

Patterns in Selfie Numbers - I

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Abstract

*Numbers represented by their own digits by certain operations are considered as **selfie numbers**. There are many ways of representing **selfie numbers**. It can be represented in digit's order, reverse order of digits, increasing and/or decreasing order of digits, etc. These can be obtained by use of basis operations along with **factorial, square-root, Fibonacci sequence, Triangular numbers, etc.** Also we can use **binomial coefficients, quadratic (square), cubic functions, etc.** In the past author worked with these functions separately. For more details see the author's works [5]-[37]. Also refer [38], where the the author worked with selfie numbers having together these functions. These work brings patterns in selfie numbers derived from the recent work of author [38]. This work is only up to three digits. Work on higher digits shall be done later on.*

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1 Different Types of Number Patterns

In this section, we shall give examples of some different kinds of patterns in numbers studied by author. For details refer [39]-[48]

1.1 Historical Patterns

Below are few examples of **number patterns** in different situations. For details are given in [39].

$16^2 := 256$	$34^2 := 1156$
$166^2 := 27556$	$334^2 := 111556$
$1666^2 := 2775556$	$3334^2 := 11115556$
$16666^2 := 277755556$	$33334^2 := 1111155556$
$166666^2 := 27777555556$	$333334^2 := 111111555556$
$1666666^2 := 2777775555556$	$3333334^2 := 11111115555556$
$16666666^2 := 277777755555556$	$33333334^2 := 1111111155555556$

$43^2 = 1849$	$67^2 := 4489$
$433^2 = 187489$	$667^2 := 444889$
$4333^2 = 18774889$	$6667^2 := 44448889$
$43333^2 = 1877748889$	$66667^2 := 4444488889$
$433333^2 = 187777488889$	$666667^2 := 444444888889$
$4333333^2 = 18777774888889$	$6666667^2 := 44444448888889$
$43333333^2 = 1877777748888889$	$66666667^2 := 4444444488888889$

$7623 := 11 \times 9 \times 77$	$99 = 98 + 1$
$776223 := 111 \times 9 \times 777$	$999 = 987 + 12$
$77762223 := 1111 \times 9 \times 7777$	$9999 = 9876 + 123$
$7777622223 := 11111 \times 9 \times 77777$	$99999 = 98765 + 1234$
$777776222223 := 111111 \times 9 \times 777777$	$999999 = 987654 + 12345$
$77777762222223 := 1111111 \times 9 \times 7777777$	$9999999 = 9876543 + 123456$
$7777777622222223 := 11111111 \times 9 \times 77777777$	$99999999 = 98765432 + 1234567$
$777777776222222223 := 111111111 \times 9 \times 777777777$	$999999999 = 987654321 + 12345678$
	$9999999999 = 9876543210 + 123456789$

1.2 Patterns with Single Letters

Below are examples of number patterns written in terms of single letter "a":

$$\begin{aligned}
 121 &= 11 \times 11 & := (aa \times aa)/(a \times a) \\
 12321 &= 111 \times 111 & := (aaa \times aaa)/(a \times a) \\
 1234321 &= 1111 \times 1111 & := (aaaa \times aaaa)/(a \times a) \\
 123454321 &= 11111 \times 11111 & := (aaaaa \times aaaaa)/(a \times a) \\
 12345654321 &= 111111 \times 111111 & := (aaaaaa \times aaaaaa)/(a \times a) \\
 1234567654321 &= 1111111 \times 1111111 & := (aaaaaaa \times aaaaaaa)/(a \times a) \\
 123456787654321 &= 11111111 \times 11111111 & := (aaaaaaaa \times aaaaaaaa)/(a \times a) \\
 12345678987654321 &= 111111111 \times 111111111 & := (aaaaaaaaa \times aaaaaaaaa)/(a \times a).
 \end{aligned}$$

$$\begin{aligned}
 1331 &= 11 \times 11 \times 11 & := aa \times aa \times aa/(a \times a \times a) \\
 13431 &= 11 \times 11 \times 111 & := aa \times aa \times aaa/(a \times a \times a) \\
 134431 &= 11 \times 11 \times 1111 & := aa \times aa \times aaaa/(a \times a \times a) \\
 1344431 &= 11 \times 11 \times 11111 & := aa \times aa \times aaaaa/(a \times a \times a) \\
 13444431 &= 11 \times 11 \times 111111 & := aa \times aa \times aaaaaa/(a \times a \times a) \\
 134444431 &= 11 \times 11 \times 1111111 & := aa \times aa \times aaaaaaa/(a \times a \times a) \\
 1344444431 &= 11 \times 11 \times 11111111 & := aa \times aa \times aaaaaaaa/(a \times a \times a) \\
 13444444431 &= 11 \times 11 \times 111111111 & := aa \times aa \times aaaaaaaaa/(a \times a \times a).
 \end{aligned}$$

$$\begin{aligned}
 1001 &= 13 \times 77 & := aa \times (aaaa - aaa + a)/(aa \times a) \\
 10101 &= 13 \times 777 & := aaa \times (aaaa - aaa + a)/(aa \times a) \\
 101101 &= 13 \times 7777 & := aaaa \times (aaaa - aaa + a)/(aa \times a) \\
 1011101 &= 13 \times 77777 & := aaaaa \times (aaaa - aaa + a)/(aa \times a) \\
 10111101 &= 13 \times 777777 & := aaaaaa \times (aaaa - aaa + a)/(aa \times a) \\
 101111101 &= 13 \times 7777777 & := aaaaaaa \times (aaaa - aaa + a)/(aa \times a) \\
 1011111101 &= 13 \times 77777777 & := aaaaaaaa \times (aaaa - aaa + a)/(aa \times a) \\
 10111111101 &= 13 \times 777777777 & := aaaaaaaaa \times (aaaa - aaa + a)/(aa \times a).
 \end{aligned}$$

$$\begin{aligned}
 83 &:= \frac{(aa - a - a) \times (aa - a - a) + a \times (a + a)}{a \times a} \\
 983 &:= \frac{(aa - a - a) \times (aaa - a - a) + a \times (a + a)}{a \times a} \\
 9983 &:= \frac{(aa - a - a) \times (aaaa - a - a) + a \times (a + a)}{a \times a} \\
 99983 &:= \frac{(aa - a - a) \times (aaaaa - a - a) + a \times (a + a)}{a \times a}
 \end{aligned}$$

$$\begin{aligned}
 123 &:= \frac{aaa + aa + a}{a} & 276 &:= \frac{(aa + aa + a) \times (aa + a)}{a \times a} \\
 1123 &:= \frac{aaaa + aa + a}{a} & 2576 &:= \frac{(aa + aa + a) \times (aaa + a)}{a \times a} \\
 11123 &:= \frac{aaaaa + aa + a}{a} & 25576 &:= \frac{(aa + aa + a) \times (aaaa + a)}{a \times a} \\
 111123 &:= \frac{aaaaaa + aa + a}{a} & 255576 &:= \frac{(aa + aa + a) \times (aaaaa + a)}{a \times a}
 \end{aligned}$$

The letter "a" appearing in above three examples is such that $a \in \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$, i.e., for any value of "a" from 1 to 9, the results remains the same. Also,

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

A general study of numbers in terms of letter "a" is given in [39, 44].

1.3 Patterns in Pair of Amicable Numbers

$$\begin{aligned}
 264 &:= 5 \times 8 + 28 \times 8 & \Leftrightarrow & \quad 528 := 2 \times 8 + 64 \times 8 \\
 2664 &:= 5 \times 8 + 328 \times 8 & \Leftrightarrow & \quad 5328 := 2 \times 8 + 664 \times 8 \\
 26664 &:= 5 \times 8 + 3328 \times 8 & \Leftrightarrow & \quad 53328 := 2 \times 8 + 6664 \times 8 \\
 266664 &:= 5 \times 8 + 33328 \times 8 & \Leftrightarrow & \quad 533328 := 2 \times 8 + 66664 \times 8 \\
 2666664 &:= 5 \times 8 + 333328 \times 8 & \Leftrightarrow & \quad 5333328 := 2 \times 8 + 666664 \times 8 \\
 \\
 1650 &:= 325 \times 5 + 5 \times 5 & \Leftrightarrow & \quad 3255 := 1 \times 5 + 650 \times 5 \\
 16650 &:= 3325 \times 5 + 5 \times 5 & \Leftrightarrow & \quad 33255 := 1 \times 5 + 6650 \times 5 \\
 166650 &:= 33325 \times 5 + 5 \times 5 & \Leftrightarrow & \quad 333255 := 1 \times 5 + 66650 \times 5 \\
 1666650 &:= 333325 \times 5 + 5 \times 5 & \Leftrightarrow & \quad 3333255 := 1 \times 5 + 666650 \times 5
 \end{aligned}$$

$$\begin{aligned}
 3544 &:= 437 \times 8 + 6 \times 8 & \Leftrightarrow & \quad 4376 := 3 \times 8 + 544 \times 8 \\
 35544 &:= 4437 \times 8 + 6 \times 8 & \Leftrightarrow & \quad 44376 := 3 \times 8 + 5544 \times 8 \\
 355544 &:= 44437 \times 8 + 6 \times 8 & \Leftrightarrow & \quad 444376 := 3 \times 8 + 55544 \times 8 \\
 3555544 &:= 444437 \times 8 + 6 \times 8 & \Leftrightarrow & \quad 4444376 := 3 \times 8 + 555544 \times 8
 \end{aligned}$$

For more details refer author's work [41]

1.4 Patterns in Selfie Fractions

Below are few examples of patterns in **selfie fractions**. For details refer author's work [42, 48]

$$\begin{array}{lll}
 \frac{42}{231} := \frac{4+2}{2+31} & \frac{108}{1188} := \frac{1+08}{11+88} & \frac{266}{627} := \frac{2+6+6}{6+27} \\
 \frac{42}{2331} := \frac{4+2}{2+331} & \frac{108}{11988} := \frac{1+08}{11+988} & \frac{266}{6327} := \frac{2+6+6}{6+327} \\
 \frac{42}{23331} := \frac{4+2}{2+3331} & \frac{108}{119988} := \frac{1+08}{11+9988} & \frac{266}{63327} := \frac{2+6+6}{6+3327} \\
 \frac{42}{233331} := \frac{4+2}{2+33331} & \frac{108}{1199988} := \frac{1+08}{11+99988} & \frac{266}{633327} := \frac{2+6+6}{6+33327}
 \end{array}$$

1.5 Pythagorean Triples Patterns

$$\begin{aligned}
 124^2 + 3843^2 &:= 3845^2 & 8844^2 + 133^2 &:= 8845^2 & 39600^2 + 398^2 &:= 39602^2 \\
 1240^2 + 384399^2 &:= 384401^2 & 888444^2 + 1333^2 &:= 888445^2 & 3996000^2 + 3998^2 &:= 3996002^2 \\
 12400^2 + 38439999^2 &:= 38440001^2 & 88884444^2 + 13333^2 &:= 88884445^2 & 399960000^2 + 39998^2 &:= 399960002^2 \\
 124000^2 + 3843999999^2 &:= 3844000001^2 & 8888844444^2 + 133333^2 &:= 8888844445^2 & 39999600000^2 + 399998^2 &:= 39999600002^2
 \end{aligned}$$

For more studies refer author's work [45].

1.6 Pandigital-Type Pythagorean Triples Patterns

$$\begin{aligned}
 096^2 + 40^2 &:= 104^2 \\
 12096^2 + 440^2 &:= 12104^2 \\
 1232096^2 + 4440^2 &:= 1232104^2 \\
 123432096^2 + 44440^2 &:= 123432104^2 \\
 12345432096^2 + 444440^2 &:= 12345432104^2 \\
 1234565432096^2 + 4444440^2 &:= 1234565432104^2 \\
 123456765432096^2 + 44444440^2 &:= 123456765432104^2 \\
 12345678765432096^2 + 444444440^2 &:= 12345678765432104^2 \\
 1234567898765432096^2 + 4444444440^2 &:= 1234567898765432104^2
 \end{aligned}$$

$$\begin{aligned}
 091^2 + 60^2 &:= 109^2 \\
 12091^2 + 660^2 &:= 12109^2 \\
 1232091^2 + 6660^2 &:= 1232109^2 \\
 123432091^2 + 66660^2 &:= 123432109^2 \\
 12345432091^2 + 666660^2 &:= 12345432109^2 \\
 1234565432091^2 + 6666660^2 &:= 1234565432109^2 \\
 123456765432091^2 + 66666660^2 &:= 123456765432109^2 \\
 12345678765432091^2 + 666666660^2 &:= 12345678765432109^2 \\
 1234567898765432091^2 + 6666666660^2 &:= 1234567898765432109^2
 \end{aligned}$$

For more details refer author's work [46]

2 Selfie Numbers and Patterns

Recently, the author studied different ways of expressing numbers in such a way that both sides are with same digits. One side is with number, and another side is an expression formed by same digits with some operations. These types of numbers we call **selfie numbers**. Some times they are called as **wild narcissistic numbers**. These numbers are represented by their own digits by use of certain operations. Subsections below give different ways of writing **selfie numbers**. See below some examples:

$$\begin{aligned}
 936 &:= (\sqrt{9})!^3 + 6! &= 6! + (3!)^{\sqrt{9}} \\
 1296 &:= \sqrt{(1+2)!^9/6} &= 6^{(\sqrt{9}+2-1)} \\
 2896 &:= 2 \times (8 + (\sqrt{9})!! + 6!) &= (6! + (\sqrt{9})!! + 8) \times 2 \\
 331779 &:= 3 + (31 - 7)^{\sqrt{7+9}} &= \sqrt{9} + (7 \times 7 - 1)^3 \times 3 \\
 342995 &:= (3^4 - 2 - 9)^{\sqrt{9}} - 5 &= -5 + (-9 + 9^2 - \sqrt{4})^3 \\
 759375 &:= (-7 + 59 - 37)^5 &= (5 + 7 + 3)^{\sqrt{9}-5+7} \\
 759381 &:= 7 + (5 \times \sqrt{9})^{-3+8} - 1 &= -1 + (8 \times 3 - 9)^5 + 7
 \end{aligned}$$

More studies on **selfie numbers** can be seen in author's work [5]-[37]. In [40], the author worked with **paterns in selfie numbers**, but for four digits and more. See below two examples.

$$\begin{aligned}
 1285 &:= (1 + 2^8) \times 5 & 3645 &:= 3\sqrt{\sqrt{6^4}} \times 5 & 72688 &:= 7 \times (2 + \sqrt{6^8}) \times 8 \\
 12850 &:= (1 + 2^8) \times 50 & 36450 &:= 3\sqrt{\sqrt{6^4}} \times 50 & 726880 &:= 7 \times (2 + \sqrt{6^8}) \times 80 \\
 128500 &:= (1 + 2^8) \times 500 & 364500 &:= 3\sqrt{\sqrt{6^4}} \times 500 & 7268800 &:= 7 \times (2 + \sqrt{6^8}) \times 800
 \end{aligned}$$

The above patterns are only with **square-root**. For more examples of similar kind refer author's work [40].

The subsection below give **patterns in selfie numbers** up to three digits having in addition the sequential functions such as, **quadratic (square), cubic, triangular, Fibonacci**, etc.

2.1 Patterns in Selfie Numbers

The examples below are referring letters **Q, C, T** and **F** respectively sequential functions as **square, cubic, triangular** and **Fibonacci**. Still factorial and square-root are also used. These are derived from author's recent work [38].

1.

$$\begin{aligned}21 &:= F(C(2 \times 1)) \\210 &:= F(C(2)) \times 10 \\2100 &:= F(C(2)) \times 100 \\21000 &:= F(C(2)) \times 1000\end{aligned}$$

2.

$$\begin{aligned}21 &:= F(F(F(Q(2)!)) \times 1 \\210 &:= F(F(F(Q(2)!)) \times 10 \\2100 &:= F(F(F(Q(2)!)) \times 100 \\21000 &:= F(F(F(Q(2)!)) \times 1000\end{aligned}$$

3.

$$\begin{aligned}24 &:= T(T(2)) \times 4 \\240 &:= T(T(2)) \times 40 \\2400 &:= T(T(2)) \times 400 \\24000 &:= T(T(2)) \times 4000\end{aligned}$$

4.

$$\begin{aligned}36 &:= 3! \times 6 \\360 &:= 3! \times 60 \\3600 &:= 3! \times 600 \\36000 &:= 3! \times 6000\end{aligned}$$

5.

$$\begin{aligned}36 &:= T(3) \times 6 \\360 &:= T(3) \times 60 \\3600 &:= T(3) \times 600 \\36000 &:= T(3) \times 6000\end{aligned}$$

6.

$$\begin{aligned}42 &:= F(F(F(4)!)) \times 2 \\420 &:= F(F(F(4)!)) \times 20 \\4200 &:= F(F(F(4)!)) \times 200 \\42000 &:= F(F(F(4)!)) \times 2000\end{aligned}$$

7.

$$\begin{aligned}45 &:= Q(F(4)) \times 5 \\450 &:= Q(F(4)) \times 50 \\4500 &:= Q(F(4)) \times 500 \\45000 &:= Q(F(4)) \times 5000\end{aligned}$$

8.

$$\begin{aligned}48 &:= F(4)! \times 8 \\480 &:= F(4)! \times 80 \\4800 &:= F(4)! \times 800 \\48000 &:= F(4)! \times 8000\end{aligned}$$

9.

$$\begin{aligned}48 &:= T(F(4)) \times 8 \\480 &:= T(F(4)) \times 80 \\4800 &:= T(F(4)) \times 800 \\48000 &:= T(F(4)) \times 8000\end{aligned}$$

10.

$$\begin{aligned}48 &:= T\left(T\left(\sqrt{4}\right)\right) \times 8 \\480 &:= T\left(T\left(\sqrt{4}\right)\right) \times 80 \\4800 &:= T\left(T\left(\sqrt{4}\right)\right) \times 800 \\48000 &:= T\left(T\left(\sqrt{4}\right)\right) \times 8000\end{aligned}$$

11.

$$\begin{aligned}63 &:= T(6) \times 3 \\630 &:= T(6) \times 30 \\6300 &:= T(6) \times 300 \\63000 &:= T(6) \times 3000\end{aligned}$$

12.

$$\begin{aligned}63 &:= F(F(6)) \times 3 \\630 &:= F(F(6)) \times 30 \\6300 &:= F(F(6)) \times 300 \\63000 &:= F(F(6)) \times 3000\end{aligned}$$

13.

$$\begin{aligned}84 &:= F(8) \times 4 \\840 &:= F(8) \times 40 \\8400 &:= F(8) \times 400 \\84000 &:= F(8) \times 4000\end{aligned}$$

14.

$$\begin{aligned}84 &:= T\left(\sqrt{T(8)}\right) \times 4 \\840 &:= T\left(\sqrt{T(8)}\right) \times 40 \\8400 &:= T\left(\sqrt{T(8)}\right) \times 400 \\84000 &:= T\left(\sqrt{T(8)}\right) \times 4000\end{aligned}$$

15.

$$\begin{aligned}96 &:= Q\left(Q\left(F\left(\sqrt{9}\right)\right)\right) \times 6 \\960 &:= Q\left(Q\left(F\left(\sqrt{9}\right)\right)\right) \times 60 \\9600 &:= Q\left(Q\left(F\left(\sqrt{9}\right)\right)\right) \times 600 \\96000 &:= Q\left(Q\left(F\left(\sqrt{9}\right)\right)\right) \times 6000\end{aligned}$$

16.

$$\begin{aligned}105 &:= F(C(1 + 0!)) \times 5 \\1050 &:= F(C(1 + 0!)) \times 50 \\10500 &:= F(C(1 + 0!)) \times 500 \\105000 &:= F(C(1 + 0!)) \times 5000\end{aligned}$$

17.

$$\begin{aligned}135 &:= C(1 \times 3) \times 5 \\1350 &:= C(1 \times 3) \times 50 \\13500 &:= C(1 \times 3) \times 500 \\135000 &:= C(1 \times 3) \times 5000\end{aligned}$$

18.

$$\begin{aligned}147 &:= T(T(-1 + 4)) \times 7 \\1470 &:= T(T(-1 + 4)) \times 70 \\14700 &:= T(T(-1 + 4)) \times 700 \\147000 &:= T(T(-1 + 4)) \times 7000\end{aligned}$$

19.

$$\begin{aligned}147 &:= (F(F((F(1 \times 4)!))) \times 7 \\1470 &:= (F(F((F(1 \times 4)!))) \times 70 \\14700 &:= (F(F((F(1 \times 4)!))) \times 700 \\147000 &:= (F(F((F(1 \times 4)!))) \times 7000\end{aligned}$$

20.

$$\begin{aligned}156 &:= (1 + Q(5)) \times 6 \\1560 &:= (1 + Q(5)) \times 60 \\15600 &:= (1 + Q(5)) \times 600 \\156000 &:= (1 + Q(5)) \times 6000\end{aligned}$$

21.

$$\begin{aligned}162 &:= Q(1 + F(6)) \times 2 \\1620 &:= Q(1 + F(6)) \times 20 \\16200 &:= Q(1 + F(6)) \times 200 \\162000 &:= Q(1 + F(6)) \times 2000\end{aligned}$$

22.

$$\begin{aligned}168 &:= T(1 \times 6) \times 8 \\1680 &:= T(1 \times 6) \times 80 \\16800 &:= T(1 \times 6) \times 800 \\168000 &:= T(1 \times 6) \times 8000\end{aligned}$$

23.

$$\begin{aligned}182 &:= T(F(-1 + 8)) \times 2 \\1820 &:= T(F(-1 + 8)) \times 20 \\18200 &:= T(F(-1 + 8)) \times 200 \\182000 &:= T(F(-1 + 8)) \times 2000\end{aligned}$$

24.

$$\begin{aligned}185 &:= (1 + T(8)) \times 5 \\1850 &:= (1 + T(8)) \times 50 \\18500 &:= (1 + T(8)) \times 500 \\185000 &:= (1 + T(8)) \times 5000\end{aligned}$$

25.

$$\begin{aligned}189 &:= 1 \times F(8) \times 9 \\1890 &:= 1 \times F(8) \times 90 \\18900 &:= 1 \times F(8) \times 900 \\189000 &:= 1 \times F(8) \times 9000\end{aligned}$$

26.

$$\begin{aligned}208 &:= (C(T(2)) - 0!) \times 8 \\2080 &:= (C(T(2)) - 0!) \times 80 \\20800 &:= (C(T(2)) - 0!) \times 800 \\208000 &:= (C(T(2)) - 0!) \times 8000\end{aligned}$$

27.

$$\begin{aligned}231 &:= T(F(2^3)) \times 1 \\2310 &:= T(F(2^3)) \times 10 \\23100 &:= T(F(2^3)) \times 100 \\231000 &:= T(F(2^3)) \times 1000\end{aligned}$$

28.

$$\begin{aligned}231 &:= T(T(2 \times 3)) \times 1 \\2310 &:= T(T(2 \times 3)) \times 10 \\23100 &:= T(T(2 \times 3)) \times 100 \\231000 &:= T(T(2 \times 3)) \times 1000\end{aligned}$$

29.

$$\begin{aligned}243 &:= T(2)^4 \times 3 \\2430 &:= T(2)^4 \times 30 \\24300 &:= T(2)^4 \times 300 \\243000 &:= T(2)^4 \times 3000\end{aligned}$$

30.

$$\begin{aligned}244 &:= (-T(2) + C(4)) \times 4 \\2440 &:= (-T(2) + C(4)) \times 40 \\24400 &:= (-T(2) + C(4)) \times 400 \\244000 &:= (-T(2) + C(4)) \times 4000\end{aligned}$$

31.

$$\begin{aligned}244 &:= (T(T(2)) + F(T(4))) \times 4 \\2440 &:= (T(T(2)) + F(T(4))) \times 40 \\24400 &:= (T(T(2)) + F(T(4))) \times 400 \\244000 &:= (T(T(2)) + F(T(4))) \times 4000\end{aligned}$$

32.

$$\begin{aligned}244 &:= (T(T(2)) + T(T(4))) \times 4 \\2440 &:= (T(T(2)) + T(T(4))) \times 40 \\24400 &:= (T(T(2)) + T(T(4))) \times 400 \\244000 &:= (T(T(2)) + T(T(4))) \times 4000\end{aligned}$$

33.

$$\begin{aligned}245 &:= (-T(T(2)) + T(T(4))) \times 5 \\2450 &:= (-T(T(2)) + T(T(4))) \times 50 \\24500 &:= (-T(T(2)) + T(T(4))) \times 500 \\245000 &:= (-T(T(2)) + T(T(4))) \times 5000\end{aligned}$$

34.

$$\begin{aligned}248 &:= (T(T(T(2))) + T(4)) \times 8 \\2480 &:= (T(T(T(2))) + T(4)) \times 80 \\24800 &:= (T(T(T(2))) + T(4)) \times 800 \\248000 &:= (T(T(T(2))) + T(4)) \times 8000\end{aligned}$$

35.

$$\begin{aligned}251 &:= (Q(Q(Q(2))) - 5) \times 1 \\2510 &:= (Q(Q(Q(2))) - 5) \times 10 \\25100 &:= (Q(Q(Q(2))) - 5) \times 100 \\251000 &:= (Q(Q(Q(2))) - 5) \times 1000\end{aligned}$$

36.

$$\begin{aligned}252 &:= (T(T(2)) + 5!) \times 2 \\2520 &:= (T(T(2)) + 5!) \times 20 \\25200 &:= (T(T(2)) + 5!) \times 200 \\252000 &:= (T(T(2)) + 5!) \times 2000\end{aligned}$$

37.

$$\begin{aligned}252 &:= (T(T(2)) + T(T(5))) \times 2 \\2520 &:= (T(T(2)) + T(T(5))) \times 20 \\25200 &:= (T(T(2)) + T(T(5))) \times 200 \\252000 &:= (T(T(2)) + T(T(5))) \times 2000\end{aligned}$$

38.

$$\begin{aligned}264 &:= T(T(2)) + F(6) \times 4 \\2640 &:= T(T(2)) + F(6) \times 40 \\26400 &:= T(T(2)) + F(6) \times 400 \\264000 &:= T(T(2)) + F(6) \times 4000\end{aligned}$$

39.

$$\begin{aligned}264 &:= T(T(T(T(T(2))))/T(6)) \times 4 \\2640 &:= T(T(T(T(T(2))))/T(6)) \times 40 \\26400 &:= T(T(T(T(T(2))))/T(6)) \times 400 \\264000 &:= T(T(T(T(T(2))))/T(6)) \times 4000\end{aligned}$$

40.

$$\begin{aligned}273 &:= T(F(2) \times F(7)) \times 3 \\2730 &:= T(F(2) \times F(7)) \times 30 \\27300 &:= T(F(2) \times F(7)) \times 300 \\273000 &:= T(F(2) \times F(7)) \times 3000\end{aligned}$$

41.

$$\begin{aligned}275 &:= F(T(2) + 7) \times 5 \\2750 &:= F(T(2) + 7) \times 50 \\27500 &:= F(T(2) + 7) \times 500 \\275000 &:= F(T(2) + 7) \times 5000\end{aligned}$$

42.

$$\begin{aligned}276 &:= (-T(2) + Q(7)) \times 6 \\2760 &:= (-T(2) + Q(7)) \times 60 \\27600 &:= (-T(2) + Q(7)) \times 600 \\276000 &:= (-T(2) + Q(7)) \times 6000\end{aligned}$$

43.

$$\begin{aligned}279 &:= ((Q(2))! + 7) \times 9 \\2790 &:= ((Q(2))! + 7) \times 90 \\27900 &:= ((Q(2))! + 7) \times 900 \\279000 &:= ((Q(2))! + 7) \times 9000\end{aligned}$$

44.

$$\begin{aligned}279 &:= (T(2) + T(7)) \times 9 \\2790 &:= (T(2) + T(7)) \times 90 \\27900 &:= (T(2) + T(7)) \times 900 \\279000 &:= (T(2) + T(7)) \times 9000\end{aligned}$$

45.

$$\begin{aligned}281 &:= (C(C(2)) - T(F(8))) \times 1 \\2810 &:= (C(C(2)) - T(F(8))) \times 10 \\28100 &:= (C(C(2)) - T(F(8))) \times 100 \\281000 &:= (C(C(2)) - T(F(8))) \times 1000\end{aligned}$$

46.

$$\begin{aligned}291 &:= (T(Q(2)!) - 9) \times 1 \\2910 &:= (T(Q(2)!) - 9) \times 10 \\29100 &:= (T(Q(2)!) - 9) \times 100 \\291000 &:= (T(Q(2)!) - 9) \times 1000\end{aligned}$$

47.

$$\begin{aligned}315 &:= F(F(3!)) \times 15 \\3150 &:= F(F(3!)) \times 150 \\31500 &:= F(F(3!)) \times 1500 \\315000 &:= F(F(3!)) \times 15000\end{aligned}$$

48.

$$\begin{aligned}315 &:= F(C(F(3))) \times 15 \\3150 &:= F(C(F(3))) \times 150 \\31500 &:= F(C(F(3))) \times 1500 \\315000 &:= F(C(F(3))) \times 15000\end{aligned}$$

49.

$$\begin{aligned}321 &:= (T(T(3)) + T(Q(2)!)) \times 1 \\3210 &:= (T(T(3)) + T(Q(2)!)) \times 10 \\32100 &:= (T(T(3)) + T(Q(2)!)) \times 100 \\321000 &:= (T(T(3)) + T(Q(2)!)) \times 1000\end{aligned}$$

50.

$$\begin{aligned}328 &:= (T(Q(3)) - Q(2)) \times 8 \\3280 &:= (T(Q(3)) - Q(2)) \times 80 \\32800 &:= (T(Q(3)) - Q(2)) \times 800 \\328000 &:= (T(Q(3)) - Q(2)) \times 8000\end{aligned}$$

51.

$$\begin{aligned}332 &:= (F(T(3)) + Q(Q(3))) \times 1 \\3320 &:= (F(T(3)) + Q(Q(3))) \times 10 \\33200 &:= (F(T(3)) + Q(Q(3))) \times 100 \\332000 &:= (F(T(3)) + Q(Q(3))) \times 1000\end{aligned}$$

52.

$$\begin{aligned}351 &:= T(T(T(3)) + 5) \times 1 \\3510 &:= T(T(T(3)) + 5) \times 10 \\35100 &:= T(T(T(3)) + 5) \times 100 \\351000 &:= T(T(T(3)) + 5) \times 1000\end{aligned}$$

53.

$$\begin{aligned}357 &:= (T(F(T(3))) + T(5)) \times 7 \\3570 &:= (T(F(T(3))) + T(5)) \times 70 \\35700 &:= (T(F(T(3))) + T(5)) \times 700 \\357000 &:= (T(F(T(3))) + T(5)) \times 7000\end{aligned}$$

54.

$$\begin{aligned}364 &:= T(T(T(3)) - F(6)) \times 4 \\3640 &:= T(T(T(3)) - F(6)) \times 40 \\36400 &:= T(T(T(3)) - F(6)) \times 400 \\364000 &:= T(T(T(3)) - F(6)) \times 4000\end{aligned}$$

55.

$$\begin{aligned}366 &:= (-3 + Q(F(6))) \times 6 \\3660 &:= (-3 + Q(F(6))) \times 60 \\36600 &:= (-3 + Q(F(6))) \times 600 \\366000 &:= (-3 + Q(F(6))) \times 6000\end{aligned}$$

56.

$$\begin{aligned}395 &:= (-F(3) + Q(9)) \times 5 \\3950 &:= (-F(3) + Q(9)) \times 50 \\39500 &:= (-F(3) + Q(9)) \times 500 \\395000 &:= (-F(3) + Q(9)) \times 5000\end{aligned}$$

57.

$$\begin{aligned}404 &:= (Q(T(4)) + 0!) \times 4 \\4040 &:= (Q(T(4)) + 0!) \times 40 \\40400 &:= (Q(T(4)) + 0!) \times 400 \\404000 &:= (Q(T(4)) + 0!) \times 4000\end{aligned}$$

58.

$$\begin{aligned}405 &:= Q(Q(4 - 0!)) \times 5 \\4050 &:= Q(Q(4 - 0!)) \times 50 \\40500 &:= Q(Q(4 - 0!)) \times 500 \\405000 &:= Q(Q(4 - 0!)) \times 5000\end{aligned}$$

59.

$$\begin{aligned}405 &:= Q(T(4) - 0!) \times 5 \\4050 &:= Q(T(4) - 0!) \times 50 \\40500 &:= Q(T(4) - 0!) \times 500 \\405000 &:= Q(T(4) - 0!) \times 5000\end{aligned}$$

60.

$$\begin{aligned}405 &:= Q(Q(F(4))) \times 05 \\4050 &:= Q(Q(F(4))) \times 050 \\40500 &:= Q(Q(F(4))) \times 0500 \\405000 &:= Q(Q(F(4))) \times 05000\end{aligned}$$

61.

$$\begin{aligned}405 &:= Q\left(Q\left(\sqrt{4} + 0!\right)\right) \times 5 \\4050 &:= Q\left(Q\left(\sqrt{4} + 0!\right)\right) \times 50 \\40500 &:= Q\left(Q\left(\sqrt{4} + 0!\right)\right) \times 500 \\405000 &:= Q\left(Q\left(\sqrt{4} + 0!\right)\right) \times 5000\end{aligned}$$

62.

$$\begin{aligned}425 &:= (C(4) + F(C(2))) \times 5 \\4250 &:= (C(4) + F(C(2))) \times 50 \\42500 &:= (C(4) + F(C(2))) \times 500 \\425000 &:= (C(4) + F(C(2))) \times 5000\end{aligned}$$

63.

$$\begin{aligned}426 &:= (T(T(4)) + Q(Q(2))) \times 6 \\4260 &:= (T(T(4)) + Q(Q(2))) \times 60 \\42600 &:= (T(T(4)) + Q(Q(2))) \times 600 \\426000 &:= (T(T(4)) + Q(Q(2))) \times 6000\end{aligned}$$

64.

$$\begin{aligned}427 &:= (C(4) - T(2)) \times 7 \\4270 &:= (C(4) - T(2)) \times 70 \\42700 &:= (C(4) - T(2)) \times 700 \\427000 &:= (C(4) - T(2)) \times 7000\end{aligned}$$

65.

$$\begin{aligned}427 &:= (C(4) - F(Q(2))) \times 7 \\4270 &:= (C(4) - F(Q(2))) \times 70 \\42700 &:= (C(4) - F(Q(2))) \times 700 \\427000 &:= (C(4) - F(Q(2))) \times 7000\end{aligned}$$

66.

$$\begin{aligned}431 &:= (-T(4) + Q(T(T(3)))) \times 1 \\4310 &:= (-T(4) + Q(T(T(3)))) \times 10 \\43100 &:= (-T(4) + Q(T(T(3)))) \times 100 \\431000 &:= (-T(4) + Q(T(T(3)))) \times 1000\end{aligned}$$

67.

$$\begin{aligned}432 &:= 4! \times Q(3) \times 2 \\4320 &:= 4! \times Q(3) \times 20 \\43200 &:= 4! \times Q(3) \times 200 \\432000 &:= 4! \times Q(3) \times 2000\end{aligned}$$

68.

$$\begin{aligned}435 &:= (F(4)! + Q(Q(3))) \times 5 \\4350 &:= (F(4)! + Q(Q(3))) \times 50 \\43500 &:= (F(4)! + Q(Q(3))) \times 500 \\435000 &:= (F(4)! + Q(Q(3))) \times 5000\end{aligned}$$

69.

$$\begin{aligned} 441 &:= Q(F(4 + 4)) \times 1 \\ 4410 &:= Q(F(4 + 4)) \times 10 \\ 44100 &:= Q(F(4 + 4)) \times 100 \\ 441000 &:= Q(F(4 + 4)) \times 1000 \end{aligned}$$

70.

$$\begin{aligned} 441 &:= \left(T \left(T \left(T \left(\sqrt{4} \right) \right) \right) \right)^{\sqrt{4}} \times 1 \\ 4410 &:= \left(T \left(T \left(T \left(\sqrt{4} \right) \right) \right) \right)^{\sqrt{4}} \times 10 \\ 44100 &:= \left(T \left(T \left(T \left(\sqrt{4} \right) \right) \right) \right)^{\sqrt{4}} \times 100 \\ 441000 &:= \left(T \left(T \left(T \left(\sqrt{4} \right) \right) \right) \right)^{\sqrt{4}} \times 1000 \end{aligned}$$

71.

$$\begin{aligned} 445 &:= F(F(4) + F((F(4))!)) \times 5 \\ 4450 &:= F(F(4) + F((F(4))!)) \times 50 \\ 44500 &:= F(F(4) + F((F(4))!)) \times 500 \\ 445000 &:= F(F(4) + F((F(4))!)) \times 5000 \end{aligned}$$

72.

$$\begin{aligned} 445 &:= F \left(F(4) + \sqrt{C(4)} \right) \times 5 \\ 4450 &:= F \left(F(4) + \sqrt{C(4)} \right) \times 50 \\ 44500 &:= F \left(F(4) + \sqrt{C(4)} \right) \times 500 \\ 445000 &:= F \left(F(4) + \sqrt{C(4)} \right) \times 5000 \end{aligned}$$

73.

$$\begin{aligned} 448 &:= \left(F \left(\sqrt{4} \right) + F(T(4)) \right) \times 8 \\ 4480 &:= \left(F \left(\sqrt{4} \right) + F(T(4)) \right) \times 80 \\ 44800 &:= \left(F \left(\sqrt{4} \right) + F(T(4)) \right) \times 800 \\ 448000 &:= \left(F \left(\sqrt{4} \right) + F(T(4)) \right) \times 8000 \end{aligned}$$

74.

$$\begin{aligned} 451 &:= (Q(4!) - C(5)) \times 1 \\ 4510 &:= (Q(4!) - C(5)) \times 10 \\ 45100 &:= (Q(4!) - C(5)) \times 100 \\ 451000 &:= (Q(4!) - C(5)) \times 1000 \end{aligned}$$

75.

$$\begin{aligned} 452 &:= (T(T(T(F(4)))) - 5) \times 2 \\ 4520 &:= (T(T(T(F(4)))) - 5) \times 20 \\ 45200 &:= (T(T(T(F(4)))) - 5) \times 200 \\ 452000 &:= (T(T(T(F(4)))) - 5) \times 2000 \end{aligned}$$

76.

$$\begin{aligned} 455 &:= (C(F(4)!) - C(5)) \times 5 \\ 4550 &:= (C(F(4)!) - C(5)) \times 50 \\ 45500 &:= (C(F(4)!) - C(5)) \times 500 \\ 455000 &:= (C(F(4)!) - C(5)) \times 5000 \end{aligned}$$

77.

$$\begin{aligned} 472 &:= (F(4) + F(F(7))) \times 2 \\ 4720 &:= (F(4) + F(F(7))) \times 20 \\ 47200 &:= (F(4) + F(F(7))) \times 200 \\ 472000 &:= (F(4) + F(F(7))) \times 2000 \end{aligned}$$

78.

$$\begin{aligned} 482 &:= (T(4) + T(F(8))) \times 2 \\ 4820 &:= (T(4) + T(F(8))) \times 20 \\ 48200 &:= (T(4) + T(F(8))) \times 200 \\ 482000 &:= (T(4) + T(F(8))) \times 2000 \end{aligned}$$

79.

$$482 := \left(T(4) + T\left(T\left(\sqrt{T(8)}\right)\right) \right) \times 2$$

$$4820 := \left(T(4) + T\left(T\left(\sqrt{T(8)}\right)\right) \right) \times 20$$

$$48200 := \left(T(4) + T\left(T\left(\sqrt{T(8)}\right)\right) \right) \times 200$$

$$482000 := \left(T(4) + T\left(T\left(\sqrt{T(8)}\right)\right) \right) \times 2000$$

80.

$$486 := Q(Q(4!/8)) \times 6$$

$$4860 := Q(Q(4!/8)) \times 60$$

$$48600 := Q(Q(4!/8)) \times 600$$

$$486000 := Q(Q(4!/8)) \times 6000$$

81.

$$486 := \sqrt{F(4)^8} \times 6$$

$$4860 := \sqrt{F(4)^8} \times 60$$

$$48600 := \sqrt{F(4)^8} \times 600$$

$$486000 := \sqrt{F(4)^8} \times 6000$$

82.

$$486 := \sqrt{T\left(\left(\sqrt{4}\right)\right)^8} \times 6$$

$$4860 := \sqrt{T\left(\left(\sqrt{4}\right)\right)^8} \times 60$$

$$48600 := \sqrt{T\left(\left(\sqrt{4}\right)\right)^8} \times 600$$

$$486000 := \sqrt{T\left(\left(\sqrt{4}\right)\right)^8} \times 6000$$

83.

$$488 := (-F(4) + Q(8)) \times 8$$

$$4880 := (-F(4) + Q(8)) \times 80$$

$$48800 := (-F(4) + Q(8)) \times 800$$

$$488000 := (-F(4) + Q(8)) \times 8000$$

84.

$$488 := \left(F(T(4)) + \sqrt{T(8)} \right) \times 8$$

$$4880 := \left(F(T(4)) + \sqrt{T(8)} \right) \times 80$$

$$48800 := \left(F(T(4)) + \sqrt{T(8)} \right) \times 800$$

$$488000 := \left(F(T(4)) + \sqrt{T(8)} \right) \times 8000$$

85.

$$488 := \left(T(T(4)) + \sqrt{T(8)} \right) \times 8$$

$$4880 := \left(T(T(4)) + \sqrt{T(8)} \right) \times 80$$

$$48800 := \left(T(T(4)) + \sqrt{T(8)} \right) \times 800$$

$$488000 := \left(T(T(4)) + \sqrt{T(8)} \right) \times 8000$$

86.

$$491 := \left(\sqrt{C(C(4)) - T\left(T\left(\sqrt{9}\right)\right)} \right) \times 1$$

$$4910 := \left(\sqrt{C(C(4)) - T\left(T\left(\sqrt{9}\right)\right)} \right) \times 10$$

$$49100 := \left(\sqrt{C(C(4)) - T\left(T\left(\sqrt{9}\right)\right)} \right) \times 100$$

$$491000 := \left(\sqrt{C(C(4)) - T\left(T\left(\sqrt{9}\right)\right)} \right) \times 1000$$

87.

$$497 := (-T(4) + Q(9)) \times 7$$

$$4970 := (-T(4) + Q(9)) \times 70$$

$$49700 := (-T(4) + Q(9)) \times 700$$

$$497000 := (-T(4) + Q(9)) \times 7000$$

88.

$$\begin{aligned} 504 &:= (C(5) + 0!) \times 4 \\ 5040 &:= (C(5) + 0!) \times 40 \\ 50400 &:= (C(5) + 0!) \times 400 \\ 504000 &:= (C(5) + 0!) \times 4000 \end{aligned}$$

89.

$$\begin{aligned} 512 &:= Q(Q(5 - 1)) \times 2 \\ 5120 &:= Q(Q(5 - 1)) \times 20 \\ 51200 &:= Q(Q(5 - 1)) \times 200 \\ 512000 &:= Q(Q(5 - 1)) \times 2000 \end{aligned}$$

90.

$$\begin{aligned} 513 &:= T\left(\sqrt{T(Q(5)) - 1}\right) \times 3 \\ 5130 &:= T\left(\sqrt{T(Q(5)) - 1}\right) \times 30 \\ 51300 &:= T\left(\sqrt{T(Q(5)) - 1}\right) \times 300 \\ 513000 &:= T\left(\sqrt{T(Q(5)) - 1}\right) \times 3000 \end{aligned}$$

91.

$$\begin{aligned} 522 &:= (5 + Q(Q(Q(2)))) \times 2 \\ 5220 &:= (5 + Q(Q(Q(2)))) \times 20 \\ 52200 &:= (5 + Q(Q(Q(2)))) \times 200 \\ 522000 &:= (5 + Q(Q(Q(2)))) \times 2000 \end{aligned}$$

92.

$$\begin{aligned} 524 &:= (C(5) + T(T(2))) \times 4 \\ 5240 &:= (C(5) + T(T(2))) \times 40 \\ 52400 &:= (C(5) + T(T(2))) \times 400 \\ 524000 &:= (C(5) + T(T(2))) \times 4000 \end{aligned}$$

93.

$$\begin{aligned} 525 &:= 5 \times T(T(T(2))) \times 5 \\ 5250 &:= 5 \times T(T(T(2))) \times 50 \\ 52500 &:= 5 \times T(T(T(2))) \times 500 \\ 525000 &:= 5 \times T(T(T(2))) \times 5000 \end{aligned}$$

94.

$$\begin{aligned} 525 &:= T(T(5) - F(2)) \times 5 \\ 5250 &:= T(T(5) - F(2)) \times 50 \\ 52500 &:= T(T(5) - F(2)) \times 500 \\ 525000 &:= T(T(5) - F(2)) \times 5000 \end{aligned}$$

95.

$$\begin{aligned} 531 &:= (-Q(Q(5)) + Q(F(Q(3)))) \times 1 \\ 5310 &:= (-Q(Q(5)) + Q(F(Q(3)))) \times 10 \\ 53100 &:= (-Q(Q(5)) + Q(F(Q(3)))) \times 100 \\ 531000 &:= (-Q(Q(5)) + Q(F(Q(3)))) \times 1000 \end{aligned}$$

96.

$$\begin{aligned} 544 &:= (5! + Q(4)) \times 4 \\ 5440 &:= (5! + Q(4)) \times 40 \\ 54400 &:= (5! + Q(4)) \times 400 \\ 544000 &:= (5! + Q(4)) \times 4000 \end{aligned}$$

97.

$$\begin{aligned} 544 &:= T\left(-5 + T\left(T\left(T\left(\sqrt{4}\right)\right)\right)\right) \times 4 \\ 5440 &:= T\left(-5 + T\left(T\left(T\left(\sqrt{4}\right)\right)\right)\right) \times 40 \\ 54400 &:= T\left(-5 + T\left(T\left(T\left(\sqrt{4}\right)\right)\right)\right) \times 400 \\ 544000 &:= T\left(-5 + T\left(T\left(T\left(\sqrt{4}\right)\right)\right)\right) \times 4000 \end{aligned}$$

98.

$$\begin{aligned}545 &:= (C(5) - Q(4)) \times 5 \\5450 &:= (C(5) - Q(4)) \times 50 \\54500 &:= (C(5) - Q(4)) \times 500 \\545000 &:= (C(5) - Q(4)) \times 5000\end{aligned}$$

99.

$$\begin{aligned}545 &:= Q(Q(5)) - Q(4) \times 5 \\5450 &:= Q(Q(5)) - Q(4) \times 50 \\54500 &:= Q(Q(5)) - Q(4) \times 500 \\545000 &:= Q(Q(5)) - Q(4) \times 5000\end{aligned}$$

100.

$$\begin{aligned}546 &:= T \left(T(5) - \sqrt{4} \right) \times 6 \\5460 &:= T \left(T(5) - \sqrt{4} \right) \times 60 \\54600 &:= T \left(T(5) - \sqrt{4} \right) \times 600 \\546000 &:= T \left(T(5) - \sqrt{4} \right) \times 6000\end{aligned}$$

101.

$$\begin{aligned}549 &:= (C(5) - C(4)) \times 9 \\5490 &:= (C(5) - C(4)) \times 90 \\54900 &:= (C(5) - C(4)) \times 900 \\549000 &:= (C(5) - C(4)) \times 9000\end{aligned}$$

102.

$$\begin{aligned}549 &:= F(T(5))/T(4) \times 9 \\5490 &:= F(T(5))/T(4) \times 90 \\54900 &:= F(T(5))/T(4) \times 900 \\549000 &:= F(T(5))/T(4) \times 9000\end{aligned}$$

103.

$$\begin{aligned}561 &:= T(Q(5) + F(6)) \times 1 \\5610 &:= T(Q(5) + F(6)) \times 10 \\56100 &:= T(Q(5) + F(6)) \times 100 \\561000 &:= T(Q(5) + F(6)) \times 1000\end{aligned}$$

104.

$$\begin{aligned}561 &:= (Q(Q(5)) - Q(F(6))) \times 1 \\5610 &:= (Q(Q(5)) - Q(F(6))) \times 10 \\56100 &:= (Q(Q(5)) - Q(F(6))) \times 100 \\561000 &:= (Q(Q(5)) - Q(F(6))) \times 1000\end{aligned}$$

105.

$$\begin{aligned}564 &:= (5! + T(6)) \times 4 \\5640 &:= (5! + T(6)) \times 40 \\56400 &:= (5! + T(6)) \times 400 \\564000 &:= (5! + T(6)) \times 4000\end{aligned}$$

106.

$$\begin{aligned}564 &:= (5! + F(F(6))) \times 4 \\5640 &:= (5! + F(F(6))) \times 40 \\56400 &:= (5! + F(F(6))) \times 400 \\564000 &:= (5! + F(F(6))) \times 4000\end{aligned}$$

107.

$$\begin{aligned}564 &:= (T(T(5)) + T(6)) \times 4 \\5640 &:= (T(T(5)) + T(6)) \times 40 \\56400 &:= (T(T(5)) + T(6)) \times 400 \\564000 &:= (T(T(5)) + T(6)) \times 4000\end{aligned}$$

108.

$$\begin{aligned}567 &:= Q(T(5) - 6) \times 7 \\5670 &:= Q(T(5) - 6) \times 70 \\56700 &:= Q(T(5) - 6) \times 700 \\567000 &:= Q(T(5) - 6) \times 7000\end{aligned}$$

109.

$$\begin{aligned}567 &:= Q(Q(-5 + F(6))) \times 7 \\5670 &:= Q(Q(-5 + F(6))) \times 70 \\56700 &:= Q(Q(-5 + F(6))) \times 700 \\567000 &:= Q(Q(-5 + F(6))) \times 7000\end{aligned}$$

110.

$$\begin{aligned}572 &:= (-5! + T(T(7))) \times 2 \\5720 &:= (-5! + T(T(7))) \times 20 \\57200 &:= (-5! + T(T(7))) \times 200 \\572000 &:= (-5! + T(T(7))) \times 2000\end{aligned}$$

111.

$$\begin{aligned}572 &:= (-T(T(5)) + T(T(7))) \times 2 \\5720 &:= (-T(T(5)) + T(T(7))) \times 20 \\57200 &:= (-T(T(5)) + T(T(7))) \times 200 \\572000 &:= (-T(T(5)) + T(T(7))) \times 2000\end{aligned}$$

112.

$$\begin{aligned}584 &:= (C(5) + F(8)) \times 4 \\5840 &:= (C(5) + F(8)) \times 40 \\58400 &:= (C(5) + F(8)) \times 400 \\584000 &:= (C(5) + F(8)) \times 4000\end{aligned}$$

113.

$$\begin{aligned}584 &:= \left(C(5) + T\left(\sqrt{T(8)}\right) \right) \times 4 \\5840 &:= \left(C(5) + T\left(\sqrt{T(8)}\right) \right) \times 40 \\58400 &:= \left(C(5) + T\left(\sqrt{T(8)}\right) \right) \times 400 \\584000 &:= \left(C(5) + T\left(\sqrt{T(8)}\right) \right) \times 4000\end{aligned}$$

114.

$$\begin{aligned}585 &:= (C(5) - 8) \times 5 \\5850 &:= (C(5) - 8) \times 50 \\58500 &:= (C(5) - 8) \times 500 \\585000 &:= (C(5) - 8) \times 5000\end{aligned}$$

115.

$$\begin{aligned}591 &:= (Q(Q(5)) - F(9)) \times 1 \\5910 &:= (Q(Q(5)) - F(9)) \times 10 \\59100 &:= (Q(Q(5)) - F(9)) \times 100 \\591000 &:= (Q(Q(5)) - F(9)) \times 1000\end{aligned}$$

116.

$$\begin{aligned}595 &:= \left(C(5) - \left(\sqrt{9}\right)! \right) \times 5 \\5950 &:= \left(C(5) - \left(\sqrt{9}\right)! \right) \times 50 \\59500 &:= \left(C(5) - \left(\sqrt{9}\right)! \right) \times 500 \\595000 &:= \left(C(5) - \left(\sqrt{9}\right)! \right) \times 5000\end{aligned}$$

117.

$$\begin{aligned}644 &:= (C(6) - T(T(4))) \times 4 \\6440 &:= (C(6) - T(T(4))) \times 40 \\64400 &:= (C(6) - T(T(4))) \times 400 \\644000 &:= (C(6) - T(T(4))) \times 4000\end{aligned}$$

118.

$$\begin{aligned}651 &:= (T(Q(6)) - T(5)) \times 1 \\6510 &:= (T(Q(6)) - T(5)) \times 10 \\65100 &:= (T(Q(6)) - T(5)) \times 100 \\651000 &:= (T(Q(6)) - T(5)) \times 1000\end{aligned}$$

119.

$$\begin{aligned}651 &:= (T(T(F(6))) - T(5)) \times 1 \\6510 &:= (T(T(F(6))) - T(5)) \times 10 \\65100 &:= (T(T(F(6))) - T(5)) \times 100 \\651000 &:= (T(T(F(6))) - T(5)) \times 1000\end{aligned}$$

120.

$$\begin{aligned}655 &:= (6 + C(5)) \times 5 \\6550 &:= (6 + C(5)) \times 50 \\65500 &:= (6 + C(5)) \times 500 \\655000 &:= (6 + C(5)) \times 5000\end{aligned}$$

121.

$$\begin{aligned}671 &:= (6! - Q(7)) \times 1 \\6710 &:= (6! - Q(7)) \times 10 \\67100 &:= (6! - Q(7)) \times 100 \\671000 &:= (6! - Q(7)) \times 1000\end{aligned}$$

122.

$$\begin{aligned}723 &:= (F(F(7)) + F(T(T(2)))) \times 3 \\7230 &:= (F(F(7)) + F(T(T(2)))) \times 30 \\72300 &:= (F(F(7)) + F(T(T(2)))) \times 300 \\723000 &:= (F(F(7)) + F(T(T(2)))) \times 3000\end{aligned}$$

123.

$$\begin{aligned}726 &:= Q(7 + Q(2)) \times 6 \\7260 &:= Q(7 + Q(2)) \times 60 \\72600 &:= Q(7 + Q(2)) \times 600 \\726000 &:= Q(7 + Q(2)) \times 6000\end{aligned}$$

124.

$$\begin{aligned}728 &:= T(7 + T(T(2))) \times 8 \\7280 &:= T(7 + T(T(2))) \times 80 \\72800 &:= T(7 + T(T(2))) \times 800 \\728000 &:= T(7 + T(T(2))) \times 8000\end{aligned}$$

125.

$$\begin{aligned}728 &:= T(F(7)) \times F(2) \times 8 \\7280 &:= T(F(7)) \times F(2) \times 80 \\72800 &:= T(F(7)) \times F(2) \times 800 \\728000 &:= T(F(7)) \times F(2) \times 8000\end{aligned}$$

126.

$$\begin{aligned}735 &:= Q(7) \times 3 \times 5 \\7350 &:= Q(7) \times 3 \times 50 \\73500 &:= Q(7) \times 3 \times 500 \\735000 &:= Q(7) \times 3 \times 5000\end{aligned}$$

127.

$$\begin{aligned}735 &:= 7 \times F(F(3!)) \times 5 \\7350 &:= 7 \times F(F(3!)) \times 50 \\73500 &:= 7 \times F(F(3!)) \times 500 \\735000 &:= 7 \times F(F(3!)) \times 5000\end{aligned}$$

128.

$$\begin{aligned}741 &:= T(T(7) + T(4)) \times 1 \\7410 &:= T(T(7) + T(4)) \times 10 \\74100 &:= T(T(7) + T(4)) \times 100 \\741000 &:= T(T(7) + T(4)) \times 1000\end{aligned}$$

129.

$$\begin{aligned}765 &:= T(F(F(7)) - C(6)) \times 5 \\7650 &:= T(F(F(7)) - C(6)) \times 50 \\76500 &:= T(F(F(7)) - C(6)) \times 500 \\765000 &:= T(F(F(7)) - C(6)) \times 5000\end{aligned}$$

130.

$$\begin{aligned}771 &:= -F(7) + Q(T(7)) \times 1 \\7710 &:= -F(7) + Q(T(7)) \times 10 \\77100 &:= -F(7) + Q(T(7)) \times 100 \\771000 &:= -F(7) + Q(T(7)) \times 1000\end{aligned}$$

131.

$$\begin{aligned}812 &:= T(T(8 - 1)) \times 2 \\8120 &:= T(T(8 - 1)) \times 20 \\81200 &:= T(T(8 - 1)) \times 200 \\812000 &:= T(T(8 - 1)) \times 2000\end{aligned}$$

132.

$$\begin{aligned}819 &:= T(F(8 - 1)) \times 9 \\8190 &:= T(F(8 - 1)) \times 90 \\81900 &:= T(F(8 - 1)) \times 900 \\819000 &:= T(F(8 - 1)) \times 9000\end{aligned}$$

133.

$$\begin{aligned}835 &:= (-Q(8) + T(T(T(3)))) \times 5 \\8350 &:= (-Q(8) + T(T(T(3)))) \times 50 \\83500 &:= (-Q(8) + T(T(T(3)))) \times 500 \\835000 &:= (-Q(8) + T(T(T(3)))) \times 5000\end{aligned}$$

134.

$$\begin{aligned}845 &:= Q(F(F(8)/F(4))) \times 5 \\8450 &:= Q(F(F(8)/F(4))) \times 50 \\84500 &:= Q(F(F(8)/F(4))) \times 500 \\845000 &:= Q(F(F(8)/F(4))) \times 5000\end{aligned}$$

135.

$$\begin{aligned}847 &:= Q(8 + F(4)) \times 7 \\8470 &:= Q(8 + F(4)) \times 70 \\84700 &:= Q(8 + F(4)) \times 700 \\847000 &:= Q(8 + F(4)) \times 7000\end{aligned}$$

136.

$$\begin{aligned}848 &:= \left(\sqrt{T(8)} + Q(T(4))\right) \times 8 \\8480 &:= \left(\sqrt{T(8)} + Q(T(4))\right) \times 80 \\84800 &:= \left(\sqrt{T(8)} + Q(T(4))\right) \times 800 \\848000 &:= \left(\sqrt{T(8)} + Q(T(4))\right) \times 8000\end{aligned}$$

137.

$$\begin{aligned}852 &:= (Q(F(8)) - T(5)) \times 2 \\8520 &:= (Q(F(8)) - T(5)) \times 20 \\85200 &:= (Q(F(8)) - T(5)) \times 200 \\852000 &:= (Q(F(8)) - T(5)) \times 2000\end{aligned}$$

138.

$$\begin{aligned} 864 &:= T(8) \times 6 \times 4 \\ 8640 &:= T(8) \times 6 \times 40 \\ 86400 &:= T(8) \times 6 \times 400 \\ 864000 &:= T(8) \times 6 \times 4000 \end{aligned}$$

139.

$$\begin{aligned} 875 &:= (-T(F(8)) + T(T(7))) \times 5 \\ 8750 &:= (-T(F(8)) + T(T(7))) \times 50 \\ 87500 &:= (-T(F(8)) + T(T(7))) \times 500 \\ 875000 &:= (-T(F(8)) + T(T(7))) \times 5000 \end{aligned}$$

140.

$$\begin{aligned} 875 &:= \left(-T\left(T\left(\sqrt{T(8)}\right)\right) + T(T(7))\right) \times 5 \\ 8750 &:= \left(-T\left(T\left(\sqrt{T(8)}\right)\right) + T(T(7))\right) \times 50 \\ 87500 &:= \left(-T\left(T\left(\sqrt{T(8)}\right)\right) + T(T(7))\right) \times 500 \\ 875000 &:= \left(-T\left(T\left(\sqrt{T(8)}\right)\right) + T(T(7))\right) \times 5000 \end{aligned}$$

141.

$$\begin{aligned} 882 &:= F(8) \times F(8) \times 2 \\ 8820 &:= F(8) \times F(8) \times 20 \\ 88200 &:= F(8) \times F(8) \times 200 \\ 882000 &:= F(8) \times F(8) \times 2000 \end{aligned}$$

142.

$$\begin{aligned} 924 &:= T(T(9 - T(2))) \times 4 \\ 9240 &:= T(T(9 - T(2))) \times 40 \\ 92400 &:= T(T(9 - T(2))) \times 400 \\ 924000 &:= T(T(9 - T(2))) \times 4000 \end{aligned}$$

143.

$$\begin{aligned} 928 &:= \left(C\left(T\left(\sqrt{9}\right)\right) - Q(T(Q(2)))\right) \times 8 \\ 9280 &:= \left(C\left(T\left(\sqrt{9}\right)\right) - Q(T(Q(2)))\right) \times 80 \\ 92800 &:= \left(C\left(T\left(\sqrt{9}\right)\right) - Q(T(Q(2)))\right) \times 800 \\ 928000 &:= \left(C\left(T\left(\sqrt{9}\right)\right) - Q(T(Q(2)))\right) \times 8000 \end{aligned}$$

144.

$$\begin{aligned} 945 &:= 9 \times F(F(F(4)!)) \times 5 \\ 9450 &:= 9 \times F(F(F(4)!)) \times 50 \\ 94500 &:= 9 \times F(F(F(4)!)) \times 500 \\ 945000 &:= 9 \times F(F(F(4)!)) \times 5000 \end{aligned}$$

145.

$$\begin{aligned} 945 &:= F\left(F\left(\left(\sqrt{9}\right)!\right)\right) \times 45 \\ 9450 &:= F\left(F\left(\left(\sqrt{9}\right)!\right)\right) \times 450 \\ 94500 &:= F\left(F\left(\left(\sqrt{9}\right)!\right)\right) \times 4500 \\ 945000 &:= F\left(F\left(\left(\sqrt{9}\right)!\right)\right) \times 45000 \end{aligned}$$

146.

$$\begin{aligned} 955 &:= (-F(9) + Q(T(5))) \times 5 \\ 9550 &:= (-F(9) + Q(T(5))) \times 50 \\ 95500 &:= (-F(9) + Q(T(5))) \times 500 \\ 955000 &:= (-F(9) + Q(T(5))) \times 5000 \end{aligned}$$

147.

$$\begin{aligned} 968 &:= Q\left(\sqrt{9} + F(6)\right) \times 8 \\ 9680 &:= Q\left(\sqrt{9} + F(6)\right) \times 80 \\ 96800 &:= Q\left(\sqrt{9} + F(6)\right) \times 800 \\ 968000 &:= Q\left(\sqrt{9} + F(6)\right) \times 8000 \end{aligned}$$

148.

$$\begin{aligned}968 &:= Q \left(T \left(T \left(T \left(\sqrt{9} \right) \right) \right) / T(6) \right) \times 8 \\9680 &:= Q \left(T \left(T \left(T \left(\sqrt{9} \right) \right) \right) / T(6) \right) \times 80 \\96800 &:= Q \left(T \left(T \left(T \left(\sqrt{9} \right) \right) \right) / T(6) \right) \times 800 \\968000 &:= Q \left(T \left(T \left(T \left(\sqrt{9} \right) \right) \right) / T(6) \right) \times 8000\end{aligned}$$

150.

$$\begin{aligned}985 &:= (-F(9) + T(F(8))) \times 5 \\9850 &:= (-F(9) + T(F(8))) \times 50 \\98500 &:= (-F(9) + T(F(8))) \times 500 \\985000 &:= (-F(9) + T(F(8))) \times 5000\end{aligned}$$

149.

$$\begin{aligned}982 &:= \left(-T \left(T \left(\sqrt{9} \right) \right) + C(8) \right) \times 2 \\9820 &:= \left(-T \left(T \left(\sqrt{9} \right) \right) + C(8) \right) \times 20 \\98200 &:= \left(-T \left(T \left(\sqrt{9} \right) \right) + C(8) \right) \times 200 \\982000 &:= \left(-T \left(T \left(\sqrt{9} \right) \right) + C(8) \right) \times 2000\end{aligned}$$

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