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Fibonacci Sequence and Running Expressions with Equalities - I

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Abstract

In previous work [12], running inequalities are written in terms of 1 to 9 and 9 to 1 or 9 to 0 separated by single or double equality signs. Each digits is used with basic operations, along with **factorial** and **square-root**. These types of equalities, we called as **running expressions**. This work bring running expressions with double and triple equality signs using **Fibonacci sequence** numbers along with basic operations. The work is up to 3 digits in increasing and decreasing orders. For 4 digits onwards the results are given in second part [21].

I N D E X

The work is divided in following sections and subsections:

1 Introduction

Before starting the work, below are some representations of numbers in different situations done by author [18, 19] . The work is for 9 digits from 1 to 9 in increasing case and 9 or 10 digits, i.e., from 9 to 1 or 9 to 0 in the decreasing case. In some cases, the results are symmetric and are uses all the 10 digits, i.e., from 0 to 9.

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1.1 Crazy Representations of Natural Numbers

In 2014, author [9] wrote natural numbers in increasing and decreasing orders of 1 to 9 and 9 to 1. See examples below:

$$\begin{aligned}
100 &= 1+2+3+4+5+6+7+8\times 9 &&= 9\times 8+7+6+5+4+3+2+1.\\
101 &= 1+2+34+5+6\times 7+8+9 &&= 9\times 8+7+6+5+4+3\times 2+1.\\
102 &= 12+3\times 4\times 5+6+7+8+9 &&= 9+8+7+6+5+4^3+2+1.\\
103 &= 1\times 2\times 34+5+6+7+8+9 &&= 9+8+7\times 6+5\times 4+3+21.\\
104 &= 1+23+4+5+6+7\times 8+9 &&= 9+8+7+65+4\times 3+2+1.\\
105 &= 1+2\times 3\times 4+56+7+8+9 &&= 9+8\times 7+6\times 5+4+3+2+1.\\
106 &= 12+3+4\times 5+6+7\times 8+9 &&= 9+8\times 7+6\times 5+4+3\times 2+1.\\
107 &= 1\times 23+4+56+7+8+9 &&= 9+8+76+5+4+3+2\times 1.\\
108 &= 1+2+3+4+5+6+78+9 &&= 9+8+76+5+4+3+2+1.
\end{aligned}$$

For comments on this work see [1, 2, 7, 8].

1.2 Flexible Power Representations

Instead working with increasing and decreasing cases separated, here we worked in such a way that the results are always symmetric. This we have done using all the 10 digits, i.e., from 0 to 9. The results obtained are symmetric, i.e., writing in 0 to 9 or 9 to 0, the resulting number is same. The idea used is in such a way that numbers are written in 0 to 9 with permutations of powers also used the same digits i.e., 0 to 9. See below some examples,

$$\begin{aligned}
201 &:= 0^3+1^9+2^4+3^7-4^8+5^1+6^6+7^5+8^2+9^0.\\
202 &:= 0^0+1^9+2^6+3^8-4^7+5^5+6^3+7^2+8^1+9^4.\\
203 &:= 0^3-1^9+2^4+3^7-4^8+5^0+6^6+7^5+8^2+9^1.\\
204 &:= 0^8+1^9+2^5+3^7-4^6+5^1+6^4+7^2+8^0+9^3.\\
205 &:= 0^3+1^9+2^4+3^7-4^8+5^0+6^6+7^5+8^2+9^1.\\
206 &:= 0^7-1^9-2^5-3^8+4^6+5^1+6^3+7^4+8^0+9^2.\\
207 &:= 0^8+1^9+2^5+3^7-4^6+5^0+6^4+7^2+8^1+9^3.\\
208 &:= 0^7+1^9-2^5-3^8+4^6+5^1+6^3+7^4+8^0+9^2.\\
209 &:= 0^7-1^9-2^5-3^8+4^6+5^0+6^3+7^4+8^1+9^2.\\
210 &:= 0^5-1^7-2^8-3^9+4^1+5^6+6^0+7^3+8^4+9^2.\\
211 &:= 0^7+1^9-2^5-3^8+4^6+5^0+6^3+7^4+8^1+9^2.\\
212 &:= 0^5+1^7-2^8-3^9+4^1+5^6+6^0+7^3+8^4+9^2.\\
213 &:= 0^5+1^8-2^7-3^9+4^1+5^6+6^3+7^0+8^4+9^2.\\
214 &:= 0^5+1^7-2^8-3^9+4^0+5^6+6^1+7^3+8^4+9^2.\\
215 &:= 0^5+1^9+2^8+3^7-4^6+5^0+6^4+7^2+8^3+9^1.
\end{aligned}$$

For complete representations of numbers from 0 to 11111 refer to author's work [17]:

1.3 Pyramidical-Type Representations

Following of the same idea of subsection 1.2, below are numbers with pyramid-type representations:

$$\begin{aligned}
\bullet\ 22 &= 0^1 - 1^0 - 2^2 + 3^3 \\
&= 0^2 + 1^3 + 2^4 + 3^0 + 4^1 \\
&= 0^4 - 1^5 + 2^3 + 3^2 + 4^0 + 5^1 \\
&= 0^2 + 1^6 + 2^5 - 3^4 + 4^3 + 5^1 + 6^0 \\
&= 0^5 + 1^7 - 2^6 - 3^4 + 4^1 + 5^3 + 6^2 + 7^0 \\
&= 0^1 + 1^4 + 2^8 + 3^5 - 4^7 + 5^6 + 6^3 + 7^0 + 8^2 \\
&= 0^6 - 1^9 + 2^8 - 3^7 + 4^5 + 5^4 + 6^3 + 7^1 + 8^0 + 9^2.
\end{aligned}$$

$$\begin{aligned}
\bullet\ 1089 &= 0^1 + 1^0 + 2^3 + 3^4 + 4^5 - 5^2 \\
&= 0^4 - 1^6 + 2^1 + 3^3 + 4^5 + 5^0 + 6^2 \\
&= 0^2 + 1^6 - 2^7 + 3^5 + 4^1 + 5^4 + 6^0 + 7^3 \\
&= 0^0 - 1^7 + 2^4 - 3^8 + 4^6 + 5^5 + 6^1 + 7^3 + 8^2 \\
&= 0^6 - 1^9 + 2^7 - 3^8 + 4^1 + 5^5 + 6^3 + 7^0 + 8^4 + 9^2.
\end{aligned}$$

$$\begin{aligned}
\bullet\ 1179 &= 0^1 + 1^0 + 2^5 + 3^6 + 4^4 + 5^3 + 6^2 \\
&= 0^2 + 1^6 + 2^4 - 3^7 + 4^0 + 5^5 + 6^3 + 7^1 \\
&= 0^6 + 1^7 - 2^8 + 3^5 + 4^1 + 5^4 + 6^0 + 7^2 + 8^3 \\
&= 0^6 + 1^9 - 2^8 - 3^7 + 4^5 + 5^3 + 6^1 + 7^4 + 8^2 + 9^0.
\end{aligned}$$

The digits appearing in bases and exponents are same in each case. For complete representations of natural numbers from 0 to 1500 refer to [15, 16]:

1.4 Single Digit Representations

In subsection 1.1, all the nine digits are used to write natural numbers. Here the work is done writing numbers for each digit separately. See examples below:

$$\begin{aligned}
717 &= (1+1)^{11} - 11^{(1+1+1)} \\
&= 22^2 + 222 + 22/2 \\
&= 3^{(3+3)} - 3 - 3 \times 3 \\
&= 4 \times (4 \times 44 + 4) - 4 + 4/4 \\
&= (55 \times (55 + 5 + 5) + 5 + 5)/5 \\
&= (6 \times 6/(6+6))^6 - 6 - 6 \\
&= 777 - 7 \times 7 - 77/7 \\
&= 8 \times 88 + (88 + 8 + 8)/8 \\
&= 9 \times 9 \times 9 - (99 + 9)/9.
\end{aligned}$$

$$\begin{aligned}
995 &= (11-1)^{(1+1+1)} - (11-1)/(1+1) \\
&= 22 + 2 \times (22^2 + 2) + 2/2 \\
&= 3 \times 333 - 3 - 3/3 \\
&= 4 \times (4^4 - 4 - 4) + 4 - 4/4 \\
&= 5 \times (5+5) \times (5 \times 5 - 5) - 5 \\
&= 666 + 6 \times 66 - 66 - 6/6 \\
&= (7+7) \times (77 - 7) + 7 + 7 + 7/7 \\
&= 888 + 88 + 8 + 88/8 \\
&= 999 - (9 + 9 + 9 + 9)/9.
\end{aligned}$$

Values are calculated up to 1.000.000, but the work is written only from 0 to 1000. For details, refer to [10]:

1.5 Single Letter Representations

We observe that the numbers written in previous subsection 1.4 are not in a symmetrical way. But there are numbers, that can be written in a symmetric way. Motivated by this idea, instead working for each digit separately, we can work with a **single letter** "a" . See examples below:

$$\begin{aligned}
5 &:= (aa-a)/(a+a). & 1089 &:= (aaaa-aa-aa)/a.\\
6 &:= (aa+a)/(a+a). & 1991 &:= (aaaaaa/aaa \times (a+a) - aa)/a.\\
55 &:= (aaa-a)/(a+a). & 2020 &:= (aaaaa-a)/aa \times (a+a)/a.\\
56 &:= (aaa+a)/(a+a). & 2035 &:= (aaaa-a)/(a+a+a) \times aa/(a+a).\\
561 &:= (aaaa+aa)/(a+a). & 4477 &:= (aaa/(a+a+a) \times aa \times aa)/(a \times a).\\
666 &:= aaa \times (aa+a)/((a+a) \times a). & 4999 &:= (aaaaa-aaaa-a-a)/(a+a).\\
925 &:= (aaaaa-aa)/(aa+a). & 5000 &:= (aaaaa-aaaa)/(a+a).
\end{aligned}$$

where $a \in \{1,2,3,4,5,6,7,8,9\}$, and $aa = 10^2 \times a + a$, $aaa = 10^3 \times a + 10^2 \times a + a$, etc.

For full work, refer to [11, 13]. The first reference is up to 3000 [11] numbers, while second reference extend it to 5000 [13] numbers.

For study on numbers in different situations refer to [3, 4, 5, 6]. Summary of above work can be seen in [18, 19].

1.6 Running Expressions

Previous section 1 give idea how we can write natural numbers in different situations using 9 or 10 digits. In this section also we shall do similar kind of work, but in little different way. It is based on the idea of subsection 1.1. We divide the numbers in equal parts, two or three in such a way that the results are increasing and decreasing order of 9 or 10 digits, for example we can write,

$$\begin{aligned}
1^{234} &= (5+67)/(8 \times 9)\\
98/7+6 &= 54/3+2 \times 1.
\end{aligned}$$

Below are more examples, written in increasing and decreasing ways:

- **Increasing Order**

$$\begin{aligned}
12 &= 3+4+(5 \times 6+7+8)/9\\
123 &= 4+5+6 \times 7+8 \times 9\\
1234 &= -5+6!\ +7+8^{\sqrt{9}}
\end{aligned}$$

$$\begin{aligned}
12+3 \times 4+5 \times (6+7) &= 89\\
1+23+45+6! &= 789
\end{aligned}$$

... (1)

- **Decreasing Order**

$$\begin{aligned} 98-7\times(6+5)\times(4-3) &= 21 \\ \sqrt{9}\times 87+6+54 &= 321 \\ 9-8+7!-6\times 5! &= 4321 \end{aligned}$$

$$\begin{aligned} 9-8+7-6+5+4-3+2 &= 10 \\ 9\times(8+7)+6+5+4^3 &= 210 \\ (9-87+6!)\times 5!\,/4! &= 3210 \end{aligned}$$

$$\begin{aligned} 98 &= (7+6)\times 5+4\times 3+21 \\ 987 &= 6!\ +5!\ +(4+3)\times 21 \end{aligned}$$

$$\begin{aligned} 98 &= 7+65+4+32-10 \\ 987 &= 6!+54+3+210 \end{aligned}$$

... (2)

Above examples give representations separated by equality sign having the digits in either increasing and/or decreasing orders. There are numbers that can be written in increasing as well as decreasing orders at the same time with single or double equality signs, such as

$$\begin{aligned} \bullet\ \mathbf{16} &:= 12/3\times 4 \quad = 5+6+(7+8)/\sqrt{9} \\ &:= (9+87)/6 = 5+4+3\times 2+1. \end{aligned}$$

$$\begin{aligned} \bullet\ \mathbf{18} &= 12+3! \qquad = \sqrt{4+5}\times 6 = 7+8+\sqrt{9} \\ &= \sqrt{9}+8+7 = \sqrt{6\times 54} \quad = -3+21 \ = \ 3!+2+10. \end{aligned}$$

$$\begin{aligned} \bullet\ \mathbf{120} &:= (1\times 2+3)! \qquad = 4\times 5\times 6 = ((7+8)/\sqrt{9})! \\ &:= ((\sqrt{9})!-8+7)! = 6\times 5\times 4 = (3\times 2-1)! \quad = 3!\times 2\times 10 \end{aligned}$$

... (3)

The above three examples divide the numbers in two and three parts respectively with equality signs using the numbers in increasing as well as decreasing orders. From the examples (1), (2) and (3), we observe that the operations used are **addition, subtraction, multiplication, division, potentiation, factorial** and **square-root**. More details can be seen in [20, 21]. In this work, our interest is to found examples similar to (1), (2) and (3) using **Fibonacci sequence** values.

2 Running Expressions with Fibonacci Sequence

This section bring results similar to (1), (2) and (3), but by use of **Fibonacci sequence** values along with basic operations. and worked up to 999. The results are in both increasing and decreasing orders.

2.1 Fibonacci Sequence

Fibonacci sequence numbers are well known in literature. This sequence is defined as

$$F(0)=0,\quad F(1)=1,\quad F(n+1)=F(n)+F(n-1),\quad n\geq 1.$$

Similar to (1) and (2) given above, below are examples of running expressions using **Fibonacci sequence** numbers. Most of the results uses basic operations, except numbers 21 and 9876, where extra operations, such as factorial are used.

- **Increasing Order**

$$\begin{aligned}12&=F(3)\times F(4)\times F(5)+6-7-8-9\\123&=-4\times 5\times(6-F(7))-8-9\\1234&=5\times F(6)\times F(7)+F(8)\times F(9)\end{aligned}$$

$$\begin{aligned}1+F(2^3+F(4))+(5-6)^7&=89\\1\times 2\times 3^4\times 5-F(F(6))&=789\\1+23+F(4\times 5)&=6789.\end{aligned}$$

... (4)

- **Decreasing Order**

$$\begin{aligned}9+(-F(8)/7+6)\times 5-F(4)!+3&=21\\-98-F(7)+F(6)\times 54&=321\\(F(9)\times F(8)+7)\times 6-5&=4321\end{aligned}$$

$$\begin{aligned}98&=(7-6)\times 5+F(4)\times(32-1)\\987&=(6-5)\times F(4\times(3+2-1))\end{aligned}$$

$$\begin{aligned}98&=-5-4-3+2\times F(10)\\987&=(6-5)^4\times F(3\times 2+10)\\9876&=(\sqrt{5+4})!+F(F(3!)\times 2)\times 10\end{aligned}$$

... (5)

This work deals with the **running expressions** in terms of nine or ten digits of natural numbers in increasing and decreasing cases respectively with use of **Fibonacci sequence** numbers. This is given in following two subsections.

2.2 Double Equalities

Below are examples in double equality signs, similar to example (3). The increasing and decreasing orders are together. We have considered only the situations where $[1,2,3]=[4,5,6]=[7,8,9]$ and $[9,8,7]=[6,5,4]=[3,2,1]$ or $=[3,2,1,0]$. As there are few examples, we worked up to five digits.

• **8** $:= 9-8+7 = F(6)\times(5-4) = F(3\times 2)\times 1$

• **9** $:= 9\times(8-7) = F(6)+5-4 = 3\times(2+1)$

• **10** $:= 12-F(3) = -F(4)+5+F(6) = -7+8+9$
$:= 9+8-7 \ = F(6)\times 5/4 \qquad = 3^2+1$
$= (3-2)\times 10$

• **11** $:= 9+F(F(8)/7) = F(6)+5-F(F(4)) = 3-2+10$

• **12** $:= 9+F(8)/7 = (F(6)-5)\times 4 = F(F(F(3)+2))+10$

• **13** $:= F((9-8)\times 7) = F(6+5-4) \quad = F(3\times 2+1)$
$:= F(1+2\times 3) \quad = F(-4+5+6) = F(7)\times(-8+9)$

• **14** $:= 12+F(3) = 4\times 5-6 \qquad = F(7)-8+9$
$:= 98/7 \qquad = 6+5+F(4) = F(3)+2+10$

• **17** $:= 9+F(8)-F(7) = F(6)+5+4 = -3+2\times 10$

• **18** $:= 9\times F(F(8)/7) = 6\times(5-F(F(4))) = -3+21$
$= F(3\times 2)+10$

• **19** $:= F(9)-8-7 = F(F(6))-5+F(4) = -F(3)+21$
$= 3^2+10$

• **20** $:= -1+F(2^3) \qquad = 4-5+F(F(6)) = 7-F(8)+F(9)$
$:= F(9)-F(8)+7 = F(F(6))-5+4 = F(F(3\times 2))-1$

• **21** $:= F(1\times 2^3) \quad = F(4)\times 5+6 = F(7-8+9)$
$:= F(9-8+7) = 6+5\times F(4) = F(3^2-1)$

• **22** $:= -1+23 \qquad = F(F(4))\times(5+6) = 7\times 8-F(9)$
$:= -F(9)+8\times 7 = F(F(6))+5-4 \quad = F(F(3\times 2))+1$
$= 32-10$

• **23** $:= 1\times 23 \qquad = F(4)\times 5+F(6) = -7+F(8)+9$
$:= 9+F(8)-7 = F(6)+5\times F(4) = F(3)+21$
$= 3+2\times 10$

• **24** $:= 1+23 \quad = 45-F(F(6)) \quad = 7+8+9$
$:= 9+8+7 = F(6)\times(5-F(F(4))) = 3+21$

• **27** $:= 9\times F(8)/7 = 6\times 5 - F(4) = 3^{(}2+1)$

• **30** $:= 9+8+F(7) = F(F(6))+5+4$
$= F(F(3)+2)\times 10$

• **31** $:= F(9)-F(8)/7 = 6+5^{(}F(F(4))) = 32-1$

• **32** $:= F(9)-F(F(8)/7) = 6\times 5+F(F(4)) = 32\times 1$

• **33** $:= F(9)-8+7 = (6+5)\times F(4) = (32+1)$

• **34** $:= F(12-3) \quad = 4+5\times 6 = F((-7+8)$
$:= F(9\times(8-7)) = 6\times 5+4 = F(3^2\times 1)$

• **36** $:= F(9)+F(F(8)/7) = 6^{(}5-F(4)) = 3\times(2+10)$

• **42** $:= F(9)+F(8)-F(7) = F(6)+F(5+4) = F(3)\times 21$
$= 32+10$

• **47** $:= -9+8\times 7 = -F(6)+F(5\times F(F(4)) = -F(3\times 2)+F(10)$

• **55** $:= F(12-F(3)) = F(4+5)+F(F(6)) = F(-7+8+9)$

• **55** $:= F(9+8-7) = F(F(6)\times 5/4) = F(3^2+1)$
$= (3-2)\times F(10)$

• **89** $:= F(9+F(F(8)/7)) = F(F(6)+5-F(F(4))) = F(3-2+10)$

• **90** $:= F(9)+8\times 7 = 6\times 5\times F(4) = 3^2\times 10$

• **144** $:= 12^F(3) = F(4\times 5-F(6)) = F(F(7))-89$

• **233** $:= F(F(1+2\times 3)) = F(F(-4+5+6)) = F(F(7))\times(-8+9)$

• **377** $:= F(12+F(3)) = F(4\times 5-6) = F(F(7)-8+9)$

• **144** $:= F(9+F(8)/7) = F((F(6)-5)\times 4) = F(F(F(F(3)+2))+10)$

• **210** $:= (9+F(8))\times 7 = F(F(6))\times 5\times F(F(4)) = F(F(3\times 2))\times 10$

• **233** $:= (9-8)\times F(F(7)) = F(F(6+5-4)) = F(F(3\times 2+1))$

• **377** $:= F(98/7) = F(6+5+F(4)) = F(F(3)+2+10)$

• **1597** $:= F(9+F(8)-F(7)) = F(F(6)+5+4) = F(-3+2\times 10)$

• **2584** $:= F(9\times F(F(8)/7)) = F(6\times(5-F(F(4)))) = F(-3+21)$

• **4181** $:= F(F(9)-8-7) = F(F(F(6))-5+F(4)) = F(-F(3)+21)$
$= F(3^2+10)$

• **6765** $:= F(-1+F(2^3)) = F(4-5+F(F(6))) = F(7-F(8)+F(9))$

• **6765** $:= F(F(9)-F(8)+7) = F(F(F(6))-5+4) = F(F(F(3\times 2))-1)$

• **10944** $:= -9+F(F(8))+7 = F(F(F(6)))-5+F(4) = -F(3)+F(21)$

• **10946** $:= F(F(1\times 2^3)) = F(F(4)\times 5+6) = F(F(7-8+9))$
$:= F(F(9-8+7)) = F(6+5\times F(4)) = F(F(3^2-1))$

• **10948** $:= 9+F(F(8))-7 = F(F(F(6)))+5-F(4) = F(3)+F(21)$

• **17711** $:= F(-1+23) = F(F(F(4))\times(5+6)) = F(7\times 8-F(9))$
$:= F(-F(9)+8\times 7) = F(F(F(6))+5-4) = F(F(F(3\times 2))+1)$
$= F(32-10)$

• **28657** $:= F(1\times 23) = F(F(4)\times 5+F(6)) = F(-7+F(8)+9)$
$:= F(9+F(8)-7) = F(F(6)+5\times F(4)) = F(F(3)+21)$
$= F(3+2\times 10)$

• **46368** $:= F(1+23) = F(45-F(F(6))) = F(7+8+9)$
$:= F(9+8+7) = F(F(6)\times(5-F(F(4)))) = F(3+21)$

• **196418** $:= F(9\times F(8)/7) = F(6\times 5-F(4)) = F(3^{2+1})$

• **832040** $:= F(9+8+F(7)) = F(F(F(6))+5+4) = F(F(F(3)+2)\times 10)$

3 Single Equality Expressions

3.1 Increasing Order

Below are examples of running expressions with Fibonacci sequence values in increasing order using the digits 1 to 9 separated by single equality sign.

- **2** $:= 1-2+3 \quad = F(4)-((56/7)/8)^9$
  $:= 1^{23}-4+5 = F(6\times(7-8)+9)$

- **3** $:= F(12/3) \qquad = 4-((56/7)/8)^9$
- **7** $:= 12/3+F(4) \qquad = 56/7+8-9$
- **7** $:= 12-3+F(4)-5 = 6-(7-8)^9$
- **9** $:= 1^{2345}+F(6) \qquad = (-7+8)\times 9$

- **10** $:= 12-F(3) = (4-5)^{678}+9$

- **11** $:= 12+3-4 \quad = 56-(F(7)-8)\times 9$
  $:= 12/3\times 4-5 = -6\times F(7)+89$

- **12** $:= F(12)/(3\times 4) \qquad = 56-78+F(9)$
  $:= 1^{234}+5+6 \qquad = F(7)+8-9$
  $:= 12+3-45+6\times 7 = F(8)-9$

- **13** $:= F(1+2\times 3) \ = (45-6+78)/9$
  $:= (123-45)/6 = F(7\times(-8+9))$
  $:= 1^{23456}\times F(7) \ = -F(8)+F(9)$

- **14** $:= 12+F(3) \qquad = 4+5-67+8\times 9$
  $:= 1^{234}+5+F(6) = F(7)-8+9$

- **17** $:= 12+3+F(F(4)) \ = -5-67+89$
  $:= 1+23+4-5-6 = -F(7)+F(8)+9$

- **18** $:= 12-3+4+5 = 6+F(7)+8-9$

- **19** $:= 12+3\times 4-5 \quad = 6+F(7)\times(-8+9)$
  $:= (123-4-5)/6 = 7+F(8)-9$

- **20** $:= -1+F(2^3) \qquad = F(4)-5-67+89$
  $:= 1^{23}\times 4\times 5 \qquad = 6+F(7)-8+9$
  $:= -1\times 2-34+56 = 7-F(8)+F(9)$

- **21** $:= F(1\times 2^3) \qquad = 4-5-67+89$
  $:= F(12/3+4) \qquad = 56+7-8-F(9)$
  $:= 12/3\times 4+5 \quad = 6\times(F(7)-8)-9$
  $:= 1-2-34+56 = F(7-8+9)$

• **22** $:= (F(12)-34)/5 \quad = -67+89$
$:= (1-2)\times 34+56 = 7\times 8 - F(9)$

• **23** $:= 1-23+45 \quad = 6 - F(7) + F(8) + 9$
$:= 1^2 - 34 + 56 = -7 + F(8) + 9$

• **24** $:= 1+23 \qquad\qquad = 4 - 56 - F(7) + 89$
$:= 12\times(3+4-5) = 6\times(-F(7)+8+9)$

• **25** $:= 12 + F(3+4) \quad = 56/7 + 8 + 9$
$:= 1+2-34+56 = F(7)+F(8)-9$

• **26** $:= 1\times 23 + F(4) \qquad = -56 - 7 + 89$
$:= -F(12) + 34\times 5 \qquad = (6-7)\times(8-F(9))$
$:= 1^2 + 3^4 - 56 \qquad = F(7) - F(8) + F(9)$
$:= 12/3 + 4 + 5 + 6 + 7 = -8 + F(9)$

• **27** $:= -12 + 34 + 5 = 6 + F(7-8+9)$

• **28** $:= 1+23+4 \qquad = -5 - F(6)\times 7 + 89$
$:= 1-2+34-5 = 6 + 7\times 8 - F(9)$

• **29** $:= 1\times 2 + 3^{F(4)} \qquad = 5\times 6 + (7-8)^9$
$:= 12 - 3 + 4\times 5 \qquad = 6 - 7 + F(8) + 9$
$:= 12\times 3 + 4 - 5 - 6 = -F(7) + 8 + F(9)$

• **30** $:= F(12-3) - 4 \qquad\qquad = 5 + 67 - 8 - F(9)$
$:= 1^{234}\times 5\times 6 \qquad\qquad = F(7) + 8 + 9$
$:= -12 - 3 + 45\times(-6+7) = F(8) + 9$

• **31** $:= 1\times 2 + 34 - 5 = 6 + F(7) + F(8) - 9$
• **32** $:= 1+2+34-5 = F(6) + 7 + 8 + 9$

• **33** $:= 1-2+34 \qquad\qquad = 56 + 7 - F(8) - 9$
$:= 1+23+4+5 \qquad = -F(6)\times 7 + 89$
$:= 12\times 3 - 4 - 5 + 6 = 7 - 8 + F(9)$

• **34** $:= F(12-3) \qquad\qquad = F(4) - 56 + 78 + 9$
$:= 1^2 \times 34 \qquad\qquad = 56/7 - 8 + F(9)$
$:= 1-2+(3+4)\times 5 = (6-7)^8 \times F(9)$
$:= 12 - 34 + 56 \qquad\qquad = F((-7+8)\times 9)$

• **35** $:= 12+3+4\times 5 \quad = (6-7)^8 + F(9)$
$:= 12 + 34 - 5 - 6 = -7 + 8 + F(9)$

• **36** $:= (12-3)\times 4 = 567/F(8) + 9$

- **37** $:= 1+2+34 \quad = 56+7+8-F(9)$
  $:= 12\times 3-4+5 \;= 67-F(8)-9$
  $:= 1^2-3+45-6 = 7+F(8)+9$

- **38** $:= F(12-3)+4 \;= F(56/7)+8+9$
  $:= 1-2+34+5 = -6+78-F(9)$

- **39** $:= 12\times 3+F(4) \quad = -5\times 6+78-9$
  $:= 1^2\times 34+5 \quad = 6\times(F(7)-8)+9$
  $:= 12\times 3+4+5-6 = F(7)-8+F(9)$

- **40** $:= 1-2\times 3+45 = 6+(-7+8)\times F(9)$

- **41** $:= 123/F(4) \quad = (5+6-7)\times 8+9$
  $:= 12+34-5 = 67+8-F(9)$

- **42** $:= (12+F(3))\times F(4) = 56-F(7)+8-9$
  $:= 1^2\times(3+45-6) \quad = -F(7)+F(8)+F(9)$
  $:= 1^{2345}\times 6\times 7 \quad = 8+F(9)$

- **43** $:= 1+2\times F(F(3)\times 4) = 5-6+78-F(9)$
  $:= 12/3+45-6 \quad = F(7)+F(8)+9$

- **44** $:= F(12)/3-4 \quad = 56-F(7)-8+9$
  $:= 1\times 2-3+45 \quad = F(6)\times 7-F(8)+9$
  $:= 12\times(3-4)+56 = 78-F(9)$

- **45** $:= (12+3)\times F(4) = -5+67-8-9$
  $:= 12+34+5-6 = (F(7)-8)\times 9$

- **46** $:= 1^{23}+45 \quad = F(F(6))+F(7)+F(8)-9$
- **47** $:= (F(12)-3)/F(4) = 56+(7-8)\times 9$

- **48** $:= F(12)/3 \quad = 45-6+(-7+8)\times 9$
  $:= (1+23)\times F(F(4)) = 56-7+8-9$
  $:= 12-3+45-6 \quad = -7+F(8)+F(9)$

- **49** $:= (F(12)+3)/F(4) = 56+7\times(8-9)$
  $:= 12/3+45 \quad = 6+F(7)+F(8)+9$
  $:= 1^2-3+45+6 \quad = 7+8+F(9)$

- **50** $:= F(12-F(3))-4 \quad = 56+7-F(8)+9$
  $:= F(12)/3+F(F(4)) = 56-7-8+9$
  $:= 12+34+5 \quad = 6+(F(7)-8)\times 9$

- **52** $:= F(12)/3+4 = 5-6\times 7+89$

- **53** $:= -1+2\times 3^{F(4)} = 5+6\times(7-8+9)$

• **54** $:= (12-3)+45 = 6\times 7+F(8)-9$
$:= 1\times 2\times 3^{F(4)} = 5\times 6+7+8+9$

• **55** $:= F(12-F(3)) = F(4)+56+F(7)-8-9$
$:= F(1\times 2\times 3+4) = 5+67-8-9$
$:= 12-F(3)+45 = 67-F(8)+9$
$:= -1^{234}+56 = F(-7+8+9)$
$:= 1\times 23+4\times 56/7 = F(8)+F(9)$

• **56** $:= (12+F(3))\times 4 = (56+7)\times 8/9$
$:= 12\times 3+4\times 5 = 6\times (7+8)-F(9)$

• **57** $:= F(12-F(3))+F(F(4)) = 5+6\times 78/9$
$:= -1+2\times (34-5) = F(6)\times 7-8+9$

• **58** $:= F(12-F(3))+F(4) = 56\times 7/8+9$
$:= 1\times 2\times (34-5) = F(F(6))\times 7-89$

• **59** $:= F(12-F(3))+4 = 5+6\times (-7+8)\times 9$
$:= 12+F(3)+45 = 6\times 7+8+9$
$:= 12-3\times F(4)+56 = -F(7)+8\times 9$

• **60** $:= (12+3)\times 4 = 56-F(7)+8+9$
61 $:= (12+F(3))\times 4+5 = -F(6)+78-9$

• **62** $:= -1+F(2^3)\times F(4) = 56+7+8-9$
$:= 1\times 2+3\times 4\times 5 = F(6)\times F(7)-8-F(9)$
$:= 1\times 23+45-6 = 7+F(8)+F(9)$

• **63** $:= F(12)-3^4 = 56-7\times (8-9)$

• **64** $:= (12/3)^{F(4)} = 56+7-8+9$
$:= 1+2\times 34-5 = F(6)\times (7-8+9)$

• **65** $:= 1+2^{3+F(4)} = 56-(7-8)\times 9$
$:= (12-3+4)\times 5 = 6-F(7)+8\times 9$
$:= 123-F(F(4))-56 = 7\times 8+9$

• **66** $:= (-1+23)\times F(4) = 56-7+8+9$
$:= 1\times F(2^3)+45 = 67+8-9$

• **67** $:= -1+2\times 34 = 5\times 6+7+F(8)+9$
• **68** $:= F(12)/3/4+56 = F(7)+F(8)+F(9)$

• **69** $:= 1+2\times 34 = 56-F(7)\times (8-9)$
$:= 1+23+45 = -F(F(6))/7+8\times 9$

- **70** $:= 1+23\times F(4) \quad = -5+6+78-9$
  $:= 12\times 3+F(4+5) = -6-F(7)+89$

- **70** $:= 123-45-F(6) \quad = F(7)\times 8-F(9)$
- **71** $:= (F(12)-F(3))/F(F(4)) = 567+8-9$

- **72** $:= F(12)/F(3) \quad = 45+F(F(6))+7+8-9$
  $:= (1+23)\times F(4) = 5-67\times(8-9)$
  $:= (1+2)^3+45 \quad = 6\times 7+F(8)+9$
  $:= 123-45-6 \quad = (-F(7)+F(8))\times 9$

- **73** $:= (F(12)+F(3))/F(F(4)) = 5+67-8+9$
  $:= 1\times 2\times 34+5 \quad = F(6)+7\times 8+9$

- **74** $:= 1+2\times 34+5 \quad = -F(6)-7+89$
  $:= F(12)/F(3)+F(F(4)) = -5+67+F(8)-9$

- **75** $:= F(12)/F(3)+F(4) = 56-7-8+F(9)$

- **76** $:= F(12)/F(3)+4 = (5-6)\times F(7)+89$
  $:= F(12/3)^4-5 \quad = -6-7+89$
  $:= 1+23-4+56 \; = -F(7)+89$

- **77** $:= -1+2\times(34+5) = F(6)+78-9$
- **78** $:= 123-45 \quad = 6-(F(7)-F(8))\times 9$
- **79** $:= 1+2\times(34+5) \quad = 67+F(8)-9$
- **80** $:= 12/3\times 4\times 5 \quad = 67-F(8)+F(9)$
- **82** $:= 1\times 2+F(3)^4\times 5 \; = 6-F(7)+89$
- **83** $:= (-1+23)\times 4-5 = -F(6)+7\times(-F(8)+F(9))$
- **84** $:= 123-45+6 \quad = 7\times(F(8)-9)$

- **85** $:= 1+F(2^3)\times 4 \quad = 5+67-F(8)+F(9)$
  $:= -1+2+F(3)\times 45-6 = F(7)+8\times 9$

- **86** $:= -1+23\times 4-5 \quad = F(F(6))-7+8\times 9$
- **87** $:= (1+2)\times(34-5) = F(6)+7+8\times 9$

- **89** $:= F(12+3-4) \quad = 5+67+8+9$
  $:= 1-2+34+56 = F(F(7))-F(F(8)-9)$

- **90** $:= 1+F(2^3+F(4)) = -(5-6)^7+89$
  $:= 1^2\times 34+56 \quad = 7\times 8+F(9)$

- **91** $:= -1+23\times 4 \quad = 56-7+8+F(9)$
  $:= (1+23)\times 4-5 = 6+F(7)+8\times 9$
  $:= 1^2+34+56 \quad = 7\times(-F(8)+F(9))$

• **92** $:= 1 \times 23 \times 4 \quad = F(5+6-7)+89$
$:= 1 \times 2 + F(3) \times 45 = F(F(6))/7 + 89$

• **93** $:= F(12)/3 + 45 \quad = 6 + 78 + 9$

• **94** $:= 1 \times 2 \times (F(3) + 45) = -F(6) + F(7) + 89$

• **95** $:= 1 \times (23-4) \times 5 \quad = F(6) + 78 + 9$
$:= F(12) + 3 + 4 - 56 = F(7) \times 8 - 9$

• **98** $:= 12 + 3^4 + 5 = 6 \times 7 \times F(8)/9$

• **99** $:= 12^{F(3)} - 45 \; = 6 \times (7+8) + 9$

• **100** $:= (12 - F(3))^{F(F(4))} = 56 + 78 - F(9)$
$:= (1 + 23 - 4) \times 5 \quad = F(F(6)) + 7 + 8 \times 9$

• **101** $:= (1+23) \times 4 + 5 = 6 + F(7) \times 8 - 9$

• **102** $:= (1+2) \times 34 \quad = 5 + 67 + F(8) + 9$
$:= 12 + F(3) \times 45 = 6 + 7 + 89$
$:= 12 + 34 + 56 \quad = F(7) + 89$

• **103** $:= 123 - 4 \times 5 \quad = F(F(6)) - 7 + 89$

• **104** $:= 1 \times 2 + 3 \times F(4+5) = F(6) + 7 + 89$

• **105** $:= F(12) - 34 - 5 \quad = F(6) \times F(7) - 8 + 9$

• **106** $:= (1 + 23^{F(F(4))})/5 \quad = -6 + 78 + F(9)$

• **107** $:= (1+2) \times 34 + 5 \quad = -6 + F(7) \times 8 + 9$

• **108** $:= F(12) \times 3/4 \quad = (5+6-7+8) \times 9$
$:= 123 - F(4) \times 5 = 6 + F(7) + 89$

• **109** $:= F(12) - (3+4) \times 5 = 67 + 8 + F(9)$

• **110** $:= F(12) - 34 \quad = 5 \times (-67 + 89)$
$:= (-12 + 34) \times 5 = F(6) + F(7) + 89$

• **111** $:= (1+2) \times (3 + F(4+5)) = F(6) \times (7+8) - 9$

• **112** $:= F(12) + F(3) - F(4+5) \quad = F(6) \times (F(7) - 8 + 9)$
$:= 1 \times 2 \times (3 \times 4 - 5) \times F(6) = 78 + F(9)$

• **113** $:= F(12) + 3 - F(4+5) = (6+7) \times 8 + 9$
$:= (1+2) \times 34 + 5 + 6 \; = F(7) \times 8 + 9$

• **116** $:= 123 - F(F(4)) - 5 = F(F(6)) + F(7) \times 8 - 9$

• **117** $:= F(12) - 3^{F(4)} \quad = 5 \times 6 + 78 + 9$
$:= (1+2) \times (34+5) = F(F(6)) + 7 + 89$

• **118** $:= F(12) - F(F(3) \times 4) - 5 = 6 + 78 + F(9)$

• **119** $:= -1+2\times 3\times 4\times 5 = 6+(F(7)\times 8)+9$
$:= F(12)-3^4+56 \quad = 7\times(8+9)$

• **120** $:= 123-F(4) \quad = (5+6-7)\times(F(8)+9)$
$:= (12+3\times 4)\times 5 = F(6)+78+F(9)$

• **121** $:= 123-F(F(4)) = 56+7\times 8+9$
$:= 123+F(4)-5 = F(6)+F(7)\times 8+9$

• **122** $:= 123+4-5 = -67+F(8)\times 9$

• **123** $:= 123 \quad = 4\times 5\times(-6+F(7))-8-9$
$:= F(12)-F(F(3)\times 4) = 5+6+78+F(9)$
$:= 123\times(-4+5) \quad = F(6+F(7)-8)+F(9)$

• **124** $:= -1+(2+3)^{F(4)} = 5+6+F(7)\times 8+9$
$:= 123-4+5 \quad = 6\times(7+8)+F(9)$

• **125** $:= 123+F(F(4)) = 56+78-9$
$:= 123-F(4)+5 = 6+7\times(8+9)$

• **126** $:= 123+F(4) \quad = 5\times 6+7+89$
$:= (1+2)\times(-3+45) = 6\times F(7-8+9)$
$:= 123+4+5-6 \quad = (-7+F(8))\times 9$

• **127** $:= 123+4 \quad = 5\times F(6)+78+9$
$:= F(12)+3-4\times 5 = F(6)+7\times(8+9)$

• **128** $:= 1\times 2^{3+4} \quad = 5+F(F(6))+F(7)+89$
$:= 1\times 2^{3\times 4-5} = F(6)\times 7+8\times 9$

• **129** $:= 1+2^{3+4} \quad = 5+6\times(7+8)+F(9)$
$:= 12^{F(3)}-F(4)\times 5 = F(6)\times(7+8)+9$

• **130** $:= (-1+23+4)\times 5 = F(F(6))\times 7-8-9$

• **131** $:= 123+F(4)+5 \quad = 6\times 7+89$
$:= 123\times(-4+5)+F(6) = -F(7)+F(F(8)-9)$
$:= F(12)-F(3+4) \quad = -5\times 6+F(F(7))-8\times 9$

• **132** $:= F(12)-3\times 4 = 56-F(7)+89$
$:= 123+4+5 \quad = 6-(7-F(8))\times 9$

• **133** $:= -1\times 2+3\times 45 = F(F(6))+78+F(9)$

• **134** $:= 1-2+3\times 45 = 6\times(7+F(8))-F(9)$

• **135** $:= F(12)-3\times F(4) = 56+7+8\times 9$
$:= 1^2\times 3\times 45 \quad = 6\times(F(7)+8)+9$

• **136** $:= F(12-3)\times 4 = 5+6\times 7+89$
$:= 1^2+3\times 45 \quad = -F(6)+F(F(7))-89$

• **137** $:= F(12)-3-4 \quad = 5-6+7\times F(8)-9$
$:= 1\times 2+3\times 45 \quad = 6-F(7)+F(F(8)-9)$
$:= 123+4\times 5-6 = -7+F(F(8)-9)$

• **138** $:= F(12)-3-F(4) = 56-7+89$
$:= 1+2+3\times 45 \quad = (6+7)\times 8+F(9)$
$:= 1^2+3^4+56 \quad = 7\times F(8)-9$

• **139** $:= F(12)-3-F(F(4)) = -5+F(6+7)-89$

• **140** $:= 12^{F(3)}-4 \quad = -5+F(6)\times 7+89$
$:= (1+23+4)\times 5 = F(F(6))+7\times(8+9)$

• **141** $:= F(12)-3 \quad = -F(4)\times 5+67+89$
$:= 12^{F(3)}-F(4) \quad = 56+F(7)+8\times 9$
$:= (1+2)\times(F(3)+45) = 6+(7+8)\times 9$

• **142** $:= F(12)-F(3) \quad = 4+56-7+89$
$:= F(12)+F(3)-4 \quad = (5+6)\times F(7)+8-9$
$:= F(12)-3-4+5 = -F(F(F(6))/7)+F(F(8)-9)$

• **143** $:= F(12)+3-4 = 56+78+9$
$:= 123+4\times 5 \quad = F(6)+(7+8)\times 9$

• **144** $:= 12^{F(3)} \quad = 4-5+F(6)\times 7+89$
$:= F(12)\times(3-4)^{56} \quad = F(F(7))-89$
$:= (12/3+4)\times(5+6+7) = F(F(8)-9)$

• **145** $:= F(12)-3+4 = (5+6)\times(-7+F(8))-9$
$:= 12^{F(3)}-4+5 = F(6)\times 7+89$

• **146** $:= F(12)+F(3) \quad = 4+5\times 6+78+F(9)$
$:= F(12)-F(3)+4 \quad = 5+(6+(7+8)\times 9)$
$:= F(12)+3+4-5 = F(6)+7\times F(8)-9$

• **147** $:= F(12)+3 \quad = 4+56+78+9$
$:= 1+2+F(3\times 4) = -56+F(F(7))-F(8)-9$
$:= 12+3\times 45 \quad = -6\times 7+F(8)\times 9$

• **148** $:= 12^{F(3)}+4 \quad = 5+(6+F(7))\times 8-9$
$:= F(12)+3-4+5 = F(F(6))\times 7-8+9$

• **149** $:= 12\times 3\times 4+5 \quad = -F(F(6))+(F(7)-8)\times F(9)$
$:= F(12)+3+F(F(4)) = 5+F(6+7)-89$

• **150** $:= F(12)+F(3)+4 = 5+F(6)\times 7+89$
$:= F(12)-3+4+5 = 6+F(F(7))-89$

• **151** $:= F(12)+3+4 = -5+67+89$
$:= 12+F(3\times 4)-5 = -6+F(7)+F(F(8)-9)$
$:= -1\times 2+3\times(45+6) = 7+F(F(8)-9)$

• **152** $:= F(12)+F(3)\times 4 = 56+7+89$
$:= 1\times 2\times(3^4-5) = F(6)+F(F(7))-89$

• **153** $:= F(12)+3\times F(4) = 5-F(6)+7\times F(8)+9$
$:= 12^{F(3)}+4+5 = -F(6)+F(F(7))-8\times 9$

• **154** $:= (-1+23)\times(F(F(4))+5) = F(6)\times(7+8)+F(9)$

• **155** $:= (-1-2+34)\times 5 = -6+F(F(7))-8\times 9$

• **156** $:= F(12)+3\times 4 = (5+6)\times(7+8)-9$
$:= 12+F(3+4+5) = 67+89$
$:= 123+F(4)\times(5+6) = 7\times F(8)+9$

• **157** $:= F(12)+F(3+4) = -5+6+7\times F(8)+9$
$:= 123+F(4+5) = 6+7+F(F(8)-9)$
$:= 123+4+5\times 6 = F(7)+F(F(8)-9)$

• **158** $:= -12+34\times 5 = F(F(6))-7+F(F(8)-9)$

• **159** $:= -1+(-2+34)\times 5 = 6\times(7+F(8))-9$

• **160** $:= F(12)+F(3)^4 = (5+6)\times F(7)+8+9$
$:= (12\times 3-4)\times 5 = 6\times(F(7)+8)+F(9)$

• **161** $:= 1+(-2+34)\times 5 = F(6+7)-8\times 9$
$:= (-1-2+34)\times 5+6 = F(F(7))-8\times 9$

• **162** $:= 1\times 2\times 3^4 = -5+6\times F(7)+89$
$:= F(12)+F(3+4)+5 = 6+7\times F(8)+9$

• **163** $:= F(12)-F(3)+F(F(4)+5) = 6+F(7)+F(F(8)-9)$
$:= 1+2\times 3^4 = (5+6)\times(-7+F(8))+9$

• **164** $:= 12^{F(3)}+4\times 5 = F(6)+7\times F(8)+9$

• **165** $:= F(12-F(3))\times F(4) = 5\times 6+(7+8)\times 9$
$:= (1-2+34)\times 5 = F(F(6))+F(F(7))-89$

• **166** $:= F(12)+F(3)+4\times 5 = -67+F(-F(8)+F(9))$

• **167** $:= -1-2+34\times 5 = 6\times F(7)+89$

• **168** $:= 123+45 = F(F(6))\times(7-8+9)$

• **169** $:= F(1+2\times 3)^{F(F(4))} = 56+F(7)\times 8+9$
$:= 1-2+34\times 5 = (6+7)\times(-F(8)+F(9))$
$:= (12-3+4)\times(5+F(6)) = F(7)\times(-F(8)+F(9))$

• **170** $:= 1^2\times 34\times 5 = (6+7-8)\times F(9)$
$:= (12-F(3))\times(4+5+F(6)) = (F(7)-8)\times F(9)$

• **171** $:= F(12)+3^{F(4)} = F(5+6)-7+89$
$:= 1^2+34\times 5 = (-F(F(F(6))/7)+F(8))\times 9$

• **172** $:= 1\times 2+34\times 5 = -6+F(F(7))-F(8)-F(9)$
• **173** $:= F(12)+34-5 = F(F(6))\times 7-8+F(9)$
• **174** $:= F(12)+(3+F(4))\times 5 = 6\times(-F(7)+8+F(9))$
• **175** $:= (1^2+34)\times 5 = -6+7\times F(8)+F(9)$

• **176** $:= F(12)-F(3)+F(4+5) = -6-7+F(8)\times 9$
$:= 123-F(4)+56 = -F(7)+F(8)\times 9$

• **177** $:= -1+2\times F(3+F(4)+5) = 6\times(7+F(8))+9$

• **178** $:= F(12)+34 = (5+6+7)\times 8+F(9)$
$:= 12^{F(3)}+F(4+5) = F(6+7)-F(8)-F(9)$
$:= 1\times 234-56 = F(F(7))-F(8)-F(9)$

• **180** $:= 12/3\times 45 = 6\times(F(7)+8+9)$

• **181** $:= 1+(2+34)\times 5 = -F(6)+(F(7)+8)\times 9$
$:= 1+2\times(34+56) = 7\times F(8)+F(9)$

• **182** $:= 12+34\times 5 = (6-F(7))\times(8-F(9))$
$:= 123+F(4)+56 = 7\times(-8+F(9))$

• **183** $:= F(12)+34+5 = -6+(F(7)+8)\times 9$
• **184** $:= 1\times 23\times(F(4)+5) = F(F(6))\times F(7)-89$
• **185** $:= (1+2+34)\times 5 = -6+F(F(7))-8-F(9)$
• **186** $:= F(12)-3+45 = 6\times 7+F(F(8)-9)$
• **187** $:= F(12)-F(3)+45 = 6+7\times F(8)+F(9)$
• **188** $:= F(F(1+2\times 3))-45 = 6-7+F(8)\times 9$

• **189** $:= 12^{F(3)}+45 = (6+7+8)\times 9$
$:= 12+3\times(F(4)+56) = (F(7)+8)\times 9$
$:= (1\times 2-3+4)\times(56+7) = F(8)\times 9$

• **190** $:= (F(12-3)+4)\times 5 = -6+7+F(8)\times 9$

• **191** $:= F(12)+F(3)+45 = F(6+7)-8-F(9)$
$:= (1+2+34)\times 5+6 = F(F(7))-8-F(9)$

• **192** $:= F(12)/3\times 4 \quad = -5-6+F(F(7))-F(8)-9$
$:= F(12)+3+45 = F(6)\times(7+8+9)$

• **193** $:= 1+2\times 3\times F(F(4))^5 = F(6)\times F(7)+89$
• **195** $:= (12\times 3+F(4))\times 5 \;\; = 6+(F(7)+8)\times 9$

• **196** $:= (12+F(3))^{F(F(4))} \qquad = -56+(7+F(8))\times 9$
$:= (12+F(3))^{-F(4)+5} \qquad = -6+F(7)+F(8)\times 9$
$:= (-1+2^3)\times(4\times 5+F(6)) = 7+F(8)\times 9$

• **197** $:= F(12)/3\times 4+5 \qquad = F(6)+(F(7)+8)\times 9$
• **198** $:= (-1+23)\times(4+5) \qquad = 6\times(7-8+F(9))$
• **199** $:= F(12)+F(3+F(F(4))+5) = F(F(6-7+8))-F(9)$
• **200** $:= (12\times 3+4)\times 5 \qquad = F(6)\times(F(F(7))-8)/9$
• **201** $:= -F(12)+345 \qquad = -6+F(F(7))+8-F(9)$

• **202** $:= F(12)+3+F(F(F(4))\times 5) = 6+7+F(8)\times 9$
$:= 1-23+4\times 56 \qquad = F(7)+F(8)\times 9$

• **203** $:= -1+2\times 3\times F(4+5) = F(6+7)-F(8)-9$
$:= -1+234+5\times 6 \qquad = F(F(7))-F(8)-9$

• **204** $:= 12\times(3\times 4+5) = F(6)+7+F(8)\times 9$
• **205** $:= 123/F(4)\times 5 \quad = -67+8\times F(9)$

• **207** $:= 1\times 23\times(4+5) \quad = (F(6)+7+8)\times 9$
$:= -F(12)+345+6 = F(F(7))+8-F(9)$

• **208** $:= 1+23\times(4+5) \qquad = 6+F(7)+F(8)\times 9$
• **209** $:= F(12)+F(3+4)\times 5 = 6+F(F(7))-F(8)-9$

• **210** $:= (12+F(3))\times F(4)\times 5 = 6\times(-7+8+F(9))$
$:= (12\times 3+4-5)\times 6 \quad = 7\times(F(8)+9)$

• **211** $:= 1+2\times F(F(3)\times 4)\times 5 = 67+F(F(8)-9)$
• **212** $:= 1+(2\times 3)^{F(4)}-5 \qquad = F(F(6))+F(F(7))-8-F(9)$
• **213** $:= F(F(1+2\times 3))-4\times 5 = 6\times(F(7)+F(8))+9$

• **215** $:= -1+(2\times 3)^{F(4)} \qquad = (5+6)\times F(7)+8\times 9$
$:= F(12-F(3))\times 4-5 = F(6)\times(7+F(8))-9$

• **216** $:= (1\times 2\times 3)^{F(4)} \qquad = -5+F(6+7)-F(8)+9$
$:= (1+23)\times(4+5) \;\; = F(6+7)-8-9$
$:= (12/3)^4-5\times F(6) = F(F(7))-8-9$

• **217** $:= 1+(2\times 3)^{F(4)} \qquad = 5\times F(F(6))+78+F(9)$
$:= 1+(2\times 3)^{-F(F(4))+5} = F(F(6))+7+F(8)\times 9$

• **218** $:= -12-3+F(F(F(F(4))+5)) = F(6)+7\times(F(8)+9)$

• **219** $:= -1-23+F(4)^5 = F(F(6))\times 7+8\times 9$

• **220** $:= F(12-F(3))\times 4 = 5-6+F(7)\times(8+9)$
$:= F(12)+3^4-5 = F(6+7)+F(8)-F(9)$
$:= F(12-3+4)-5-F(6) = F(F(7))+F(8)-F(9)$

• **221** $:= -12+F(F(3+4)) = 5\times(67-F(8))-9$
$:= 1-23+F(4)^5 = (6+7)\times(8+9)$
$:= 1\times 234-5-F(6) = F(7)\times(8+9)$

• **222** $:= 1+(2\times 3)^{F(4)}+5 = 6\times(7+F(8)+9)$

• **223** $:= -12+F(3)+F(F(F(F(4))+5)) = F(F(6))+F(7)+F(8)\times 9$

• **224** $:= -1+(2+3)\times 45 = F(6)+F(F(7))-8-9$

• **225** $:= F(12)+3^4 = 5\times(6+7-8)\times 9$
$:= 1\times(2+3)\times 45 = -F(6)+F(F(7))\times(-8+9)$

• **226** $:= 1+(2+3)\times 45 = -6+F(F(7))+8-9$
$:= -1+2+3+F(4)^5-F(F(6)) = -7+F(-F(8)+F(9))$

• **227** $:= 1-2+F(F(3+4))-5 = 6+F(7)\times(8+9)$

• **228** $:= -1+234-5 = -6+F(F(7))-8+9$

• **229** $:= F(F(1+2\times 3))-4 = 5\times(F(F(6))+7)+89$
$:= 1\times 234-5 = F(6)+F(7)\times(8+9)$

• **230** $:= -1-2+F(F(3+4)) = F(-5+F(F(6)))/7+89$
$:= (12+34)\times 5 = -6\times 7+8\times F(9)$

• **231** $:= -1\times 2+F(F(3+4)) = -5+F(F(6))\times 7+89$
$:= 1+23\times F(F(4))\times 5 = 6\times 7+F(8)\times 9$

• **232** $:= 1-2+F(F(3+4)) = 56-F(7)+F(8)\times 9$
$:= F(F(1+2\times 3))+4-5 = F(6+7)+8-9$
$:= (1^2\times 34-5)\times F(6) = F(F(7))+8-9$

• **233** $:= F(F(1+2\times 3)) = F((45-6+78)/9)$
$:= -1+234 = F(-56+78-9)$
$:= F(12/3+4+5) = F(6+7\times(-8+9))$
$:= 1\times(2+3)^4-56\times 7 = F(-F(8)+F(9))$
$:= 1\times 234+5-6 = F(F(7))\times(-8+9)$

• **234** $:= 1+234+5-6 = F(F(7))-8+9$
$:= F(12)+F(3)\times 45 = F(6+7)-8+9$

• **235** $:= 1+234 = -5+6+F(F(7))-8+9$
$:= -1\times 2^3+F(4)^5 = F(F(F(6))/7)+F(-F(8)+F(9))$

• **236** $:= 1+2+F(F(3+4)) = 5\times 6\times 7-8+F(9)$
$:= 1-2^3+F(4)^5 \quad = F(F(6))\times 7+89$

• **237** $:= F(F(1+2\times 3))+4 \quad = 5+F(6+7)+8-9$
$:= 12/3+F(F(F(F(4))+5)) = F(F(6))+F(F(7))-8-9$

• **238** $:= -1+234+5 = (6-7+8)\times F(9)$

• **239** $:= 1\times 234+5 \quad = 6-F(F(7))\times(8-9)$
$:= 1-2+3+F(4)^5-6 = F(7)\times F(8)-F(9)$

• **240** $:= 1+234+5 \quad = 6+F(F(7))-8+9$
$:= 12/3\times(4+56) = 7+F(-F(8)+F(9))$

• **241** $:= 123\times F(F(4))-5 \quad = F(6)+F(F(7))\times(-8+9)$
• **242** $:= F(F(1+2\times 3))+4+5 = F(F(6))+F(7)\times(8+9)$

• **243** $:= (1+2)\times 3^4 \quad = (567/F(8))\times 9$
$:= (12-3\times F(4))^5 = (6+F(7)+8)\times 9$

• **244** $:= 1^{23}+F(4)^5 = -6+F(F(7))+8+9$

• **245** $:= 12+F(F(3+4)) = 56+(F(7)+8)\times 9$
$:= 1-2+3+F(4)^5 = F(6+7)+F(8)-9$
$:= 1\times 234+5+6 \quad = F(F(7))+F(8)-9$

• **246** $:= 123\times F(F(4)) \quad = 5\times 67-89$
$:= 123\times(-F(4)+5) = -6+(7+F(8))\times 9$
$:= 1+234+5+6 \quad = F(F(7))-F(8)+F(9)$

• **247** $:= 12/3+F(4)^5 \quad = F(F(6))\times F(7)+8-F(9)$
• **248** $:= (1+2)\times 3^4+5 = F(6)\times F(7)+F(F(8)-9)$

• **250** $:= 12+F(F(3+4))+5 = F(6+7)+8+9$
$:= 1+(2-3+4)^5+6 \quad = F(F(7))+8+9$

• **251** $:= (12/3)^4-5 = 6+F(F(7))+F(8)-9$

• **252** $:= 12\times F(F(3)\times 4) \quad = (56-7-F(8))\times 9$
$:= 12-3+F(4)^5 \quad = (-6+F(7)+F(8))\times 9$
$:= (1+2+34+5)\times 6 = (7+F(8))\times 9$

• **253** $:= 12-F(3)+F(4)^5 \quad = -6-F(7)+8\times F(9)$
• **254** $:= F(12)\times F(3)-F(4+5) = -F(F(6))+F(F(7))+8+F(9)$

• **255** $:= -1+(2+F(3))^4 \quad = 5+F(6+7)+8+9$
$:= (F(12)/3+F(4))\times 5 = (F(6)+7)\times(8+9)$

- **256** $:= (12/3)^4 \quad = F(5+F(6))-7+F(8)+9$
  $:= 1\times 2^{F(3+4)-5} = 67+F(8)\times 9$
- **257** $:= 1+(2+F(3))^4 \quad = F(5+F(6))+7+8+9$
  $:= 12\times F(F(3)\times 4)+5 = -6+F(F(7))+F(8)+9$
- **258** $:= 12+3+F(4)^5 = 6+(7+F(8))\times 9$
- **259** $:= 1+2+F(3)^{F(4)+5} \quad = F(6+7)-8+F(9)$
  $:= 1+2\times(3\times 45-6) = F(F(7))-8+F(9)$
- **260** $:= (F(12)/3+4)\times 5 = F(6)+(7+F(8))\times 9$
- **261** $:= (12/3)^4+5 \quad = (F(6)+F(7)+8)\times 9$
- **263** $:= -1+F(2^3)+F(4)^5 = F(6+7)+F(8)+9$
  $:= 1-2^3+45\times 6 \quad = F(F(7))+F(8)+9$
- **264** $:= 12\times(F(3)+4\times 5) = 6\times(78-F(9))$
  $:= 12\times(-34+56) \quad = F(7)\times F(8)-9$
- **265** $:= -1+23+F(4)^5 \quad = 6-F(7)+8\times F(9)$
  $:= 1+2\times 3\times 45-6 = -7+8\times F(9)$
- **266** $:= 1\times 23+F(4)^5 \quad = F(F(6))+F(F(7))+F(8)-9$
- **267** $:= 1+23+F(4)^5 \quad = F(F(6))/7\times 89$
- **269** $:= -1+2\times 3\times 45 = 6+F(F(7))+F(8)+9$
- **270** $:= 1\times 2\times 3\times 45 \quad = 6\times(F(7)-8)\times 9$
- **271** $:= 1+2\times 3\times 45 \quad = 6-7+8\times F(9)$
- **272** $:= F(12-3)\times(F(4)+5) = (-6+7)\times 8\times F(9)$
  $:= 1-2+3+45\times 6 \quad = (-F(7)+F(8))\times F(9)$
  $:= -1^{23}+(45-6)\times 7 \quad = 8\times F(9)$
- **273** $:= F(12)\times F(3)-F(4)\times 5 = F(6)-7+8\times F(9)$
- **274** $:= -1+F(2\times 3+4)\times 5 \quad = F(F(6))\times F(7)-8+9$
- **275** $:= (1+2\times 3^{F(4)})\times 5 = F(6+7)+8+F(9)$
  $:= 1+234+5\times F(6) = F(F(7))+8+F(9)$
- **276** $:= 12\times(3+4\times 5) \quad = -6+F(7)\times F(8)+9$
- **277** $:= F(12-3)+F(4)^5 \quad = -F(6)+F(7)+8\times F(9)$
- **278** $:= F(F(1+2\times 3))+45 = 6+(-F(7)+F(8))\times F(9)$
- **279** $:= F(12)+3\times 45 \; = -6+F(7)+8\times F(9)$
  $:= 12-3+45\times 6 = 7+8\times F(9)$
- **280** $:= (12+F(3))\times 4\times 5 \quad = F(6)\times(-7+8+F(9))$
- **281** $:= F(12)\times F(3)-F(F(4))-5 = (F(F(6))+F(7))\times 8+9$

• **282** $:= (F(12)-3)\times F(F(4)) = 5\times 6\times 7+8\times 9$
$:= -1+2\times F(3\times 4)-5 = 6\times(7\times 8-9)$
$:= (1+234)/5\times 6 \quad = F(7)\times F(8)+9$

• **283** $:= 1\times 2\times F(3\times 4)-5 = F(6)+F(F(7))+8+F(9)$

• **284** $:= F(12)\times F(3)-4 \quad = 5-6+F(7)+8\times F(9)$
$:= 1+2\times F(3\times 4)-5 = -F(F(6))+F(F(7))+8\times 9$

• **285** $:= F(12)\times F(3)-F(4) \quad = 5\times(F(6)\times 7-8+9)$
$:= F(12)\times F(3)+F(F(4))-5 = 6+7+8\times F(9)$
$:= 12+3+45\times 6 \quad = F(7)+8\times F(9)$

• **286** $:= F(12)\times F(3)-F(F(4)) \quad = 5\times(67-8)-9$
$:= (-1+23)\times F(F(F(4))+5) = F(F(6))-7+8\times F(9)$

• **287** $:= -1+2\times F(3\times 4) \quad = (5\times 6+7)\times 8-9$
$:= F(12)\times F(3)+4-5 = F(6)+7+8\times F(9)$

• **288** $:= F(12)\times F(3) \quad = (4+5-6)\times(7+89)$
$:= F(12)/F(3)\times 4 \quad = (5+6-7)\times 8\times 9$
$:= 12\times 3\times(F(4)+5) = -6+7\times(8+F(9))$
$:= 1^2\times(3+45)\times 6 \quad = F(F(7))+F(8)+F(9)$

• **289** $:= 1+2\times F(3\times 4) \quad = 56\times(F(7)-8)+9$
$:= F(12)\times F(3)-4+5 = F(6)\times 7+F(-F(8)+F(9))$

• **290** $:= F(12)\times F(3)+F(F(4)) \quad = 56+F(F(7))-8+9$
$:= (F(12-F(3))+F(4))\times 5 = F(F(6))\times F(7)+8+9$

• **291** $:= F(12)\times F(3)+F(4) \quad = 5-F(6)+7\times(8+F(9))$
$:= F(12)\times F(3)-F(F(4))+5 = 6+F(7)+8\times F(9)$

• **292** $:= F(12)\times F(3)+4 \quad = 5+F(6)+7+8\times F(9)$
• **293** $:= 1\times 2\times F(3\times 4)+5 = F(6)\times F(7)+F(8)\times 9$

• **294** $:= (F(12)+3)\times F(F(4)) = 5\times F(F(6))+(F(7)+8)\times 9$
$:= 1+2\times F(3\times 4)+5 \quad = 6\times(7+8+F(9))$
$:= 1+23+45\times 6 \quad = 7\times(8+F(9))$

• **296** $:= F(12)\times F(3)+F(4)+5 \quad = F(6)\times(7+F(8)+9)$
• **297** $:= F(12)\times F(3)+4+5 \quad = -F(6)+F(F(7))+8\times 9$
• **298** $:= F(12-F(3))+F(4)^5 \quad = -F(6)+(F(7)+F(8))\times 9$
• **299** $:= 1\times 23\times(F(F(F(4))+5)) \quad = -6+F(F(7))+8\times 9$
• **300** $:= (12+3)\times 4\times 5 \quad = 6+7\times(8+F(9))$
• **301** $:= F(12)\times F(3)+F(F(F(4))+5) = -6+F(7)\times F(8)+F(9)$
• **303** $:= F(12)\times F(3)+F(4)\times 5 \quad = (F(F(6))-7)\times F(8)+9$

- **305** $:= F(12+3)/F(F(4)) = (5\times 6+7)\times 8+9$
  $:= F(12+3)/(-F(4)+5) = F(6+7)+8\times 9$
  $:= (F(12)+3)\times F(F(4))+5+6 = F(F(7))+8\times 9$
- **306** $:= F(12-3)\times(4+5) = (6\times 7-8)\times 9$
  $:= 12\times 3+45\times 6 = (F(7)+F(8))\times 9$
- **307** $:= 1+2\times 3\times(45+6) = F(7)\times F(8)+F(9)$
- **309** $:= F(12)\times F(3)+F(F(4)+5) = F(F(6))+F(F(7))+F(8)+F(9)$
- **312** $:= (1+23)\times F(F(F(4))+5) = 6+(F(7)+F(8))\times 9$
- **314** $:= F(12)+34\times 5 = 6\times 7+8\times F(9)$
- **315** $:= (1+2\times 3)\times 45 = (F(6)\times 7-F(8))\times 9$
- **316** $:= 1+F(2^3)\times F(4)\times 5 = -6+F(F(7))+89$
- **322** $:= F(12)\times F(3)+F(4+5) = F(6+7)+89$
  $:= 1\times 23\times(4\times 5-6) = F(F(7))+89$
- **324** $:= 12\times 3^{F(4)} = 5\times 6+7\times(8+F(9))$
  $:= 12\times 3\times(4+5) = F(F(6))\times(7+8)+9$
- **330** $:= (-1+23)\times F(4)\times 5 = F(6)+F(F(7))+89$
- **332** $:= F(12+F(3))-45 = -6+F(7)\times(-8+F(9))$
- **335** $:= (-1+2\times 34)\times 5 = F(F(F(6))-7)-8-F(9)$
- **336** $:= F(12)/3\times(F(F(4))+5) = F(F(6))\times 7+F(8)\times 9$
- **338** $:= (1+2\times 3)^{F(4)}-5 = (6+7)\times(-8+F(9))$
  $:= 1-2+345-6 = F(7)\times(-8+F(9))$
- **339** $:= (-1+2\times 34\times 5) = 67+8\times F(9)$
- **340** $:= 1\times 2\times 34\times 5 = (F(F(F(6))/7)+8)\times F(9)$
- **343** $:= (1+2\times 3)^{F(4)} = 5+(6+7)\times(-8+F(9))$
  $:= -1\times 2+345 = F(F(6))+F(F(7))+89$
  $:= -1+2\times F(3\times 4)+56 = F(-7+F(8))-F(9)$
- **344** $:= 1-2+345 = 6+F(7)\times(-8+F(9))$
- **346** $:= 1^2+345 = F(6)+F(7)\times(-8+F(9))$
- **347** $:= 1\times 2+345 = F(F(F(6))-7)-F(8)-9$
- **350** $:= (1+23\times F(4))\times 5 = 6\times F(7)+8\times F(9)$
- **351** $:= (1+2)^3\times F(F(F(4))+5) = F(F(F(6))-7)+8-F(9)$
- **356** $:= 123+F(F(F(F(4))+5)) = -F(F(6))+F(F(7))+F(F(8)-9)$
- **357** $:= 12+345 = (F(6)+F(7))\times(8+9)$
- **359** $:= -1+2^3\times 45 = F(F(6))+F(7)\times(-8+F(9))$
- **360** $:= 1\times 2^3\times 45 = (6+F(7)+F(8))\times 9$
- **362** $:= F(12+F(3))-F(4)\times 5 = F(F(6))\times F(7)+89$
- **364** $:= 123\times F(4)-5 = (F(F(6))-7)\times(-8+F(9))$
- **365** $:= (F(12)+F(3))/F(F(4))\times 5 = (6+F(7))\times F(8)-F(9)$

• **368** $:= F(12+F(3))-4-5 = F(6-F(7)+F(8))-9$
$:= 123\times F(4)+5-6 \quad = F(-7+F(8))-9$

• **369** $:= 123\times(-F(F(4))+5) \quad = -F(F(6))+F(7)\times(F(8)+9)$
• **369** $:= 123\times F(4) \quad = (56-7-8)\times 9$
• **370** $:= F(12+F(3))-F(F(4))-5 = 6\times 7\times 8+F(9)$
• **371** $:= -1+F(2\times(3+4))-5 \quad = -6+F(F(7)-8+9)$
• **372** $:= 12\times(-3+F(4+5)) \quad = 6\times(7+F(8)+F(9))$
• **373** $:= F(12+F(3))-4 \quad = 5\times 6\times F(7)-8-9$

• **374** $:= F(12+F(3))-F(4) = (5+6\times(-7+8))\times F(9)$
$:= 123\times F(4)+5 \quad = 6+F(-7+F(8))-9$

• **375** $:= F(12+F(3))-F(F(4)) = 5\times(6+78-9)$

• **376** $:= -1+F(2\times(3+4)) \;= 5-6+F(F(7)-8+9)$
$:= F(12+F(3))+4-5 = F(6)\times(7\times 8-9)$

• **377** $:= F(12+F(3)) \quad = 4\times(5+67)+89$
$:= 1\times F(2\times(3+4)) = 5\times 67+8+F(9)$
$:= 1\times F(23-4-5) \;= F(6+7-8+9)$
$:= F(1^{234}+5+F(6)) = F(F(7)-8+9)$

• **378** $:= 1+F(2\times(3+4)) \quad = 567-F(8)\times 9$
$:= F(12+F(3))-4+5 = F(F(F(6))-7)-8+9$

• **379** $:= F(12+F(3))+F(F(4)) \;= 5+6+F(-7+F(8))-9$
$:= F(12+F(3))-F(4)+5 = -6+7\times(F(8)+F(9))$

• **380** $:= F(12+F(3))+F(4) \;= 5\times(-6-7+89)$
$:= (F(12)/F(3)+4)\times 5 = -6+F(-7+F(8))+9$

• **381** $:= F(12+F(3))+4 \quad = 5+F(6)\times(7\times 8-9)$
• **382** $:= 1\times F(2\times(3+4))+5 = -F(6)+F(7)\times(F(8)+9)$
• **383** $:= 1+F(2\times(3+4))+5 = 6+F(F(7)-8+9)$
• **384** $:= 12\times(3^{F(4)}+5) \quad = -6+F(7)\times(F(8)+9)$

• **385** $:= F(12+F(3))+F(4)+5 = (-6+F(7))\times(F(8)+F(9))$
$:= (-1+2+34)\times(5+6) \;= 7\times(F(8)+F(9))$

• **386** $:= F(12+F(3))+4+5 = F(6-F(7)+F(8))+9$
$:= 12+34\times(5+6) \quad = F(-7+F(8))+9$

• **389** $:= F(12)+F(3)+F(4)^5 = F(F(F(6))-7)+F(8)-9$

• **390** $:= F(12)+3+F(4)^5 \quad = 6\times(7\times 8+9)$
$:= F(12-F(3)+4)+5+F(6) = F(7)\times(F(8)+9)$

- **392** $:= F(12+F(3))+F(4)\times 5 = 6+F(-7+F(8))+9$
- **393** $:= -12+3^4\times 5 = F(6)+7\times(F(8)+F(9))$
- **394** $:= -1+(-2+3^4)\times 5 = F(F(F(6))-7)+8+9$
- **396** $:= 1+(-2+3^4)\times 5 = 6+F(7)\times(F(8)+9)$
- **398** $:= F(12)\times 3-F(4+5) = F(6)+F(7)\times(F(8)+9)$

- **400** $:= (-1+F(2^3))^{F(F(4))} = 5\times(67-F(8)+F(9))$
- **403** $:= 12\times 34-5 = F(F(F(6))-7)-8+F(9)$
- **405** $:= (12-3)\times 45 = -6+F(-7+F(8))+F(9)$
- **406** $:= 1^2+3^4\times 5 = F(F(6))+7\times(F(8)+F(9))$
- **407** $:= 1\times 2+3^4\times 5 = F(F(F(6))-7)+F(8)+9$

- **408** $:= 12\times 34 = (5+6+F(7))\times(8+9)$
  $:= 1+2+3^4\times 5 = (6+F(7))\times F(8)+9$

- **411** $:= F(12+F(3))+F(4+5) = F(F(6))+F(7)\times(F(8)+9)$
  $:= 12\times 34-5+F(6) = F(-7+F(8))+F(9)$

- **416** $:= 1+(2+3^4)\times 5 = -6+F(F(7))+F(8)\times 9$
- **417** $:= 12+3^4\times 5 = F(F(6))\times F(7)+F(F(8)-9)$
- **419** $:= -1+F(2^3)\times 4\times 5 = F(F(6))\times 7+8\times F(9)$
- **420** $:= 12\times(3+4)\times 5 = 6\times(F(7)\times 8-F(9))$
- **421** $:= 1+F(2^3)\times 4\times 5 = F(F(6)+7)-F(8)\times 9$

- **422** $:= F(12)\times 3-F(F(4))\times 5 = F(6+7)+F(8)\times 9$
  $:= 1-2+3+4\times 5\times F(F(6)) = F(F(7))+F(8)\times 9$

- **423** $:= (F(12)-3)\times F(4) = 567-F(F(8)-9)$
- **426** $:= (F(12)-F(3))\times F(4) = (56-7)\times 8+F(9)$

- **428** $:= F(12)\times 3-4 = -5+(6+F(7))\times F(8)+F(9)$
  $:= (F(12)-3)\times F(4)+5 = 6+F(F(7))+F(8)\times 9$

- **429** $:= F(12)\times 3-F(4) = 5\times(6+78)+9$

- **430** $:= F(12)\times 3-F(F(4)) = 5\times(F(6)\times(7+8)-F(9))$
  $:= F(12)\times 3+F(4)-5 = F(6)+F(F(7))+F(8)\times 9$

- **432** $:= F(12)\times 3 = 456-7-8-9$
  $:= (1+2)\times F(3\times 4) = F(56/7)\times F(8)-9$
  $:= F(12)\times 3\times(-4+5) = (F(6)\times 7-8)\times 9$

- **433** $:= F(12)\times 3-4+5 = (6+F(7))\times F(8)+F(9)$

- **434** $:= F(12)\times 3+F(F(4)) = 56\times 7+8+F(9)$
  $:= F(12)\times 3-F(4)+5 = 6\times 78-F(9)$

- **435** $:= F(12)\times 3+F(4) = -5+F(6)\times(F(7)+8+F(9))$
- **436** $:= F(12)\times 3+4 = -5+(F(F(6))+7+F(8))\times 9$
- **438** $:= (F(12)+F(3))\times F(4) = 5+(6+F(7))\times F(8)-F(9)$
- **439** $:= F(12)\times 3+F(F(4))+5 = F(6)\times 7\times 8-9$

- **440** $:= (-1+F(2^3))^{F(F(4))} = 5\times(6-7+89)$
  $:= (-1+23)\times 4\times 5 = F(6)\times(F(7)+8+F(9))$

- **441** $:= (F(12)+3)\times F(4) = 56\times 7/8\times 9$
  $:= F(12)\times 3+4+5 = F(F(6))\times F(7-8+9)$

- **442** $:= 1+F(2^3)^{F(F(4))} = 56+F(-7+F(8))+9$
  $:= F(12-3)\times F(F(F(4))+5) = F(6-7+8)\times F(9)$

- **443** $:= (F(12)+F(3))\times F(4)+5 = F(F(6))+F(F(7))+F(8)\times 9$
- **445** $:= F(12+3-4)\times 5 = (-F(6)+F(7))\times 89$
- **450** $:= (12-F(3))\times 45 = (6\times 7+8)\times 9$
- **455** $:= (-1+23\times 4)\times 5 = -F(F(6))+(-7+F(8))\times F(9)$
- **456** $:= 1\times 2\times(F(F(3+4))-5) = 6\times(-F(7)+89)$

- **457** $:= 1+2\times(F(F(3+4))-5) = F(6)\times 7\times 8+9$
- **460** $:= 1\times 23\times 4\times 5 = -6+F(F(7))+F(-F(8)+F(9))$
- **462** $:= (-1+23)\times F(F(4)+5) = F(F(6))\times(7\times 8-F(9))$
- **465** $:= -1+2\times F(F(3+4)) = 5\times(6+78+9)$

- **466** $:= 1\times 2\times F(F(3+4)) = F(5+6)+F(F(7))+F(F(8)-9)$
  $:= F(12)\times 3+F(4+5) = F(F(F(6))-7)+89$
  $:= 12-F(3)+456 = F(F(7))+F(-F(8)+F(9))$

- **467** $:= 1+2\times F(F(3+4)) = F(5+F(6))+F(F(7))-8+9$
- **468** $:= 12\times(34+5) = -F(6)+(-7+F(8))\times F(9)$

- **470** $:= 1\times 2\times(F(3)+F(F(F(F(4))+5))) = -6+(-7+F(8))\times F(9)$

- **472** $:= 1+2\times F(F(3+4))+5 = F(6)\times(-F(7)+8\times 9)$
- **473** $:= 1+2\times(3+F(F(F(F(4))+5))) = -F(6)-F(F(7))+F(8)\times F(9)$
- **474** $:= -12+F(3)\times F(4)^5 = 6\times(7+8\times 9)$
- **475** $:= -1+2\times(F(F(3+4))+5) = F(F(6))\times(F(7)+8)+F(9)$

- **476** $:= 1\times 2\times(F(F(3+4))+5) = (F(F(6))+7)\times(8+9)$
  $:= 12\times(34+5)+F(6) = (-7+F(8))\times F(9)$

- **477** $:= F(12)\times 3+45 = 6\times 78+9$

- **481** $:= -1+2\times(-F(3)+F(4)^5) = -F(6+7)+F(8)\times F(9)$
  $:= 123\times 4-5-6 = -F(F(7))+F(8)\times F(9)$

- **482** $:= -1+23\times F(F(4)+5) = F(6)\times 7\times 8+F(9)$
- **483** $:= 1\times 23\times F(F(4)+5) \quad = -F(F(6))+7\times 8\times 9$

- **484** $:= (-1+23)^{F(F(4))} \quad = (5+6)\times(78-F(9))$
  $:= (-1+23)^{-F(4)+5} = -F(F(6))+F(F(7))+8\times F(9)$

- **487** $:= 123\times 4-5 \; = 6-F(F(7))+F(8)\times F(9)$
- **489** $:= F(12)+345 = -F(F(6))+(7+8)\times F(9)$

- **492** $:= 123\times 4 \qquad\qquad = -5-F(6)+F(F(7))+8\times F(9)$
  $:= 1\times 2\times(3+F(4)^5) = 6\times(-7+89)$

- **495** $:= F(12-F(3))\times(4+5) = (F(F(6))+F(7)+F(8))\times 9$
- **497** $:= 123\times 4+5 \qquad\qquad = F(F(6))+(-7+F(8))\times F(9)$
- **498** $:= 12+F(3)\times F(4)^5 \qquad = -6+7\times 8\times 9$

- **504** $:= 12\times(-3+45) \qquad\quad = 6\times 7\times(F(8)-9)$
- **505** $:= 123\times 4+5+F(6) \qquad = F(F(7))+8\times F(9)$
- **506** $:= -1+(2^3)^{F(4)}-5 \qquad = F(F(6))\times F(7)+F(-F(8)+F(9))$
- **510** $:= (1+2)\times(3^4+F(5+6)) = (7+8)\times F(9)$

- **511** $:= -1+2^{3\times F(4)} \quad = 5\times(6+7)\times 8-9$
  $:= 1-2+F(3)^{4+5} = 6+F(F(7))+8\times F(9)$

- **512** $:= 1\times 2^{3\times F(4)} \quad = (56/(7+F(8)))^9$
  $:= (1-2+3)^{4+5} = F(6)+7\times 8\times 9$

- **513** $:= 1+2^{3\times F(4)} \quad = (56+7)\times 8+9$
  $:= 1^2+F(3)^{4+5} = (-F(F(6))+78)\times 9$

- **516** $:= 12\times(-F(3)+45) = 6+(7+8)\times F(9)$
- **518** $:= 1+2^{3\times F(4)}+5 \qquad = F(6)+(7+8)\times F(9)$

- **521** $:= F(12)\times F(3)+F(F(F(F(4))+5)) = F(F(6)+7)-89$

- **525** $:= 1+23^{F(F(4))}-5 = F(F(6))+7\times 8\times 9$
- **528** $:= -1+23^{F(F(4))} \quad = F(-5+F(6))\times(F(7)\times F(8)-9)$

- **529** $:= 1\times 23^{F(F(4))} \qquad\qquad = 5\times(6+7)\times 8+9$
- **530** $:= 1+23^{F(F(4))} \qquad\qquad = -F(5+6)+F(7+8)+9$
- **531** $:= F(12)\times F(3)+F(4)^5 \qquad = (67-8)\times 9$
- **534** $:= 1\times 23^{F(F(4))}+5 \qquad = 6\times(F(F(7))-F(F(8)-9))$
- **538** $:= -F(12)/F(3)+F(F(4)\times 5) = F(F(6)+7)-8\times 9$

- **540** $:= 12\times 3\times F(4)\times 5 = 6\times(7\times 8+F(9))$
- **546** $:= (-1+2+F(3)\times 45)\times 6 = F(7)\times(8+F(9))$
- **555** $:= -F(12-F(3))+F(F(4)\times 5) = F(F(6)+7)-F(8)-F(9)$
- **564** $:= (F(12)-3)\times 4 = (5+6\times 7)\times(F(8)-9)$
- **567** $:= (1+2)^3\times F(F(4)+5) = (6\times 7+F(8))\times 9$
- **568** $:= (F(12)-F(3))\times 4 = 567-8+9$

- **576** $:= 12^{F(3)}\times 4 = 56/7\times 8\times 9$
  $:= 12\times(-3+45+6) = F(7+8)-F(9)$

- **578** $:= F(12+3)-F(F(4))^5 = (F(F(6))+F(7))\times(8+9)$
- **579** $:= (F(12)+F(3))\times 4-5 = F(F(6))\times(7+F(8))-9$
- **584** $:= (F(12)+F(3))\times 4 = 567+8+9$

- **588** $:= (F(12)+3)\times 4 = (56-7)\times(F(8)-9)$
  $:= 1-23+F(F(4)\times 5) = (F(F(6))-7)\times(8+F(9))$

- **590** $:= 1-F(2^3)+F(F(4)\times 5) = F(6)\times 78-F(9)$
- **593** $:= (F(12)+3)\times 4+5 = F(F(6)+7)-8-9$
- **595** $:= (123-4)\times 5 = -6+F(7+8)-9$
- **597** $:= F(12+3)-F(F(F(4))+5) = F(F(6)+7)+F(8)-F(9)$

- **598** $:= -12+F(F(3)+F(F(F(4))+5)) = F(F(6)+7)-F(8)+9$

- **601** $:= F(12+3)-4-5 = F(-6+F(7)+8)-9$
  $:= (123-4)\times 5+6 = F(7+8)-9$

- **602** $:= F(12+3)-F(4)-5 = -F(F(6))+7\times 89$
- **606** $:= F(12+3)-4 = F(5+6)\times 7-8-9$

- **607** $:= F(12+3)-F(4) = 5\times 67+8\times F(9)$
  $:= (-1+2)\times(-3+F(F(4)\times 5)) = 6+F(7+8)-9$

- **608** $:= F(12+3)-F(F(4)) = -5-6+F(7+8)+9$
  $:= 1^2-3+F(F(4)\times 5) = F(6)\times(-F(7)+89)$

- **609** $:= -1+F((2+3)\times F(4)) = 567+8+F(9)$
  $:= F(12+3)+4-5 = F(6)+F(7+8)-9$

- **610** $:= F(1+2+3\times 4) = (5+67)\times 8+F(9)$
  $:= F(1+23-4-5) = F(6+(-7+8)\times 9)$
  $:= F(12+3) = 4+5\times 6+F(7+8)-F(9)$

- **611** $:= 1+F((2+3)\times F(4)) = (5+F(6))\times(7\times 8-9)$
  $:= F(12+3)-4+5 = F(F(6)+7)-8+9$

- **612** $:= F(12+3)+F(F(4)) = -5-6+7\times 89$
  $:= F(12+3)-F(4)+5 = 6\times(F(7)+89)$

- **613** $:= F(12+3)+F(4) \quad = 5+F(6)\times(-F(7)+89)$
  $:= F(12+3)-F(F(4))+5 = -6+F(7+8)+9$

- **614** $:= F(12+3)+4 \quad = 5+F(F(6)+7)+8-9$
- **615** $:= F(1+2+3\times 4)+5 \quad = F(6)\times 78-9$
- **617** $:= F(12+3)+F(F(4))+5 = -6+7\times 89$

- **619** $:= -1+(2+3)^4-5 \quad = F(-6+F(7)+8)+9$
  $:= 12-3+F(4+5+6) = F(7+8)+9$

- **622** $:= 12+F(F(3)+F(F(F(4))+5)) = F(F(6)+7)+F(8)-9$

- **623** $:= F(12+3)+F(F(F(4))+5) \ = (-6+F(7))\times 89$
  $:= F(12+3)+F(F(4))+5+6 = 7\times 89$

- **625** $:= 12+3+F(F(4)\times 5) = 6+F(7+8)+9$
- **626** $:= 1+(2+3)^4 \quad = -F(5+6)+F(7)\times(F(8)+F(9))$
- **630** $:= (12+F(3))\times 45 \quad = (-F(6)+78)\times 9$
- **631** $:= 1+(2+3)^4+5 \quad = F(6)+7\times 89$

- **632** $:= -1+23+F(F(4)\times 5) \quad = F(6)\times(7+8\times 9)$
- **633** $:= 1\times 23+F(F(4)\times 5) \quad = F(6)\times 78+9$
- **636** $:= 12\times(-F(3)+F(F(F(4))\times 5)) = F(F(6)+7)-8+F(9)$
- **640** $:= 1\times 2^{3+4}\times 5 \quad = F(F(6)+7)+F(8)+9$

- **644** $:= F(12+3)+F(4+5) \ = 678-F(9)$
  $:= F(12+3)+4+5\times 6 = F(7+8)+F(9)$

- **646** $:= 12\times 3+F(F(4)\times 5) \quad = (-F(F(F(6))/7)+F(8))\times F(9)$
- **648** $:= F(12)/F(3)\times(4+5) \quad = (-6+78)\times 9$
- **656** $:= F(12)+F(3)^{4+5} \quad = F(6)\times(-7+89)$
- **658** $:= F(12)/3+F(F(4)\times 5) \quad = F(6)\times 78+F(9)$
- **665** $:= F(12)\times 3+F(F(F(F(4))+5)) = F(F(6)+7)+F(8)+F(9)$

- **672** $:= 1\times F(2^3)\times F(F(4))^5 \quad = 6\times(78+F(9))$
- **680** $:= F(12-3)\times 4\times 5 \quad = F(6)\times(F(7)+8\times 9)$
- **682** $:= F(12)/F(3)+F(F(4)\times 5) \quad = F(F(6)+7)+8\times 9$
- **687** $:= -12+3\times F(F(F(F(4))+5)) = 678+9$

- **693** $:= (1+2)\times(-F(3)+F(F(F(F(4))+5))) = (F(6)\times 7+F(8))\times 9$
- **694** $:= (1+2)\times F(F(3+4))-5 \quad = -F(6)+78\times 9$
- **695** $:= (F(12)-3-F(F(4)))\times 5 \quad = -6-F(7)+F(8)\times F(9)$
- **696** $:= -1-2+3\times F(F(F(F(4))+5)) \quad = F(6)\times(78+9)$

- **699** $:= (1+2)\times F(F(3+4)) \quad = 5-F(6)+78\times 9$
  $:= (1+2)\times F(F(3\times 4-5)) = F(F(6)+7)+89$

- **700** $:= (12^{F(3)} - 4) \times 5 = -F(F(6)) + 7 + F(8) \times F(9)$
- **701** $:= 1 \times 2 + 3 \times F(F(F(F(4)) + 5)) = -6 - 7 + F(8) \times F(9)$
  $:= -F(12) \times F(3) + F(F(4)) + F(-5 + F(F(6))) = -F(7) + F(8) \times F(9)$
- **705** $:= (-1 - 2 + F(3 \times 4)) \times 5 = (F(F(6)) + F(7)) \times F(8) - 9$
- **707** $:= 1 \times 2 + 3 \times (F(4)^5 - F(6)) = -7 + F(8) \times F(9)$
- **708** $:= -12 + F(3 \times 4) \times 5 := 6 + 78 \times 9$
- **709** $:= -1 + (-2 + F(3 \times 4)) \times 5 = -6 + F(7) \times (F(8) + F(9))$
- **710** $:= 1 \times (-2 + F(3 \times 4)) \times 5 = F(6) + 78 \times 9$
- **711** $:= 12 + 3 \times F(F(F(F(4)) + 5)) = -F(F(6))/7 + F(8) \times F(9)$
- **713** $:= -1 + F(2^3) \times F(4 + 5) = 6 - 7 + F(8) \times F(9)$
- **714** $:= F(12 - 3) \times F(F(4) + 5) = 6 \times 7 \times (8 + 9)$
  $:= 12 \times 3 \times 4 \times 5 - 6 = (F(7) + 8) \times F(9)$
  $:= (12 + 34 + 56) \times 7 = F(8) \times F(9)$
- **715** $:= (F(12) + 3 - 4) \times 5 = (6 + 7) \times (F(8) + F(9))$
  $:= (1 + 2^{3+F(4)}) \times (5 + 6) = F(7) \times (F(8) + F(9))$
- **717** $:= -12 + 3 \times F(4)^5 = F(F(6))/7 + F(8) \times F(9)$
- **719** $:= 1 - 2 + F(3 \times 4) \times 5 = -F(6) + F(7) + F(8) \times F(9)$
- **720** $:= F(12) \times (3 + F(F(4))) = (5 + 67 + 8) \times 9$
  $:= 12 \times 3 \times 4 \times 5 = F(6) \times (7 \times 8 + F(9))$
- **721** $:= -1 + 2 + F(3 \times 4) \times 5 = 6 + F(7) \times (F(8) + F(9))$
  $:= 1 + F(2^3) \times F(4 + 5) + 6 = 7 + F(8) \times F(9)$
- **722** $:= 1 \times 2 + F(3 \times 4) \times 5 = F(6) + (F(7) + 8) \times F(9)$
- **723** $:= 1 + 2 + F(3 \times 4) \times 5 = F(F(6)) + 78 \times 9$
- **727** $:= -1 \times 2 + 3 \times F(4)^5 = 6 + 7 + F(8) \times F(9)$
  $:= 1^2 + F(3 \times 4) \times 5 + 6 = F(7) + F(8) \times F(9)$
- **728** $:= 1 - 2 + 3 \times F(4)^5 = F(6) \times 7 \times (-F(8) + F(9))$
- **729** $:= (12 - 3)^{F(4)} = 56 \times F(7) - 8 + 9$
  $:= (-1 + 2) \times 3 \times F(4)^5 = F(6) + 7 + F(8) \times F(9)$
- **733** $:= 123 + F(F(4) \times 5) = 6 + F(7) + F(8) \times F(9)$
- **735** $:= -1 + 23 \times F(F(4))^5 = F(6) + F(7) + F(8) \times F(9)$
- **736** $:= 1 \times 23 \times F(F(4))^5 = F(F(6)) + F(7) \times (F(8) + F(9))$
- **748** $:= (-1 + 23) \times F(4 + 5) = (-6 + 7 + F(8)) \times F(9)$
- **754** $:= F(12 + F(3)) \times F(F(4)) = F(F(6) + 7) + F(F(8) - 9)$
  $:= 12^{F(3)} + F(F(4) \times 5) = 56 \times F(7) - 8 + F(9)$

- **756** $:= 12\times 3\times F(F(4)+5) = (6+78)\times 9$
- **760** $:= (F(12)+F(3)\times 4)\times 5 = F(6)\times (F(7)\times 8-9)$
- **768** $:= (1+23)\times F(F(4))^5 = F(6)\times (7+89)$
- **770** $:= (12+F(3))\times F(F(F(4))\times 5) = (F(F(6))-7)\times (F(8)+F(9))$

- **781** $:= -1+23\times F(4+5) = -F(6)+789$
- **782** $:= 1\times 23\times F(4+5) = (F(6)+7+8)\times F(9)$
- **783** $:= 1+23\times F(4+5) = -6+789$

- **789** $:= 1\times 2\times 3^4\times 5-F(F(6)) = 789$
- **810** $:= 1\times 2\times 3^4\times 5 = F(F(6))+789$
- **816** $:= 12\times F(3)\times F(4+5) = F(6)\times (F(7)+89)$
- **825** $:= F(12-F(3))\times F(4)\times 5 = (F(6)+7)\times (F(8)+F(9))$

- **843** $:= -F(12)+F(F(3)^4) = F(-5+F(F(6)))-F(F(7)+8-9)$
  $:= F(12+3)+F(F(F(F(4))+5)) = F(F(6)+7)+F(-F(8)+F(9))$

- **848** $:= -F(12)+F(F(3)^4)+5 = 6\times 7\times F(8)+F(9)$
- **861** $:= 123\times (F(F(4))+5) = F(F(6))\times 7+F(8)\times F(9)$

- **864** $:= F(12)\times (-3+4+5) = 6\times (F(F(7))-89)$
  $:= F(12)\times (3+F(4)) = (5+67)\times (F(8)-9)$

- **873** $:= 6\times 7\times F(8)-9 = F(12)+3\times F(4)^5$
- **918** $:= (1+2)^3\times F(4+5) = (6+F(7)+8)\times F(9)$

- **931** $:= -1+(2+F(3))\times F(F(F(F(4))+5)) = -F(F(6))+(7+F(8))\times F(9)$

- **932** $:= F(F(1+2\times 3))\times 4 = (5-F(6)+7)\times F(-F(8)+F(9))$

- **936** $:= F(12)/F(3)\times F(F(F(4))+5) = (6+7)\times 8\times 9$
  $:= 12\times 3\times (-4+5\times 6) = F(7)\times 8\times 9$

- **944** $:= -1+F(2^3)\times 45 = F(6)+F(7)\times 8\times 9$
- **945** $:= 1\times F(2^3)\times 45 = (-F(6)+F(7))\times F(8)\times 9$
- **946** $:= 1+F(2^3)\times 45 = -6+(7+F(8))\times F(9)$
- **947** $:= F(1^2\times F(3)^4)-5\times F(6) = F(F(7))+F(8)\times F(9)$
- **952** $:= 1+(2+F(3))\times F(4)^5-F(F(6)) = (7+F(8))\times F(9)$

- **96** $:= 1\times 2\times (3+45) = -6+F(7)+89$
- **960** $:= F(12)/3\times 4\times 5 = F(6)+(7+F(8))\times F(9)$
- **973** $:= 1+(2+F(3))\times F(4)^5 = F(F(6))+(7+F(8))\times F(9)$
- **975** $:= -12+F(F(3)^4) = F(-5+F(F(6)))-F(7)-8+9$
- **984** $:= -1-2+F(F(3)^4) = (F(5+6)-7)\times (F(8)-9)$
- **985** $:= -1\times 2+F(F(3)^4) = -5+(6+F(7)\times 8)\times 9$

- **986** $:= 1-2+F(F(3)^4) = F(-5+F(6)+F(7))+8-9$
  $:= -1+F(2^{3-4+5}) \;\; = (F(6)+F(7)+8)\times F(9)$
- **987** $:= F(12/3\times 4) \qquad = F(-5+F(6)+F(7))\times(-8+9)$
  $:= F(12+3-4+5) = F(6-7+8+9)$
- **988** $:= 1+F((2+F(3))\times 4) = (5+F(6))\times(-F(7)+89)$
- **989** $:= 1\times 2+F(F(3)^4) \qquad = F(-5+F(F(6)))+F(F(-F(7)+8+9))$
- **990** $:= 1+2+F(F(3)^4) = (5+6)\times(7\times 8+F(9))$
  $:= (-1+23)\times 45 \;\; = (6+F(7)\times 8)\times 9$
- **999** $:= 12+F(F(3)^4) = F(-5+F(F(6)))+F(7)+8-9$

3.2 Decreasing Order

- **2** $:= 9-8+(7-6)^5 = F(F(4))+321\times 0$
- **3** $:= 9-(8-7)^6-5 = F(4)+321\times 0$
- **8** $:= (9-8)^7+6+5-4 \;\; = F(3\times 2)\times 1$
  $:= 9+(8-7-6)/5 \qquad = F(4)-3-2+10$
  $:= 9-(8-7)^6 \qquad\quad = 5+F(4)+321\times 0$
  $:= 9-8+7 \qquad\quad\;\; = F(6)+54321\times 0$
  $:= 9-8-7+6+5+4 = F(3\times 2)+1$
- **11** $:= 9+F(F(8)/7) \qquad = (65-43)/2\times 1$
  $\qquad\qquad\qquad\quad = 6+5\times 43-210$
  $:= F(9)-8-7-F(6) = 5+4+3-(2-1)$
  $\qquad\qquad\qquad\quad = (5-4)^{32}+10$
- **12** $:= (9-8)\times 7+6-5+4 = F(F(F(3)+2))+10$
  $:= F(9)-87+65 \qquad\quad = 4\times 3\times(2-1)$
  $\qquad\qquad\qquad\quad = 4\times(3+21\times 0)$
  $:= (9+87)/F(6) \qquad\quad = 54-F(3)\times 21$
  $\qquad\qquad\qquad\quad = 54-32-10$
  $:= 9+F(8)/7 \qquad\quad\;\; = (65-43)/2+1$
  $:= -9+F(8) \qquad\quad\;\; = 7+(6-54)/3+21$
  $\qquad\qquad\qquad\quad = -F(7)+6\times 5-4+3^2-10$
- **13** $:= 98-76-5-4 = F(3\times 2+1)$
  $:= F((9-8)\times 7) \;\; = -6+54/3+2-1$
  $\qquad\qquad\qquad\quad = F(F(6))\times 5/F(4)-32+10$
  $:= F(9)-F(8) \qquad = (76-5-43)/2-1$
  $\qquad\qquad\qquad\quad = F(7)+654321\times 0$

$\bullet$ **14** $:= 9\times(8+76)/54 \quad = F(3)+2+10$

$\bullet$ **16** $:= -9+87-F(6)-54 = 3\times 2+10$

$\bullet$ **17** $:= 98-76-5 \quad = F(4)\times 3\times 2-1$
$= F(4)\times 3-2+10$
$:= 9+F(8)-F(7) = 6-5\times 4+32-1$
$= 6+5-4\times(3-2)+10$

$\bullet$ **18** $:= -9+87-6-54 = -3+21$
$= F(3\times 2)+10$
$:= (9+87-6)/5 \quad = F(4)\times 3\times 2\times 1$
$= -4+32-10$
$:= 9\times F(F(8)/7) \quad = 6+54-F(3)\times 21$
$= -65-4+32+F(10)$

$\bullet$ **19** $:= 9+F(8+7)/(65-4) = -F(3)+21$
$= 3^2+10$
$:= (9-8)\times F(7)+6 \quad = 54/3+2-1$
$= 54/(3\times 2)+10$
$:= F(9)-8-7 \quad = 65-43-2+1$
$= 65-4-32-10$

$\bullet$ **20** $:= 98-76-5+F(4) = F(F(3\times 2))-1$
$:= 98-F(7)-65 \quad = 4\times(3\times 2-1)$
$= 4+(3\times 2+10)$
$:= F(9)-F(8)+7 \quad = 65-43-2\times 1$

$\bullet$ **21** $:= 98-76-5+4 = F(3^2-1)$
$:= F(98/7-6) \quad = 54-32-1$
$:= F(9-8+7) \quad = (65-4^3)\times 21$
$= F(6)-5-4+32-10$

$\bullet$ **22** $:= 98-7-65-4 = F(F(3\times 2))+1$
$= 32-10$
$:= -F(9)+8\times 7 \quad = 65-4^3+21$
$= (654/3+2)/10$

$\bullet$ **23** $:= 98-76+5-4 \quad = F(3)+21$
$= 3+2\times 10$
$:= 9+F(8)-7\times(6-5) = 4-F(3)+21$
$= 43-2\times 10$
$:= (-9+F(8)\times 7)/6 \quad = 54-32+1$
$= 5-4+32-10$
$:= 9+F(8)-7 \quad = 65-43+2-1$
$= 6-5+4-F(3)+2\times 10$

$\bullet$ **24** $:= 98-76+5-F(4) \quad = 3+21$
$:= (9\times(F(8)-7)-6)/5 = 4\times 3\times 2\times 1$
$= (4+3)\times 2+10$
$:= 9+8+F(7)-6 \quad = (5+4)/3+21$

$\bullet$ **25** $:= 98/7+6+5 \quad = 4\times 3\times 2+1$
$= F(4)+32-10$
$:= F(9)-8-7+6 \quad = 5-4+3+21$
$= 5+4+3\times 2+10$
$:= -9+F(8)+F(7) = 65-43+2+1$
$= 65-4-3\times(2+10)$

$\bullet$ **26** $:= 98-7-65 \quad = F(4+3)\times 2\times 1$
$= 4+32-10$
$:= (9+F(8)\times 7)/6 \quad = 5\times(4-3)+21$
$= 54/3\times 2-10$
$:= F(9)-F(8)+F(7) = 65\times 4/(3^2+1)$
$= F(6)+5\times(4+32)/10$
$:= F(9)-8 \quad = (F(7)+65)\times(4+3)/21$
$= -7-F(6)-5+4+32+10$

$\bullet$ **27** $:= 98-76+5 \quad = 4+F(3)+21$
$= 4+3+2\times 10$
$:= F(9)-8+7-6 = 5+43-21$
$= 54\times(3+2)/10$
$:= (9\times F(8))/7 \quad = -6+5+4+3+21$
$= (6+5)\times 4+3-2\times 10$

$\bullet$ **28** $:= F(9)\times(8-7)-6 = (5+4)\times 3+2-1$
$= 5+43-2\times 10$

$\bullet$ **29** $:= 9+8+F(7)-6+5 = 4\times F(3)+21$
$:= F(9)+8-7-6 \quad = 5+4\times 3\times 2\times 1$
$= 5\times 4-3+2+10$
$:= F(9)+8-F(7) \quad = 65-4-32\times 1$
$= 6+5-4+32-10$

$\bullet$ **30** $:= 98-7-65+4 \; = F(F(3)+2)\times 10$
$:= (9-8)^7\times 6\times 5 = F(4)\times 3+21$
$= (4-3+2)\times 10$
$:= 9+8+F(7) \quad = 65-4-32+1$
$= 65-43-2+10$
$:= 9+F(8) \quad = 7+65-43+2-1$
$= (7+F(6))\times(54/3+2)/10$

$\bullet$ **31** $:= 9+F(8)+7-6 = 54-F(3)-21$
$= (54+32)-F(10)$
$:= F(9)-F(8)/7 \quad = (654-3)/21$

$\bullet$ **32** $:= F(9)-8+7-6+5 = 4^3/2\times 1$
$= 4\times 3+2\times 10$
$:= 9+8+7+F(6) \quad = (5-4)\times 32\times 1$
$= 54-32+10$
$:= F(9)-F(F(8)/7) \quad = 65-4\times 3-21$
$= F(6)+(-5+4+3)\times(2+10)$

$\bullet$ **33** $:= 9\times F(8)/7+6 = (5-4)\times 32+1$
$:= F(9)-8+7 \quad = 6+5+43-21$

$\bullet$ **34** $:= 9+87-F(6)-54 = F(3^2)\times 1$
$:= F(9)\times(8-7)^{65} \quad = F(4)+32-1$
$= 4\times 3\times 2+10$
$:= -F(9)-8+76 \quad = 5-4+32+1$
$:= F(9)\times(8-7) \quad = (6-5)\times F(4)+32-1$
$= 65-43+2+10$

$\bullet$ **35** $:= 9+87-65+4 = F(3^2)+1$
$:= F(9)+(8-7)^6 = 54+F(3)-21$
$= 54-3^2-10$
$:= F(9)+8-7 \quad = F(6)+5+43-21$

$\bullet$ **36** $:= F(9)+8-7+6+5 = 4+32\times 1$
$:= 9+8+F(7)+6 \quad = 54+3-21$
$:= F(9)+F(F(8)/7) \quad = 65+4-32-1$
$= 6\times(-5-4+3+2+10)$

$\bullet$ **37** $:= F(9)-F(8)/7+6 = 54/3\times 2+1$
$= 54+3-2\times 10$
$:= 9+F(8)+7 \quad = 65+4-32\times 1$
$= 6+5+4+32-10$

$\bullet$ **38** $:= 9-8+7\times 6-5 \quad = -4+F(3)\times 21$
$= -4+32+10$
$:= 9+8+F(7)+F(6) = 5+4\times 3+21$
$= 54-3\times 2-10$

$\bullet$ **39** $:= 9\times(8-7)+6\times 5 \quad = F(4+3)\times(2+1)$
$= (4+3)^2-10$
$:= 9+(-8+F(7))\times 6 = 54/3+21$
$:= F(9)-8+F(7) \quad = 6+5-4+32\times 1$
$= 65-4-32+10$

• **40** $:= 9+(8+7-F(6))\times 5-4 = (F(3)+2)\times 10$
$:= F(9)\times(8-7)+6 \quad = 5+4+32-1$
$= 5+43+2-10$

• **41** $:= -9+8+7\times 6 = 5+4+32\times 1$
$= (5+43)\times 2-F(10)$

• **42** $:= 98-76+5\times 4 \quad = F(3)\times 21$
$= 32+10$
$:= 987/F(F(6))-5 \quad = 43-2+1$
$:= 98-7\times F(6) \quad = 5+4+32+1$
$= (5-4)\times 32+10$
$:= F(9)+F(8)-F(7) = 6+54+3-21$
$:= F(9)+8 \quad = 76-5+4-32-1$

• **43** $:= F(9)-8\times 7+65 = 4^3-21$
$= 43+21\times 0$
$:= 9+F(8)+F(7) \quad = 65-43+21$

• **44** $:= 98+7-65+4 \quad = F(3^2)+10$
$:= 9+8\times 7-F(F(6)) \quad = 5\times 4+3+21$
$= 54\times(3-2)-10$
$:= -9\times F(8)+F(F(7)) = 6+5+4\times 3+21$
$= (65+43)/2-10$

• **45** $:= F(9)\times(8-7)+6+5 = 43+2\times 1$
$= F(4)+32+10$
$:= 9\times(-8+F(7)) \quad = 6+54/3+21$

• **46** $:= -98/7+6+54 = -3^2+F(10)$
$:= 98+F(7)-65 \quad = 43+2+1$
$= 4+32+10$
$:= -9-F(8)+76 \quad = 5+43-2\times 1$
$= 54/3\times 2+10$

• **47** $:= 9+(87+65)/4 \quad = -F(3\times 2)+F(10)$
$:= (9-8)\times(7\times 6+5) = F(4^{F(3)})/21$
$= -F(4)+(3+2)\times 10$
$:= 987/F(F(6)) \quad = 5+43-2+1$
$:= -9+8\times 7 \quad = F(F(6)-5)^4+32-1$
$= 65\times 4-3-210$

$\bullet$ **48** $:= 9-8+7\times 6+5 = (4+3)^2-1$
$= F(4)\times(3\times 2+10)$
$:= (9-8+7)\times 6 = (-6+54)/3\times(2+1)$
$= 65\times 4 - F(3) - 210$
$:= F(9)+F(8)-7 = 54-3-2-1$
$= -54\times 3+210$

$\bullet$ **49** $:= (9-8)^7-6+54 = -3\times 2+F(10)$
$:= F(9)-8-7+6\times 5 = (4+3)^2\times 1$
$:= (F(9)+8)\times 7/6 = 54-3-2\times 1$
$= 54+3+2-10$
$:= F(9)+8+7 = 6+5\times 4+F(3)+21$
$= 6\times 5 - F(4)+32-10$

$\bullet$ **50** $:= -F(9)+8+76 = 5+43+2\times 1$
$= 54+3\times 2-10$

$\bullet$ **51** $:= (9+8-7)\times 6-5-4 = -F(3)-2+F(10)$
$:= -98/7+65 = -4+F(3^2+1)$
$= 43-2+10$
$:= 9\times 8-F(7)-F(6) = 5+43+2+1$
$= 54-3+21\times 0$

$\bullet$ **52** $:= -9+8-7+6+54 = -F(F(3)+2)+F(10)$
$:= -F(9)+87-6+5 = 4\times F(3\times 2+1)$
$= 4^3-2-10$
$:= -F(9)+8+F(7)\times 6 = 54-3+2-1$
$= 54-F(3+21\times 0)$

$\bullet$ **53** $:= 9\times 8+7-6-5\times 4 = -F(F(F(3)+2))+F(10)$
$:= 9-8-F(7)+65 = F(4)^3\times 2-1$
$= 4-3\times 2+F(10)$
$:= 9\times 8-F(7)-6 = 54-3+2\times 1$
$= 54+3^2-10$
$:= -F(9)+87 = (65+43)/2-1$

$\bullet$ **54** $:= 9\times(8-7+6)-5-4 = -3+2+F(10)$
$:= (9+8)\times 7-65 = F(4+3\times 2)-1$
$= 4+(3+2)\times 10$

$$\begin{aligned}
\bullet\ \mathbf{55} &:= 9-8-7+65-4 && = F(3^2+1)\\
&&& = F((3-2)\times 10)\\
&:= (9+8-7)\times 6-5 && = F(4\times 3-2\times 1)\\
&&& = 43+2+10\\
&:= F(9)+8+7+6 && = 54+3-2\times 1\\
&&& = 54-3^2+10\\
&:= F(9+8-7) && = (65+43)/2+1\\
&:= F(9)+F(8) && = 76-54+32+1\\
&&& = 76+5-4-32+10
\end{aligned}$$

$$\begin{aligned}
\bullet\ \mathbf{56} &:= 9-8+7-6+54 = 3-2+F(10)\\
&:= F(9)+87-65 && = F(4+3\times 2)+1\\
&&& = 4^3+2-10
\end{aligned}$$

$$\begin{aligned}
\bullet\ \mathbf{57} &:= 9\times(8-7)-6+54 = F(F(F(3)+2))+F(10)\\
&:= 9+8\times 7-F(6) && = 54+3\times(2-1)\\
&&& = 54+3+21\times 0\\
&:= -9+8-7+65 && = F(4)\times(-F(3)+21)\\
&&& = (4-3)\times(2+F(10))
\end{aligned}$$

$$\begin{aligned}
\bullet\ \mathbf{58} &:= (9+8)\times 7-65+4 = F(F(3)+2)+F(10)\\
&:= (9-8)\times(-7+65) && = F(4)+F(3^2+1)\\
&&& = 4-3+2+F(10)\\
&:= 9\times 8+7-F(F(6)) && = 54+3+2-1\\
&&& = 54-3\times 2+10
\end{aligned}$$

$$\begin{aligned}
\bullet\ \mathbf{59} &:= (9+8)\times 7-6-54 = F(3)+2+F(10)\\
&:= 9\times 8-F(7) && = 65-4-3+2-1
\end{aligned}$$

$$\begin{aligned}
\bullet\ \mathbf{60} &:= 98/7-F(6)+54 && = (3\times 2)\times 10\\
&:= (9+87)/F(6)\times 5 && = -F(4)+3\times 21\\
&&& = 4\times 3/2\times 10
\end{aligned}$$

$$\begin{aligned}
\bullet\ \mathbf{61} &:= (9-8)^7\times(65-4) = 3\times 2+F(10)\\
&:= 98-7-6\times 5 && = 4^3-2-1\\
&&& = 4\times 3/2+F(10)\\
&:= F(9+8-7)+6 && = 54+3\times 2+1\\
&&& = 5+4^3+2-10
\end{aligned}$$

$$\begin{aligned}
\bullet\ \mathbf{62} &:= -9/(F(8)/7)+65 && = 4^3-2\times 1\\
&&& = F(4\times 3)/2-10\\
&:= F(9)+F(8)+F(7)-6 && = 54+3^2-1\\
&&& = 5\times 4+32+10\\
&:= F(9)+F(8)+7 && = 6+54+3-2+1\\
&&& = -6+54+F(3)+2+10
\end{aligned}$$

• **63** $:= 98 + F(7) + 6 - 54 = 3 \times 21$
$:= 98 - (F(7) - 6) \times 5 = 4^3 - 2 + 1$
$= 43 + 2 \times 10$

• **64** $:= F(9) + 8 + 76 - 54 = 3^2 + F(10)$
$:= 9 - F(8) + 76 = 5 - 4 + 3 \times 21$
$= 5 \times 4 \times 32/10$

• **65** $:= 9 \times 8 - F(7) + 6 = 5 - F(4) + 3 \times 21$
$= 54 + 3 - 2 + 10$

• **66** $:= (9 - 8)^7 + 65 = 4^3 + 2 \times 1$
$= F(4) \times (32 - 10)$
$:= (9 + F(F(8)/7)) \times 6 = 5 + 4^3 - 2 - 1$

• **67** $:= 9 \times 8 - F(7) + F(6) = 5 + 4^3 - 2 \times 1$

• **68** $:= 9 \times 8 + 7 - 6 - 5 = F(F(4) \times 3) \times 2 \times 1$
$= 4 \times (-3 + 2 \times 10)$
$:= F(9) - 8 + 7 \times 6 = 5 + 4^3 - 2 + 1$
$= 5 + 43 + 2 \times 10$
$:= F(9) + F(8) + F(7) = 6 - 5 + 4 + 3 \times 21$
$= F(6 + 5) - 4 + 3 - 2 \times 10$

• **69** $:= 9 - F(8) + 76 + 5 = F(4) \times (F(3) + 21)$
$= (4 + 3) \times 2 + F(10)$
$:= F(9) + 8 \times 7 - F(F(6)) = 5 + 43 + 21$
$= 54 + 3 + 2 + 10$

• **70** $:= 9 \times (8 + 7) - 65 = F(F(4)) \times (F(3^2) + 1)$
$= (F(4) \times 3 - 2) \times 10$
$:= 98 - 7 - F(F(6)) = 5 \times (4 + 3) \times 2 \times 1$
$= 54 + 3 \times 2 + 10$
$:= -F(9) + 8 \times F(7) = 65 - 4 + 3^2 \times 1$
$= 65 - 4 - 3 + 2 - 10$

• **71** $:= (9 - 8) \times (76 - 5) = F(4 \times 3)/2 - 1$
$= (F(4) \times 3)^2 - 10$
• **72** $:= 9 \times (F(8) - F(7)) = 6 \times 5 + 43 - 2 + 1$
$= 65 - 4 + 3 - 2 + 10$

• **73** $:= 9 - 8 + 7 + 65 = F(4 \times 3)/2 + 1$
$= 4 \times 32 - F(10)$
$:= 9 \times 8 + 7 - 6 = 54 - F(3) + 21$

• **74** $:= 9\times(8-7)+65 \quad = F(F(4))\times 32+10$
$:= -F(9)+87+F(F(6)) = 5\times F(4)\times(3+2)-1$
$= (5-F(4))\times 32+10$

• **75** $:= 98+7-6\times 5 = 4\times(3+2)+F(10)$

• **76** $:= 98-76+54 \quad = F(F(3\times 2))+F(10)$
$:= 9\times(8+7-6)-5 = 4\times(-F(3)+21)$
$= 43\times 2-10$

• **77** $:= (9-8)\times 7\times(6+5) = -F(4)+F(3\times 2)\times 10$
$:= 9-8+76 \quad = 54+F(3)+21$
$= 54-32+F(10)$

• **78** $:= 9-8+7\times(6+5) = F(F(4)\times 3)\times 2+10$
$:= (9-8)\times F(7)\times 6 = 54+3+21$
$:= -9+87 \quad = 65-4\times F(3)+21$

• **79** $:= 98/7+65 \quad = 4\times 3\times 2+F(10)$
$:= 98-F(7)-6 = (5+4)^{F(3)}-2\times 1$
$= -5+4^3+2\times 10$

• **80** $:= 98-(7+65)/4 \quad = F(3\times 2)\times 10$
$:= 98-7-6-5 \quad = ((F(4)\times 3)^2)-1$
$= F(4\times 3/2)\times 10$
$:= (9+8-7)\times F(6) = 54\times 3/2-1$
$= 5\times 4+3\times 2\times 10$

• **81** $:= (9-8)\times 76+5 = (F(4)\times 3)^2\times 1$
$:= 9^{F(F(8)/7)} \quad = -6+54+32+1$
$= F(6)\times F(5+F(4))-32-F(10)$

• **82** $:= 9-8+76+5 \quad = (F(4)\times 3)^2+1$
$= F(4\times 3)/2+10$
$:= F(9)-8+7\times F(6) = 54\times 3/2+1$

• **83** $:= 9+87-F(6)-5 = 4\times F(F(3\times 2))-1$
$= -4+32+F(10)$
$:= 98-7-F(6) \quad = 5\times 4+3\times 21$
$= 5^{F(4)}-32-10$

• **84** $:= F(9)-8-7+65 = 4\times F(3^2-1)$
$= (4+3)\times(2+10)$
$:= (-9+F(8))\times 7 \quad = (6+54+3)+21$
$= 65+4+3+2+10$

- **85** $:= 98 - F(7) \quad = 65 - 4 + 3 + 21$
- **86** $:= -9 + 87 + F(6) = 54 + 32 \times 1$

- **87** $:= 9 \times 8 + 7 + F(6) \times (5 - 4) = 32 + F(10)$
  $:= 98 - F(7) + F(F(6) - 5) \quad = 43 \times 2 + 1$
  $:= 9 \times 8 + 7 + F(6) \quad = 54 + 32 + 1$

- **88** $:= 9 + 8 + 76 - 5 = 4 \times (F(F(3 \times 2)) + 1)$
  $= 4 \times (32 - 10)$
  $:= 9 + 87 - F(6) \; = F(5 + 4 \times 3/2) - 1$
  $= 54 \times F(3) - 2 \times 10$

- **89** $:= F(9) \times (8 + 7 + 6) - 5^4 = F(3 - 2 + 10)$
  $:= 9 + 8 + 7 + 65 \quad = F(4 + 3 \times 2 + 1)$
  $= (4 \times 3)^2 - F(10)$
  $:= F(9) - F(8) + 76 \quad = 54 + F(3^2) + 1$
  $= 5 + 4^3 + 2 \times 10$
  $:= F(9 + F(F(8)/7) \quad = 6 + 5 \times 4 + 3 \times 21$

- **90** $:= 98 - 7 - 6 + 5 = F(F(4 + 3) - 2) + 1$
  $= (4 + 3 + 2) \times 10$
  $:= F(9) + 8 \times 7 \; = (6 + 54) \times 3/2 \times 1$
  $= 6 \times 5 + 4 + 3 - 2 + F(10)$

- **91** $:= 98 - 7 \times (6 - 5) = 4 + 32 + F(10)$
  $:= 98 - F(7) + 6 \quad = 5 + 43 \times 2 \times 1$
  $= 54 \times 3/2 + 10$

- **92** $:= 98 - 7 + 6 - 5 \quad = 4 \times (F(3) + 21)$
  $= 4 \times (3 + 2 \times 10)$
  $:= (-9 + F(8)) \times 7 + F(6) = 5 + 43 \times 2 + 1$

- **93** $:= 98 \times (7 - 6) - 5 = F(4) \times (32 - 1)$
  $= F(4) + 3^2 \times 10$
  $:= 9 + 8 + 76 \quad = 5^{F(4)} - 32 \times 1$
  $= -5 \times 4 + 3 + 2 \times F(10)$

- **94** $:= F(9) \times F(8)/7 - F(6) = 5^{F(4)} - 32 + 1$
  $= (54 - F(3)) \times 2 - 10$

- **95** $:= 9 + 87 - 6 + 5 = F(4) \times 32 - 1$
  $:= -9 + 8 \times F(7) = 65 - F(4) + 32 + 1$
  $= -6 + 5 + 4 \times 3 \times (-2 + 10)$

- **96** $:= F(9) + 8 \times 7 + 6 = (5 + 43) \times 2 \times 1$
  $= 54 + 32 + 10$

- **97** $:= 98-(7-6)^5 = F(4)\times 32+1$
  $:= 98-7+6 \quad = (5+43)\times 2+1$
  $= F(5\times F(F(4)))+32+10$
- **98** $:= 9+8+76+5 = -4\times 3+2\times F(10)$
  $:= 98\times(7-6) \quad = 5+F(4)\times(32-1)$
  $= -5-4-3+2\times F(10)$
- **99** $:= 98+(7-6)^5 = F(4)\times(32+1)$
- **100** $:= (98/7+6)\times 5 \quad = 43+2+F(10)$
  $:= 9\times 8+7+F(F(6)) = 5\times(-4+3+21)$
  $= (5+4+3-2)\times 10$
- **101** $:= 9+F(8)+76-5 \;= F(4)\times F(3^2)-1$
  $= -43+F(2+10)$
  $:= -9+8\times F(7)+6 = (54-3)\times 2-1$
  $= 5+43\times 2+10$
- **102** $:= 9+87+6 \quad = (54-3)\times(2\times 1)$
  $= -4+F(3)\times(-2+F(10))$
  $:= 98-7+6+5 = F(F(4)\times 3)\times(2+1)$
  $= -54\times F(3)+210$
  $:= F(9)\times F(8)/7 = (65+4)+32+1$
  $= -65-43+210$
- **103** $:= 98\times(7-6)+5 \;= F(4)\times F(3^2)+1$
  $= -4-3+2\times F(10)$
  $:= 98+F(7)-F(6) = (54-3)\times 2+1$
  $= 5^{F(4)}-32+10$
- **104** $:= 98+7-6+5 = (4+3)^2+F(10)$
  $:= 9+87+F(6) \;= 5+F(4)\times(32+1)$
  $= 54+(3+2)\times 10$
- **105** $:= 98+7\times(6-5) = (F(4)+F(3))\times 21$
  $= 5+43+2+F(10)$
  $:= 98+F(7)-6 \quad = 5\times(4-3)\times 21$
- **106** $:= 9+(8+76\times 5)/4 = F(3)\times(-2+F(10))$
  $:= 98+7+6-5 \quad = F(4)\times 32+10$
  $:= 9+F(8)+76 \quad = 54\times F(3)-2\times 1$
  $= (5+43)\times 2+10$
- **107** $:= 9\times(8+7)-F(6)-5\times 4 = -3+2\times F(10)$
  $:= 9+87+6+5 \quad = -F(4)+F(F(F(3)+2))\times F(10)$
  $:= 9+8\times F(7)-6 \quad = 5^{F(4)}+3-21$
  $= 5\times 4+32+F(10)$

• **108** $:= (98-76+5)\times 4 \;= -F(3)+2\times F(10)$
$:= 9\times F(F(8)/7)\times 6 = 54\times(3-2+1)$
$= 54-3+2+F(10)$

• **109** $:= 9\times 8+7+6\times 5 = -4+3+2\times F(10)$

• **110** $:= 98+7+6-5+4 \quad = F(F(F(3)+2))\times F(10)$
$:= (98-76)\times 5 \quad = F(F(4))\times F(3^2+1)$
$= (F(4+3)-2)\times 10$
$:= F(9)\times F(8)/7+F(6) = 5\times(43-21)$

• **111** $:= 98+F(7)\times(6-5) = 4-3+2\times F(10)$
$:= 98+7+6 \quad = 54\times F(3)+2+1$
$= 5+F(4)\times 32+10$
$:= 98+F(7) \quad = 65+43+2+1$
$= 65+4+32+10$

• **112** $:= 98+7+6+5-4 = F(3)+2\times F(10)$
$:= -9+8\times 7+65 \;= 4-F(3)+2\times F(10)$
$:= 98/7\times F(6) \quad = (54+F(3))\times 2\times 1$
$= -5+4+3+2\times F(10)$

• **113** $:= 9+8+76+5\times 4 = 3+2\times F(10)$
$:= F(9)+8+76-5 \;= F(F(F(4))+F(3))+2\times F(10)$
$:= 9+8\times F(7) \quad = F(6)\times(5\times 4-3\times 2)+1$

• **114** $:= (-9+(87+6)\times 5)/4 = F(3)\times(2+F(10))$
$:= F(9)+8+7+65 \quad = F(4+3)^2-F(10)$

• **115** $:= 98-F(7)+6\times 5 = F(4)+F(3)+2\times F(10)$
$:= F(9)+87-6 \quad = (54+3)\times 2+1$
$= 5\times(43-2\times 10)$

• **116** $:= 98+7+6+5 \quad = 4+F(3)+2\times F(10)$
$:= -9+8\times F(7)+F(F(6)) = 5^{F(4)}-3^2\times 1$
$= 5+4-3+2\times F(10)$

• **117** $:= 9\times(8\times(7-6)+5) = 4+3+2\times F(10)$
$:= 98+F(7)+6 \quad = 54+3\times 21$

• **118** $:= 98+7+F(6)+5 = 4\times 32-10$
$:= F(9)+8+76 \quad = (-5+4^3)\times 2\times 1$

• **119** $:= 9\times 8+7\times 6+5 \quad = F(4)\times 3+2\times F(10)$
$:= (9+8)\times(F(7)-6) = -5+4\times(32-1$
$= (5-F(4))\times 32+F(10)$

• **120** $:= F(9+8-7)+65 = (4+F(3))\times 2\times 10$
$:= 9\times(F(8)-7)-6 = 5\times 4\times 3\times 2\times 1$
$= (-5\times 4+32)\times 10$

• **121** $:= 98-7+6\times 5 = 4^3+2+F(10)$
$:= 9+8+F(7)\times F(6) = 5\times 4\times 3\times 2+1$
$:= F(9)+87 = F(6+5+4)/(3+2)-1$
$= 65+(4+3)\times(-2+10)$

• **122** $:= 98+F(7)+6+5 = 4\times 3+2\times F(10)$

• **123** $:= F(9)+8+76+5 = F(4\times 3)-21$
$:= F(9+F(8)/7)-F(F(6)) = F(5+4)\times 3+21$
$= 5+4\times 32-10$

• **124** $:= F(9)+(8+7)\times 6 = 5^4/(3+2)-1$

• **125** $:= 9\times(F(8)-7)-6+5 = (F(4)+F(3))^{2+1}$

• **126** $:= 9+87+6\times 5 = (4+F(3))\times 21$
$= F(4)\times(32+10)$
$:= 98+7+F(F(6)) = (5+4-3)\times 21$
$:= 9\times(F(8)-7) = 65+4^3-2-1$
$= 6\times 5+43\times 2+10$

• **127** $:= 9\times(F(8)-7)+6-5 = 4\times 32-1$
$:= F(9)+87+6 = 5^{F(4)}+3-2+1$
$= -5+F(4\times 3)-2-10$

• **128** $:= F(9)-8+F(7)+F(6+5) = 4\times 32\times 1$
$:= 9\times 8+7\times F(6) = 5^{F(4)}+3\times(2-1)$
$= 54\times F(3)+2\times 10$

• **129** $:= F(9)+(8+7)\times 6+5 = 43\times(2+1)$
$:= 9\times(8+7)-6 = 54\times F(3)+21$

• **130** $:= -9+F(8)\times 7-F(6) = 5\times F(4+3)\times 2\times 1$
$= 5\times 4\times 3\times 2+10$

• **131** $:= 9\times F(8)+7-65 = -F(4+3)+F(2+10)$
$:= F(9)+F(8)+76 = 5+(4+F(3))\times 21$
$= (-5+43)\times 2+F(10)$
$:= F(-9+F(8))-F(7) = 6\times(54-32)-1$

• **132** $:= F(9)+87+6-5 = 4\times(32+1)$
$:= 9\times(F(8)-7)+6 = 5+4\times 32-1$
$= -5+F(4)^3+2\times F(10)$

• **133** $:= 9 \times F(8) - 7 \times F(6) = 5 + 4 \times 32 \times 1$

• **134** $:= 9 \times (F(8) - 7) + F(6) = 5 + 4 \times 32 + 1$

• **135** $:= 98 + 7 + 6 \times 5 \quad = 4 \times F(3^2) - 1$
$:= 9 + (8 + F(7)) \times 6 = 5^{F(4)} + 3^2 + 1$
$= 5^4/(3+2) + 10$
$:= 9 \times (8+7) \quad = -6 + 54 \times 3 - 21$
$= (-6 + 5 \times F(4)) \times (3 + 2 + 10)$

• **136** $:= (98 \times 7 - 6)/5 \quad = 4 \times F(3^2) \times 1$
$= F(4 \times 3) + 2 - 10$
$:= F(9 + F(8)/7) - F(6) = -5 + F(4 \times 3) - 2 - 1$
$= (5 + 4 \times 3) \times (-2 + 10)$

• **137** $:= 9 \times 8 + (7+6) \times 5 \quad = 4 \times F(3^2) + 1$
$= F(4)^3 + 2 \times F(10)$
$:= F(-9 + F(8)) - F(7) + 6 = 5 + 4 \times (32 + 1)$
$:= F(-9 + F(8)) - 7 \quad = 65 + 4 \times (-3 + 21)$
$= 6 - 5 + F(4 \times 3) + 2 - 10$

• **138** $:= F(9) + 8 + 7 + F(6+5) = 4 \times 32 + 10$
$:= (9 + F(8) - 7) \times 6 \quad = (5 + 4^3) \times 2 \times 1$
$:= -9 + F(8) \times 7 \quad = (65 + 4) \times (3 - 2 + 1)$
$= 6 \times (5 - 4 + 32 - 10)$

• **139** $:= -9 + F(8) \times 7 + 6 - 5 \quad = -F(4) - F(3) + F(2 + 10)$
$:= F(9) + (-8 + F(7)) \times F(F(6)) = 5 \times (-4 + 32) - 1$

• **140** $:= (-F(9) + 8 \times 7 + 6) \times 5 = 4 \times (F(3^2) + 1)$
$= (4+3) \times 2 \times 10$

• **141** $:= 9 \times 8 + 7 + 65 - F(4) = -3 + F(2 + 10)$
$:= (9 + 87 \times F(6))/5 \quad = F(4 \times 3) - 2 - 1$
$= 43 \times 2 + F(10)$
$:= 9 \times (8+7) + 6 \quad = 54 \times 3 - 21$
$= 54 + 32 + F(10)$

• **142** $:= (9 - 87) \times 6 + F(5 \times F(4)) = -F(3) + F(2 + 10)$
$:= -9 + 8 + F(7) \times (6+5) \quad = F(4 \times 3) - 2 \times 1$
$:= F(9) + 87 + F(F(6)) \quad = -5 + (4+3) \times 21$
$= 54 \times 3 - 2 \times 10$

• **143** $:= 9 \times (8+7) + F(6) = 5^{F(4)} - 3 + 21$
$= 5 + 4 \times 32 + 10$

• **144** $:= 9+87-6+54 = F(F(F(F(3)+2))+10)$
$:= F(9+F(8)/7) = 6\times(5+43)/2\times 1$
$= (65+4-F(3))\times 2+10$
$:= F(-9+F(8)) = (7-6)\times(5+F(4))\times(-3+21)$
$= (-76+54)\times 3+210$

• **145** $:= 98+7\times 6+5 = (4\times 3)^2+1$
$= 4-3+F(2+10)$
$:= F(-9+F(8))-7+F(6) = 5\times(-4+32+1)$

• **146** $:= 98+(F(7)-6+5)\times 4 = F(3)+F(2+10)$
$:= 9\times(8+7)+6+5 = F(4\times 3)+2\times 1$
$= -4^3+210$
$:= F(9)+8+F(7)\times F(6) = 5+F(4\times 3)-2-1$
$= 5+43\times 2+F(10)$

• **147** $:= 9+8+76+54 = 3+F(2+10)$
$:= 98+7^{F(F(6)-5)} = (4+3)\times 21$
$:= 9\times F(8)-7\times 6 = (5+4-F(3))\times 21$

• **148** $:= 9\times(8+7)+F(6)+5 = F(F(4))+F(3)+F(2+10)$
$:= 9\times 8+76 = 5+(4\times 3)^2-1$
$= 5^{F(4)}-32+F(10)$

• **149** $:= F(9)+8\times(7+F(6))-5 = F(F(4))+3+F(2+10)$
$:= F(9)\times(-8+F(7))-F(F(6)) = 5^{F(4)}+3+21$

• **150** $:= 98-F(7)+65 = F(4)\times(3+2)\times 10$
$:= 9\times 8+F(7)\times 6 = 5+(4\times 3)^2+1$
$= 54\times 3-2-10$

• **151** $:= F(9)+87+6\times 5 = 4+3+F(2+10)$
$:= F(-9+F(8))+F(7)-6 = 5+F(4\times 3)+2\times 1$
$= 5-4^3+210$
$:= F(-9+F(8))+7 = 65+43\times 2\times 1$
$= F(6)+5+4\times 32+10$

• **152** $:= (9-8)\times(7\times F(F(6))+5) = F(4\times 3)-2+10$
$:= (F(9)-8-7)\times F(6) = (5+4+3)\times 21$
$= (5+F(4))\times(3^2+10)$

• **153** $:= 9\times 8+76+5 = 43+2\times F(10)$
$:= 9+F(F(F(8)/7)\times 6) = (54-3)\times(2+1)$
$= -54-3+210$

• **154** $:= 98+7\times F(6) = 5\times(-F(4)+F(3^2))-1$
$= 54\times 3+2-10$

• **155** $:= F(9)+8\times 7+65 \quad = -4+3\times(-2+F(10))$
$:= -9\times 8+F(F(7))-6 = 5\times(4+3^{2+1})$
$= 5\times(43-2-10)$

• **156** $:= 98-7+65 \quad = F(4+3)\times(2+10)$
$:= 9\times 8\times F(7)/6 = 5^{F(4)}+32-1$
$= 5+F(4)\times 32+F(10)$
$:= 9+F(8)\times 7 \quad = (F(6)+5)\times 4\times 3\times(2-1)$
$= 65+4+32+F(10)$

• **157** $:= (9+F(8)\times 7)+6-5 = F(4+3)+F(2+10)$
$:= F(F(9)-F(8))-76 \quad = 5^{F(4)}+32\times 1$
$:= F(-9+F(8))+F(7) \quad = (65+F(4+3))\times 2+1$
$= 6+5-4^3+210$

• **158** $:= F(-9+F(8))-7+F(F(6)) = 5^{F(4)}+32+1$
$= -54+F(3)+210$

• **159** $:= 98+7\times F(6)+5 \quad = F(4+3)^2-10$
$:= -9+(F(8)+7)\times 6 \quad = 54\times 3-2-1$
$= -54+3+210$
$:= F(9)+8\times 7+65+4 = 3\times(-2+F(10))$

• **160** $:= 9+8+F(7)\times(6+5) = 4\times F(3)\times 2\times 10$
$:= F(9)+(8+F(7))\times 6 \quad = 54\times 3-2\times 1$

• **161** $:= 9+87+65 \quad = F(F(4))+3\times(-2+F(10))$
$:= 9+8\times(F(7)+6) = 54\times 3-2+1$
$:= -9\times 8+F(F(7)) \quad = 65+4\times(3+21)$
$= 65+43\times 2+10$

• **162** $:= 9\times(8+7)\times 6/5 \quad = F(4)-3\times(2-F(10))$
$:= 9+(F(8)\times 7)+6 = 54\times 3\times(2-1)$
$= 54\times 3+21\times 0$

• **163** $:= 98+(7+6)\times 5 \quad = 4+3\times(-2+F(10))$
$:= (F(9)-F(8))\times F(7)-6 = 54\times 3+2-1$
$= -5+4\times(32+10)$

• **164** $:= -9+(F(8)+7)\times 6+5 = F(4\times 3)+2\times 10$
$:= 9+F(8)\times 7+F(6) \quad = 54\times 3+2\times 1$

• **165** $:= 98+76-5-4 \quad = F(F(3)+2)\times F(10)$
$:= F(9)+(8+F(7))\times 6+5 = F(4\times 3)+21$
$:= F(9+F(8)/7)+F(F(6)) \quad = 5\times(4\times 3+21)$

$\bullet$ **167** $:= -9\times 8+F(F(7))+6 = 5^{F(4)}+F(3)\times 21$
$= 5^{F(4)}+32+10$
$:= 9\times 8+(F(7)+6)\times 5 = -43+210$

$\bullet$ **168** $:= 9\times 8\times 7/(F(6)-5) = 4\times F(3)\times 21$
$= 4\times(32+10)$
$:= F(9-8+7)\times F(6) = (-5+F(4+3))\times 21$

$\bullet$ **169** $:= 98+76-5 = F(4+3)^2\times 1$
$:= (F(9)-F(8))\times(7+6) = (5+4\times F(3))^2\times 1$
$= 5^{F(4)}+F(3^2)+10$
$:= (F(9)-F(8))\times F(7) = F(6)\times 5+43\times(2+1)$
$= (F(6)+5)\times F(4+3+21\times 0)$

$\bullet$ **170** $:= 98+7+65 = F(4+3)^2+1$
$:= 9\times F(8)-F(7)-6 = 5\times(F(4)+32-1)$
$= 5\times(4+32)-10$
$:= F(9)\times(-8+F(7)) = 6+54\times 3+2\times 1$
$= F(6)-5-43+210$

$\bullet$ **171** $:= -F(9)-8+7\times 6\times 5+F(4) = 3\times(2+F(10))$
$:= 9\times(87+F(6))/5 = F(4)^3+F(2+10)$
$:= 9\times(-F(F(8)/7)+F(F(6))) = (54+3)\times(2+1)$
$= (5-4)\times 3\times(2+F(10))$

$\bullet$ **172** $:= -F(9)-F(8)+F(F(7))-6 = 5\times F(F(4)\times 3)+2\times 1$
$= 5-43+210$

$\bullet$ **173** $:= 98+(7+F(6))\times 5 = F(F(4))+3\times(2+F(10))$
$:= F(9)+F(8)\times 7-F(6) = 5+4\times F(3)\times 21$
$= 5+4\times(32+10)$

$\bullet$ **174** $:= -F(9)+8\times(F(7)+F(6)+5) = 4^3+2\times F(10)$
$:= 98+76 = 5\times(F(4)+32)-1$
$= (54\times 3)+(2+10)$

$\bullet$ **175** $:= 98+7\times(6+5) = 4+3\times(2+F(10))$
$:= 9\times F(8)+7-F(F(6)) = 5\times(4+32-1)$
$= 5\times(43+2-10)$

$\bullet$ **176** $:= 98+F(7)+65 = 4\times(F(3^2)+10)$
$:= 98+F(7)\times 6 = 5\times(F(4)+32)+1$
$= (5\times 4+F(3))\times(-2+10)$
$:= 9\times F(8)-F(7) = (6+5)\times 4\times(3+2-1)$
$= 6\times 5-4^3+210$

• **177** $:= (9+876)/5 \quad = F(4)\times(F(3)+2+F(10))$
$:= 9+(F(8)+7)\times 6 = (-5+4^3)\times(2+1)$

• **178** $:= F(9)+F(8-7+6+5) \quad = F(4+3^2)-F(10)$
$:= -F(9)-F(8)+F(7+6) = F(5+4+F(3))\times 2\times 1$
$= -5+4\times 32+F(10)$
$:= -F(9)-F(8)+F(F(7)) \;= (6+54)\times 3-2\times 1$
$= 6+5-43+210$

• **179** $:= 98+76+5 \quad = F(4+3)^2+10$

• **180** $:= 98-7+F(6+5) \;= F(4)\times 3\times 2\times 10$
$:= (9+8+F(7))\times 6 = 5\times(4+32)\times 1$

• **181** $:= 9\times(8+F(7))-F(6) = 543/(2+1)$
$:= F(9)+F(8)\times 7 \quad = (6+54)\times 3+2-1$

• **182** $:= 9\times F(8)-F(7)+6 = 54\times 3+2\times 10$
$:= (F(9)-8)\times 7 \quad = (6+54)\times 3+2\times 1$
$= 6\times 54+F(3)-F(2+10)$

• **183** $:= (F(9)-8)\times 7+6-5 = 4\times 32+F(10)$
$:= 9\times(8+F(7))-6 \quad = 54\times 3+21$

• **184** $:= (9+8)\times 7+65 \quad = 4\times(-3^2+F(10))$
$:= (9+F(8)-7)\times F(6) = -5+F(4)\times 3\times 21$
$= (5\times 4+3)\times(-2+10)$

• **185** $:= -F(9)-8+F(F(7))-6 = 5\times(4+32+1)$
$= 5^4-F(3\times 2)\times F(10)$

• **186** $:= (F(9)-F(8)/7)\times 6 = F(5\times F(F(4)))\times 3+21$
$= 5\times F(4)+3\times(2+F(10))$

• **187** $:= 9\times(F(8)+7)-65 \;= 43+F(2+10)$
$:= F(9)+F(8)\times 7+6 = -5+4^3\times(2+1)$
$= -5\times 4-3+210$

• **188** $:= 9\times F(8)+(7-F(6))^5 = F(4)^{3+2}-F(10)$
$:= 9\times F(8)-7+6 \quad = 5^{F(4)}+3\times 21$

• **189** $:= 9\times(8+7+6) \quad = (5+4)\times F(3^2-1)$
$:= F(9)\times 8-F(7)\times 6-5 = F(4)\times 3\times 21$
$:= 9\times(8+F(7)) \quad = 6+54\times 3+21$
$:= 9\times F(8) \quad = (7-F(6)\times 5)\times 4+321$
$= (-F(7)+65)\times 4-3^2-10$

• **190** $:= 9\times F(8)+(-7+F(6))^5 = (F(4\times F(3))-2)\times 10$
$:= 9\times F(8)+7-6 \quad = 5\times(4+F(3^2\times 1)) \quad = 5\times(4+32)+10$

• **191** $:= 9\times(F(8)-7)+65 \quad = 4\times F(3^2)+F(10)$
$:= -F(9)-8+F(7+6) = 5\times(4+F(3^2))+1$
$:= -F(9)-8+F(F(7)) \; = 6\times(5-4)\times 32-1$

• **192** $:= -9-F(8)+F(F(7))-6-5 = 4^3\times(2+1)$
$:= (9+8+7)\times F(6) \quad = (5+F(4))\times(3+21)$
$= -54/3+210$

• **194** $:= F(9)\times 8-F(7)-65 = -4^{F(3)}+210$
$:= F(9)\times 8-F(7)\times 6 \; = 5\times 43-21$

• **195** $:= 9\times(8+F(7))+6 = 5\times F(4+3)\times(2+1)$
$= 5\times 43-2\times 10$

• **196** $:= (98/7)^{F(F(6)-5)} = 4\times(-3\times 2+F(10))$
$:= F(9)\times 8-76 \; = -5^{F(4)}+321$
$:= 9\times F(8)+7 \quad = 6+5\times(-4+F(3)\times 21)$

• **197** $:= 9\times F(8)+7+6-5 \; = -F(4+3)+210$
$:= 9\times(8+F(7))+F(6) = (5+F(4)\times 3)^2+1$
$= -5-4\times F(3)+210$

• **198** $:= 9\times(F(8)+7-6) = (5+4)\times(F(F(3\times 2))+1)$
$= (5+4)\times(32-10)$

• **199** $:= (987+F(6))/5 \quad = (4\times 3)^2+F(10)$
$:= -F(9)+8+F(F(7))-F(6) = F(F(5+F(F(4))))-F(3^2\times 1)$
$= 5-4^{F(3)}+210$

• **200** $:= F(-9+F(8))+7\times F(6) = 5\times(43-2-1)$
$= (54/3+2)\times 10$

• **201** $:= F(9)\times 8-76+5 \quad = -F(4)\times 3+210$
$:= -9\times 8+F(7)\times F(F(6)) = 5^{F(F(4))}\times F(3\times 2)+1$
$= 5+4\times(-3\times 2+F(10))$

• **202** $:= F(-9+F(8))-7+65 = -4\times F(3)+210$
$:= 98+F(7)\times F(6) \quad = F(F(5+F(F(4))))-32+1$
$= -5\times F(F(4))+F(3)+210$
$:= 9\times F(8)+F(7) \quad = 6\times F(5+4)-3+2-1$
$= 65-4-3+F(2+10)$

• **203** $:= -9 + F(8) \times 7 + 65 \quad = -4 - 3 + 210$
$:= 9 \times F(8) - 7 + F(F(6)) = F(5+4) \times 3 \times 2 - 1$
$= 5 \times 43 - 2 - 10$
$:= -9 - F(8) + F(F(7)) \quad = (6 \times 5 + 4) \times 3 \times 2 - 1$
$= 65 + 4 \times 32 + 10$

• **204** $:= 9 + F(8)/7 \times 65 \quad = -4 - F(3) + 210$
$:= (9 + F(8)) \times 7 - 6 = 5 \times (43 - 2) - 1$
$= (5 \times 4 - 3) \times (2 + 10)$

• **205** $:= (9 + 8 - 7) \times F(F(6)) - 5 \quad = -F(4) - F(3) + 210$
$:= F(F(9) - F(8)) - 7 - F(F(6)) = 5 \times (43 - 2) \times 1$
$= -5 + (4 - 3) \times 210$

• **206** $:= -F(9) + 8 + F(F(7)) - 6 + 5 \;\; = -F(F(4)) - F(3) + 210$

• **207** $:= (98 \times 7 - 65)/F(4) \quad = -3 + 210$
$:= 9 \times (8 + 7 + F(6)) \quad = (5 + 4^3) \times (2 + 1)$
$= 5 \times 43 + 2 - 10$
$:= 9 \times F(8) + 7 + 6 + 5 \;\; = -F(4) + F(F(3 \times 2)) \times 10$
$:= -F(9) + 8 + F(F(7)) = 6 \times 5 \times (4 + 3) - 2 - 1$
$= 6 + 54 + 3 + F(2 + 10)$

• **208** $:= 98 + 76 + F(5 + 4) \quad = -F(3) + 210$
$:= -9 \times 8 + 7 \times F(6) \times 5 \quad = 4^3 + F(2 + 10)$
$:= 9 \times F(8) + F(7) + 6 \quad = -5^{F(F(4))} + F(F(3 \times 2 + 1))$
$= 5 - 4 - 3 + 210$

• **209** $:= -9 - F(8) + F(F(7)) + 6 = (5^4 + F(3))/(2 + 1)$
$= 5 - F(4) - 3 + 210$

• **210** $:= (F(9) + 8) \times (-7 - F(6) + 5 \times 4) = F(F(3 \times 2)) \times 10$
$:= (9 + F(8)) \times 7 \times (6 - 5) \quad = (4 - 3) \times 210$
$:= (F(9) + 8 - 7) \times 6 \quad = 5 \times (43 - 2 + 1)$
$= (-5 + F(4) + 3) \times 210$
$:= (9 + F(8)) \times 7 \quad = 65 + (4 \times 3)^2 + 1$
$= 654/3 + 2 - 10$

• **211** $:= -9 - F(8) + F(F(7)) + F(6) = -5 + (4 + F(3))^{2+1}$
$= -5 + 4 + F(3) + 210$

• **212** $:= (9 - F(8) + (7 + 6) \times 5) \times 4 \quad = F(3) + 210$
$:= -F(9) + 8 + F(7 + 6) + 5 \quad = F(F(4 + 3)) - 21$
$= 4 - F(3) + 210$
$:= (9 - 8) \times (F(F(7)) - F(F(6))) = 5 \times 43 - 2 - 1$
$= -5 + 4 + 3 + 210$

• **213** $:= (9-8)\times(76-5)\times F(4) = 3+210$
$:= -9-8+F(F(7))-F(6)+5 = F(4)+F(F(3\times 2))\times 10$
$:= 9+(F(8)+F(7))\times 6 = 5\times 43-2\times 1$
$= (5-4)\times(3+210)$

• **214** $:= F(9)\times 8+7-65 = 4+F(F(3\times 2))\times 10$
$:= -F(9)+F(8)+F(F(7))-6 = 5\times 43-2+1$
$= (5-4+3)+210$

• **215** $:= (9-8+7\times 6)\times 5 = F(F(4))+3+210$
$:= (9+8)\times F(7)-6 = 5\times 43\times(2-1)$
$= 5\times(43+2)-10$

• **216** $:= 9\times 8\times(7+F(6))/5 = (4+F(3))^{2+1}$
$= 4+F(3)+210$
$:= (9+F(8))\times 7+6 = 54\times(3+2-1)$
$= 5+4-3+210$
$:= -9-8+F(F(7)) = 654/3-2\times 1$
$= F(6)+5-4-3+210$

• **217** $:= -9-8+F(F(7))+6-5 = 4+3+210$
$:= 9\times F(8)+7+F(F(6)) = 5\times 43+2\times 1$
$= -5+4\times 3+210$

• **218** $:= 9+8\times F(7)+F(F(6))\times 5 = 4\times F(3)+210$
$:= (9+F(8))\times 7+F(6) = 5\times 43+2+1$
$= (5-F(4))^3+210$

• **219** $:= -9+8+F(F(7))-F(6)-5 = F(4)\times 3+210$
$:= 9\times 8+7\times F(F(6)) = F(5\times F(F(4)))\times(F(3)+2)-1$
$= 54\times 3+2+F(10)$

• **220** $:= (-9-F(8))\times(7+6)+F(5\times F(4)) = (F(3)+2)\times F(10)$
$:= (9+8)\times F(7)-6+5 = 4\times F(3^2+1)$
$= 4\times(3-2)\times F(10)$
$:= F(-9+F(8))+76 = 5\times(43+2-1)$
$= (54-32)\times 10$
$:= F(F(9)-F(8))-F(7) = 6+5\times 43-2+1$
$= F(6)-5+4+3+210$

• **221** $:= 9+F(8)\times 7+65 = F(F(4+3))-2-10$
$:= (9+8)\times(7+6) = 5+(4+F(3))^{2+1}$
$= 5+4+F(3)+210$
$:= (9+8)\times F(7) = 654/3+2+1$
$= 6+5\times(43+2)-10$

• **222** $:= (9+8)\times F(7)+6-5 = 4\times 3+210$
$:= (9+F(8)+7)\times 6 \quad = (5\times F(4))^{F(3)}-2-1$
$= 5+4+3+210$

• **223** $:= F(9)-F(8)+7\times 6\times 5 \quad = F(4+3)+210$
$:= 9\times F(8)+F(7)+F(F(6)) = (5+F(F(4)))\times 32-1$
$= 5\times 43-2+10$

• **224** $:= -9+F(8\times(7-6)+5) = 4\times(3-2+F(10))$
$:= -9+F(F(8-7+6)) \quad = 5\times(43+2)-1$

• **225** $:= 9\times(F(8)-7+6+5) \quad = F(F(4+3))+2-10$
$:= (9-8)\times F(F(7))-F(6) = 5\times(43+2)\times 1$

• **226** $:= 9\times F(8)+7\times 6-5 \quad = 4^{F(3)}+210$
$:= 9-8+F(F(7))-F(6) = 5\times(43+2)+1$
$= 54\times(F(3)+2)+10$
$:= F(F(9)-F(8))-7 \quad = F(6)+5\times 43+2+1$
$= 654/3-2+10$

• **227** $:= (9+8)\times F(7)+6 \quad = -5+F(F(4+3))-2+1$
$= 5+4\times 3+210$

• **228** $:= 9+(F(8)+7)\times F(6)-5 = (F(F(4))+F(3))\times(2+F(10))$
$:= 9-8+F(F(7))-6 \quad = (5\times F(4))^{F(3)}+2+1$
$= 54/3+210$

• **229** $:= (F(9)+8)\times 7-65 \quad = -4+F(F(3\times 2+1))$
$:= (9+8)\times F(7)+F(6) = 5^{F(4)}\times F(3)-21$

• **230** $:= (-9-F(8)+76)\times 5 = F(F(4+3))-2-1$
$:= F(9)\times 8-7\times 6 \quad = 5\times(43+2+1)$
$= 5\times(4+32+10)$

• **231** $:= -9+8+F(F(7))-6+5 = F(F(4+3))-2\times 1$
$= F(4\times F(3))+210$
$:= 9\times F(8)+7\times 6 \quad = -5+4^{F(3)}\times 21$
$= 5+4^{F(3)}+210$

• **232** $:= -9+8+F(F(7))\times(6-5) = F(4+3^2)-1$
$= 65-43+210$
$:= -9+8+F(7+6) \quad = -5+4+F(F(3\times 2+1))$
$= -5+F(4)^3+210$
$:= -9+8+F(F(7)) \quad = F(6-5+4\times 3)-2+1$

$\bullet$ **233** $:= F(98-76-5-4) = F(F(3\times 2+1))$
$:= F(-9+87-65) = F(4+3^2\times 1)$
$= F(4)^{3+2}-10$
$:= (9-8)\times F(7+6) = F(5+4+3+2-1)$
$= 5\times 4+3+210$
$:= (9-8)\times F(F(7)) = 65\times 4-3^{2+1}$
$= (65+4)/3+210$
$:= F(F(9)-F(8)) = (765-F(4))/3-21$
$= -7+6\times 5\times(4-3)+210$

$\bullet$ **234** $:= 9\times(8\times 7-6\times 5) = F(4+3^2)+1$
$= F(F(4+3))+2-1$
$:= 9-8+F(7+6) = 5-4+F(F(3\times 2+1))$
$= (5+F(4))\times 3+210$
$:= 9-8+F(F(7)) = 6\times(54/3+21)$
$= 6+54/3+210$

$\bullet$ **235** $:= F(9)\times 8-7\times 6+5 = F(F(4+3))+2\times 1$

$\bullet$ **236** $:= 9\times F(8)+7\times 6+5 = F(F(4+3))+2+1$

$\bullet$ **237** $:= -9+8+F(7+6)+5 = 4+F(F(3\times 2+1))$
$= F(4)^3+210$
$:= -9-8+F(F(7))+F(F(6)) = -5+F(4)^{3+2}-1$
$= (5+4)\times 3+210$

$\bullet$ **238** $:= F(9)\times(8-7+6) = -5+F(4)^{3+2}\times 1$
$= 5+F(4)^{3+2}-10$

$\bullet$ **239** $:= (9-8)\times F(F(7))+6 = 5+F(4+3^2)+1$
$= 5^{F(4)}+F(3)\times(2+F(10))$
$:= -F(9)+F(8)\times F(7) = 654/3+21$
$= 6\times 5-4+3+210$

$\bullet$ **240** $:= 9-8+F(F(7))+6 = 5\times(F(4)^3+21)$
$= (5+4+3)\times 2\times 10$
$:= F(F(9)-F(8))+7 = F(6)\times(54-3-21)$
$= 6\times 5\times(4-3)+210$

$\bullet$ **241** $:= 98+F(7)\times(6+5) = F(F(4+3))-2+10$
$:= (9-8)\times F(F(7))+F(6) = 5+F(4)+F(F(3\times 2+1))$
$= F(5+4)-3+210$

$\bullet$ **242** $:= 98+F(F(7)-6+5) = F(4)^{3+2}-1$
$:= 9+F(F(8-7+6)) = (5-F(F(4)))^{3+2}-1$
$= 5+F(4)^3+210$

• **243** $:= F(9)\times(8-7+6)+5 = F(4)^{3+2}\times 1$
$= F(4+3^2)+10$
$:= 9\times(8+F(7)+6)$ $= (5+4)^3/(2+1)$

• **244** $:= -9+F(8)+F(F(7))-6+5 = F(4)^{3+2}+1$
$= 4\times(3\times 2+F(10))$
$:= 9+8+F(F(7))-6$ $= 5\times(4+3)^2-1$

• **245** $:= 9+8+F(7+6)-5$ $= F(F(4+3))+2+10$
$:= 98+7\times F(F(6))$ $= 5\times(4+3)^2\times 1$
$= 5\times(4+3)+210$
$:= -9+F(8)+F(F(7))$ $= 6+5+F(4+3^2)+1$
$= 65\times 4-3-2-10$

• **246** $:= F(9)-F(8)+F(F(7))\times(6-5) = 4^{F(3)+2}-10$
$:= 9\times(F(8)+7)-6$ $= 5\times(4+3)^2+1$
$= (5+F(4))\times 32+10$
$:= F(9)-F(8)+F(F(7))$ $= F(F(6)+5)+4+3^2\times 1$
$= 6\times(-5+4+32+10)$

• **247** $:= F(F(9)-F(8))-7+F(F(6)) = -5+4\times 3\times 21$
$= F(5+4)+3+210$
• **248** $:= (F(9)-F(8)/7)\times F(6)$ $= (5+F(4))\times(32-1)$
$= -5+43+210$

• **250** $:= 98+7\times F(F(6))+5 = (F(4)^3-2)\times 10$
$:= 9+8+F(7+6)$ $= 5\times((4+3)^2+1)$
$= 5\times(4+3-2)\times 10$
$:= 9+8+F(F(7))$ $= 65\times 4-3^2-1$
$= (-F(6)+5-4+32)\times 10$

• **251** $:= F(9)\times 8-F(7)-F(6) = -5+4^{F(3)\times 2}\times 1$

• **252** $:= -9+87\times(F(6)-5)$ $= 4\times 3\times 21$
$:= F(9)-F(8)+F(F(7))+6 = (5+4+3)\times 21$
$:= 9\times(F(8)+7)$ $= -65-4+321$

• **253** $:= 9\times(F(8)+7)+6-5 = 43+210$
$:= F(9)\times 8-F(7)-6$ $= 5^{F(4)}\times F(3)+2+1$

• **254** $:= F(9)\times 8-7-6-5$ $= F(F(4+3))+21$
$:= F(9)+8+F(F(7))-F(F(6)) = F(F(-5+4\times 3))+21$

• **255** $:= (98-F(7))\times(F(6)-5) = 4^{F(3)+2}-1$
$:= (9+8)\times(7+F(6))$ $= (5+F(4))\times 32-1$
$= 5\times(43-2+10)$

• **256** $:= ((98/7+6)/5)^4 = F(3)^{-2+10}$
$:= 9\times(8+F(7)+F(6))-5 = 4^{3+2-1}$
$= 4\times(3^2+F(10))$
$:= 9+8+F(F(7))+6 = (5+F(4))\times 32\times 1$

• **257** $:= 9+8+7+F(F(6)+5) = 4^{F(3)+2}+1$
$:= F(9)\times 8-7-F(6) = 5+4\times 3\times 21$

• **258** $:= F(9)\times 8-F(7)-6+5 = F(F(4))+F(3)^{-2+10}$
$:= 9\times(F(8)+7)+6 = 5^{F(F(4))}+F(F(3\times 2+1))$
$= 5+43+210$

• **259** $:= 9+(8\times 7-6)\times 5 = F(4)+F(3)^{-2+10}$
$:= F(9)\times 8-7-6 = 5+F(F(4+3))+21$
$:= F(9)\times 8-F(7) = -65+F(4)+321$
$= -65+4+32\times 10$

• **260** $:= (F(9)+F(8)/7\times 6)\times 5 = F(4+3)\times 2\times 10$
$:= 9\times(F(8)+7)+F(6) = 5+4^{F(3)+2}-1$
$= 54\times(3+2)-10$

• **261** $:= (9\times 87)/(F(6)-5) = F(4)\times(32+F(10))$
$:= 9\times(8+F(7)+F(6)) = 5+4^{3+2-1}$
$= 54-3+210$

• **263** $:= 9+F(8)+F(7+6) = 5\times 4^3-2-F(10)$
$:= 9+F(8)+F(F(7)) = 6\times 5+F(4+3^2)\times 1$
$= 65-4\times 3+210$

• **264** $:= -9+F(8)\times(7+6) = (5+F(4))\times(32+1)$
$= (5+F(4))+F(3)^{-2+10}$
$:= -9+F(8)\times F(7) = (F(6+5)+43)\times 2\times 1$
$= (65-43)\times(2+10)$

• **265** $:= F(9)\times 8-7\times(6-5) = (F(F(4))+3)\times(-2+F(10))$
$:= 9\times F(8)+76 = 5\times(F(4)^3\times 2-1)$
$= 5\times(4-3)\times(-2+F(10))$
$:= F(9)\times 8-7 = F(6)+5+4\times 3\times 21$
$= 65\times 4-3-2+10$

• **266** $:= 98+F(F(7))-65 = -F(5\times F(F(4)))+321$
$= -54+32\times 10$
$:= F(9)\times(F(8)-F(7))-6 = 4^{F(3)+2}+10$

• **267** $:= 9 \times F(8) + F(7) + 65 \quad = F(4) \times F(3-2+10)$
$:= F(9) \times 8 - F(7) + F(6) = -54 + 321$
$= 54 + 3 + 210$

• **269** $:= 9 + F(8) + F(F(7)) + 6 = 54 \times (3+2) - 1$
$= -5 + 4^3 + 210$

• **270** $:= 9 \times F(8) + 76 + 5 \quad = F(4) \times 3^2 \times 10$
$:= 9 \times (-8 + F(7)) \times 6 = 54 \times (3+2) \times 1$
$= 5 \times 4 \times 3 + 210$

• **271** $:= -9 \times 8 + 7^{F(6)-5} = -4 + (3+2) \times F(10)$
$:= F(9) \times 8 - 7 + 6 \; = 54 \times (3+2) + 1$
$= 54 \times (F(3)+2) + F(10)$

• **272** $:= (9+8) \times (F(7) + F(6) - 5) = F(F(4) \times 3) \times (-2+10)$
$:= F(9) \times 8 \times (7-6) \quad = F(5+4) \times F(3 \times 2) \times 1$
$= 5 \times 43 + 2 + F(10)$
$:= F(9) \times (F(8) - F(7)) \quad = F(6) \times F(5+4) \times 3/(2+1)$
$= 6 - 54 + 32 \times 10$

• **272** $:= F(9) \times 8 = F(F(7)) - 6 + 5 + 43 - 2 - 1 = (-F(7) + 6 \times 5) \times (4 \times 3/2 + 10)$

• **273** $:= (98-7) \times (F(6) - 5) = F(4+3) \times 21$
$:= F(9) \times 8 + 7 - 6 \quad = F(-5 + 4 \times 3) \times 21$

• **274** $:= F(9) \times 8 + F(7) - 6 - 5 = 4^3 + 210$
$:= 9 + F(8) \times F(7) - F(6) \; = 5 \times F(4 \times 3 - 2) - 1$
$= -5 + 4 + (3+2) \times F(10)$

• **275** $:= F(9) \times 8 + 7 - 6 + 5 - F(4) = (3+2) \times F(10)$
$:= (9 + F(8)) \times 7 + 65 \quad = (4 + 3 - 2) \times F(10)$
$:= F(9) + 8 + F(7+6) \quad = 5 \times (F(4)^3 \times 2 + 1)$
$= 5 \times (43 + 2 + 10)$
$:= F(9) + 8 + F(F(7)) \quad = F(6) - 54 + 321$
$= 6 \times 54 + 3 \times 2 - F(10)$

• **276** $:= 9 + F(8) \times F(7) - 6 = 5 \times F(4 \times 3 - 2) + 1$
$= -54 + 3 \times 2 \times F(10)$

• **277** $:= (-9 + 8 \times 7) \times 6 - 5 \quad = F(F(4)) + (3+2) \times F(10)$
$:= F(9) \times 8 + F(7) - F(6) = (-5 + F(4 \times 3)) \times 2 - 1$

• **278** $:= F(9) \times 8 + 7 - 6 + 5 \quad = F(4 \times 3) \times 2 - 10$
$:= F(9) \times (F(8) - F(7)) + 6 = (-5 + F(4 \times 3)) \times 2 \times 1$
$= (5+4) \times 32 - 10$

• **279** $:= F(9)\times 8+7\times(6-5) = 4+(3+2)\times F(10)$
$:= F(9)\times 8+F(7)-6 \quad = (5+4)\times(32-1)$
$= 5+4^3+210$
$:= F(9)\times 8+7 \quad = 65\times 4-F(3)+21$
$= F(6)+5+(4^{F(3)})^2+10$

• **280** $:= (F(9)+8-7)\times F(6) \quad = (5+F(4))\times(F(3^2)+1)$
$= 54\times(3+2)+10$

• **281** $:= F(9)+8+F(F(7))+6 = -5+F(F(4+3))-2+F(10)$

• **282** $:= -98+76\times 5 \quad = -F(F(4))\times(3-F(2+10))$
$:= (-9+8\times 7)\times 6 = -5+F(4\times 3)\times 2-1$
$:= 9+F(8)\times F(7) \quad = 6\times(5+43-2+1)$
$= 6\times 54-32-10$

• **283** $:= F(9)+8+F(F(7))+F(6) = -5+F(4\times 3)\times 2\times 1$

• **284** $:= 9+(-F(8)+76)\times 5 \quad = -4+F(3)\times F(2+10)$
$:= 9+F(8)+F(F(7))+F(F(6)) = -5+F(4\times 3)\times 2+1$

• **285** $:= 9+F(8)\times F(7)+F(6)-5 = (F(F(4))+3)\times(2+F(10))$
$:= F(9)\times 8+7+6 \quad = 5\times F(4)\times(-F(3)+21)$
$= 5+(-4+32)\times 10$
$:= F(9)\times 8+F(7) \quad = -F(6)\times 5+4+321$
$= 6+5+4^3+210$

• **286** $:= (9+8)\times F(7)+65 \quad = F(F(4+3))-2+F(10)$
$:= F(9)\times 8-7+F(F(6)) = F(5+F(F(4)))\times(F(F(3\times 2))+1)$
$= -54+F(3^2)\times 10$

• **287** $:= (-9+8\times 7)\times 6+5 = F(4\times 3)\times 2-1$
$:= F(9)\times 8+7+F(6) \quad = (5+4)\times 32-1$

• **288** $:= (9-8+76-5)\times 4 \quad = F(3)\times F(2+10)$
$:= 9\times 8\times(-7+6+5) \quad = F(4\times 3)\times 2\times 1$
$= F(4+3^2)+F(10)$
$:= (F(9)+8)\times 7-6 \quad = (5+4)\times 32\times 1$
$:= F(9)+F(8)+F(F(7)) = (-6+54)\times 3\times 2\times 1$
$= 6\times(5-4+3)\times(2+10)$

• **289** $:= (9+8)^{F(7)-6-5} \quad = F(4\times 3)\times 2+1$
$:= F(F(9)-F(8))+7\times F(6) = (5+4)\times 32+1$

• **290** $:= (9\times 8+7-F(F(6)))\times 5 = (F(4)^3+2)\times 10$
$:= 9+F(8)\times F(7)+F(6) \quad = (5+4\times 3)^2+1$
$= ((5+4)\times 3+2)\times 10$

- **291** $:= 98 + F(F(7)) - F(6) \times 5 \quad = F(4) + F(3) \times F(2+10)$
  $:= F(9) \times 8 + F(7) + 6 \quad = (5+4)^{F(3)} + 210$
- **292** $:= 9 \times 8 + F(F(7)) - F(6) - 5 = F(F(4)) \times (F(3) + F(2+10))$
- **293** $:= F(9) \times 8 + F(7) + F(6) \quad = 5 + F(4 \times 3) \times 2 \times 1$
  $= 5 + F(4 \times 3) + F(2+10)$

- **294** $:= 98 \times (7 + F(6))/5 = F(F(4)) \times (3 + F(2+10))$
  $:= (F(9) + 8 + 7) \times 6 = 5 + F(4 \times 3) \times 2 + 1$
  $= (5 + F(F(4))) \times (32 + 10)$
  $:= (F(9) + 8) \times 7 \quad = -6 - 5 \times 4 + 32 \times 10 \quad = 6 \times (5 + 43 + 2 - 1)$

- **296** $:= (9 + F(8) + 7) \times F(6) \quad = -5^{F(F(4))} + 321$
  $= 5 + F(4) + F(3) \times F(2+10)$
- **297** $:= 9 \times 8 + F(F(7)) - F(6) = (5+4) \times (32+1)$
  $= F(5 \times F(4))/F(3) + 2 - 10$

- **298** $:= 9 - F(8) \times (7 - F(F(6)) + 5) = F(4 \times 3) \times 2 + 10$
  $:= 9 \times (F(8) + F(7)) - F(6) \quad = (5 + F(4 \times 3)) \times 2 \times 1$
  $= (5+4) \times 32 + 10$

- **299** $:= 9 \times 8 + F(F(7)) - 6 = 5 \times 4^3 - 21$

- **300** $:= (9 + 8 - 7) \times 6 \times 5 = (-4 + F(3^2)) \times 10$
  $:= (F(9) + 8) \times 7 + 6 \; = -F(5 + F(4)) + 321$
  $= 5 \times 4^3 - 2 \times 10$

- **301** $:= F(9) + F(8) \times F(7) - 6 \quad = -5 \times 4 + 321$
- **302** $:= -F(9) + 8 \times 7 \times 6 \quad = F(5 \times F(4))/F(3) - 2 - 1$
- **303** $:= 9 + F(8) \times (-7 + F(F(6))) \quad = F(5 \times F(4))/F(3) - 2 \times 1$
- **304** $:= F(9) - 8 + F(7) \times F(F(6)) + 5 = 4 \times (F(F(3 \times 2)) + F(10))$

- **305** $:= 9 \times 8 + F(7+6) = 5 \times (4^3 - 2 - 1)$
  $= 5^4 - 32 \times 10$
  $:= 9 \times 8 + F(F(7)) \; = (65 - 4) \times (3 \times 2 - 1)$
  $= (6 - 5 + 4)^3 \times 2 + F(10)$

- **306** $:= 9 \times F(8 + 7 - 6) \quad = -5 \times F(4) + 321$
  $:= 9 \times (F(8) + F(7)) = 654/F(3) - 21$
  $= 6 \times (54 - 3 + 21 \times 0)$

- **307** $:= F(9) + F(8) \times (7+6) = (5+4) \times F(3^2) + 1$
  $= 5^{F(4)} \times F(3) + 2 + F(10)$
  $:= F(9) + F(8) \times F(7) \quad = 6 - 5 \times 4 + 321$

- **309** $:= F(F(9) - F(8)) + 76 = 5 \times (4^3 - 2) - 1$

• **310** $:= 9\times 8+F(7+6)+5 \quad = (-F(4)+F(3^2))\times 10$
$:= 98+F(F(7))-F(F(6)) = 5\times(4^3-2)\times 1$
$= (-5+4+32)\times 10$

• **311** $:= F(9)-F(8)+F(F(7))+65 = 4^{F(3)+2}+F(10)$
$:= 9\times 8+F(F(7))+6 \quad = 5\times(4^3-2)+1$

• **312** $:= (F(9)-8+F(7))\times F(6) = -5-4+321$
$= 5\times 4^3+2-10$

• **313** $:= 9\times 8+F(F(7))+F(6) \quad = -5-F(4)+321$

• **314** $:= F(9)\times 8+7\times 6 \quad = (5^4+3)/2\times 1$
$= 54\times 3\times 2-10$

• **315** $:= 9\times(8\times 7-F(F(6))) \quad = 5\times(4^3-2+1)$

• **316** $:= 9\times 8+F(F(7))+6+5 \quad = -4+32\times 10$

• **317** $:= 9\times(F(8)+7)+65 \quad = -4+321$
$:= (F(9)-8)\times F(7)-F(F(6)) = 5\times 4^3-2-1$

• **318** $:= F(9)+F(8)\times F(7)+6+5 = -F(4)+321$
$:= (-F(9)+87)\times 6 \quad = 5\times 4^3-2\times 1$
$= 54\times F(3)+210$

• **319** $:= 9+(8\times 7+6)\times 5 \quad = -F(F(4))+321$

• **320** $:= 98+F(F(7))-6-5 = 4^3/2\times 10$

• **321** $:= -98-F(7)+F(6)\times 54 \quad = 321$
$:= -9-8+F(F(7))+F(F(6))\times 5 = F(4)\times(-3+2\times F(10))$

• **322** $:= (F(9)+8)+7\times F(6)\times 5 \quad = F(F(4))+32\times 10$
$:= -F(9)+F(F(8)-7)-F(F(6)) = 5-4+321$

• **323** $:= (9+8)\times(-7+F(F(6))+5) = F(F(4))+321$
$= F(4)+32\times 10$
$:= (9+8)\times(F(7)+6) \quad = 5-F(4)+321$
$= -54+F(F(3)+2+10)$

• **324** $:= 9+(F(8)+7\times 6)\times 5 = F(4)+321$
$= 4+32\times 10$
$:= 9+F(8)\times(7+F(6)) \quad = 54\times(3+2+1)$

• **325** $:= -F(9)-F(8)+76\times 5 = 4+321$
$:= 98+F(F(7))-6 \quad = 54\times 3\times 2+1$
$= 5\times 43+2\times F(10)$

• **326** $:= 98+F(7+6)-5 \quad = -4+3\times 2\times F(10)$
$:= 9\times 8+F(F(7))+F(F(6)) = F(5\times F(4))/F(3)+21$
$= 5+F(4)\times(-3+2\times F(10))$

- **327** $:= (F(9)-8)\times F(7)-6-5 = -F(4)+3\times 2\times F(10)$
  $:= -9+8\times 7\times 6 = 5+F(F(4))+32\times 10$
- **328** $:= 9+F(8)+F(F(7))-65 = -F(F(4))+3\times 2\times F(10)$
  $:= F(9)\times 8+7\times F(6) = 5+F(F(4))+321$
  $= 5\times 4^3-2+10$

- **329** $:= 987/(F(6)-5) = F(4^{F(3)})/(2+1)$

- **330** $= (98-(7-65)\times 4) = 3\times 2\times F(10)$
  $:= F(9)\times 8-7+65 = 4\times 3/2\times F(10)$
  $:= F(9+8-7)\times 6 = 5+4+321$
  $= (5-4+3)\times 10$

- **331** $:= 98+F(7+6) = 5\times F(F(4))+321$
  $:= 98+F(F(7)) = 6\times 54+3\times 2+1$
- **332** $:= -9+8\times 7\times 6-5 = F(F(4))+3\times 2\times F(10)$
  $:= (F(9)-8)\times F(7)-6 = 5\times 4^3+2+10$

- **333** $:= F(9)\times 8+7\times F(6)+5 = F(4)+3\times 2\times F(10)$
- **334** $:= F(9)\times F(8)-76\times 5 = 4+3\times 2\times F(10)$
- **335** $:= -F(9)-8+F(-7+F(F(6))) = 5\times (4+3\times 21)$
  $= 5\times F(4)+32\times 10$

- **336** $:= 98+F(7+6)+5 = 4^{F(3)}\times 21$
  $:= 9\times F(8)+7\times F(F(6)) = 5\times F(4)+321$

- **337** $:= 98+F(F(7))+6 = F(5+F(F(4)))^{F(3)}\times 2-1$
  $= 5+F(F(4))+3\times 2\times F(10)$
  $:= F(9)\times 8+(7+6)\times 5 = -F(4)+F(3^2)\times 10$

- **338** $:= -F(9)-8+76\times 5 = -F(F(4))+F(3^2)\times 10$
  $:= (F(9)-8)\times (7+6) = -5+(4+3)^{2+1}$
  $= 5^{F(4)}+3+210$
  $:= (F(9)-8)\times F(7) = F(6)+5+4+321$
  $= 6\times (-5+43)+2\times F(10)$

- **339** $:= (9+F(8)+F(7))\times F(6)-5 = F(4)\times (3+2\times F(10))$
  $:= 98+F(F(7))+F(6) = 5\times F(F(4)\times 3)\times 2-1$
  $= -5+43\times (-2+10)$

- **340** $:= 98+F(7+6)+5+4 = F(3^2)\times 10$
  $:= 9+8\times 7\times 6-5 = F(4+3+2)\times 10$
  $:= F(9)\times (F(F(8)/7)+F(6)) = 5\times F(F(4)\times 3)\times 2\times 1$
  $= 5\times (4^3+2)+10$

$\bullet$ **342** $:= 98 + F(F(7)) + 6 + 5 = (4 + F(3)) \times (2 + F(10))$

$\bullet$ **343** $:= F(9) \times 8 + 76 - 5 = (4+3)^{2+1}$
$= F(4) + F(3^2) \times 10$
$:= -F(9) + F(F(8) - F(7) + 6) = (-5 + 4 \times 3)^{2+1}$
$:= -F(9) + F(F(8) - 7) = 6 \times (54 + 3) + 2 - 1$
$= (-6 + 5 \times F(4)) \times 32 + F(10)$

$\bullet$ **344** $:= 9 - 8 + 7^{F(6)-5} = 43 \times (-2 + 10)$
$:= (F(9) - 8) \times F(7) + 6 = (5 + F(F(4)))^3 + 2 - 1$
$= (5 \times 4 - 3)^2 + F(10)$

$\bullet$ **345** $:= 9 + 8 \times 7 \times 6 = 5 \times F(4) \times (F(3) + 21)$
$= 5 \times (4^{F(3)} - 2 + F(10))$

$\bullet$ **346** $:= (F(9) - 8) \times F(7) + F(6) = 5^{F(F(4))} + 321$
$= F(F(5 + F(F(4)))) + 3 + 2 \times F(10)$

$\bullet$ **347** $:= -9 + F(F(8) - 7) - F(F(6)) = 5 + F(F(4)) \times 3 \times (2 + F(10))$

$\bullet$ **348** $:= -F(9) + F(F(8) - F(7)) + 6 + 5 = 4 \times (32 + F(10))$
$:= F(9) \times 8 + 76 = 5 + (4+3)^{2+1}$
$= 5 + F(4 \times 3) \times 2 + F(10)$

$\bullet$ **349** $:= -F(9) + F(F(8) - 7) + 6 = 5 + 43 \times (-2 + 10)$

$\bullet$ **350** $:= F(9) \times 8 + F(7) + 65 = (F(4) + 32) \times 10$
$:= F(9) \times 8 + F(7) \times 6 = 5 \times F(F(4)) \times F(3^2 + 1)$
$= 5^4 - (3 + 2) \times F(10)$

$\bullet$ **351** $:= -F(9) + F(F(8) - 7) + F(6) = F(5 + F(F(4))) \times 3^{2+1}$
$= F(5 + F(4)) + 3 \times 2 \times F(10)$
$:= 98 + F(F(7)) + F(F(6)) = (5 + F(4)) \times (F(3^2) + 10)$

$\bullet$ **354** $:= F(9) \times 8 - 7 + F(6 + 5) = F(4 \times 3) + 210$
$:= (9 \times 8 - F(7)) \times 6 = 5^{F(4)} \times 3 - 21$

$\bullet$ **356** $:= 9 + F(F(8) - 7) - 6 \times 5 = 4 \times (F(3^2) + F(10))$
$:= F(98/7) - F(F(6)) = F(5 + F(4) \times 3) - 21$
$= F(F(5 + F(F(4)))) \times F(3) - 2 \times F(10)$

$\bullet$ **357** $:= (9 + 8) \times (F(7) + F(6)) = (5 + 4 \times 3) \times 21$

$\bullet$ **359** $:= (F(9) - 8) \times F(7) + F(F(6)) = 5 \times F(4 \times 3)/2 - 1$
$= 5 + F(4 \times 3) + 210$

$\bullet$ **360** $:= 9 \times (F(8) + F(7) + 6) = 5 \times 4 \times (-3 + 21)$
$= 54/3 \times 2 \times 10$

$\bullet$ **362** $:= -9 + F(F(8) - 7) - 6 = (F(5 + F(4)) - F(3))^2 + 1$

$\bullet$ **364** $:= (F(9)-F(8))\times(7+F(F(6))) = (5+F(F(4)))^3+21$
$= F(5+4)+3\times 2\times F(10)$

$\bullet$ **365** $:= 9+F(F(8)-7)-F(F(6)) = 5\times(F(4\times 3)/2+1)$
$= -5+(F(4)+F(3^2))\times 10$

$\bullet$ **367** $:= -F(9)+F(8)+76\times 5 = F((4+3)\times 2)-10$

$\bullet$ **368** $:= -9+F(F(8)-F(7)+6) = (5+F(4))\times(-3^2+F(10))$
$:= -9+F(F(8)-7) = -65+432+1$
$= -6+54+32\times 10$

$\bullet$ **369** $:= F(98/7)-F(6) = (5^{F(4)}-F(3))\times(2+1)$
$= -5-F(4)+F(F(3)+2+10)$

$\bullet$ **370** $:= F(9)\times 8-7+F(F(6))\times 5 = (F(4)+F(3^2))\times 10$
$:= F(9)+8\times 7\times 6 = (5+4^3/2)\times 10$

$\bullet$ **371** $:= -F(9)+(87-6)\times 5 = (4+3)\times(-2+F(10))$
$:= F(98/7)-6 = -5+F((4+3)\times 2)-1$
$= (5+4-F(3))\times(-2+F(10))$

$\bullet$ **372** $:= (F(9)+F(8)+7)\times 6 = -5+F((4+3)\times 2)\times 1$
$= 54\times 3+210$

$\bullet$ **373** $:= -9-8+F(7)\times 6\times 5 = -4+F(F(3)+2+10)$

$\bullet$ **374** $:= F(98/7)-F(6)+5 = -F(4)+F(F(3)+2+10)$
$:= -9+F(F(8)-7)+6 = 5^{F(4)}\times 3-2+1$
$= 54+32\times 10$

$\bullet$ **375** $:= (-9+8+76)\times 5 = -F(F(4))+F(F(3)+2+10)$

$\bullet$ **376** $:= F(98/7)-6+5 = F((4+3)\times 2)-1$
$:= (-9+8\times 7)\times F(6) = 5^{F(4)}\times 3+2-1$

$\bullet$ **377** $:= 9-8+76\times 5-4 = F(F(3)+2+10)$
$:= F(98/7)\times(6-5) = F((4+3)\times 2)\times 1$
$= 432-F(10)$
$:= F(9-8+7+6) = F(5-4\times 3+21)$
$:= F(98/7) = F(6-5+4\times 3+2-1)$
$= F(65-43+2-10)$

$\bullet$ **378** $:= 98+7\times F(6)\times 5 = F((4+3)\times 2)+1$
$:= 9+F(F(8)-7)-F(6) = 54/3\times 21$

$\bullet$ **379** $:= -9+8+76\times 5 = F(F(4))+F(F(3)+2+10)$
$:= (F(9)+F(8))\times 7-6 = (5\times 4)^{F(3)}-21$

$\bullet$ **380** $:= (9-8)\times 76\times 5 = (4+F(3^2))\times 10$
$:= 9+F(F(8)-7)-6 = 5\times 4\times(-F(3)+21)$
$= 5\times(43\times 2-10)$

- **381** $:= 9-8+76\times 5 = 4+F(F(3)+2+10)$
- **382** $:= (9+F(8))\times F(7)-F(6) = -5+F((4+3)\times 2)\times 1$
- **383** $:= F(98/7)+6 = 5+F((4+3)\times 2)+1$
- **384** $:= (9+F(8))\times F(7)-6 = (5^{F(4)}+3)\times(2+1)$
  $= 54+3\times 2\times F(10)$

- **385** $:= (9-8+76)\times 5 = (F(4)\times 3-2)\times F(10)$
  $:= F(98/7)+F(6) = F(5\times F(F(4)))\times(3\times 2+1)$
  $= (5-4+3\times 2)\times F(10)$
  $:= (F(9)+F(8))\times 7 = (6+5)\times(4+32-1)$
  $= (6+5)\times(43+2-10)$

- **386** $:= -9+(87-F(6))\times 5 = F(4\times F(3))^2-F(10)$
  $:= 9+F(F(8)-F(7)+6) = -54+F(3\times 2)\times F(10)$
  $:= 9+F(F(8)-7) = F(6)+54/3\times 21$
  $= F(-6+5\times 4)-3+2+10$

- **387** $:= 9+F(8)\times(7+6+5) = F((4+3)\times 2)+10$
- **389** $:= -9+F(F(8)-7)+F(F(6)) = F(5+F(4)\times 3)+2+10$
- **390** $:= (9+8\times 7)\times 6 = (5+F(F(4))+32)\times 10$
  $:= (9+F(8))\times F(7) = 65+4+321$

- **391** $:= (F(9)+F(8))\times 7+6 = (5+F(4\times F(3))^2)-F(10)$
- **392** $:= (F(9)+8+7)\times F(6) = (5\times 4)^{F(3)}+2-10$
- **393** $:= (F(9)+F(8))\times 7+F(6) = (F(5+F(F(4))))^{F(3)}\times 2+F(10)$
- **394** $:= 9+F(F(8)-7)+F(6) = 54+F(3^2)\times 10$
- **396** $:= (9+F(8))\times F(7)+6 = 5^{F(4)}\times 3+21$

- **398** $:= F(98/7)+F(F(6)) = ((5\times 4)^{F(3)}-2)\times 1$
  $= -F(5+4)+3\times F(2+10)$

- **399** $:= 9\times F(8)+7\times 6\times 5 = (4+3)\times(2+F(10))$
  $:= (F(9)-8-7)\times F(F(6)) = (F(5+F(4))-F(3))\times 21$
  $= 543-F(2+10)$

- **401** $:= 9\times F(8)+F(F(7))-F(F(6)) = (5\times 4)^{F(3)}+2-1$
  $= (-5+F(F(4+3)))\times 2-F(10)$

- **403** $:= F(9)+F(F(8)-7)-F(6) = (5\times 4)^{F(3)}+2+1$
  $= F(5\times F(4))+3-210$
- **405** $:= F(9)+F(F(8)-7)-6 = 5\times F(4)\times 3^{2+1}$
  $= -5+(43-2)\times 10$

• **406** $:= (F(9)+F(8))\times 7+F(F(6)) = 5\times(F(4)\times 3)^2+1$
$= -F(5+4)+F(3\times 2)\times F(10)$

• **407** $:= (9+F(F(8)-7))+F(F(6)) = -F(5+F(F(4)))+F(3)\times 210$

• **408** $:= (9+8)\times(F(7)+6+5) = F(F(4)\times 3)\times(2+10)$
$:= 9+F(8)\times(F(7)+6) = (54-3)\times(-2+10)$

• **410** $:= 9+F(8)+76\times 5 = (43-2)\times 10$

• **411** $:= -9+(8+76)\times 5 = F(F(4+3))\times 2-F(10)$
$:= (9+F(8))\times F(7)+F(F(6)) = -5-4+F(3)\times 210$
$:= F(9)+F(F(8)-7) = 6+5\times F(4)\times 3^{2+1}$
$= -6-5+432-10$

• **414** $:= 9+(87-6)\times 5 = F(F(4))\times(-3+210)$
$:= -F(9)+8\times 7\times F(6) = (5-F(4))\times(-3+210)$

• **416** $:= -F(9)+(8+7)\times 6\times 5 = -4+F(3)\times 210$
$:= 9\times F(8)+F(F(7))-6 = F(5+F(F(4)))\times 32\times 1$
$= (54-F(3))\times(-2+10)$

• **417** $:= F(98/7)+F(6)\times 5 = -F(4)+F(3)\times 210$
$:= F(9)+F(F(8)-7)+6 = (-5+F(4\times 3))\times(2+1)$
$= -5+432-10$

• **419** $:= F(9)\times 8+7\times F(F(6)) = 5\times 4\times F(F(3\times 2))-1$
$= -5+4+F(3)\times 210$

• **420** $:= 9+87+6\times 54 = F(3)\times 210$
$:= 98/7\times 6\times 5 = (4-F(3))\times 210$
$:= (-F(9)+8\times F(7))\times 6 = 5\times F(F(4))\times F(3)\times 21$
$= 5\times 43\times 2-10$

• **421** $:= -9\times F(8)+F(7+F(6)) = (5\times 4)^{F(3)}+21$

• **422** $:= F(9)+8+76\times 5 = 432-10$
$:= 9\times F(8)+F(7+6) = 5-F(4)+F(3)\times 210$
$:= 9\times F(8)+F(F(7)) = -6-5+432+1$
$= (6-5)\times 432-10$

• **423** $:= 9\times(87-F(6)\times 5) = F(4)+F(3)\times 210$

• **424** $:= 9+(8\times F(7)-F(F(6)))\times 5 = 4+F(3)\times 210$
$:= (-F(9)+87)\times F(6) = (5-F(4))\times(F(3)+210)$

• **426** $:= 9+F(F(8)-7)+F(6)\times 5 = F(F(4))\times(3+210)$

• **428** $:= F(9)+F(8)\times(F(7)+6)+5 = 4\times(-3+2\times F(10))$
$:= 9\times F(8)+F(F(7))+6 = -5+432+1$

• **429** $:= 9+(8+76)\times 5 = -F(4)+3\times F(2+10)$

• **430** $:= -F(9)+8\times(-7+65) \quad = -F(F(4))+3\times F(2+10)$
$:= 9\times F(8)+F(F(7))+F(6) = 5\times 43\times 2\times 1$

• **431** $:= -F(9)+(87+6)\times 5 = 432-1$

• **432** $:= (98/7-6)\times 54 \quad = 3\times F(2+10)$
$:= 9\times(8\times 7-F(6)) = 54\times(3^2-1)$

• **433** $:= -9+(F(8)+F(7))\times(F(6)+5) = 432+1$
$:= F(9)+F(8)\times(F(7)+6) \quad = 54\times F(3\times 2)+1$
$= 543-2\times F(10)$

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• **434** $:= -9+8\times 7\times F(6)-5 \quad = F(F(4))+3\times F(2+10)$

• **435** $:= F(9)+F(8)+76\times 5 \quad = F(4)+3\times F(2+10)$

• **436** $:= 9\times(F(8)+7+F(F(6)))-5 = 4+3\times F(2+10)$

• **437** $:= 9\times(F(8)-F(7))\times 6+5 \quad = -F(4)+F(3\times 2)\times F(10)$

• **438** $:= -9-8+7\times 65 \quad = -F(F(4))+F(3\times 2)\times F(10)$

• **439** $:= -9+8\times 7\times F(6) = F(5\times F(F(4)))\times F(3\times 2)-1$
$= -5+4+F(3\times 2)\times F(10)$

• **440** $:= F(9)-F(8)+7\times(65-4) = F(3\times 2)\times F(10)$
$:= (9+87-F(6))\times 5 \quad = F(4\times F(3))^2-1$
$:= F(9+8-7)\times F(6) \quad = 5\times(F(F(4)\times 3+2)-1)$
$= 5\times 43\times 2+10$

• **441** $:= -F(9)+(87+F(6))\times 5 = F(4\times F(3))\times 21$
$:= F(9-8+7)\times F(F(6)) \quad = (5+4^{F(3)})\times 21$
$= F(4)\times(3+F(2+10))$

• **442** $:= F(98/7)+65 \quad = F(4\times F(3))^2+1$
$= 432+10$
$:= F(9)\times F(8-7+6) = F(5+4)\times F(3\times 2+1)$

• **443** $:= 9-F(8)+7\times 65 \quad = F(F(4+3))+210$
$:= 9\times F(8)+F(F(7))+F(F(6)) = (F(5+F(4)))^{F(3)}+2\times 1$
$= -5+4\times(F(3)+2\times F(10))$

• **444** $:= 9\times 8+F(-7+F(F(6)))-5 \quad = 4+F(3\times 2)\times F(10)$

• **445** $:= F(F(9)-F(8))+F(F(7))-F(F(6)) = 5\times F(4\times 3-2+1)$
$= 5^{F(4)}+32\times 10$

• **448** $:= -F(9)+F(F(8)-7)+F(F(6))\times 5 \quad = 4\times(F(3)+2\times F(10))$

• **449** $:= 9\times 8+F(-7+F(F(6))) \quad = (5\times F(4))^{F(3)}\times 2-1$
$= 5+4+F(3\times 2)\times F(10)$

- **450** $:= 9\times(8+7\times 6) = 5^{F(F(4))}\times(-3+21) = (54-3^2)\times 10$
- **451** $:= F(9)+F(F(8)-7)+F(6)\times 5 = F(4\times F(3))^2+10$
- **452** $:= 9\times 8+76\times 5 = 4\times(3+2\times F(10))$
- **455** $:= F(9)\times(F(8)-7)-F(F(6)) = (-5+F(F(4+3)))\times 2-1 = 5\times(4+32+F(10))$
- **456** $:= 9-8+7\times 65 = 4\times F(3)\times(2+F(10))$
- **457** $:= (-F(9)+8\times 7)\times F(F(6))-5 = F(F(4))^{3^2}-F(10)$
  $:= 9+8\times 7\times F(6) = (-5+F(F(4+3)))\times 2+1 = 5+4\times(3+2\times F(10))$
- **458** $:= F(F(9)-F(8))+F(F(7))-F(6) = F(F(5+F(F(4))))\times F(3)+2-10$
- **460** $:= F(F(9)-F(8))+F(F(7))-6 = 5\times 4\times(F(3)+21) = (5+43-2)\times 10$
- **462** $:= (-F(9)+8\times 7)\times F(F(6)) = (5\times 4+F(3))\times 21$
- **465** $:= (9+8+76)\times 5 = F(F(4+3))\times 2-1$
- **466** $:= -9+(87+F(6))\times 5 = F(F(4+3))\times 2\times 1$
  $:= F(F(9)-F(8))+F(7+6) = F(5+4\times F(3))\times 2\times 1 = (-5+F(F(4+3)))\times 2+10$
  $:= F(F(9)-F(8))+F(F(7)) = 6+5\times 4\times(F(3)+21) = 6+(5+43-2)\times 10$
- **467** $:= -9+F(8)+7\times 65 = F(F(4+3))\times 2+1$
- **468** $:= (-9+87)\times 6 = F(F(5+F(F(4))))\times F(3)+2\times 1 = F(5+F(F(4)))\times 3\times(2+10)$
- **470** $:= F(9)\times(F(8)-7)-6 = 5+F(F(4+3))\times 2-1 = 5\times F(4)\times 32-10$
- **472** $:= (9\times 8-F(7))\times F(6) = 5+F(F(4+3))\times 2+1 = (5+F(4))\times(F(3)+2+F(10))$
- **473** $:= F(9)\times F(8)-F(F(7))-F(6) = (F(F(5+F(F(4))))+3)\times 2+1$
- **474** $:= (9\times 8+7)\times 6 = 54+F(3)\times 210$
- **475** $:= F(9)\times F(8)-F(F(7))-6 = 5\times(F(4)\times 32-1)$
- **476** $:= (9+8)\times(7+F(F(6))) = (5+F(F(4+3)))\times 2\times 1 = 54\times 3^2-10$
  $:= F(9)\times(8+7-6+5) = F(F(4+3))\times 2+10$
  $:= F(9)\times(F(8)-7) = 65\times(4+3)+21 = -6-5+432+F(10)$
- **477** $:= F(F(9)-F(8))+F(F(7))+6-5 = F(4)\times 3\times(-2+F(10))$
- **481** $:= F(9)\times F(8)-F(7+6) = 5\times F(4)\times 32+1$
  $:= F(9)\times F(8)-F(F(7)) = (6+5+4)\times 32+1 = (6+5)\times 43-2+10$

- **482** $:= F(9)\times(F(8)-7)+6 \quad = -5+432+F(10)$
- **483** $:= 9\times 8\times 7-F(F(6)) \quad = (5\times 4+3)\times 21$
- **484** $:= F(9)\times(F(8)-7)+F(6) = (5-F(4)^3)^{F(2+1)}$
- **486** $:= 9^{F(F(8)/7)}\times 6 \quad = 54\times 3^2\times 1$
  $= 543-2-F(10)$

- **487** $:= F(9)\times(F(8)-7)+6+5 \;= 432+F(10)$
  $:= F(9)\times F(8)-F(F(7))+6 = 54\times 3^2+1$

- **488** $:= -F(9)+87\times 6 \quad = -5-F(F(4))+3^2\times F(10)$
- **489** $:= F(9)\times(8+7)-F(F(6)) \quad = F(F(5+F(F(4))))+F(3)^{-2+10}$
- **490** $:= 98\times(F(7)-F(6)) \quad = (-5+F(4^{F(3)}))/2-1$
  $= 543+2-F(10)$
- **491** $:= 9\times 8\times 7-F(6)-5 \quad = -4+3^2\times F(10)$
- **492** $:= F(9)\times 8+F(F(7))-F(6)-5 = -F(4)+3^2\times F(10)$
- **493** $:= -F(9)\times 8+765 \quad = -F(F(4))+3^2\times F(10)$
- **494** $:= (F(9)-8)\times(F(7)+6) \quad = F(5\times F(F(4)))\times 3^2-1$
  $= (5\times 4+F(3))^2+10$

- **495** $:= F(9)+(87+6)\times 5-4 = 3^2\times F(10)$
  $:= (98+7-6)\times 5 \quad = (4+3+2)\times F(10)$
  $:= 9\times(-F(8)+76) \quad = 5\times F(4)\times(32+1)$
  $= (5+4)\times(-F(3)+2+F(10))$

- **496** $:= 9\times 8\times 7-F(6) \quad = F(5\times F(F(4)))\times 3^2+1$
  $= 54\times 3^2+10$
  $:= (F(9)-(1/7)\times F(8))\times(F(F(6))-5) = F(4\times F(3))^2+F(10)$

- **497** $:= F(9)\times(8+7)-F(6)-5 \;= F(F(4))+3^2\times F(10)$
  $:= F(9)\times 8+F(F(7))-F(6) = (5+F(4^{F(3)}))/2+1$
  $= F(5\times F(4))-3-2\times F(10)$

- **498** $:= F(9)+8\times(-7+65) = F(4)+3^2\times F(10)$
  $:= 9\times 8\times 7-6 \quad = F(5\times F(4))-F(3)-2\times F(10)$

- **499** $:= F(9)+(87+6)\times 5 \quad = 4+3^2\times F(10)$
  $:= F(9)\times 8+F(F(7))-6 = 5^{F(4)}\times(F(3)+2)-1$

- **502** $:= 9\times 8\times 7-F(F(6)-5) = F(F(4))^{3^2}-10$
  $:= F(9)\times(8+7)-F(6) \quad = 5+F(F(4))+3^2\times F(10)$

- **504** $:= 9\times 8\times 7 = (6+54/3)\times 21$
  $= 6\times(5-F(4))\times(32+10)$

• **505** $:= F(9)\times 8+F(7+6)=(5\times F(F(6))-4)\times(3\times 2-1)$
$:= F(9)\times 8+F(F(7)) \;= F(6)\times 5\times(4+3)\times 2-F(10)$

• **510** $:= 9\times 8\times 7+6 \;= (5+F(4))^3-2\times 1$
$= 5\times F(4)+3^2\times F(10)$
$:= F(9)\times(8+7) = 6+(5+F(4))\times 3\times 21$
$= 6\times 5\times F(4)+F(3)\times 210$

• **511** $:= -F(9)+F(8+7)-65 \;= F(F(4))^{3^2}-1$
$:= F(9)\times 8+F(F(7))+6 = 5\times F(4)\times F(3^2)+1$
$= -5+43\times(2+10)$

• **512** $:= -9+F(8+7)-F(6+5) = (4\times F(3))^{2+1}$
$= 4^3\times(-2+10)$
$:= 9\times 8\times 7+F(6) \qquad = (5-F(4))^{3^2}\times 1$

• **513** $:= 9\times(87-6\times 5) = F(F(4))^{3^2}+1$
$= F(4)\times 3\times(2+F(10))$
$:= -9+87\times 6 \qquad = (5+F(4))^3+2-1$

• **516** $:= F(9)\times 8+F(F(7))+6+5 = 43\times(2+10)$
$:= F(9)\times(8+7)+6 \qquad = 5+F(F(4))^{3^2}-1$
$= F(5+F(4))+3^2\times F(10)$

• **518** $:= F(9)\times(8+7)+F(6) = 5+F(F(4))^{3^2}+1$
$= 5^4+3-2\times F(10)$
• **520** $:= (9\times 8-7)\times F(6) \qquad = (5\times 4+32)\times 10$

• **521** $:= F(9)+F(8)+F(F(7))+F(F(6)+5) = F(F(4+3))\times 2+F(10)$
$:= F(-9+F(8))+F(-7+F(F(6))) \qquad = 5+43\times(2+10)$

• **522** $:= 9\times(F(8)+7\times 6-5) \qquad = F(F(4))^{3^2}+10$
• **525** $:= 9\times 8\times 7+F(F(6)) \qquad = 5^{4-F(3)}\times 21$
• **526** $:= F(9)\times 8+F(F(7))+F(F(6)) = 5^{F(F(4))}\times F(F(3\times 2))+1$
$= 5+F(F(4+3))\times 2+F(10)$
• **534** $:= F(9+F(F(8)/7))\times 6 \qquad = F(5\times F(4))-F(F(3\times 2))-F(10)$
• **538** $:= -9\times 8+F(7+F(6)) \qquad = 5^4-32-F(10)$

• **540** $:= 9\times(-F(8)+76+5) = F(4)^3\times 2\times 10$
$:= (F(9)+8\times 7)\times 6 \qquad = 543-2-1$

- **544** $:= F(9) \times (8 - F(7) + F(F(6))) = 543 + 2 - 1$
- **545** $:= F(9) \times 8 + F(7) \times F(F(6)) = 543 + 2 \times 1$
- **546** $:= (F(9) + 8) \times F(7) = 6 + 543 - 2 - 1$
  $= 6 + 54 \times (3 - 2) \times 10$
- **550** $:= -F(9) + F(8 + 7) - F(F(6)) - 5 = (4 \times 3 - 2) \times F(10)$
- **552** $:= (F(9) + 8) \times F(7) + 6 = F(5 \times F(4)) - F(F(3) + 2) - F(10)$
- **554** $:= (F(9) + 8) \times F(7) + F(6) = F(F(5 + F(F(4)))) + 321$
  $= F(5 \times F(4)) - F(3)/2 - F(10)$

- **555** $:= (98 + 7 + 6) \times 5 = F(F(4) \times (3 + 2)) - F(10)$
  $:= -F(9) + F(8 + 7) - F(F(6)) = F(5 \times F(4)) - F(3^2 + 1)$
  $= 543 + 2 + 10$

- **556** $:= F(9) + 87 \times 6 = F(5 \times F(4)) + 3 - 2 - F(10)$
- **558** $:= 9 \times (8 \times 7 + 6) = F(5 \times F(4)) + F(F(3) + 2) - F(10)$
- **560** $:= (-F(9) + 8 \times F(7)) \times F(6) = 5 \times F(F(4)) \times (3 - 2 + F(10))$
- **564** $:= (-9 + F(8)) \times (7 \times 6 + 5) = 4 \times (-3 + F(2 + 10))$
- **566** $:= 9 \times F(8) + F(-7 + F(F(6))) = 5^4 - F(3) - 2 - F(10)$

- **567** $:= -9 + 8 \times (7 + 65) = F(4)^3 \times 21$
  $:= 9 \times (F(8) + 7 \times 6) = (5 + 4) \times 3 \times 21$

- **568** $:= -F(9) - F(8) + 7 \times F(6 + 5) = 4 \times (-F(3) + F(2 + 10))$
  $:= -F(9) - 8 + F(7 + F(6)) = F(5 \times F(4)) - F(3) \times 21$
  $= F(5 \times F(4)) - 32 - 10$

- **570** $:= (-9 + 8 \times F(7)) \times 6 = 5^4 - F(3^2 + 1)$
  $= (-5 + 4^3 - 2) \times 10$
- **574** $:= -F(9) + 8 \times 76 = 5^4 + F(3) + 2 - F(10)$

- **576** $:= 9 \times (-8 + 7 + 65) = F(F(4)) \times F(3) \times F(2 + 10)$
  $:= (9 + 87) \times 6 = F(5 \times F(4)) - F(3^2) \times 1$
  $= -54 + 3 \times 210$
  $:= -F(9) + F(8 + 7) = 6 \times (54 + F(3) \times 21)$
  $= 6 \times (54 + 32 + 10)$

- **578** $:= (9 + 8) \times (F(7) + F(F(6))) = F(5 \times F(4)) - 32 \times 1$
  $= 5^4 + F(3 \times 2) - F(10)$
- **579** $:= -9 + (F(8) + 7) \times F(F(6)) = F(5 \times F(4)) - 32 + 1$
- **580** $:= -9 - F(8) + F(7 + F(6)) = (54 + F(3) + 2) \times 10$

- **584** $:= F(9) + (8 \times F(7) + 6) \times 5 = 4 \times (F(3) + F(2 + 10))$
  $:= -F(9) + 8 + F(7 + F(6)) = (5 \times 4 + 3)^2 + F(10)$

• **588** $:= 98 \times (7-6+5) = 4 \times (3+F(2+10))$
$:= (F(9)+8) \times (-7+F(F(6))) = (5^{F(F(4))}+3) \times 21$
$= F(5 \times F(4)) - 32 + 10$

• **590** $:= -F(9) + 8 \times F(7) \times 6 = 5^4 - F(3^2) + 1$
$= (54+3+2) \times 10$

• **593** $:= -9 + F(8+7) - F(6) = 5^4 - 32 \times 1$

• **594** $:= 9 \times (87 - F(F(6))) = 5^4 - 32 + 1$
$= 54 \times (3-2+10)$

• **595** $:= -9 + F(8+7) - 6 = 5 \times (F(4)^{F(3)} + 2 \times F(10))$

• **597** $:= 9 + (F(8)+7) \times F(F(6)) = F(5 \times F(4)) - F(3 \times 2 + 1)$
$= F(5 \times F(4)) - F(F(3) \times 2) - 10$

• **598** $:= 9 - F(8) + F(7+F(6)) = 5^4 - 3^{2+1}$

• **599** $:= -9 + 8 \times 76 = F(5 \times F(4)) - 3 + 2 - 10$

• **600** $:= (9 \times (F(8)-7) - 6) \times 5 = F(F(4) \times (3+2)) - 10$

• **601** $:= -9 + F(8 + F(7) - 6) = 5^4 - 3 - 21$
$= 5^4 + 3 \times (2-10)$
$:= -9 + F(8+7) = 6 \times 5 \times 4 \times (3+2) + 1$

• **605** $:= F(9 \times (8-7) + 6) - 5 = (F(4+3) - 2) \times F(10)$

• **606** $:= 9 + F(8+7) - F(6) - 5 = -4 + F(3+2+10)$

• **607** $:= 9 \times (-8+76) + 5 = -F(4) + F(3+2+10)$
$:= -9 + F(8+7) + 6 = 5^4 + 3 - 21$
$= 5^4 + F(3) - 2 \times 10$

• **608** $:= 9 + F(8+7) - 6 - 5 = -F(F(4)) + F(3+2+10)$

• **609** $:= 9 \times 8 \times 7 + F(F(6)) \times 5 = F(F(4) \times (3+2)) - 1$
$:= -9 + 8 + F(7+F(6)) = (-5 + F(F(4) \times 3)) \times 21$
$= 5^4 - 3 \times 2 - 10$

• **610** $:= (98+7) \times 6 - 5 \times 4 = F(3+2+10)$
$:= F(9) + 8 \times (7+65) = F((4+3) \times 2 + 1)$
$= F(4+3-2+10)$
$:= F(9 \times (8-7) + 6) = F(54/3 - 2 - 1)$
$= (5 \times 4)^{F(3)} + 210$

• **611** $:= (-9 + 8 \times 7) \times (F(6)+5) = F(F(4) \times (3+2)) + 1$
$:= 9 + F(8+7) - F(6) = F(5 \times F(4)) + F(3) - 2 + 1$
$= 5^4 - F(3) - 2 - 10$

• **612** $:= 9+8\times 76-5 = F(F(4))+F(3+2+10)$
$:= 9\times(-8+76) = 5^4 - F(3\times 2+1)$
$= (54-3)\times(2+10)$

• **613** $:= F(F(9)-F(8))+76\times 5 = F(4)+F(3+2+10)$
$:= 9+F(8+7)-6 \quad = F(5\times F(4))+3\times(2-1)$
$= F(5\times F(4))+3+21\times 0$

• **614** $:= F(9)+F(8+7)-6\times 5 = 4+F(3+2+10)$

• **615** $:= -9+8\times F(7)\times 6 = 5^4-3^2-1$
$= 5^4+F(3)-2-10$

• **619** $:= 9+F(8+F(7)-6) = 5^4-3-2-1$
$= 5^4+F(3)+2-10$
$:= 9+F(8+7) \quad = -6+5^4-3+2+1$
$= -6+5\times F(4)+F(3+2+10)$

• **620** $:= 9+F(8+7)+6-5 \quad = (4^3-2)\times 10$
• **621** $:= 98\times 7-65 \quad = F(4)\times(-3+210)$
• **622** $:= -9+F(8)+F(7+F(6)) \quad = 5^4-3\times(2-1)$
$= 5^4-3+21\times 0$
• **623** $:= F(9)-F(8)+F(7+F(6)) = 5^4-3+2-1$

• **624** $:= (-9+F(8))\times(-F(7)+65) = F(4)\times(-F(3)+210)$
$:= (-9+87)\times F(6) \quad = 5^4-3/(2+1)$
$= 5^4+3^2-10$

• **625** $:= 9+F(8+7)+6 \quad = 5^4-3+2+1$
$= 5^4+321\times 0$
• **626** $:= (F(9)+F(8))\times F(7)-F(6+5) = -4+3\times 210$

• **627** $:= -9+F(8)+F(7+F(6))+5 = -F(4)+3\times 210$
$:= 9+8+F(7+F(6)) \quad = 5^4+3-2+1$

• **628** $:= 9+8\times F(7)\times 6+5 = -F(F(4))+3\times 210$

• **630** $:= 9+F(8+7)+6+5 = F(4)\times F(F(3\times 2))\times 10$
$:= (98+7)\times 6 \quad = 5\times(4+F(3))\times 21$
$= (5-4)\times 3\times 210$

• **632** $:= 9+F(8+7)+F(6)+5 = F(F(4))+3\times 210$
$:= (9\times 8+7)\times F(6) \quad = 5^4+3\times 2+1$

- **633** $:= F(9)+F(8+7)-6-5 = F(4)+3\times 210$
  $:= 9+8\times F(7)\times 6 \quad = 5^4+3^2-1$
  $= 5-F(F(4))+3\times 210$
- **634** $:= F(9)+(8+7)\times F(6)\times 5 = 4+3\times 210$
- **636** $:= (-9+F(8))\times(F(7)+F(6)\times 5) = F(4)\times(F(3)+210)$
  $:= F(9)-8+F(7+F(6)) \quad = 5^4+3-2+10$
- **638** $:= F(9)\times F(8)-76 \;= 5^4+F(3\times 2+1)$
  $= 5+F(4)+3\times 210$
- **639** $:= -9+8\times(76+5) = F(4)\times(3+210)$
- **640** $:= 9+F(8)+F(7+F(6)) \quad = 5\times 4\times 32\times 1$
  $= (5-F(4))\times 32\times 10$
  $:= 9+F(8)+F(F(7)+F(F(6)-5)) = F(F(4))\times 32\times 10$
- **642** $:= F(9)\times F(8)-7-65 = F(F(4))\times 321$
  $:= F(9)+8\times 76 \quad = (5-F(4))\times 321$
  $= 5^4-3+2\times 10$
- **644** $:= F(9)+F(8+F(7)-6) = 5^4-F(3)+21$
  $= 5^4+3^2+10$
  $:= F(9)+F(8+7) \quad = 654-3^2-1$
  $= 654\times(3-2)-10$
- **646** $:= F(9)\times(-F(F(8)/7)+F(F(6))) = F(5+4)\times(-F(3)+21)$
- **648** $:= 9^{F(F(8)/7)}\times F(6) \quad = 5^4+F(3)+21$
  $= 5^4+3+2\times 10$
- **649** $:= F(9)\times 8+F(-7+F(F(6))) \quad = 5^4+3+21$
  $= 5^4+3\times(-2+10)$
- **650** $:= F(9)+F(8+7)+6 \quad = 5\times 4+3\times 210$
- **651** $:= (F(9)-F(8)/7)\times F(F(6)) \quad = (F(5+4)-3)\times 21$
  $= F(5+F(4))+3\times 210$
- **652** $:= F(9)+F(8+7)+F(6) \;= 5^4+3^{2+1}$
- **658** $:= F(9)\times F(8)-7\times F(6) \;= 5^4+32+1$
- **660** $:= (9\times(F(8)-7)+6)\times 5 = (4^3+2)\times 10$
- **662** $:= -F(9)+87\times F(6) \quad = F(5\times F(4))-F(F(3)+2)+F(10)$
- **665** $:= 9+8\times(-7+F(6+5)) = F(F(4)\times(3+2))+F(10)$
  $:= 98\times 7-F(F(6)) \quad = F(5\times F(4))+F(3^2+1)$
  $= 5+(4^3+2)\times 10$

- **666** $:= (98+F(7))\times 6 = (5+F(4\times F(3)))^2-10$
- **672** $:= F(9)\times F(8)-7\times 6 = (5+F(4)^3)\times 21$
  $= (54+F(3))\times(2+10)$
- **674** $:= F(9)+F(8+7)+6\times 5 = F(4)^{3\times 2}-F(10)$
- **678** $:= 98\times 7-F(6) = F(F(5+F(F(4))))\times 3-21$
  $= (5^{F(F(4))})^{F(3)}-2+F(10$
- **680** $:= (9+F(8)-F(7))\times F(6)\times 5 = F(F(4)\times 3)\times 2\times 10$
  $:= 98\times 7-6 = 5\times 4\times F(3^2)\times 1$
  $= 5\times(F(4\times 3)+2-10)$
- **682** $:= 9\times 8+F(7+F(6)) = 5^{F(F(4))\times F(3)}+2+F(10)$
- **684** $:= 9\times(87-6-5) = 4\times 3\times(2+F(10))$
- **686** $:= 98\times(F(7)-6) = (5+F(F(4)))^3\times 2\times 1$
  $= 5^4+3\times 2+F(10)$
- **687** $:= (-9+87\times F(6)) = (5+F(F(4)))^3\times 2+1$
  $= 543+F(2+10)$
- **689** $:= 98\times 7+F(6)-5 = F(4+3)\times(-2+F(10))$
- **693** $:= 9\times(F(8)+7\times F(6)) = F(5+F(4))\times(32+1)$
- **694** $:= 98\times 7+F(6) = -5+F(F(4+3))\times(2+1)$
- **695** $:= F(9)\times F(8)-F(7)-6 = 5\times 4\times 32+F(10)$
- **699** $:= 9^{F(8)/7}-6\times 5 = F(F(4+3))\times(2+1)$
  $:= F(9)\times F(8)-7-F(6) = 5\times F(4\times 3)-21$
- **700** $:= F(9)\times F(8)+7-F(F(6)) = 5\times 4\times(F(3^2)+1)$
  $= 5\times(4+3)\times 2\times 10$
- **701** $:= F(9)\times F(8)-7-6 = F(F(5+F(F(4))))\times 3+2\times 1$
  $= 5^4+F(F(3\times 2))+F(10)$
  $:= F(9)\times F(8)-F(7) = (6+5)\times 4^3-2-1$
- **705** $:= 9+87\times F(6) = 5\times(F(4\times 3)-2-1)$
  $= 5\times(43\times 2+F(10))$
- **707** $:= 98\times 7+F(F(6)) = F(F(5+F(F(4))))\times 3-2+10$
  $:= F(9)\times F(8)-7 = (6+5)\times 4^3+2+1$
  $= F(F(F(6))-5)+(4-32)\times 10$
- **708** $:= 98+F(7+F(6)) = (5+4)^3-21$
- **709** $:= (F(9)+F(8))\times F(7)-6 = 5\times(F(4\times 3)-2)-1$
  $= (5+4)^3-2\times 10$
- **711** $:= 9\times(87-F(6)) = 5\times(F(4\times 3)-2)+1$
- **712** $:= F(9+F(F(8)/7))\times F(6) = 5\times F(4\times 3)+2-10$
- **713** $:= F(9)\times F(8)-7+6 = F(5+4)\times F(F(3\times 2))-1$

$\bullet$ **714** $:= (F(9)+F(8))\times F(7)-6+5 = F(F(4)\times 3)\times 21$
$:= (9+8)\times 7\times 6 = F(5+4)\times F(3^2-1)$
$= 5^4+F(3-2+10)$
$:= F(9)\times(8+F(7)) = 6+(5+4)^3-21$
$:= F(9)\times F(8) = 7\times(6\times 5\times 4+3-21)$
$= (76-54)\times 32+10$

$\bullet$ **715** $:= (9+8\times 7)\times(6+5) = (4+3^2)\times F(10)$
$:= (F(9)+F(8))\times F(7) = 65\times(4\times 3-2+1)$
$= 65\times(-4+3+2+10)$
$:= F(9)\times F(8)+7-6 = 5\times((4\times 3)^2-1)$
$= 5^4+3^2\times 10$

$\bullet$ **719** $:= (9+8)\times 7\times 6+5 = F(4)^{3\times 2}-10$
$:= F(9)\times F(8)+F(7)-F(6) = 5\times(4\times 3)^2-1$

$\bullet$ **720** $:= 9\times(8+7+65) = F(4\times 3)/2\times 10$
$:= -9+(F(8)/7)^6 = 5\times(4\times 3)^2\times 1$
$= 5\times 4\times 3\times(2+10)$

$\bullet$ **721** $:= 9^{F(8)/7}-F(6) = 5\times(4\times 3)^2+1$
$= (5+4)^3+2-10$
$:= F(9)\times F(8)+7 = 6\times 5\times 4\times 3\times 2+1$

$\bullet$ **722** $:= F(9)\times(8+F(7))+F(6) = 5\times F(4\times 3)+2\times 1$
$= F(5\times F(4))+F(3)+2\times F(10)$
$\bullet$ **723** $:= 9^{F(8)/7}-6 = 5\times F(4\times 3)+2+1$
$= F(5\times F(4))+3+2\times F(10)$
$\bullet$ **726** $:= (F(9)+87)\times 6 = (5+4)^3-2-1$

$\bullet$ **727** $:= F(9)\times F(8)+7+6 = (5+4)^3-2\times 1$
$:= F(9)\times F(8)+F(7) = -F(6)+5\times(4+3)\times 21$
$= -F(6)+5\times 4\times F(3^2)+F(10)$

$\bullet$ **728** $:= 9^{F(8)/7}-6+5 = F(4)^{3\times 2}-1$
$:= (98-7)\times F(6) = (5+4)^3-2+1$

$\bullet$ **729** $:= 9^{8\times(7-6)-5} = F(4)^{3\times 2}\times 1$
$:= 9^{F(8)/7} = 6-5+F(4)^{3\times 2}-1$

$\bullet$ **730** $:= (-9+F(8)\times 7+F(6))\times 5 = F(4)^{3\times 2}+1$
$:= F(9)+87\times F(6) = 5\times(F(4\times 3)+2)\times 1$
$= 5\times(-4^3+210)$

- **733** $:= F(9)\times F(8)+F(7)+6 = 5+F(4)^{3\times 2}-1$
  $= 5^4 - F(3)+2\times F(10)$
- **735** $:= 9^{F(8)/7}+6 = 5\times(4+3)\times 21$
  $= -5\times F(4)\times(3\times 2-F(10))$
- **736** $:= (F(9)+F(8))\times F(7)+F(F(6)) = -5+F(4+3)\times(2+F(10))$
- **737** $:= 9^{F(8)/7}+F(6) = (5+4)^3-2+10$

- **738** $:= 9+(F(8)/7)^6 = 5^4+3+2\times F(10)$
- **739** $:= -F(9)+8+765 = F(4)^{3\times 2}+10$
- **741** $:= -F(9)+(8+7\times F(F(6)))\times 5 = F(4+3)\times(2+F(10))$
- **742** $:= F(9)\times F(8)+7+F(F(6)) = (5+F(F(4)))\times F(3)\times(-2+F(10))$

- **748** $:= F(9)\times(F(8)+7-6) = F(5+4)\times(F(F(3\times 2))+1)$
  $= F(5+4)\times(32-10)$
- **750** $:= 9^{F(8)/7}+F(F(6)) = (5+4)^3+21$

- **754** $:= F(98/7)\times F(F(6)-5) = F(F(4))\times F(F(3)+2+10)$
  $:= F(-9+F(8))+F(7+F(6)) = F(5+F(4)\times 3)\times 2\times 1$

- **756** $:= 9\times(8+76) = (F(5+4)+F(3))\times 21$
  $= 54\times(F(3)+2+10)$
- **760** $:= (-9+8\times F(7))\times F(6) = (-5+43)\times 2\times 10$
- **763** $:= F(9)+(F(8)/7)^6 = -5+4^3\times(2+10)$

- **768** $:= -9+F(8)\times(7+6\times 5) = 4^3\times(2+10)$
  $:= (9+87)\times F(6) = (5-F(F(4)))\times F(3)^{-2+10}$
- **770** $:= 9\times 87-F(6)-5 = (4+3)\times 2\times F(10)$
  $:= F(9)\times F(8)+7\times F(6) = (-5+4\times 3)\times 2\times F(10)$
- **774** $:= 9\times(8+F(7)\times 6) = (5^{F(F(4))}+3)^2-10$
- **775** $:= 9\times 87-F(6) = 5^{F(F(4))}\times(32-1)$
  $= 5+(4+3)\times 2\times F(10)$

- **777** $:= -9+F(8)+765 = F(4^{F(3)})-210$
  $:= 9\times 87-6 = (F(5+4)+3)\times 21$
  $= 5\times F(4\times 3)+2+F(10)$

- **782** $:= F(9)\times(8+7+F(6)) = F(5+4)\times(F(3)+21)$
- **783** $:= 9\times 87 = 6\times 5^{F(4)}+32+1$
  $= F(6)\times(5+43\times 2)+F(10)$

- **784** $:= 9\times 87+6-5 = F(4)^{3\times 2}+F(10)$
  $:= 98\times(-F(7)+F(F(6))) = (5^{F(F(4))}+3)^2\times 1$
  $= (5+F(F(4)))\times(F(3)+2\times F(10))$

- **786** $:= (F(-9+F(8))-F(7))\times 6 = (5+4)^3+2+F(10)$
- **789** $:= 9\times 87+6 = 5+F(4)^{3\times 2}+F(10)$
- **790** $:= F(9)\times F(8)+76 = 5^{F(F(4))}\times 32-10$
- **791** $:= 9\times 87+F(6) = (5+F(F(4)))\times(3+2\times F(10))$
- **798** $:= (F(9)+8)\times(F(7)+6) = (-5+43)\times 21$
- **799** $:= 9\times F(8)+F(7+F(6)) = 5^{F(F(4))}\times 32-1.$

- **801** $:= 9\times F(-8+F(7)+6) = 5^{F(F(4))}\times 32+1$
  $= (5+4)\times F(3-2+10)$
- **810** $:= 9\times(87+F(6)-5) = (F(4)\times 3)^2\times 10$

- **816** $:= F(9)\times F(8)/7\times F(6) = F(5+4)\times(3+21)$
  $= F(5+4)\times 3\times(-2+10)$
- **818** $:= F(9)\times F(8)+F(7)\times F(6) = F(5\times F(4))-F(3)+210$
- **819** $:= (F(9)\times 8-F(F(7)))\times F(F(6)) = F(5+F(F(4)))\times 3\times 21$
- **822** $:= (F(-9+F(8))-7)\times 6 = F(5\times F(4))+F(3)+210$
- **823** $:= -9+8\times F(7)\times F(6) = -5+4\times(-3+210)$

- **825** $:= (F(9)+F(8))\times(7+F(6)) = 5\times(F(4\times 3)+21)$
  $= F(5\times F(F(4)))\times(3+2+10)$
  $:= 9+8\times(F(7)+F(6+5)) = F(4)\times(3+2)\times F(10)$

- **828** $:= -9-8+F(7)\times 65 = 4\times(-3+210)$
  $:= (-9+F(8)\times 7)\times 6 = (5+4^3)\times(2+10)$
- **832** $:= 9\times(87+6)-5 = 4\times(-F(3)+210)$
- **837** $:= 9\times(87+6) = 5^4+F(3)+210$
- **840** $:= (9-8+7)\times F(F(6))\times 5 = 4\times F(F(3\times 2))\times 10$
  $:= (98+7)\times F(6) = 5\times 4\times F(3)\times 21$
  $= 5\times 4\times(32+10)$

- **841** $:= 9+8\times F(7)\times F(6) = (-5+F(F(4)\times 3))^2\times 1$
- **842** $:= -F(9)+876 = (5-F(F(4)\times 3))^2+1$

- **843** $:= -F(9)+F(8)\times 7\times 6-5 = F(4^{F(3)})-F(2+10)$
  $:= F(F(9)-F(8))+F(7+F(6)) = F(5\times F(4))+F(F(3\times 2+1))$
  $= -5+4\times(F(3)+210)$

$\bullet$ **848** $:= 9\times 87+65 = 4\times(F(3)+210)$
$:= -F(9)+F(8)\times 7\times 6 = (F(5+F(F(4)))+3)\times(-2+F(10))$
$\bullet$ **852** $:= (-9+F(8))\times(76-5) = 4\times(3+210)$
$\bullet$ **855** $:= 9\times(87+F(6)) = -5+43\times 2\times 10$
$\bullet$ **860** $:= 9\times(87+F(6))+5 = 43\times 2\times 10$
$\bullet$ **864** $:= 9\times 8\times(F(7)-6+5) = F(F(4))\times 3\times F(2+10)$
$:= F(9+F(8)/7)\times 6 = 54\times(3\times 2+10)$
$\bullet$ **866** $:= F(9)+8\times F(7)\times F(6) = F(5\times F(4))+F(3)^{-2+10}$
$\bullet$ **873** $:= 9\times(F(8)+76) = (5+4)^3+F(2+10)$
$\bullet$ **877** $:= F(9)\times 8+F(7+F(6))-5 = F(4^{F(3)})-2\times F(10)$
$\bullet$ **880** $:= 9+876-5 = 4\times F(3)\times 2\times F(10)$
$\bullet$ **882** $:= 9\times(8\times F(7)-6) = F(5+F(4))\times F(3)\times 21$
$= F(5+F(4))\times(32+10)$
$\bullet$ **885** $:= 9+876 = 5\times F(4)\times(F(3)+2+F(10))$
$\bullet$ **890** $:= 9+876+5 = F(F(4+3)-2)\times 10$
$\bullet$ **903** $:= (9-F(8))\times 7+F(F(F(6))-5) = 43\times 21$
$\bullet$ **904** $:= (9+8\times F(7))\times F(6) = (5+F(4))\times(3+2\times F(10))$
$\bullet$ **906** $:= (F(-9+F(8))+7)\times 6 = (F(5+4)-3)^2-F(10)$
$\bullet$ **910** $:= F(9)+876 = (5+43\times 2)\times 10$
$\bullet$ **912** $:= (-9+F(8))\times 76 = (5+F(4))\times F(3)\times(2+F(10))$
$:= (9-F(8))\times(F(7)-F(6+5)) = 4^{F(3)}\times(2+F(10))$
$\bullet$ **915** $:= 9\times 8\times F(7)-F(F(6)) = F(5\times F(4))/F(3)\times(2+1)$
$\bullet$ **918** $:= F(9)\times(8+F(7)+6) = F(5+4)\times 3^{2+1}$
$= 54\times(-3+2\times 10)$
$\bullet$ **924** $:= (-9\times F(8)+F(F(7)))\times F(F(6)) = F(5+F(4))\times(F(3^2)+10)$
$\bullet$ **930** $:= (F(-9+F(8))+7\times 6)\times 5 = F(4^{F(3)})-2-F(10)$
$:= 9\times 8\times F(7)-6 = (5^{F(4)}-32)\times 10$
$\bullet$ **931** $:= F(9)\times(F(8)+7)-F(F(6)) = F(5\times F(4))+321$
$\bullet$ **932** $:= -F(9)-8-F(7)+F(F(F(6))-5) = 4\times F(F(3\times 2+1))$
$\bullet$ **934** $:= F(9)\times F(8)+F(F(7))-F(6)-5 = (F((4^{F(3)}))+2)-F(10)$
$\bullet$ **935** $:= (98-F(7))\times(6+5) = (F((F(4)\times 3))/2)\times F(10)$
$\bullet$ **936** $:= 9\times 8\times F(7) = 6\times(54-F(3))\times(2+1)$
$= (6+5)\times 43\times 2-10$
$\bullet$ **939** $:= F(9)\times F(8)+F(F(7))-F(6) = (5+4)^3+210$
$\bullet$ **942** $:= 9\times 8\times F(7)+6 = F(F(5+F(F(4))))\times F(3)\times 2+10$
$\bullet$ **945** $:= 9\times(-8+F(7))\times F(F(6)) = 5\times F(4)\times 3\times 21$
$= 5^4+32\times 10$
$\bullet$ **946** $:= F(9)\times(F(8)+7)-6 = 5^4+321$

- **947** $:= F(9)\times F(8)+F(F(7)) = -F(F(6))+5+F(4)\times 321$
- **952** $:= F(9)\times (F(8)+7) = 6+5^4+321$
  $= 6\times 54\times 3-2\times 10$
- **953** $:= F(9)\times F(8)+F(F(7))+6 = -F(5+4)+F(3\times 2+10)$
- **955** $:= F(9)\times F(8)+F(F(7))+F(6) = -5+F(4)\times 32\times 10$
- **958** $:= F(9)\times (F(8)+7)+6 = -5+F(4)\times 321$

- **960** $:= (9+8+7)\times F(6)\times 5 = F(4)\times (32\times 10)$
  $:= F(9)\times (F(8)+7)+F(6) = 5\times 4^3\times (2+1)$
  $= (5+43)\times 2\times 10$

- **963** $:= -9-8-7+F(F(F(6))-5) = F(4)\times 321$

- **966** $:= 9+87\times (6+5) = F(4^{F(3)})-21$
  $:= 987-F(F(6)) = F((5+F(4))\times F(3))-21$

- **967** $:= 9\times (87+F(F(6)))-5 = F(4^{F(3)})-2\times 10$
- **968** $:= (F(9)+87)\times F(6) = 5+F(4)\times 321$
- **972** $:= 9\times (87+F(F(6))) = 54\times (-3+21)$
- **975** $:= (-9-F(8)+F(F(7))-F(6))\times 5 = F(4^{F(3)})-2-10$
- **977** $:= F(9)\times F(8)+F(F(7))+6\times 5 = F(4\times (F(3)+2))-10$
- **978** $:= -9+F(F(8)-F(7)+F(6)) = -5-4+F(3\times 2+10)$
- **979** $:= F(9)+F(8)\times (F(F(7))-F(6))/5 = F(4^{F(3)})+2-10$
  $:= 987-F(6) = -5+F(4^{F(3)})-2-1$

- **981** $:= 987-6 = -5+F(4^{F(3)})-2+1$
- **983** $:= (F(9)-F(8))\times 76-5 = -4+F(3\times 2+10)$
- **984** $:= 987-F(6)+5 = F(4^{F(3)})-2-1$
- **985** $:= 987-F(F(6)-5) = F(4^{F(3)})-2\times 1$

- **986** $:= 987-6+5 = F(4^{F(3)})-2+1$
  $:= F(9)\times (8+F(7)+F(6)) = F(54/3-2)-1$

- **987** $:= 987\times (6-5)^4 = F(3\times 2+10)$
  $:= 987\times (6-5) = F(4\times (3+2-1))$
  $= F(4\times 3/2+10)$
  $:= F((9+87)/6) = F((5+43)/(2+1))$

- **988** $:= 987+6-5 = F(4^{F(3)})+2-1$
  $:= (F(9)-F(8))\times 76 = F(54/3-2)+1$

- **989** $:= 987+F(F(6)-5) = F(4^{F(3)})+2\times 1$

$$\begin{aligned}
\bullet\ \mathbf{990} &:= 987 + F(6) - 5 && = F(4^{F(3)}) + 2 + 1 \\
&&& = F(4) \times 3 \times 2 \times F(10) \\
&:= 9 \times (8 \times F(7) + 6) && = 5 + F(4^{F(3)}) - 2 \times 1 \\
&&& = -5 \times (4 \times 3 - 210) \\
\bullet\ \mathbf{991} &:= F(9) + 87 \times (6 + 5) && = 4 + F(3 \times 2 + 10) \\
\bullet\ \mathbf{993} &:= 987 + 6 && = 5 + F(4^{F(3)}) + 2 - 1 \\
\bullet\ \mathbf{995} &:= 9 \times (8 \times F(7) + 6) + 5 && = F(4^{F(3)}) - 2 + 10 \\
&:= 987 + F(6) && = 5 + F(4^{F(3)}) + 2 + 1 \\
\bullet\ \mathbf{996} &:= 9 + F(F(8) - F(7) + F(6)) && = 5 + 4 + F(3 \times 2 + 10) \\
\bullet\ \mathbf{997} &:= 9 + 8 - 7 + F(F(F(6)) - 5) && = F(4 \times (F(3) + 2)) + 10 \\
\bullet\ \mathbf{999} &:= 9 + F(8)/7 + F(F(F(6)) - 5) && = F(4^{F(3)}) + 2 + 10
\end{aligned}$$

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