= 9 \times (99-9) + 9 - 9/9. \\
819 &= 9 \times 9 \times 9 + 99 - 9. \\
820 &= 9 \times 9 \times 9 + 99 - 9 + 9/9. \\
821 &= 9 \times (99-9) + 99/9. \\
822 &= 9 \times (99-9) + (99+9)/9. \\
823 &= 9 \times (99-9) + (99+9+9)/9. \\
824 &= ((999+9)/9 - 9) \times (9-9+9). \\
825 &= (999/9 - 9) \times (9-9/9) + 9. \\
826 &= 9 \times 9 \times 9 + 99 - (9+9)/9. \\
827 &= 9 \times 9 \times 9 + 99 - 9/9. \\
828 &= 9 \times 9 \times 9 + 99. \\
829 &= 9 \times 9 \times 9 + 99 + 9/9. \\
830 &= 9 \times (9 \times 9 + 9) + 9 + 99/9. \\
831 &= 9 \times 9 \times 9 - 9 + 999/9. \\
832 &= 9 \times 9 \times 9 - 9 + (999+9)/9. \\
833 &= 9 \times 9 \times 9 - 9 + (999+9+9)/9. \\
834 &= 9 \times 9 \times 9 + 99 + 9 - (9+9+9)/9. \\
835 &= 9 \times 9 \times 9 + 99 + 9 - (9+9)/9. \\
836 &= 999 - 9 \times (9+9) - 9/9. \\
837 &= 999 - 9 \times (9+9). \\
838 &= 9 \times 9 \times 9 + 99 + 9 + 9/9. \\
839 &= 9 \times 9 \times 9 + 99 + 99/9. \\
840 &= 9 \times 9 \times 9 + 999/9. \\
841 &= (9+9+99/9)/(9+9)/9. \\
842 &= 9 \times 99 - (99 \times 9 - 9)/(9+9). \\
843 &= 9 \times (99-9) + 9 \times 99/(9+9+9). \\
844 &= 9 \times 99 - 9 - 9 - 9 - 99/9. \\
845 &= 9 \times 9 \times 9 + 99 + 9 + 9 - 9/9. \\
846 &= 9 \times 9 \times 9 + 99 + 9 + 9. \\
847 &= 9 \times 9 \times 9 + 99 + 9 + 9 + 9/9. \\
848 &= 9 \times 9 \times 9 + 9 + (999-9)/9. \\
849 &= 9 \times 9 \times 9 + 9 + 999/9. \\
850 &= 9 \times 9 \times 9 + 99 \times 99/(9 \times 9). \\
851 &= 9 \times 9 \times 9 + (99+999)/9. \\
852 &= 9 \times (99+9) - 9 - 999/9. \\
853 &= 9 \times 99 - 9 - 9 - 9 - 99/9. \\
854 &= 9 \times 99 - 9 - 9 - 9 - 9/9. \\
855 &= 9 \times 99 - 9 - 9 - 9 - 9. \\
856 &= 9 \times 99 - 9 - 9 - 9 - 9 + 9/9. \\
857 &= 9 \times 9 \times 9 + 99 + 9 + 9 + 99/9. \\
858 &= 9 \times 9 \times 9 + 9 + 9 + 999/9. \\
859 &= 9 \times 99 - 9 - (99+99+9)/9. \\
860 &= 9 \times 99 - 9 - (99+99)/9. \\
861 &= 9 \times (99+9) - 999/9.
\end{aligned}$$

$$\begin{aligned}
862 &= 9 \times 99 - 9 - 9 - 99/9. \\
863 &= 9 \times 99 - 9 - 9 - 9 - 9/9. \\
864 &= (99 + 9) \times (9 - 9/9). \\
865 &= 9 \times (99 + 9) - 99 - 9 + 9/9. \\
866 &= 9 \times 99 - 9 - 9 - 9 - 9 + 99/9. \\
867 &= 9 \times 9 \times 9 + 9 + 9 + 9 + 999/9. \\
868 &= 9 \times 99 - (99 + 99 + 9)/9. \\
869 &= 9 \times 99 - (99 + 99)/9. \\
870 &= 9 \times 99 - 9 - (99 + 9)/9. \\
871 &= 9 \times 99 - 9 - 99/9. \\
872 &= 9 \times 99 - 9 - 9 - 9/9. \\
873 &= 9 \times (99 + 9) - 99. \\
874 &= 9 \times 99 - 9 - 9 + 9/9. \\
875 &= 9 \times 99 - 9 - 9 + (9 + 9)/9. \\
876 &= 9 \times 99 - 9 - 9 + (9 + 9 + 9)/9. \\
877 &= 9 \times 99 - 9 - (99 - 9)/(9 + 9). \\
878 &= 9 \times 99 - (99 + 9 + 9)/9. \\
879 &= 9 \times 99 - (99 + 9)/9. \\
880 &= 9 \times 99 - 99/9. \\
881 &= 9 \times 99 - 9 - 9/9. \\
882 &= 9 \times 99 - 9. \\
883 &= 9 \times 99 - 9 + 9/9. \\
884 &= 9 \times 99 - 9 + (9 + 9)/9. \\
885 &= 9 \times 99 - 9 + (9 + 9 + 9)/9. \\
886 &= 9 \times 99 - (99 - 9)/(9 + 9). \\
887 &= 9 \times 99 - (9 \times 9 - 9)/(9 + 9). \\
888 &= 999 - 999/9. \\
889 &= 9 \times 99 - (9 + 9)/9. \\
890 &= 9 \times 99 - 9/9. \\
891 &= 9 \times 99. \\
892 &= 9 \times 99 + 9/9. \\
893 &= 9 \times 99 + (9 + 9)/9. \\
894 &= 9 \times 99 + (9 + 9 + 9)/9. \\
895 &= 9 \times 99 + (9 \times 9 - 9)/(9 + 9). \\
896 &= (999 + 9) \times (9 - 9/9)/9. \\
897 &= 9 \times 99 + 9 - (9 + 9 + 9)/9. \\
898 &= 9 \times 99 + 9 - (9 + 9)/9. \\
899 &= 9 \times 99 + 9 - 9/9. \\
900 &= 9 \times 99 + 9. \\
901 &= 9 \times 99 + 9 + 9/9. \\
902 &= 9 \times 99 + 99/9. \\
903 &= 9 \times 99 + (99 + 9)/9. \\
904 &= 9 \times 99 + (99 + 9 + 9)/9. \\
905 &= 9 \times 99 + 9 + (99 - 9)/(9 + 9). \\
906 &= 9 \times 99 + 9 + 9 - (9 + 9 + 9)/9. \\
907 &= 9 \times 99 + 9 + 9 - (9 + 9)/9. \\
908 &= 9 \times 99 + 9 + 9 - 9/9. \\
909 &= 9 \times 99 + 9 + 9. \\
910 &= 9 \times 99 + 9 + 9 + 9/9. \\
911 &= 9 \times 99 + 9 + 99/9. \\
912 &= 9 \times 99 + 9 + (99 + 9)/9. \\
913 &= 9 \times 99 + (99 + 99)/9. \\
914 &= 9 \times 99 + (99 + 99 + 9)/9. \\
915 &= 999 - 9 \times 9 - (9 + 9 + 9)/9. \\
916 &= 999 - 9 \times 9 - (9 + 9)/9. \\
917 &= 999 - 9 \times 9 - 9/9. \\
918 &= 999 - 9 \times 9. \\
919 &= 999 - 9 \times 9 + 9/9. \\
920 &= 999 - 9 \times 9 + (9 + 9)/9. \\
921 &= 9 \times (9 \times 9 + 9) + 999/9. \\
922 &= 9 \times (99 - 9) + (999 + 9)/9. \\
923 &= 9 \times 99 + 9 + (99 + 99 + 9)/9. \\
924 &= 9 \times (99 + 99)/(9 + 9 + 9). \\
925 &= ((9 + 9)/9)^{(9 + 9)/9} - 99. \\
926 &= 999 - 9 \times 9 + 9 - 9/9. \\
927 &= 999 - 9 \times 9 + 9. \\
928 &= 999 - 9 \times 9 + 9 + 9/9. \\
929 &= 999 - 9 \times 9 + 99/9. \\
930 &= (999/9 - 9 - 9) \times (9/9 + 9). \\
931 &= 9999/9 - 9 \times 9 - 99. \\
932 &= 9 \times 99 + (9 \times 9 \times 9 + 9)/(9 + 9). \\
933 &= 999 - 9 \times 9 + 9 - (9 + 9 + 9)/9. \\
934 &= ((9 + 9)/9)^{(9 + 9)/9} - 9 \times 9 - 9. \\
935 &= 999 - 9 \times 9 + 9 + 9 - 9/9. \\
936 &= 999 - 9 \times 9 + 9 + 9. \\
937 &= 999 - 9 \times 9 + 9 + 9 + 9/9. \\
938 &= 999 - 9 \times 9 + 9 + 99/9. \\
939 &= 9 \times 9 \times 9 + 99 + 999/9. \\
940 &= 9 \times 99 + (9 \times 99 - 9)/(9 + 9). \\
941 &= 9 \times 99 + (9 \times 99 + 9)/(9 + 9). \\
942 &= 9 \times (99 + 9 + 9) - 999/9. \\
943 &= ((9 + 9)/9)^{(9 + 9)/9} - 9 \times 9. \\
944 &= 9 \times (9 + 99) - 9 - 9 - 9 - 9/9. \\
945 &= 9 \times (9 + 99) - 9 - 9 - 9. \\
946 &= 9 \times (9 + 99) - 9 - 9 - 9 + 9/9. \\
947 &= 9 \times 99 + (999 + 9)/(9 + 9). \\
948 &= (99 + 9) \times (9 \times 9 - (9 + 9)/9)/9. \\
949 &= 9999/9 - 9 \times (9 + 9). \\
950 &= 9 \times (99 + 9) - (99 + 99)/9. \\
951 &= 9 \times (99 + 9) - 9 - (99 + 9)/9. \\
952 &= 9 \times (9 + 99) - 9 - 99/9. \\
953 &= 9 \times (9 + 99) - 9 - 9 - 9/9. \\
954 &= 9 \times (9 + 99) - 9 - 9. \\
955 &= 9 \times (9 + 99) - 9 - 9 + 9/9. \\
956 &= 9 \times (9 + 99) - 9 - 9 + (9 + 9)/9. \\
957 &= 99 \times (99 - (99 + 9)/9)/9. \\
958 &= 9 + 9999/9 - 9 \times (9 + 9). \\
959 &= 9 \times (99 + 9) - (99 + 9 + 9)/9. \\
960 &= (99 + 9) \times (9 \times 9 - 9/9)/9. \\
961 &= 9 \times (99 + 9) - 99/9. \\
962 &= 9 \times (99 + 9) - 9 - 9/9. \\
963 &= 9 \times (99 + 9) - 9. \\
964 &= 9 \times (99 + 9) - 9 + 9/9. \\
965 &= 9 \times (99 + 9) - 9 + (9 + 9)/9. \\
966 &= 9 \times (99 + 9) - 9 + (9 + 9 + 9)/9. \\
967 &= 9 \times (99 + 9) - (99 - 9)/(9 + 9). \\
968 &= 99 \times (99 - 99/9)/9. \\
969 &= 9 \times (99 + 9) - (9 + 9 + 9)/9. \\
970 &= 9 \times (99 + 9) - (9 + 9)/9. \\
971 &= 9 \times (99 + 9) - 9/9. \\
972 &= 9 \times (99 + 9). \\
973 &= 9 \times (99 + 9) + 9/9. \\
974 &= 9 \times (99 + 9) + (9 + 9)/9. \\
975 &= 9 \times (99 + 9) + (9 + 9 + 9)/9. \\
976 &= 999 - (99 + 99 + 9)/9. \\
977 &= 999 - (99 + 99)/9. \\
978 &= 999 - 9 - (99 + 9)/9. \\
979 &= 999 - 9 - 99/9. \\
980 &= (9 + 9/9) \times (99 - 9/9). \\
981 &= 999 - 9 - 9. \\
982 &= 999 - 9 - 9 + 9/9. \\
983 &= 9 \times (99 + 9) + 99/9. \\
984 &= (99 + 9) \times (9 \times 9 + 9/9)/9. \\
985 &= 999 - (99 + 9 + 9 + 9)/9. \\
986 &= 999 - (99 + 9 + 9)/9. \\
987 &= 999 - (99 + 9)/9. \\
988 &= 999 - 99/9. \\
989 &= 999 - 9 - 9/9. \\
990 &= 999 - 9. \\
991 &= 999 - 9 + 9/9. \\
992 &= 999 - 9 + (9 + 9)/9. \\
993 &= 999 - 9 + (9 + 9 + 9)/9. \\
994 &= 999 - (99 - 9)/(9 + 9). \\
995 &= 999 - (9 + 9 + 9 + 9)/9. \\
996 &= 999 - (9 + 9 + 9)/9. \\
997 &= 999 - (9 + 9)/9. \\
998 &= 999 - 9/9. \\
999 &= 999. \\
1000 &= 999 + 9/9.
\end{aligned}$$

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