

# Same Digits Equality Expressions - I

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## Abstract

*This paper brings numbers in such a way that both sides of the expressions are with same digits. One side is numbers with power, while other side just with numbers, such as,  $a^b+c^d+\dots = ab+cd+\dots$ , etc. The the expressions studies are with positive and negative signs. Work is done for two to five terms expressions. Due to high quantity of numbers, in some cases, powers and bases both are considered bigger than one.*

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# 1 Introduction

Let write below three different categories of numbers:

## (i) Crazy Representations

Here the number are written in such a way that, when you see, become very curious. Below are examples of two different ways of representations of natural numbers:

### • First Type

$$\begin{aligned}
 999 &= 12 \times 3 \times (4 + 5) + (67 + 8) \times 9 &= 9 + 8 + 7 + 654 + 321. \\
 2535 &= 1 + 2345 + (6 + 7 + 8) \times 9 &= 9 + 87 \times (6 + 5 \times 4 + 3) + 2 + 1. \\
 2607 &= 123 \times 4 \times 5 + 6 + (7 + 8) \times 9 &= 987 + 6 \times 54 \times (3 + 2) \times 1. \\
 10958 &= 12 \times 3 + \sqrt{4} + 5! \times (67 + 8 \times \sqrt{9}) &= (9 + 8 \times 7 \times 65 + 4) \times 3 - 2 + 1. \\
 11807 &= 1 \times 234 \times (5 + 6 \times 7) + 89 &= -9 + 8 + 7 \times (6 + 5) \times (4 \times 3)^2 \times 1.
 \end{aligned}$$

### • Second Type

$$\begin{aligned}
 666 &:= -2^5 + 3^2 + 4^3 + 5^4. \\
 786 &:= -1^4 + 3^6 + 4^3 - 6^1. \\
 9711 &:= 1^3 + 2^4 + 3^8 + 4^2 + 5^5 - 8^1. \\
 9777 &:= 1^9 + 2^1 + 4^7 - 7^2 - 9^4. \\
 11110 &:= 1^1 + 2^2 + 3^9 - 5^6 + 6^5 - 9^3. \\
 11111 &:= -1^1 + 2^7 + 3^8 - 4^2 + 7^3 + 8^4.
 \end{aligned}$$

For more details refer author's work written as a summary of other works [29].

## (ii) Selife Numbers

In this category, the numbers are written in such a way that both sides of the expressions are with same digits. One side is just with number and other side is same digits with operations. More details of this type of numbers are explained in section 2.

## (iii) Same Digits Equality Expressions

This category is very much similar to *selfie numbers*, but the difference is that in place of numbers on one side, there are expressions on both sides, i.e., *same digits equality expressions*. We may call it as *selfie expressions*. Below are two different ways of expressing equalities with same digits on both sides:

$$abcd... \times efgh... = cbad... \times gfhe.. \quad \forall a, b, c, d, e, \dots \in \mathbb{N}_+. \quad (1)$$

$$a^b + c^d + \dots = ab + cd + \dots, \quad \forall a, b, c, d, \dots \in \mathbb{N}. \quad (2)$$

In (1) and (2), both sides are with same digits. There are much more categories of this kind, but we have written only two.

In this paper, we study extensively, the numbers of type (2). More details are in section 3. For type (1) refer [32].

## 2 Selife Numbers

Recently, author studied different ways of expressing numbers in such a way that both sides, there are same digits. One side is with number, and other side is an expression formed by same digits with some operations. These types of numbers we call "*selfie number*", i.e., numbers represented by their own digits by use of certain operations are considered as "*selfie number*". There are many ways to do it. See below some different ideas.

### 2.1 Selfie Numbers with Factorial and Square-Root

This subsection brings selfie numbers with use of factorial and/or square-root. See below some examples:

$$\begin{array}{ll} 936 = (\sqrt{9})!^3 + 6!; & 936 = 6! + (3!)^{\sqrt{9}}; \\ 1296 = \sqrt{(1+2)!^9/6}; & 1296 = 6^{(\sqrt{9}+2-1)}; \\ 2896 = 2 \times (8 + (\sqrt{9})!! + 6!). & 2896 = (6! + (\sqrt{9})!! + 8) \times 2. \end{array}$$

Examples above are with *factorial* and *square-root* [27, 28]. First column expressions are in **digit's order** and second columns expressions are in **reverse order of digits**. For details refer author's work [7, 8, 9, 10, 11, 12].

Still, one can have interesting, just with factorial [12], see below:

$$\begin{array}{ll} 145 = 1! + 4! + 5!. & 363239 = 36 + 323 + 9!. \\ 733 = 7 + 3!! + 3!. & 363269 = 363 + 26 + 9!. \\ 5177 = 5! + 17 + 7!. & 403199 = 40319 + 9!. \end{array}$$

### 2.2 Fibonacci Sequence and Selfie Numbers

The examples given in subsection 2.1 are with *factorial* and *square-root*. Still, one can have similar kind of examples, using Fibonacci sequence values [23, 24, 25]. See below:

$$\begin{array}{ll} 235 = 2 + F(F(F(3) + 5)). & 63 = 3 \times F(F(6)). \\ 256 = 2^5 \times F(6). & 882 = 2 \times F(8) \times F(8). \\ 4427 = (F(4) + 4^2) \times F(F(7)). & 1631 = F(13) \times (6 + 1). \\ 46493 = F(4 \times 6) + (-4 + 9)^3. & 54128 = 8 \times (F(2) + F(1 \times 4 \times 5)). \end{array}$$

First column expressions are in **digit's order** and second columns expressions are in **reverse order of digits**. Results in *Pascal's triangle values*, *binomial expressions*, etc. are under study.

### 2.3 Flexible Power Selfie Numbers

Below are examples of such type of selfie numbers, where powers and bases are with same digits of number [13, 15, 16, 17]:

$$\begin{array}{ll}
23 = -2^2 + 3^3. & 397612 = 3^2 + 9^1 + 7^6 + 6^7 + 1^9 + 2^3. \\
1654 = -1^6 + 6^1 + 5^4 + 4^5. & 423858 = 4^3 + 2^8 + 3^4 + 8^2 + 5^8 + 8^5. \\
3435 = 3^3 + 4^4 + 3^3 + 5^5. & 637395 = 6^5 + 3^3 + 7^3 + 3^9 + 9^6 + 5^7. \\
4355 = 4^5 + 3^4 + 5^3 + 5^5. & 758014 = 7^7 + 5^1 + 8^0 + 0^5 + 1^4 - 4^8. \\
39339 = -3^3 + 9^3 + 3^9 + 3^9 - 9^3. & 778530 = 7^7 + 7^3 + 8^5 - 5^7 + 3^0 + 0^8. \\
46360 = 4^0 + 6^6 - 3^4 - 6^3 + 0^6. & 804637 = 8^0 + 0^4 - 4^8 + 6^6 - 3^3 + 7^7.
\end{array}$$

## 2.4 Selfie Fraction

Selfie fractions are formed in such a way that numerator and denominator are with same digits. One side is number and another side with same digits with basic operations [18, 19, 20]. See below some examples:

$$\begin{array}{ll}
\frac{182}{6734} := \frac{18 + 2}{6 + 734}. & \frac{4980}{5312} := \frac{4 - 9 + 80}{5 \times (3 + 1)^2}. \\
\frac{416}{728} := \frac{4 \times 16}{7 \times 2 \times 8}. & \frac{3249}{5168} := \frac{(3 + 2^4) \times 9}{(5 - 1) \times 68}.
\end{array}$$

Still, one can have *equivalent selfie fractions* with same properties [21, 22]. See examples below:

$$\begin{array}{l}
\frac{284}{639} := \frac{2 \times 8 + 4}{6 + 39} = \frac{28 + 4}{6 \times (3 + 9)}. \\
\frac{302}{8154} := \frac{30 \times 2}{81 \times 5 \times 4} = \frac{3 + 02}{81 + 54} = \frac{3 - 02}{81 - 54}. \\
\frac{73842}{90516} := \frac{7 - 3 \times (8 - 4^2)}{9 \times 05 - 1 - 6} = \frac{7 \times (3 + 8) + 4^2}{90 + (5 - 1) \times 6} = \frac{738 + 4 + 2}{905 + 1 + 6}.
\end{array}$$

## 2.5 Narcissistic-Type Selfie Numbers

In case of *narcissistic number*, the both sides of the expression are not necessary have the digits, for example,

$$\begin{array}{l}
153 = 1^3 + 5^3 + 3^3. \\
1634 = 1^4 + 6^4 + 3^4 + 4^4.
\end{array}$$

Here, both sides are with same digits, but with extra digit as power 3. Power is fixed in case of narcissistic numbers, but still, one can have these kind of numbers with flexible power and also with positive negative sign. This we call as *narcissistic-type selfie numbers* [14]. See below few examples,

$$\begin{array}{ll}
24 = 2^3 + 4^2. & 2352 = 2^3 + 3^7 + 5^3 + 2^5. \\
48 = -4^2 + 8^2. & 2374 = -2^1 - 3^2 + 7^4 - 4^2. \\
267 = 2^1 + 6^3 + 7^2. & 10693 = 1^1 + 0^1 + 6^5 + 9^3 + 3^7. \\
2345 = 2^5 + 3^7 + 4^0 + 5^3. & 10846 = -1^1 - 0^0 + 8^4 - 4^5 + 6^5.
\end{array}$$

These numbers are different from the one given in subsection 2.3. In subsection 2.3, the powers and bases are with same digits, while, here the powers don't have any relations with bases.

Following same idea as above, one can have *narcissistic-type selfie numbers with division* [14]. See examples below. These are divided in two types. The first column is with fixed powers and second column with variable powers:

$$2464 = \frac{2^5 + 4^5 + 6^5 + 4^5}{2^0 + 4^0 + 6^0 + 4^0}$$

$$4714 = \frac{4^5 + 7^5 + 1^5 + 4^5}{4^0 + 7^0 + 1^0 + 4^0}$$

$$5247 = \frac{5^5 + 2^5 + 4^5 + 7^5}{5^0 + 2^0 + 4^0 + 7^0}$$

$$8200 = \frac{8^5 + 2^5 + 0^5 + 0^5}{8^0 + 2^0 + 0^0 + 0^0}$$

$$353 = \frac{-3^5 - 5^2 + 3^9}{3^1 + 5^2 + 3^3}$$

$$1337 = \frac{1^0 + 3^1 + 3^1 + 7^6}{-1^0 + 3^0 + 3^4 + 7^1}$$

$$10954 = \frac{-1^0 - 0^0 + 9^3 + 5^2 + 4^9}{1^0 + 0^0 + 9^0 + 5^1 + 4^2}$$

$$10958 = \frac{-1^0 + 0^0 + 9^2 + 5^2 + 8^5}{-1^0 + 0^0 + 9^0 + 5^0 + 8^0}$$

It is understood that  $a^0 := 0, a \neq 0$  and  $0^0 := 1$ .

## 2.6 Semi-Selfie Numbers

This is a simplified form of subsection 2.5. Here the expressions are with same digits on both sides, except, the power. See examples below:

$$2025 = (20 + 25)^2$$

$$3025 = (30 + 25)^2$$

$$314432 = (31 - 4 + 43 - 2)^3$$

$$893025 = (8 + 930 + 2 + 5)^2$$

$$494209 = (494 + 209)^2$$

$$1656369 = (1656 - 369)^2$$

$$1860496 = (1860 - 496)^2$$

$$4941729 = (494 + 1729)^2$$

For detailed study refer Taneja [32]. These numbers are extensions of the one studied by Madachy [5], p.167 - 170. Also see Heinz [3]. Madachy's work is just with single digit and positive sign.

## 3 Same Digits Equality Expressions

In section 2, we explained idea of *selfie numbers* in different categories. Here, the aim is little different, i.e., we want to write expressions with same digits both sides. A little idea is given in section 1(iii). The following subsections give same idea with examples.

### 3.1 Multiplication

Below are are examples written in such a way that both sides, and each block separated by multiplication are with same digits.

$$2017 \times 3404 = 1702 \times 4034$$

$$2017 \times 6808 = 1702 \times 8068$$

$$1729 \times 3584 = 1792 \times 3458$$

$$1729 \times 3854 = 1927 \times 3458$$

$$1729 \times 4358 = 2179 \times 3458$$

$$1729 \times 4732 = 2197 \times 3724$$

$$1729 \times 5438 = 2719 \times 3458$$

$$1729 \times 5781 = 1927 \times 5187$$

More study of this kind number shall be dealt elsewhere. Few examples can be seen at [4].

### 3.2 Power and Addition

Recently, author wrote the numbers 2017 [30] and 1729 [31] in the following way:

$$\begin{aligned}
 2017 &:= 4^4 + 41^2 + 77^0 + 79^1 &= 44 + 412 + 770 + 791. \\
 &:= 1^4 + 44^2 + 77^0 + 79^1 &= 14 + 442 + 770 + 791. \\
 &:= 2^4 + 2^8 + 4^2 + 12^3 + 180^0 &= 24 + 28 + 42 + 123 + 1800. \\
 &:= 1^1 + 3^6 + 5^4 + 5^4 + 6^2 + 180^0 &= 11 + 36 + 54 + 54 + 62 + 1800.
 \end{aligned}$$

$$\begin{aligned}
 1729 &:= 2^7 + 40^2 + 130^0 &= 27 + 402 + 1300. \\
 &:= 2^6 + 40^2 + 64^1 + 66^0 &= 26 + 402 + 641 + 660. \\
 &:= 1^6 + 41^2 + 46^1 + 84^0 &= 16 + 412 + 461 + 840.
 \end{aligned}$$

... (3)

The sections 3.1 and 3.2 are still not studied extensively. In section 3.1, we use only multiplicative factors to have same digits on both sides. In section 3.2, the expressions are separated by equality signs, but uses same digits on both sides in little different way than 3.1. First side we have expressions with powers and additions, and the second side just with numbers and addition. The quantity of numbers separated by addition are same on both sides. Few results of this kind can also be seen at [2], where, the power and bases both are bigger than one. Moreover, the results are just for three terms sum. See below

$$\begin{aligned}
 81 &:= 2^3 + 2^6 + 3^2 &= 23 + 26 + 32. & 246 &:= 5^2 + 5^2 + 14^2 &= 52 + 52 + 142. \\
 99 &:= 2^3 + 3^3 + 4^3 &= 23 + 33 + 43. & 266 &:= 4^2 + 9^2 + 13^2 &= 42 + 92 + 132. \\
 121 &:= 2^3 + 2^6 + 7^2 &= 23 + 26 + 72. & 286 &:= 6^2 + 9^2 + 13^2 &= 62 + 92 + 132. \\
 170 &:= 2^6 + 5^2 + 9^2 &= 26 + 52 + 92. & 306 &:= 8^2 + 11^2 + 11^2 &= 82 + 112 + 112. \\
 246 &:= 2^2 + 11^2 + 11^2 &= 22 + 112 + 112. & 306 &:= 9^2 + 9^2 + 12^2 &= 92 + 92 + 122.
 \end{aligned}$$

... (4)

By *three terms sum, it is understand that the equality expressions are formed by three terms on both sides*. In this way, we can say that the representations of 2017 and 1729 are with *different terms expressions*, while the numbers given in (2) [2] are only of three terms. This kind of study is not very much developed. The expressions given in (2) are for powers and bases bigger than 1, while in (3), there is no restriction of this kind. Moreover, the results given in (3) and (4) are only with positive signs.

In this paper, our aim is to work with *2, 3, 4 and 5 terms equality expressions* using positive and negative signs. Also, in some cases the bases are considered 1, and powers with 0 and 1. For 6 to 10 terms refer Part II [33].

For good study on numbers refer historical work [1, 3, 5, 6].

## 4 Two Terms Equalities

This section brings expressions similar to one given in subsection 3.2 with two terms equality expressions. The results are divided in subsections with positive, positive-negative, and different situations with powers and bases.

## 4.1 Positive Expressions with Powers Zeros or One

We don't have results similar to (4) for two terms equalities for powers and bases are bigger than 1. If we allow at least one of the power with 0 and/or 1, there are many results with positive sign. See below examples:

$$122 := 1^0 + 11^2 = 10 + 112.$$

$$173 := 4^1 + 13^2 = 41 + 132.$$

$$233 := 8^1 + 15^2 = 81 + 152.$$

$$266 := 3^5 + 23^1 = 35 + 231.$$

$$362 := 17^0 + 19^2 = 170 + 192.$$

$$442 := 21^2 + 23^0 = 212 + 230.$$

$$513 := 22^2 + 29^1 = 222 + 291.$$

$$:= 8^3 + 43^0 = 83 + 430.$$

$$613 := 24^2 + 37^1 = 242 + 371.$$

$$842 := 29^2 + 55^0 = 292 + 550.$$

$$962 := 31^2 + 65^0 = 312 + 650.$$

$$1025 := 4^5 + 98^0 = 45 + 980.$$

$$1033 := 31^2 + 72^1 = 312 + 721.$$

$$1173 := 33^2 + 84^1 = 332 + 841.$$

$$1522 := 39^2 + 113^0 = 392 + 1130.$$

$$1682 := 41^2 + 127^0 = 412 + 1270.$$

$$1733 := 40^2 + 133^1 = 402 + 1331.$$

$$1913 := 42^2 + 149^1 = 422 + 1491.$$

$$2402 := 49^2 + 191^0 = 492 + 1910.$$

$$2602 := 51^2 + 209^0 = 512 + 2090.$$

$$2613 := 49^2 + 212^1 = 492 + 2121.$$

$$2833 := 51^2 + 232^1 = 512 + 2321.$$

$$3466 := 5^5 + 341^1 = 55 + 3411.$$

$$3482 := 59^2 + 289^0 = 592 + 2890.$$

$$3673 := 58^2 + 309^1 = 582 + 3091.$$

$$3722 := 61^2 + 311^0 = 612 + 3110.$$

$$3933 := 60^2 + 333^1 = 602 + 3331.$$

$$4762 := 69^2 + 407^0 = 692 + 4070.$$

$$4913 := 67^2 + 424^1 = 672 + 4241.$$

$$5042 := 71^2 + 433^0 = 712 + 4330.$$

$$5213 := 69^2 + 452^1 = 692 + 4521.$$

$$5833 := 18^3 + 565^0 = 183 + 5650.$$

$$6242 := 79^2 + 545^0 = 792 + 5450.$$

$$6333 := 76^2 + 557^1 = 762 + 5571.$$

$$6562 := 81^2 + 575^0 = 812 + 5750.$$

$$6673 := 78^2 + 589^1 = 782 + 5891.$$

$$7922 := 89^2 + 703^0 = 892 + 7030.$$

$$7933 := 85^2 + 708^1 = 852 + 7081.$$

$$8282 := 91^2 + 737^0 = 912 + 7370.$$

$$8313 := 87^2 + 744^1 = 872 + 7441.$$

$$9713 := 94^2 + 877^1 = 942 + 8771.$$

$$9802 := 99^2 + 881^0 = 992 + 8810.$$

$$10133 := 96^2 + 917^1 = 962 + 9171.$$

$$10202 := 101^2 + 919^0 = 1012 + 9190.$$

$$11673 := 103^2 + 1064^1 = 1032 + 10641.$$

$$11882 := 109^2 + 1079^0 = 1092 + 10790.$$

$$12133 := 105^2 + 1108^1 = 1052 + 11081.$$

$$12322 := 111^2 + 1121^0 = 1112 + 11210.$$

$$13813 := 112^2 + 1269^1 = 1122 + 12691.$$

$$14162 := 119^2 + 1297^0 = 1192 + 12970.$$

$$14313 := 114^2 + 1317^1 = 1142 + 13171.$$

$$14642 := 121^2 + 1343^0 = 1212 + 13430.$$

$$15626 := 5^6 + 1557^0 = 56 + 15570.$$

$$16133 := 121^2 + 1492^1 = 1212 + 14921.$$

$$16255 := 11^4 + 1614^1 = 114 + 16141.$$

$$16642 := 129^2 + 1535^0 = 1292 + 15350.$$

$$16673 := 123^2 + 1544^1 = 1232 + 15441.$$

$$17162 := 131^2 + 1585^0 = 1312 + 15850.$$

$$18633 := 130^2 + 1733^1 = 1302 + 17331.$$

$$18666 := 7^5 + 1859^1 = 75 + 18591.$$

$$19213 := 132^2 + 1789^1 = 1322 + 17891.$$

$$19322 := 139^2 + 1793^0 = 1392 + 17930.$$

$$19882 := 141^2 + 1847^0 = 1412 + 18470.$$

$$21313 := 139^2 + 1992^1 = 1392 + 19921.$$

$$21933 := 141^2 + 2052^1 = 1412 + 20521.$$

$$21953 := 28^3 + 2167^0 = 283 + 21670.$$

$$22202 := 149^2 + 2071^0 = 1492 + 20710.$$

$$22802 := 151^2 + 2129^0 = 1512 + 21290.$$

$$24173 := 148^2 + 2269^1 = 1482 + 22691.$$

$$24833 := 150^2 + 2333^1 = 1502 + 23331.$$

$$25282 := 159^2 + 2369^0 = 1592 + 23690.$$

$$25922 := 161^2 + 2431^0 = 1612 + 24310.$$

$$27213 := 157^2 + 2564^1 = 1572 + 25641.$$

$$27913 := 159^2 + 2632^1 = 1592 + 26321.$$

$$28562 := 169^2 + 2687^0 = 1692 + 26870.$$

$$29242 := 171^2 + 2753^0 = 1712 + 27530.$$

$$30433 := 166^2 + 2877^1 = 1662 + 28771.$$

$$31173 := 168^2 + 2949^1 = 1682 + 29491.$$

$$32042 := 179^2 + 3025^0 = 1792 + 30250.$$

$$32762 := 181^2 + 3095^0 = 1812 + 30950.$$

$$33833 := 175^2 + 3208^1 = 1752 + 32081.$$

$$34613 := 177^2 + 3284^1 = 1772 + 32841.$$

$$35722 := 189^2 + 3383^0 = 1892 + 33830.$$

$$36482 := 191^2 + 3457^0 = 1912 + 34570.$$

$$37413 := 184^2 + 3557^1 = 1842 + 35571.$$

$$38233 := 186^2 + 3637^1 = 1862 + 36371.$$

$$39602 := 199^2 + 3761^0 = 1992 + 37610.$$

$$40402 := 201^2 + 3839^0 = 2012 + 38390.$$

$$41173 := 193^2 + 3924^1 = 1932 + 39241.$$

$$42033 := 195^2 + 4008^1 = 1952 + 40081.$$

$$43682 := 209^2 + 4159^0 = 2092 + 41590.$$

$$44522 := 211^2 + 4241^0 = 2112 + 42410.$$

$$45113 := 202^2 + 4309^1 = 2022 + 43091.$$

$$46013 := 204^2 + 4397^1 = 2042 + 43971.$$

$$47962 := 219^2 + 4577^0 = 2192 + 45770.$$

$$48842 := 221^2 + 4663^0 = 2212 + 46630.$$

$$49233 := 211^2 + 4712^1 = 2112 + 47121.$$

$$50173 := 213^2 + 4804^1 = 2132 + 48041.$$

$$52442 := 229^2 + 5015^0 = 2292 + 50150.$$

$$53362 := 231^2 + 5105^0 = 2312 + 51050.$$

$$53533 := 220^2 + 5133^1 = 2202 + 51331.$$

$$54513 := 222^2 + 5229^1 = 2222 + 52291.$$

$$54873 := 38^3 + 5449^0 = 383 + 54490.$$

$$57122 := 239^2 + 5473^0 = 2392 + 54730.$$

$$58013 := 229^2 + 5572^1 = 2292 + 55721.$$

$$58082 := 241^2 + 5567^0 = 2412 + 55670.$$

$$59033 := 231^2 + 5672^1 = 2312 + 56721.$$

$$62002 := 249^2 + 5951^0 = 2492 + 59510.$$

$$62673 := 238^2 + 6029^1 = 2382 + 60291.$$

$$63002 := 251^2 + 6049^0 = 2512 + 60490.$$

$$63733 := 240^2 + 6133^1 = 2402 + 61331.$$

$$67082 := 259^2 + 6449^0 = 2592 + 64490.$$

$$67513 := 247^2 + 6504^1 = 2472 + 65041.$$

$$68122 := 261^2 + 6551^0 = 2612 + 65510.$$

$$68613 := 249^2 + 6612^1 = 2492 + 66121.$$

$$72362 := 269^2 + 6967^0 = 2692 + 69670.$$

$$72533 := 256^2 + 6997^1 = 2562 + 69971.$$

$$73442 := 271^2 + 7073^0 = 2712 + 70730.$$

$$73673 := 258^2 + 7109^1 = 2582 + 71091.$$

$$77733 := 265^2 + 7508^1 = 2652 + 75081.$$

$$77842 := 279^2 + 7505^0 = 2792 + 75050.$$

$$78913 := 267^2 + 7624^1 = 2672 + 76241.$$



$$78962 := 281^2 + 7615^0 = 2812 + 76150.$$

$$83113 := 274^2 + 8037^1 = 2742 + 80371.$$

$$83522 := 289^2 + 8063^0 = 2892 + 80630.$$

$$84333 := 276^2 + 8157^1 = 2762 + 81571.$$

$$84682 := 291^2 + 8177^0 = 2912 + 81770.$$

$$88673 := 283^2 + 8584^1 = 2832 + 85841.$$

$$89402 := 299^2 + 8641^0 = 2992 + 86410.$$

$$89933 := 285^2 + 8708^1 = 2852 + 87081.$$

$$90602 := 301^2 + 8759^0 = 3012 + 87590.$$

$$94413 := 292^2 + 9149^1 = 2922 + 91491.$$

$$95482 := 309^2 + 9239^0 = 3092 + 92390.$$

$$95713 := 294^2 + 9277^1 = 2942 + 92771.$$

$$96722 := 311^2 + 9361^0 = 3112 + 93610.$$

$$100333 := 301^2 + 9732^1 = 3012 + 97321.$$

$$101673 := 303^2 + 9864^1 = 3032 + 98641.$$

$$101762 := 319^2 + 9857^0 = 3192 + 98570.$$

$$103042 := 321^2 + 9983^0 = 3212 + 99830.$$

$$106433 := 310^2 + 10333^1 = 3102 + 103331.$$

$$107813 := 312^2 + 10469^1 = 3122 + 104691.$$

$$108242 := 329^2 + 10495^0 = 3292 + 104950.$$

$$109562 := 331^2 + 10625^0 = 3312 + 106250.$$

$$110593 := 48^3 + 11011^0 = 483 + 110110.$$

$$112713 := 319^2 + 10952^1 = 3192 + 109521.$$

$$114133 := 321^2 + 11092^1 = 3212 + 110921.$$

$$114922 := 339^2 + 11153^0 = 3392 + 111530.$$

$$116282 := 341^2 + 11287^0 = 3412 + 112870.$$

$$119173 := 328^2 + 11589^1 = 3282 + 115891.$$

$$120633 := 330^2 + 11733^1 = 3302 + 117331.$$

$$121802 := 349^2 + 11831^0 = 3492 + 118310.$$

$$123202 := 351^2 + 11969^0 = 3512 + 119690.$$

$$125813 := 337^2 + 12244^1 = 3372 + 122441.$$

$$127313 := 339^2 + 12392^1 = 3392 + 123921.$$

$$128882 := 359^2 + 12529^0 = 3592 + 125290.$$

$$130322 := 361^2 + 12671^0 = 3612 + 126710.$$

$$132633 := 346^2 + 12917^1 = 3462 + 129171.$$

$$134173 := 348^2 + 13069^1 = 3482 + 130691.$$

$$136162 := 369^2 + 13247^0 = 3692 + 132470.$$

$$137642 := 371^2 + 13393^0 = 3712 + 133930.$$

$$139633 := 355^2 + 13608^1 = 3552 + 136081.$$

$$141213 := 357^2 + 13764^1 = 3572 + 137641.$$

$$143642 := 379^2 + 13985^0 = 3792 + 139850.$$

$$145162 := 381^2 + 14135^0 = 3812 + 141350.$$

$$146813 := 364^2 + 14317^1 = 3642 + 143171.$$

$$148433 := 366^2 + 14477^1 = 3662 + 144771.$$

$$151322 := 389^2 + 14743^0 = 3892 + 147430.$$

$$152882 := 391^2 + 14897^0 = 3912 + 148970.$$

$$154173 := 373^2 + 15044^1 = 3732 + 150441.$$

$$155833 := 375^2 + 15208^1 = 3752 + 152081.$$

$$159202 := 399^2 + 15521^0 = 3992 + 155210.$$

$$160802 := 401^2 + 15679^0 = 4012 + 156790.$$

$$161713 := 382^2 + 15789^1 = 3822 + 157891.$$

$$163413 := 384^2 + 15957^1 = 3842 + 159571.$$

$$167282 := 409^2 + 16319^0 = 4092 + 163190.$$

$$168922 := 411^2 + 16481^0 = 4112 + 164810.$$

$$169433 := 391^2 + 16552^1 = 3912 + 165521.$$

$$171173 := 393^2 + 16724^1 = 3932 + 167241.$$

$$175562 := 419^2 + 17137^0 = 4192 + 171370.$$

$$177242 := 421^2 + 17303^0 = 4212 + 173030.$$

$$177333 := 400^2 + 17333^1 = 4002 + 173331.$$

$$177755 := 20^4 + 17755^1 = 204 + 177551.$$

$$179113 := 402^2 + 17509^1 = 4022 + 175091.$$

$$184042 := 429^2 + 17975^0 = 4292 + 179750.$$

$$185413 := 409^2 + 18132^1 = 4092 + 181321.$$

$$185762 := 431^2 + 18145^0 = 4312 + 181450.$$

$$187233 := 411^2 + 18312^1 = 4112 + 183121.$$

$$192722 := 439^2 + 18833^0 = 4392 + 188330.$$

$$193673 := 418^2 + 18949^1 = 4182 + 189491.$$

$$194482 := 441^2 + 19007^0 = 4412 + 190070.$$

$$195113 := 58^3 + 19453^0 = 583 + 194530.$$

$$195533 := 420^2 + 19133^1 = 4202 + 191331.$$

$$201602 := 449^2 + 19711^0 = 4492 + 197110.$$

$$202113 := 427^2 + 19784^1 = 4272 + 197841.$$

$$203402 := 451^2 + 19889^0 = 4512 + 198890.$$

$$204013 := 429^2 + 19972^1 = 4292 + 199721.$$

$$210682 := 459^2 + 20609^0 = 4592 + 206090.$$

$$210733 := 436^2 + 20637^1 = 4362 + 206371.$$

$$212522 := 461^2 + 20791^0 = 4612 + 207910.$$

$$212673 := 438^2 + 20829^1 = 4382 + 208291.$$

## 4.2 Positive-Negative Expressions

### 4.2.1 Powers Bigger than One

In case of only positive sign, we don't expressions with powers bigger than one, i.e., there is at least one term, where powers are zero or one. Below are examples of positive and negative sign expressions, with only powers bigger than one.

$$3 := -1^9 + 2^2 = -19 + 22.$$

$$7 := -1^6 + 2^3 = -16 + 23.$$

$$63 := -1^9 + 8^2 = -19 + 82.$$

$$80 := -1^2 + 9^2 = -12 + 92.$$

$$20 := -4^2 + 6^2 = -42 + 62.$$

$$40 := -3^2 + 7^2 = -32 + 72.$$

$$60 := -2^2 + 8^2 = -22 + 82.$$

$$469 := -15^3 + 62^2 = -153 + 622.$$

### 4.2.2 Powers Zero and One

Examples below are with positive negative signs and powers only zeros or ones. Obviously, all sums are ending in 1.

$$1 := -2^0 + 2^1 = -20 + 21.$$

$$11 := -11^0 + 12^1 = -110 + 121.$$

$$21 := -20^0 + 22^1 = -200 + 221.$$

$$31 := -29^0 + 32^1 = -290 + 321.$$

$$41 := -38^0 + 42^1 = -380 + 421.$$

$$151 := -137^0 + 152^1 = -1370 + 1521.$$

$$161 := -146^0 + 162^1 = -1460 + 1621.$$

$$171 := -155^0 + 172^1 = -1550 + 1721.$$

$$181 := -164^0 + 182^1 = -1640 + 1821.$$

$$191 := -173^0 + 192^1 = -1730 + 1921.$$

$$51 := -47^0 + 52^1 = -470 + 521.$$

$$61 := -56^0 + 62^1 = -560 + 621.$$

$$71 := -65^0 + 72^1 = -650 + 721.$$

$$81 := -74^0 + 82^1 = -740 + 821.$$

$$91 := -83^0 + 92^1 = -830 + 921.$$

$$201 := -182^0 + 202^1 = -1820 + 2021.$$

$$211 := -191^0 + 212^1 = -1910 + 2121.$$

$$221 := -200^0 + 222^1 = -2000 + 2221.$$

$$231 := -209^0 + 232^1 = -2090 + 2321.$$

$$241 := -218^0 + 242^1 = -2180 + 2421.$$

$$101 := -92^0 + 102^1 = -920 + 1021.$$

$$111 := -101^0 + 112^1 = -1010 + 1121.$$

$$121 := -110^0 + 122^1 = -1100 + 1221.$$

$$131 := -119^0 + 132^1 = -1190 + 1321.$$

$$141 := -128^0 + 142^1 = -1280 + 1421.$$

$$251 := -227^0 + 252^1 = -2270 + 2521.$$

$$261 := -236^0 + 262^1 = -2360 + 2621.$$

$$271 := -245^0 + 272^1 = -2450 + 2721.$$

$$281 := -254^0 + 282^1 = -2540 + 2821.$$

$$291 := -263^0 + 292^1 = -2630 + 2921.$$

$$301 := -272^0 + 302^1 = -2720 + 3021.$$

$$311 := -281^0 + 312^1 = -2810 + 3121.$$

$$321 := -290^0 + 322^1 = -2900 + 3221.$$

$$331 := -299^0 + 332^1 = -2990 + 3321.$$

$$341 := -308^0 + 342^1 = -3080 + 3421.$$

$$351 := -317^0 + 352^1 = -3170 + 3521.$$

$$361 := -326^0 + 362^1 = -3260 + 3621.$$

$$371 := -335^0 + 372^1 = -3350 + 3721.$$

$$381 := -344^0 + 382^1 = -3440 + 3821.$$

$$391 := -353^0 + 392^1 = -3530 + 3921.$$

$$401 := -362^0 + 402^1 = -3620 + 4021.$$

$$411 := -371^0 + 412^1 = -3710 + 4121.$$

$$421 := -380^0 + 422^1 = -3800 + 4221.$$

$$431 := -389^0 + 432^1 = -3890 + 4321.$$

$$441 := -398^0 + 442^1 = -3980 + 4421.$$

$$451 := -407^0 + 452^1 = -4070 + 4521.$$

$$461 := -416^0 + 462^1 = -4160 + 4621.$$

$$471 := -425^0 + 472^1 = -4250 + 4721.$$

$$481 := -434^0 + 482^1 = -4340 + 4821.$$

$$491 := -443^0 + 492^1 = -4430 + 4921.$$

$$501 := -452^0 + 502^1 = -4520 + 5021.$$

$$511 := -461^0 + 512^1 = -4610 + 5121.$$

$$521 := -470^0 + 522^1 = -4700 + 5221.$$

$$531 := -479^0 + 532^1 = -4790 + 5321.$$

$$541 := -488^0 + 542^1 = -4880 + 5421.$$

$$551 := -497^0 + 552^1 = -4970 + 5521.$$

$$561 := -506^0 + 562^1 = -5060 + 5621.$$

$$571 := -515^0 + 572^1 = -5150 + 5721.$$

$$581 := -524^0 + 582^1 = -5240 + 5821.$$

$$591 := -533^0 + 592^1 = -5330 + 5921.$$

$$601 := -542^0 + 602^1 = -5420 + 6021.$$

$$611 := -551^0 + 612^1 = -5510 + 6121.$$

$$621 := -560^0 + 622^1 = -5600 + 6221.$$

$$631 := -569^0 + 632^1 = -5690 + 6321.$$

$$641 := -578^0 + 642^1 = -5780 + 6421.$$

$$651 := -587^0 + 652^1 = -5870 + 6521.$$

$$661 := -596^0 + 662^1 = -5960 + 6621.$$

$$671 := -605^0 + 672^1 = -6050 + 6721.$$

$$681 := -614^0 + 682^1 = -6140 + 6821.$$

$$691 := -623^0 + 692^1 = -6230 + 6921.$$

$$701 := -632^0 + 702^1 = -6320 + 7021.$$

$$711 := -641^0 + 712^1 = -6410 + 7121.$$

$$721 := -650^0 + 722^1 = -6500 + 7221.$$

$$731 := -659^0 + 732^1 = -6590 + 7321.$$

$$741 := -668^0 + 742^1 = -6680 + 7421.$$

$$751 := -677^0 + 752^1 = -6770 + 7521.$$

$$761 := -686^0 + 762^1 = -6860 + 7621.$$

$$771 := -695^0 + 772^1 = -6950 + 7721.$$

$$781 := -704^0 + 782^1 = -7040 + 7821.$$

$$791 := -713^0 + 792^1 = -7130 + 7921.$$

$$801 := -722^0 + 802^1 = -7220 + 8021.$$

$$811 := -731^0 + 812^1 = -7310 + 8121.$$

$$821 := -740^0 + 822^1 = -7400 + 8221.$$

$$831 := -749^0 + 832^1 = -7490 + 8321.$$

$$841 := -758^0 + 842^1 = -7580 + 8421.$$

$$851 := -767^0 + 852^1 = -7670 + 8521.$$

$$861 := -776^0 + 862^1 = -7760 + 8621.$$

$$871 := -785^0 + 872^1 = -7850 + 8721.$$

$$881 := -794^0 + 882^1 = -7940 + 8821.$$

$$891 := -803^0 + 892^1 = -8030 + 8921.$$

$$901 := -812^0 + 902^1 = -8120 + 9021.$$

$$911 := -821^0 + 912^1 = -8210 + 9121.$$

$$921 := -830^0 + 922^1 = -8300 + 9221.$$

$$931 := -839^0 + 932^1 = -8390 + 9321.$$

$$941 := -848^0 + 942^1 = -8480 + 9421.$$

$$951 := -857^0 + 952^1 = -8570 + 9521.$$

$$961 := -866^0 + 962^1 = -8660 + 9621.$$

$$971 := -875^0 + 972^1 = -8750 + 9721.$$

$$981 := -884^0 + 982^1 = -8840 + 9821.$$

$$991 := -893^0 + 992^1 = -8930 + 9921.$$

$$1001 := -902^0 + 1002^1 = -9020 + 10021.$$

$$1011 := -911^0 + 1012^1 = -9110 + 10121.$$

$$1021 := -920^0 + 1022^1 = -9200 + 10221.$$

$$1031 := -929^0 + 1032^1 = -9290 + 10321.$$

$$1041 := -938^0 + 1042^1 = -9380 + 10421.$$

$$1051 := -947^0 + 1052^1 = -9470 + 10521.$$

$$1061 := -956^0 + 1062^1 = -9560 + 10621.$$

$$1071 := -965^0 + 1072^1 = -9650 + 10721.$$

$$1081 := -974^0 + 1082^1 = -9740 + 10821.$$

$$1091 := -983^0 + 1092^1 = -9830 + 10921.$$

$$1101 := -992^0 + 1102^1 = -9920 + 11021.$$

$$1111 := -1001^0 + 1112^1 = -10010 + 11121.$$

$$1121 := -1010^0 + 1122^1 = -10100 + 11221.$$

$$1131 := -1019^0 + 1132^1 = -10190 + 11321.$$

$$1141 := -1028^0 + 1142^1 = -10280 + 11421.$$

$$1151 := -1037^0 + 1152^1 = -10370 + 11521.$$

$$1161 := -1046^0 + 1162^1 = -10460 + 11621.$$

$$1171 := -1055^0 + 1172^1 = -10550 + 11721.$$

$$1181 := -1064^0 + 1182^1 = -10640 + 11821.$$

$$1191 := -1073^0 + 1192^1 = -10730 + 11921.$$

$$1201 := -1082^0 + 1202^1 = -10820 + 12021.$$

$$1211 := -1091^0 + 1212^1 = -10910 + 12121.$$

$$1221 := -1100^0 + 1222^1 = -11000 + 12221.$$

$$1231 := -1109^0 + 1232^1 = -11090 + 12321.$$

$$1241 := -1118^0 + 1242^1 = -11180 + 12421.$$

$$1251 := -1127^0 + 1252^1 = -11270 + 12521.$$

$$1261 := -1136^0 + 1262^1 = -11360 + 12621.$$

$$1271 := -1145^0 + 1272^1 = -11450 + 12721.$$

$$1281 := -1154^0 + 1282^1 = -11540 + 12821.$$

$$1291 := -1163^0 + 1292^1 = -11630 + 12921.$$

$$1301 := -1172^0 + 1302^1 = -11720 + 13021.$$

$$1311 := -1181^0 + 1312^1 = -11810 + 13121.$$

$$1321 := -1190^0 + 1322^1 = -11900 + 13221.$$

$$1331 := -1199^0 + 1332^1 = -11990 + 13321.$$

$$1341 := -1208^0 + 1342^1 = -12080 + 13421.$$

$$1351 := -1217^0 + 1352^1 = -12170 + 13521.$$

$$1361 := -1226^0 + 1362^1 = -12260 + 13621.$$

$$1371 := -1235^0 + 1372^1 = -12350 + 13721.$$

$$1381 := -1244^0 + 1382^1 = -12440 + 13821.$$

$$1391 := -1253^0 + 1392^1 = -12530 + 13921.$$

$$1401 := -1262^0 + 1402^1 = -12620 + 14021.$$

$$1411 := -1271^0 + 1412^1 = -12710 + 14121.$$

$$1421 := -1280^0 + 1422^1 = -12800 + 14221.$$

$$1431 := -1289^0 + 1432^1 = -12890 + 14321.$$

$$1441 := -1298^0 + 1442^1 = -12980 + 14421.$$

$$1451 := -1307^0 + 1452^1 = -13070 + 14521.$$

$$1461 := -1316^0 + 1462^1 = -13160 + 14621.$$

$$1471 := -1325^0 + 1472^1 = -13250 + 14721.$$

$$1481 := -1334^0 + 1482^1 = -13340 + 14821.$$

$$1491 := -1343^0 + 1492^1 = -13430 + 14921.$$

$$1501 := -1352^0 + 1502^1 = -13520 + 15021.$$

$$1511 := -1361^0 + 1512^1 = -13610 + 15121.$$

$$1521 := -1370^0 + 1522^1 = -13700 + 15221.$$

$$1531 := -1379^0 + 1532^1 = -13790 + 15321.$$

$$1541 := -1388^0 + 1542^1 = -13880 + 15421.$$

$$1551 := -1397^0 + 1552^1 = -13970 + 15521.$$

$$1561 := -1406^0 + 1562^1 = -14060 + 15621.$$

$$1571 := -1415^0 + 1572^1 = -14150 + 15721.$$

$$1581 := -1424^0 + 1582^1 = -14240 + 15821.$$

$$1591 := -1433^0 + 1592^1 = -14330 + 15921.$$

$$1601 := -1442^0 + 1602^1 = -14420 + 16021.$$

$$\begin{array}{ll}
1611 := -1451^0 + 1612^1 = -14510 + 16121. & 1961 := -1766^0 + 1962^1 = -17660 + 19621. \\
1621 := -1460^0 + 1622^1 = -14600 + 16221. & 1971 := -1775^0 + 1972^1 = -17750 + 19721. \\
1631 := -1469^0 + 1632^1 = -14690 + 16321. & 1981 := -1784^0 + 1982^1 = -17840 + 19821. \\
1641 := -1478^0 + 1642^1 = -14780 + 16421. & 1991 := -1793^0 + 1992^1 = -17930 + 19921. \\
1651 := -1487^0 + 1652^1 = -14870 + 16521. & 2001 := -1802^0 + 2002^1 = -18020 + 20021. \\
\\
1661 := -1496^0 + 1662^1 = -14960 + 16621. & \\
1671 := -1505^0 + 1672^1 = -15050 + 16721. & 2011 := -1811^0 + 2012^1 = -18110 + 20121. \\
1681 := -1514^0 + 1682^1 = -15140 + 16821. & 2021 := -1820^0 + 2022^1 = -18200 + 20221. \\
1691 := -1523^0 + 1692^1 = -15230 + 16921. & 2031 := -1829^0 + 2032^1 = -18290 + 20321. \\
1701 := -1532^0 + 1702^1 = -15320 + 17021. & 2041 := -1838^0 + 2042^1 = -18380 + 20421. \\
\\
1711 := -1541^0 + 1712^1 = -15410 + 17121. & 2051 := -1847^0 + 2052^1 = -18470 + 20521. \\
1721 := -1550^0 + 1722^1 = -15500 + 17221. & \\
1731 := -1559^0 + 1732^1 = -15590 + 17321. & 2061 := -1856^0 + 2062^1 = -18560 + 20621. \\
1741 := -1568^0 + 1742^1 = -15680 + 17421. & 2071 := -1865^0 + 2072^1 = -18650 + 20721. \\
1751 := -1577^0 + 1752^1 = -15770 + 17521. & 2081 := -1874^0 + 2082^1 = -18740 + 20821. \\
\\
1761 := -1586^0 + 1762^1 = -15860 + 17621. & 2091 := -1883^0 + 2092^1 = -18830 + 20921. \\
1771 := -1595^0 + 1772^1 = -15950 + 17721. & 2101 := -1892^0 + 2102^1 = -18920 + 21021. \\
1781 := -1604^0 + 1782^1 = -16040 + 17821. & \\
1791 := -1613^0 + 1792^1 = -16130 + 17921. & 2111 := -1901^0 + 2112^1 = -19010 + 21121. \\
1801 := -1622^0 + 1802^1 = -16220 + 18021. & 2121 := -1910^0 + 2122^1 = -19100 + 21221. \\
\\
1811 := -1631^0 + 1812^1 = -16310 + 18121. & 2131 := -1919^0 + 2132^1 = -19190 + 21321. \\
1821 := -1640^0 + 1822^1 = -16400 + 18221. & 2141 := -1928^0 + 2142^1 = -19280 + 21421. \\
1831 := -1649^0 + 1832^1 = -16490 + 18321. & 2151 := -1937^0 + 2152^1 = -19370 + 21521. \\
1841 := -1658^0 + 1842^1 = -16580 + 18421. & \\
1851 := -1667^0 + 1852^1 = -16670 + 18521. & 2161 := -1946^0 + 2162^1 = -19460 + 21621. \\
\\
1861 := -1676^0 + 1862^1 = -16760 + 18621. & 2171 := -1955^0 + 2172^1 = -19550 + 21721. \\
1871 := -1685^0 + 1872^1 = -16850 + 18721. & 2181 := -1964^0 + 2182^1 = -19640 + 21821. \\
1881 := -1694^0 + 1882^1 = -16940 + 18821. & 2191 := -1973^0 + 2192^1 = -19730 + 21921. \\
1891 := -1703^0 + 1892^1 = -17030 + 18921. & 2201 := -1982^0 + 2202^1 = -19820 + 22021. \\
1901 := -1712^0 + 1902^1 = -17120 + 19021. & \\
\\
1911 := -1721^0 + 1912^1 = -17210 + 19121. & 2211 := -1991^0 + 2212^1 = -19910 + 22121. \\
1921 := -1730^0 + 1922^1 = -17300 + 19221. & 2221 := -2000^0 + 2222^1 = -20000 + 22221. \\
1931 := -1739^0 + 1932^1 = -17390 + 19321. & 2231 := -2009^0 + 2232^1 = -20090 + 22321. \\
1941 := -1748^0 + 1942^1 = -17480 + 19421. & 2241 := -2018^0 + 2242^1 = -20180 + 22421. \\
1951 := -1757^0 + 1952^1 = -17570 + 19521. & 2251 := -2027^0 + 2252^1 = -20270 + 22521.
\end{array}$$

$$\begin{array}{ll}
2261 := -2036^0 + 2262^1 = -20360 + 22621. & 2611 := -2351^0 + 2612^1 = -23510 + 26121. \\
2271 := -2045^0 + 2272^1 = -20450 + 22721. & 2621 := -2360^0 + 2622^1 = -23600 + 26221. \\
2281 := -2054^0 + 2282^1 = -20540 + 22821. & 2631 := -2369^0 + 2632^1 = -23690 + 26321. \\
2291 := -2063^0 + 2292^1 = -20630 + 22921. & 2641 := -2378^0 + 2642^1 = -23780 + 26421. \\
2301 := -2072^0 + 2302^1 = -20720 + 23021. & 2651 := -2387^0 + 2652^1 = -23870 + 26521. \\
\\
2311 := -2081^0 + 2312^1 = -20810 + 23121. & \\
2321 := -2090^0 + 2322^1 = -20900 + 23221. & 2661 := -2396^0 + 2662^1 = -23960 + 26621. \\
2331 := -2099^0 + 2332^1 = -20990 + 23321. & 2671 := -2405^0 + 2672^1 = -24050 + 26721. \\
2341 := -2108^0 + 2342^1 = -21080 + 23421. & 2681 := -2414^0 + 2682^1 = -24140 + 26821. \\
2351 := -2117^0 + 2352^1 = -21170 + 23521. & 2691 := -2423^0 + 2692^1 = -24230 + 26921. \\
\\
2361 := -2126^0 + 2362^1 = -21260 + 23621. & 2701 := -2432^0 + 2702^1 = -24320 + 27021. \\
2371 := -2135^0 + 2372^1 = -21350 + 23721. & \\
2381 := -2144^0 + 2382^1 = -21440 + 23821. & 2711 := -2441^0 + 2712^1 = -24410 + 27121. \\
2391 := -2153^0 + 2392^1 = -21530 + 23921. & 2721 := -2450^0 + 2722^1 = -24500 + 27221. \\
2401 := -2162^0 + 2402^1 = -21620 + 24021. & 2731 := -2459^0 + 2732^1 = -24590 + 27321. \\
\\
2411 := -2171^0 + 2412^1 = -21710 + 24121. & 2741 := -2468^0 + 2742^1 = -24680 + 27421. \\
2421 := -2180^0 + 2422^1 = -21800 + 24221. & 2751 := -2477^0 + 2752^1 = -24770 + 27521. \\
2431 := -2189^0 + 2432^1 = -21890 + 24321. & \\
2441 := -2198^0 + 2442^1 = -21980 + 24421. & 2761 := -2486^0 + 2762^1 = -24860 + 27621. \\
2451 := -2207^0 + 2452^1 = -22070 + 24521. & 2771 := -2495^0 + 2772^1 = -24950 + 27721. \\
\\
2461 := -2216^0 + 2462^1 = -22160 + 24621. & 2781 := -2504^0 + 2782^1 = -25040 + 27821. \\
2471 := -2225^0 + 2472^1 = -22250 + 24721. & 2791 := -2513^0 + 2792^1 = -25130 + 27921. \\
2481 := -2234^0 + 2482^1 = -22340 + 24821. & 2801 := -2522^0 + 2802^1 = -25220 + 28021. \\
2491 := -2243^0 + 2492^1 = -22430 + 24921. & \\
2501 := -2252^0 + 2502^1 = -22520 + 25021. & 2811 := -2531^0 + 2812^1 = -25310 + 28121. \\
\\
2511 := -2261^0 + 2512^1 = -22610 + 25121. & 2821 := -2540^0 + 2822^1 = -25400 + 28221. \\
2521 := -2270^0 + 2522^1 = -22700 + 25221. & 2831 := -2549^0 + 2832^1 = -25490 + 28321. \\
2531 := -2279^0 + 2532^1 = -22790 + 25321. & 2841 := -2558^0 + 2842^1 = -25580 + 28421. \\
2541 := -2288^0 + 2542^1 = -22880 + 25421. & 2851 := -2567^0 + 2852^1 = -25670 + 28521. \\
2551 := -2297^0 + 2552^1 = -22970 + 25521. & 2861 := -2576^0 + 2862^1 = -25760 + 28621. \\
\\
2561 := -2306^0 + 2562^1 = -23060 + 25621. & 2871 := -2585^0 + 2872^1 = -25850 + 28721. \\
2571 := -2315^0 + 2572^1 = -23150 + 25721. & 2881 := -2594^0 + 2882^1 = -25940 + 28821. \\
2581 := -2324^0 + 2582^1 = -23240 + 25821. & 2891 := -2603^0 + 2892^1 = -26030 + 28921. \\
2591 := -2333^0 + 2592^1 = -23330 + 25921. & 2901 := -2612^0 + 2902^1 = -26120 + 29021. \\
2601 := -2342^0 + 2602^1 = -23420 + 26021. & 2911 := -2621^0 + 2912^1 = -26210 + 29121.
\end{array}$$

$$\begin{array}{ll}
2921 := -2630^0 + 2922^1 = -26300 + 29221. & 3271 := -2945^0 + 3272^1 = -29450 + 32721. \\
2931 := -2639^0 + 2932^1 = -26390 + 29321. & 3281 := -2954^0 + 3282^1 = -29540 + 32821. \\
2941 := -2648^0 + 2942^1 = -26480 + 29421. & 3291 := -2963^0 + 3292^1 = -29630 + 32921. \\
2951 := -2657^0 + 2952^1 = -26570 + 29521. & 3301 := -2972^0 + 3302^1 = -29720 + 33021. \\
2961 := -2666^0 + 2962^1 = -26660 + 29621. & 3311 := -2981^0 + 3312^1 = -29810 + 33121. \\
\\
2971 := -2675^0 + 2972^1 = -26750 + 29721. & \\
2981 := -2684^0 + 2982^1 = -26840 + 29821. & 3321 := -2990^0 + 3322^1 = -29900 + 33221. \\
2991 := -2693^0 + 2992^1 = -26930 + 29921. & 3331 := -2999^0 + 3332^1 = -29990 + 33321. \\
3001 := -2702^0 + 3002^1 = -27020 + 30021. & 3341 := -3008^0 + 3342^1 = -30080 + 33421. \\
3011 := -2711^0 + 3012^1 = -27110 + 30121. & 3351 := -3017^0 + 3352^1 = -30170 + 33521. \\
\\
3021 := -2720^0 + 3022^1 = -27200 + 30221. & 3361 := -3026^0 + 3362^1 = -30260 + 33621. \\
3031 := -2729^0 + 3032^1 = -27290 + 30321. & \\
3041 := -2738^0 + 3042^1 = -27380 + 30421. & 3371 := -3035^0 + 3372^1 = -30350 + 33721. \\
3051 := -2747^0 + 3052^1 = -27470 + 30521. & 3381 := -3044^0 + 3382^1 = -30440 + 33821. \\
3061 := -2756^0 + 3062^1 = -27560 + 30621. & 3391 := -3053^0 + 3392^1 = -30530 + 33921. \\
\\
3071 := -2765^0 + 3072^1 = -27650 + 30721. & 3401 := -3062^0 + 3402^1 = -30620 + 34021. \\
3081 := -2774^0 + 3082^1 = -27740 + 30821. & 3411 := -3071^0 + 3412^1 = -30710 + 34121. \\
3091 := -2783^0 + 3092^1 = -27830 + 30921. & \\
3101 := -2792^0 + 3102^1 = -27920 + 31021. & 3421 := -3080^0 + 3422^1 = -30800 + 34221. \\
3111 := -2801^0 + 3112^1 = -28010 + 31121. & 3431 := -3089^0 + 3432^1 = -30890 + 34321. \\
\\
3121 := -2810^0 + 3122^1 = -28100 + 31221. & 3441 := -3098^0 + 3442^1 = -30980 + 34421. \\
3131 := -2819^0 + 3132^1 = -28190 + 31321. & 3451 := -3107^0 + 3452^1 = -31070 + 34521. \\
3141 := -2828^0 + 3142^1 = -28280 + 31421. & 3461 := -3116^0 + 3462^1 = -31160 + 34621. \\
3151 := -2837^0 + 3152^1 = -28370 + 31521. & \\
3161 := -2846^0 + 3162^1 = -28460 + 31621. & 3471 := -3125^0 + 3472^1 = -31250 + 34721. \\
\\
3171 := -2855^0 + 3172^1 = -28550 + 31721. & 3481 := -3134^0 + 3482^1 = -31340 + 34821. \\
3181 := -2864^0 + 3182^1 = -28640 + 31821. & 3491 := -3143^0 + 3492^1 = -31430 + 34921. \\
3191 := -2873^0 + 3192^1 = -28730 + 31921. & 3501 := -3152^0 + 3502^1 = -31520 + 35021. \\
3201 := -2882^0 + 3202^1 = -28820 + 32021. & 3511 := -3161^0 + 3512^1 = -31610 + 35121. \\
3211 := -2891^0 + 3212^1 = -28910 + 32121. & \\
\\
3221 := -2900^0 + 3222^1 = -29000 + 32221. & 3521 := -3170^0 + 3522^1 = -31700 + 35221. \\
3231 := -2909^0 + 3232^1 = -29090 + 32321. & 3531 := -3179^0 + 3532^1 = -31790 + 35321. \\
3241 := -2918^0 + 3242^1 = -29180 + 32421. & 3541 := -3188^0 + 3542^1 = -31880 + 35421. \\
3251 := -2927^0 + 3252^1 = -29270 + 32521. & 3551 := -3197^0 + 3552^1 = -31970 + 35521. \\
3261 := -2936^0 + 3262^1 = -29360 + 32621. & 3561 := -3206^0 + 3562^1 = -32060 + 35621.
\end{array}$$

$$\begin{array}{ll}
3571 := -3215^0 + 3572^1 = -32150 + 35721. & 3921 := -3530^0 + 3922^1 = -35300 + 39221. \\
3581 := -3224^0 + 3582^1 = -32240 + 35821. & 3931 := -3539^0 + 3932^1 = -35390 + 39321. \\
3591 := -3233^0 + 3592^1 = -32330 + 35921. & 3941 := -3548^0 + 3942^1 = -35480 + 39421. \\
3601 := -3242^0 + 3602^1 = -32420 + 36021. & 3951 := -3557^0 + 3952^1 = -35570 + 39521. \\
3611 := -3251^0 + 3612^1 = -32510 + 36121. & 3961 := -3566^0 + 3962^1 = -35660 + 39621. \\
\\
3621 := -3260^0 + 3622^1 = -32600 + 36221. & \\
3631 := -3269^0 + 3632^1 = -32690 + 36321. & 3971 := -3575^0 + 3972^1 = -35750 + 39721. \\
3641 := -3278^0 + 3642^1 = -32780 + 36421. & 3981 := -3584^0 + 3982^1 = -35840 + 39821. \\
3651 := -3287^0 + 3652^1 = -32870 + 36521. & 3991 := -3593^0 + 3992^1 = -35930 + 39921. \\
3661 := -3296^0 + 3662^1 = -32960 + 36621. & 4001 := -3602^0 + 4002^1 = -36020 + 40021. \\
\\
3671 := -3305^0 + 3672^1 = -33050 + 36721. & 4011 := -3611^0 + 4012^1 = -36110 + 40121. \\
3681 := -3314^0 + 3682^1 = -33140 + 36821. & \\
3691 := -3323^0 + 3692^1 = -33230 + 36921. & 4021 := -3620^0 + 4022^1 = -36200 + 40221. \\
3701 := -3332^0 + 3702^1 = -33320 + 37021. & 4031 := -3629^0 + 4032^1 = -36290 + 40321. \\
3711 := -3341^0 + 3712^1 = -33410 + 37121. & 4041 := -3638^0 + 4042^1 = -36380 + 40421. \\
\\
3721 := -3350^0 + 3722^1 = -33500 + 37221. & 4051 := -3647^0 + 4052^1 = -36470 + 40521. \\
3731 := -3359^0 + 3732^1 = -33590 + 37321. & 4061 := -3656^0 + 4062^1 = -36560 + 40621. \\
3741 := -3368^0 + 3742^1 = -33680 + 37421. & \\
3751 := -3377^0 + 3752^1 = -33770 + 37521. & 4071 := -3665^0 + 4072^1 = -36650 + 40721. \\
3761 := -3386^0 + 3762^1 = -33860 + 37621. & 4081 := -3674^0 + 4082^1 = -36740 + 40821. \\
\\
3771 := -3395^0 + 3772^1 = -33950 + 37721. & 4091 := -3683^0 + 4092^1 = -36830 + 40921. \\
3781 := -3404^0 + 3782^1 = -34040 + 37821. & 4101 := -3692^0 + 4102^1 = -36920 + 41021. \\
3791 := -3413^0 + 3792^1 = -34130 + 37921. & 4111 := -3701^0 + 4112^1 = -37010 + 41121. \\
3801 := -3422^0 + 3802^1 = -34220 + 38021. & \\
3811 := -3431^0 + 3812^1 = -34310 + 38121. & 4121 := -3710^0 + 4122^1 = -37100 + 41221. \\
\\
3821 := -3440^0 + 3822^1 = -34400 + 38221. & 4131 := -3719^0 + 4132^1 = -37190 + 41321. \\
3831 := -3449^0 + 3832^1 = -34490 + 38321. & 4141 := -3728^0 + 4142^1 = -37280 + 41421. \\
3841 := -3458^0 + 3842^1 = -34580 + 38421. & 4151 := -3737^0 + 4152^1 = -37370 + 41521. \\
3851 := -3467^0 + 3852^1 = -34670 + 38521. & 4161 := -3746^0 + 4162^1 = -37460 + 41621. \\
3861 := -3476^0 + 3862^1 = -34760 + 38621. & \\
\\
3871 := -3485^0 + 3872^1 = -34850 + 38721. & 4171 := -3755^0 + 4172^1 = -37550 + 41721. \\
3881 := -3494^0 + 3882^1 = -34940 + 38821. & 4181 := -3764^0 + 4182^1 = -37640 + 41821. \\
3891 := -3503^0 + 3892^1 = -35030 + 38921. & 4191 := -3773^0 + 4192^1 = -37730 + 41921. \\
3901 := -3512^0 + 3902^1 = -35120 + 39021. & 4201 := -3782^0 + 4202^1 = -37820 + 42021. \\
3911 := -3521^0 + 3912^1 = -35210 + 39121. & 4211 := -3791^0 + 4212^1 = -37910 + 42121.
\end{array}$$



$$\begin{array}{ll}
4221 := -3800^0 + 4222^1 = -38000 + 42221. & 4571 := -4115^0 + 4572^1 = -41150 + 45721. \\
4231 := -3809^0 + 4232^1 = -38090 + 42321. & 4581 := -4124^0 + 4582^1 = -41240 + 45821. \\
4241 := -3818^0 + 4242^1 = -38180 + 42421. & 4591 := -4133^0 + 4592^1 = -41330 + 45921. \\
4251 := -3827^0 + 4252^1 = -38270 + 42521. & 4601 := -4142^0 + 4602^1 = -41420 + 46021. \\
4261 := -3836^0 + 4262^1 = -38360 + 42621. & 4611 := -4151^0 + 4612^1 = -41510 + 46121. \\
\\
4271 := -3845^0 + 4272^1 = -38450 + 42721. & \\
4281 := -3854^0 + 4282^1 = -38540 + 42821. & 4621 := -4160^0 + 4622^1 = -41600 + 46221. \\
4291 := -3863^0 + 4292^1 = -38630 + 42921. & 4631 := -4169^0 + 4632^1 = -41690 + 46321. \\
4301 := -3872^0 + 4302^1 = -38720 + 43021. & 4641 := -4178^0 + 4642^1 = -41780 + 46421. \\
4311 := -3881^0 + 4312^1 = -38810 + 43121. & 4651 := -4187^0 + 4652^1 = -41870 + 46521. \\
\\
4321 := -3890^0 + 4322^1 = -38900 + 43221. & 4661 := -4196^0 + 4662^1 = -41960 + 46621. \\
4331 := -3899^0 + 4332^1 = -38990 + 43321. & \\
4341 := -3908^0 + 4342^1 = -39080 + 43421. & 4671 := -4205^0 + 4672^1 = -42050 + 46721. \\
4351 := -3917^0 + 4352^1 = -39170 + 43521. & 4681 := -4214^0 + 4682^1 = -42140 + 46821. \\
4361 := -3926^0 + 4362^1 = -39260 + 43621. & 4691 := -4223^0 + 4692^1 = -42230 + 46921. \\
\\
4371 := -3935^0 + 4372^1 = -39350 + 43721. & 4701 := -4232^0 + 4702^1 = -42320 + 47021. \\
4381 := -3944^0 + 4382^1 = -39440 + 43821. & 4711 := -4241^0 + 4712^1 = -42410 + 47121. \\
4391 := -3953^0 + 4392^1 = -39530 + 43921. & \\
4401 := -3962^0 + 4402^1 = -39620 + 44021. & 4721 := -4250^0 + 4722^1 = -42500 + 47221. \\
4411 := -3971^0 + 4412^1 = -39710 + 44121. & 4731 := -4259^0 + 4732^1 = -42590 + 47321. \\
\\
4421 := -3980^0 + 4422^1 = -39800 + 44221. & 4741 := -4268^0 + 4742^1 = -42680 + 47421. \\
4431 := -3989^0 + 4432^1 = -39890 + 44321. & 4751 := -4277^0 + 4752^1 = -42770 + 47521. \\
4441 := -3998^0 + 4442^1 = -39980 + 44421. & 4761 := -4286^0 + 4762^1 = -42860 + 47621. \\
4451 := -4007^0 + 4452^1 = -40070 + 44521. & \\
4461 := -4016^0 + 4462^1 = -40160 + 44621. & 4771 := -4295^0 + 4772^1 = -42950 + 47721. \\
\\
4471 := -4025^0 + 4472^1 = -40250 + 44721. & 4781 := -4304^0 + 4782^1 = -43040 + 47821. \\
4481 := -4034^0 + 4482^1 = -40340 + 44821. & 4791 := -4313^0 + 4792^1 = -43130 + 47921. \\
4491 := -4043^0 + 4492^1 = -40430 + 44921. & 4801 := -4322^0 + 4802^1 = -43220 + 48021. \\
4501 := -4052^0 + 4502^1 = -40520 + 45021. & 4811 := -4331^0 + 4812^1 = -43310 + 48121. \\
4511 := -4061^0 + 4512^1 = -40610 + 45121. & \\
\\
4521 := -4070^0 + 4522^1 = -40700 + 45221. & 4821 := -4340^0 + 4822^1 = -43400 + 48221. \\
4531 := -4079^0 + 4532^1 = -40790 + 45321. & 4831 := -4349^0 + 4832^1 = -43490 + 48321. \\
4541 := -4088^0 + 4542^1 = -40880 + 45421. & 4841 := -4358^0 + 4842^1 = -43580 + 48421. \\
4551 := -4097^0 + 4552^1 = -40970 + 45521. & 4851 := -4367^0 + 4852^1 = -43670 + 48521. \\
4561 := -4106^0 + 4562^1 = -41060 + 45621. & 4861 := -4376^0 + 4862^1 = -43760 + 48621.
\end{array}$$

$$\begin{array}{ll}
4871 := -4385^0 + 4872^1 = -43850 + 48721. & 5221 := -4700^0 + 5222^1 = -47000 + 52221. \\
4881 := -4394^0 + 4882^1 = -43940 + 48821. & 5231 := -4709^0 + 5232^1 = -47090 + 52321. \\
4891 := -4403^0 + 4892^1 = -44030 + 48921. & 5241 := -4718^0 + 5242^1 = -47180 + 52421. \\
4901 := -4412^0 + 4902^1 = -44120 + 49021. & 5251 := -4727^0 + 5252^1 = -47270 + 52521. \\
4911 := -4421^0 + 4912^1 = -44210 + 49121. & 5261 := -4736^0 + 5262^1 = -47360 + 52621. \\
\\
4921 := -4430^0 + 4922^1 = -44300 + 49221. & \\
4931 := -4439^0 + 4932^1 = -44390 + 49321. & 5271 := -4745^0 + 5272^1 = -47450 + 52721. \\
4941 := -4448^0 + 4942^1 = -44480 + 49421. & 5281 := -4754^0 + 5282^1 = -47540 + 52821. \\
4951 := -4457^0 + 4952^1 = -44570 + 49521. & 5291 := -4763^0 + 5292^1 = -47630 + 52921. \\
4961 := -4466^0 + 4962^1 = -44660 + 49621. & 5301 := -4772^0 + 5302^1 = -47720 + 53021. \\
\\
4971 := -4475^0 + 4972^1 = -44750 + 49721. & 5311 := -4781^0 + 5312^1 = -47810 + 53121. \\
4981 := -4484^0 + 4982^1 = -44840 + 49821. & \\
4991 := -4493^0 + 4992^1 = -44930 + 49921. & 5321 := -4790^0 + 5322^1 = -47900 + 53221. \\
5001 := -4502^0 + 5002^1 = -45020 + 50021. & 5331 := -4799^0 + 5332^1 = -47990 + 53321. \\
5011 := -4511^0 + 5012^1 = -45110 + 50121. & 5341 := -4808^0 + 5342^1 = -48080 + 53421. \\
\\
5021 := -4520^0 + 5022^1 = -45200 + 50221. & 5351 := -4817^0 + 5352^1 = -48170 + 53521. \\
5031 := -4529^0 + 5032^1 = -45290 + 50321. & 5361 := -4826^0 + 5362^1 = -48260 + 53621. \\
5041 := -4538^0 + 5042^1 = -45380 + 50421. & \\
5051 := -4547^0 + 5052^1 = -45470 + 50521. & 5371 := -4835^0 + 5372^1 = -48350 + 53721. \\
5061 := -4556^0 + 5062^1 = -45560 + 50621. & 5381 := -4844^0 + 5382^1 = -48440 + 53821. \\
\\
5071 := -4565^0 + 5072^1 = -45650 + 50721. & 5391 := -4853^0 + 5392^1 = -48530 + 53921. \\
5081 := -4574^0 + 5082^1 = -45740 + 50821. & 5401 := -4862^0 + 5402^1 = -48620 + 54021. \\
5091 := -4583^0 + 5092^1 = -45830 + 50921. & 5411 := -4871^0 + 5412^1 = -48710 + 54121. \\
5101 := -4592^0 + 5102^1 = -45920 + 51021. & \\
5111 := -4601^0 + 5112^1 = -46010 + 51121. & 5421 := -4880^0 + 5422^1 = -48800 + 54221. \\
\\
5121 := -4610^0 + 5122^1 = -46100 + 51221. & 5431 := -4889^0 + 5432^1 = -48890 + 54321. \\
5131 := -4619^0 + 5132^1 = -46190 + 51321. & 5441 := -4898^0 + 5442^1 = -48980 + 54421. \\
5141 := -4628^0 + 5142^1 = -46280 + 51421. & 5451 := -4907^0 + 5452^1 = -49070 + 54521. \\
5151 := -4637^0 + 5152^1 = -46370 + 51521. & 5461 := -4916^0 + 5462^1 = -49160 + 54621. \\
5161 := -4646^0 + 5162^1 = -46460 + 51621. & \\
\\
5171 := -4655^0 + 5172^1 = -46550 + 51721. & 5471 := -4925^0 + 5472^1 = -49250 + 54721. \\
5181 := -4664^0 + 5182^1 = -46640 + 51821. & 5481 := -4934^0 + 5482^1 = -49340 + 54821. \\
5191 := -4673^0 + 5192^1 = -46730 + 51921. & 5491 := -4943^0 + 5492^1 = -49430 + 54921. \\
5201 := -4682^0 + 5202^1 = -46820 + 52021. & 5501 := -4952^0 + 5502^1 = -49520 + 55021. \\
5211 := -4691^0 + 5212^1 = -46910 + 52121. & 5511 := -4961^0 + 5512^1 = -49610 + 55121.
\end{array}$$

$$\begin{array}{ll}
5521 := -4970^0 + 5522^1 = -49700 + 55221. & 5871 := -5285^0 + 5872^1 = -52850 + 58721. \\
5531 := -4979^0 + 5532^1 = -49790 + 55321. & 5881 := -5294^0 + 5882^1 = -52940 + 58821. \\
5541 := -4988^0 + 5542^1 = -49880 + 55421. & 5891 := -5303^0 + 5892^1 = -53030 + 58921. \\
5551 := -4997^0 + 5552^1 = -49970 + 55521. & 5901 := -5312^0 + 5902^1 = -53120 + 59021. \\
5561 := -5006^0 + 5562^1 = -50060 + 55621. & 5911 := -5321^0 + 5912^1 = -53210 + 59121. \\
\\
5571 := -5015^0 + 5572^1 = -50150 + 55721. & \\
5581 := -5024^0 + 5582^1 = -50240 + 55821. & 5921 := -5330^0 + 5922^1 = -53300 + 59221. \\
5591 := -5033^0 + 5592^1 = -50330 + 55921. & 5931 := -5339^0 + 5932^1 = -53390 + 59321. \\
5601 := -5042^0 + 5602^1 = -50420 + 56021. & 5941 := -5348^0 + 5942^1 = -53480 + 59421. \\
5611 := -5051^0 + 5612^1 = -50510 + 56121. & 5951 := -5357^0 + 5952^1 = -53570 + 59521. \\
\\
5621 := -5060^0 + 5622^1 = -50600 + 56221. & 5961 := -5366^0 + 5962^1 = -53660 + 59621. \\
5631 := -5069^0 + 5632^1 = -50690 + 56321. & \\
5641 := -5078^0 + 5642^1 = -50780 + 56421. & 5971 := -5375^0 + 5972^1 = -53750 + 59721. \\
5651 := -5087^0 + 5652^1 = -50870 + 56521. & 5981 := -5384^0 + 5982^1 = -53840 + 59821. \\
5661 := -5096^0 + 5662^1 = -50960 + 56621. & 5991 := -5393^0 + 5992^1 = -53930 + 59921. \\
\\
5671 := -5105^0 + 5672^1 = -51050 + 56721. & 6001 := -5402^0 + 6002^1 = -54020 + 60021. \\
5681 := -5114^0 + 5682^1 = -51140 + 56821. & 6011 := -5411^0 + 6012^1 = -54110 + 60121. \\
5691 := -5123^0 + 5692^1 = -51230 + 56921. & \\
5701 := -5132^0 + 5702^1 = -51320 + 57021. & 6021 := -5420^0 + 6022^1 = -54200 + 60221. \\
5711 := -5141^0 + 5712^1 = -51410 + 57121. & 6031 := -5429^0 + 6032^1 = -54290 + 60321. \\
\\
5721 := -5150^0 + 5722^1 = -51500 + 57221. & 6041 := -5438^0 + 6042^1 = -54380 + 60421. \\
5731 := -5159^0 + 5732^1 = -51590 + 57321. & 6051 := -5447^0 + 6052^1 = -54470 + 60521. \\
5741 := -5168^0 + 5742^1 = -51680 + 57421. & 6061 := -5456^0 + 6062^1 = -54560 + 60621. \\
5751 := -5177^0 + 5752^1 = -51770 + 57521. & \\
5761 := -5186^0 + 5762^1 = -51860 + 57621. & 6071 := -5465^0 + 6072^1 = -54650 + 60721. \\
\\
5771 := -5195^0 + 5772^1 = -51950 + 57721. & 6081 := -5474^0 + 6082^1 = -54740 + 60821. \\
5781 := -5204^0 + 5782^1 = -52040 + 57821. & 6091 := -5483^0 + 6092^1 = -54830 + 60921. \\
5791 := -5213^0 + 5792^1 = -52130 + 57921. & 6101 := -5492^0 + 6102^1 = -54920 + 61021. \\
5801 := -5222^0 + 5802^1 = -52220 + 58021. & 6111 := -5501^0 + 6112^1 = -55010 + 61121. \\
5811 := -5231^0 + 5812^1 = -52310 + 58121. & \\
\\
5821 := -5240^0 + 5822^1 = -52400 + 58221. & 6121 := -5510^0 + 6122^1 = -55100 + 61221. \\
5831 := -5249^0 + 5832^1 = -52490 + 58321. & 6131 := -5519^0 + 6132^1 = -55190 + 61321. \\
5841 := -5258^0 + 5842^1 = -52580 + 58421. & 6141 := -5528^0 + 6142^1 = -55280 + 61421. \\
5851 := -5267^0 + 5852^1 = -52670 + 58521. & 6151 := -5537^0 + 6152^1 = -55370 + 61521. \\
5861 := -5276^0 + 5862^1 = -52760 + 58621. & 6161 := -5546^0 + 6162^1 = -55460 + 61621.
\end{array}$$

$$\begin{array}{ll}
6171 := -5555^0 + 6172^1 = -55550 + 61721. & 6521 := -5870^0 + 6522^1 = -58700 + 65221. \\
6181 := -5564^0 + 6182^1 = -55640 + 61821. & 6531 := -5879^0 + 6532^1 = -58790 + 65321. \\
6191 := -5573^0 + 6192^1 = -55730 + 61921. & 6541 := -5888^0 + 6542^1 = -58880 + 65421. \\
6201 := -5582^0 + 6202^1 = -55820 + 62021. & 6551 := -5897^0 + 6552^1 = -58970 + 65521. \\
6211 := -5591^0 + 6212^1 = -55910 + 62121. & 6561 := -5906^0 + 6562^1 = -59060 + 65621. \\
\\
6221 := -5600^0 + 6222^1 = -56000 + 62221. & \\
6231 := -5609^0 + 6232^1 = -56090 + 62321. & 6571 := -5915^0 + 6572^1 = -59150 + 65721. \\
6241 := -5618^0 + 6242^1 = -56180 + 62421. & 6581 := -5924^0 + 6582^1 = -59240 + 65821. \\
6251 := -5627^0 + 6252^1 = -56270 + 62521. & 6591 := -5933^0 + 6592^1 = -59330 + 65921. \\
6261 := -5636^0 + 6262^1 = -56360 + 62621. & 6601 := -5942^0 + 6602^1 = -59420 + 66021. \\
\\
6271 := -5645^0 + 6272^1 = -56450 + 62721. & 6611 := -5951^0 + 6612^1 = -59510 + 66121. \\
6281 := -5654^0 + 6282^1 = -56540 + 62821. & \\
6291 := -5663^0 + 6292^1 = -56630 + 62921. & 6621 := -5960^0 + 6622^1 = -59600 + 66221. \\
6301 := -5672^0 + 6302^1 = -56720 + 63021. & 6631 := -5969^0 + 6632^1 = -59690 + 66321. \\
6311 := -5681^0 + 6312^1 = -56810 + 63121. & 6641 := -5978^0 + 6642^1 = -59780 + 66421. \\
\\
6321 := -5690^0 + 6322^1 = -56900 + 63221. & 6651 := -5987^0 + 6652^1 = -59870 + 66521. \\
6331 := -5699^0 + 6332^1 = -56990 + 63321. & 6661 := -5996^0 + 6662^1 = -59960 + 66621. \\
6341 := -5708^0 + 6342^1 = -57080 + 63421. & \\
6351 := -5717^0 + 6352^1 = -57170 + 63521. & 6671 := -6005^0 + 6672^1 = -60050 + 66721. \\
6361 := -5726^0 + 6362^1 = -57260 + 63621. & 6681 := -6014^0 + 6682^1 = -60140 + 66821. \\
\\
6371 := -5735^0 + 6372^1 = -57350 + 63721. & 6691 := -6023^0 + 6692^1 = -60230 + 66921. \\
6381 := -5744^0 + 6382^1 = -57440 + 63821. & 6701 := -6032^0 + 6702^1 = -60320 + 67021. \\
6391 := -5753^0 + 6392^1 = -57530 + 63921. & 6711 := -6041^0 + 6712^1 = -60410 + 67121. \\
6401 := -5762^0 + 6402^1 = -57620 + 64021. & \\
6411 := -5771^0 + 6412^1 = -57710 + 64121. & 6721 := -6050^0 + 6722^1 = -60500 + 67221. \\
\\
6421 := -5780^0 + 6422^1 = -57800 + 64221. & 6731 := -6059^0 + 6732^1 = -60590 + 67321. \\
6431 := -5789^0 + 6432^1 = -57890 + 64321. & 6741 := -6068^0 + 6742^1 = -60680 + 67421. \\
6441 := -5798^0 + 6442^1 = -57980 + 64421. & 6751 := -6077^0 + 6752^1 = -60770 + 67521. \\
6451 := -5807^0 + 6452^1 = -58070 + 64521. & 6761 := -6086^0 + 6762^1 = -60860 + 67621. \\
6461 := -5816^0 + 6462^1 = -58160 + 64621. & \\
\\
6471 := -5825^0 + 6472^1 = -58250 + 64721. & 6771 := -6095^0 + 6772^1 = -60950 + 67721. \\
6481 := -5834^0 + 6482^1 = -58340 + 64821. & 6781 := -6104^0 + 6782^1 = -61040 + 67821. \\
6491 := -5843^0 + 6492^1 = -58430 + 64921. & 6791 := -6113^0 + 6792^1 = -61130 + 67921. \\
6501 := -5852^0 + 6502^1 = -58520 + 65021. & 6801 := -6122^0 + 6802^1 = -61220 + 68021. \\
6511 := -5861^0 + 6512^1 = -58610 + 65121. & 6811 := -6131^0 + 6812^1 = -61310 + 68121.
\end{array}$$

$$\begin{array}{ll}
6821 := -6140^0 + 6822^1 = -61400 + 68221. & 7171 := -6455^0 + 7172^1 = -64550 + 71721. \\
6831 := -6149^0 + 6832^1 = -61490 + 68321. & 7181 := -6464^0 + 7182^1 = -64640 + 71821. \\
6841 := -6158^0 + 6842^1 = -61580 + 68421. & 7191 := -6473^0 + 7192^1 = -64730 + 71921. \\
6851 := -6167^0 + 6852^1 = -61670 + 68521. & 7201 := -6482^0 + 7202^1 = -64820 + 72021. \\
6861 := -6176^0 + 6862^1 = -61760 + 68621. & 7211 := -6491^0 + 7212^1 = -64910 + 72121. \\
\\
6871 := -6185^0 + 6872^1 = -61850 + 68721. & \\
6881 := -6194^0 + 6882^1 = -61940 + 68821. & 7221 := -6500^0 + 7222^1 = -65000 + 72221. \\
6891 := -6203^0 + 6892^1 = -62030 + 68921. & 7231 := -6509^0 + 7232^1 = -65090 + 72321. \\
6901 := -6212^0 + 6902^1 = -62120 + 69021. & 7241 := -6518^0 + 7242^1 = -65180 + 72421. \\
6911 := -6221^0 + 6912^1 = -62210 + 69121. & 7251 := -6527^0 + 7252^1 = -65270 + 72521. \\
\\
6921 := -6230^0 + 6922^1 = -62300 + 69221. & 7261 := -6536^0 + 7262^1 = -65360 + 72621. \\
6931 := -6239^0 + 6932^1 = -62390 + 69321. & \\
6941 := -6248^0 + 6942^1 = -62480 + 69421. & 7271 := -6545^0 + 7272^1 = -65450 + 72721. \\
6951 := -6257^0 + 6952^1 = -62570 + 69521. & 7281 := -6554^0 + 7282^1 = -65540 + 72821. \\
6961 := -6266^0 + 6962^1 = -62660 + 69621. & 7291 := -6563^0 + 7292^1 = -65630 + 72921. \\
\\
6971 := -6275^0 + 6972^1 = -62750 + 69721. & 7301 := -6572^0 + 7302^1 = -65720 + 73021. \\
6981 := -6284^0 + 6982^1 = -62840 + 69821. & 7311 := -6581^0 + 7312^1 = -65810 + 73121. \\
6991 := -6293^0 + 6992^1 = -62930 + 69921. & \\
7001 := -6302^0 + 7002^1 = -63020 + 70021. & 7321 := -6590^0 + 7322^1 = -65900 + 73221. \\
7011 := -6311^0 + 7012^1 = -63110 + 70121. & 7331 := -6599^0 + 7332^1 = -65990 + 73321. \\
\\
7021 := -6320^0 + 7022^1 = -63200 + 70221. & 7341 := -6608^0 + 7342^1 = -66080 + 73421. \\
7031 := -6329^0 + 7032^1 = -63290 + 70321. & 7351 := -6617^0 + 7352^1 = -66170 + 73521. \\
7041 := -6338^0 + 7042^1 = -63380 + 70421. & 7361 := -6626^0 + 7362^1 = -66260 + 73621. \\
7051 := -6347^0 + 7052^1 = -63470 + 70521. & \\
7061 := -6356^0 + 7062^1 = -63560 + 70621. & 7371 := -6635^0 + 7372^1 = -66350 + 73721. \\
\\
7071 := -6365^0 + 7072^1 = -63650 + 70721. & 7381 := -6644^0 + 7382^1 = -66440 + 73821. \\
7081 := -6374^0 + 7082^1 = -63740 + 70821. & 7391 := -6653^0 + 7392^1 = -66530 + 73921. \\
7091 := -6383^0 + 7092^1 = -63830 + 70921. & 7401 := -6662^0 + 7402^1 = -66620 + 74021. \\
7101 := -6392^0 + 7102^1 = -63920 + 71021. & 7411 := -6671^0 + 7412^1 = -66710 + 74121. \\
7111 := -6401^0 + 7112^1 = -64010 + 71121. & \\
\\
7121 := -6410^0 + 7122^1 = -64100 + 71221. & 7421 := -6680^0 + 7422^1 = -66800 + 74221. \\
7131 := -6419^0 + 7132^1 = -64190 + 71321. & 7431 := -6689^0 + 7432^1 = -66890 + 74321. \\
7141 := -6428^0 + 7142^1 = -64280 + 71421. & 7441 := -6698^0 + 7442^1 = -66980 + 74421. \\
7151 := -6437^0 + 7152^1 = -64370 + 71521. & 7451 := -6707^0 + 7452^1 = -67070 + 74521. \\
7161 := -6446^0 + 7162^1 = -64460 + 71621. & 7461 := -6716^0 + 7462^1 = -67160 + 74621.
\end{array}$$

$$\begin{aligned}
7471 &:= -6725^0 + 7472^1 = -67250 + 74721. & 7721 &:= -6950^0 + 7722^1 = -69500 + 77221. \\
7481 &:= -6734^0 + 7482^1 = -67340 + 74821. & 7731 &:= -6959^0 + 7732^1 = -69590 + 77321. \\
7491 &:= -6743^0 + 7492^1 = -67430 + 74921. & 7741 &:= -6968^0 + 7742^1 = -69680 + 77421. \\
7501 &:= -6752^0 + 7502^1 = -67520 + 75021. & 7751 &:= -6977^0 + 7752^1 = -69770 + 77521. \\
7511 &:= -6761^0 + 7512^1 = -67610 + 75121. & 7761 &:= -6986^0 + 7762^1 = -69860 + 77621. \\
& & 7771 &:= -6995^0 + 7772^1 = -69950 + 77721. \\
7521 &:= -6770^0 + 7522^1 = -67700 + 75221. & & \\
7531 &:= -6779^0 + 7532^1 = -67790 + 75321. & 7781 &:= -7004^0 + 7782^1 = -70040 + 77821. \\
7541 &:= -6788^0 + 7542^1 = -67880 + 75421. & 7791 &:= -7013^0 + 7792^1 = -70130 + 77921. \\
7551 &:= -6797^0 + 7552^1 = -67970 + 75521. & 7801 &:= -7022^0 + 7802^1 = -70220 + 78021. \\
7561 &:= -6806^0 + 7562^1 = -68060 + 75621. & 7811 &:= -7031^0 + 7812^1 = -70310 + 78121. \\
& & 7821 &:= -7040^0 + 7822^1 = -70400 + 78221. \\
7571 &:= -6815^0 + 7572^1 = -68150 + 75721. & 7831 &:= -7049^0 + 7832^1 = -70490 + 78321. \\
7581 &:= -6824^0 + 7582^1 = -68240 + 75821. & 7841 &:= -7058^0 + 7842^1 = -70580 + 78421. \\
7591 &:= -6833^0 + 7592^1 = -68330 + 75921. & 7851 &:= -7067^0 + 7852^1 = -70670 + 78521. \\
7601 &:= -6842^0 + 7602^1 = -68420 + 76021. & 7861 &:= -7076^0 + 7862^1 = -70760 + 78621. \\
7611 &:= -6851^0 + 7612^1 = -68510 + 76121. & 7871 &:= -7085^0 + 7872^1 = -70850 + 78721. \\
& & & \\
7621 &:= -6860^0 + 7622^1 = -68600 + 76221. & & \\
7631 &:= -6869^0 + 7632^1 = -68690 + 76321. & 7881 &:= -7094^0 + 7882^1 = -70940 + 78821. \\
7641 &:= -6878^0 + 7642^1 = -68780 + 76421. & 7891 &:= -7103^0 + 7892^1 = -71030 + 78921. \\
7651 &:= -6887^0 + 7652^1 = -68870 + 76521. & 7901 &:= -7112^0 + 7902^1 = -71120 + 79021. \\
7661 &:= -6896^0 + 7662^1 = -68960 + 76621. & 7911 &:= -7121^0 + 7912^1 = -71210 + 79121. \\
& & 7921 &:= -7130^0 + 7922^1 = -71300 + 79221. \\
7671 &:= -6905^0 + 7672^1 = -69050 + 76721. & 7931 &:= -7139^0 + 7932^1 = -71390 + 79321. \\
7681 &:= -6914^0 + 7682^1 = -69140 + 76821. & 7941 &:= -7148^0 + 7942^1 = -71480 + 79421. \\
7691 &:= -6923^0 + 7692^1 = -69230 + 76921. & 7951 &:= -7157^0 + 7952^1 = -71570 + 79521. \\
7701 &:= -6932^0 + 7702^1 = -69320 + 77021. & 7961 &:= -7166^0 + 7962^1 = -71660 + 79621. \\
7711 &:= -6941^0 + 7712^1 = -69410 + 77121. & 7971 &:= -7175^0 + 7972^1 = -71750 + 79721.
\end{aligned}$$

## 5 Three Terms Equalities

This section brings expressions similar to one given in Section 3 with threes terms. Here the results are divided in subsections with positive and positive-negative signs expressions.

## 5.1 Positive Expressions

### 5.1.1 Powers and Bases Bigger Than One

As we have seen in Section 3, there are only 10 expressions with positive sign of three terms, where the powers are bigger than 1. Below are again the same expressions:

$$\begin{array}{ll}
 81 := 2^3 + 2^6 + 3^2 = 23 + 26 + 32. & 246 := 2^2 + 11^2 + 11^2 = 22 + 112 + 112. \\
 99 := 2^3 + 3^3 + 4^3 = 23 + 33 + 43. & \quad := 5^2 + 5^2 + 14^2 = 52 + 52 + 142. \\
 121 := 2^3 + 2^6 + 7^2 = 23 + 26 + 72. & 286 := 6^2 + 9^2 + 13^2 = 62 + 92 + 132. \\
 170 := 2^6 + 5^2 + 9^2 = 26 + 52 + 92. & 306 := 8^2 + 11^2 + 11^2 = 82 + 112 + 112. \\
 266 := 4^2 + 9^2 + 13^2 = 42 + 92 + 132. & \quad := 9^2 + 9^2 + 12^2 = 92 + 92 + 122.
 \end{array}$$

### 5.1.2 Only Powers Bigger Than One

$$\begin{array}{ll}
 65 := 1^5 + 2^5 + 2^5 = 15 + 25 + 25. & 154 := 1^7 + 2^5 + 11^2 = 17 + 25 + 112. \\
 74 := 1^6 + 2^6 + 3^2 = 16 + 26 + 32. & 161 := 1^5 + 2^4 + 12^2 = 15 + 24 + 122. \\
 81 := 1^3 + 2^6 + 4^2 = 13 + 26 + 42. & 172 := 1^7 + 3^3 + 12^2 = 17 + 33 + 122. \\
 \quad := 1^4 + 2^4 + 4^3 = 14 + 24 + 43. & 179 := 1^5 + 3^2 + 13^2 = 15 + 32 + 132. \\
 90 := 1^2 + 2^6 + 5^2 = 12 + 26 + 52. & 186 := 1^2 + 4^2 + 13^2 = 12 + 42 + 132. \\
 92 := 1^6 + 3^3 + 4^3 = 16 + 33 + 43. & 206 := 1^2 + 6^2 + 13^2 = 12 + 62 + 132. \\
 101 := 1^3 + 2^6 + 6^2 = 13 + 26 + 62. & 219 := 1^5 + 7^2 + 13^2 = 15 + 72 + 132. \\
 114 := 1^6 + 2^6 + 7^2 = 16 + 26 + 72. & 226 := 1^2 + 9^2 + 12^2 = 12 + 92 + 122. \\
 146 := 1^2 + 1^2 + 12^2 = 12 + 12 + 122. & 243 := 1^9 + 11^2 + 11^2 = 19 + 112 + 112.
 \end{array}$$

## 5.2 Positive and Negative Expressions

This subsection deals with three terms expressions with positive and negative signs. This has been divided again in subsections with different categories.

### 5.2.1 Powers and Bases Bigger Than One

This subsection brings examples of three terms equality expressions with positive and negative signs, where the powers and bases both are bigger than one.

$$\begin{array}{ll}
 1 := -2^9 - 6^3 + 9^3 = -29 - 63 + 93. & 13 := 13^3 + 85^2 - 97^2 = 133 + 852 - 972. \\
 \quad := -2^9 - 84^2 + 87^2 = -29 - 842 + 872. & \quad := 4^3 + 7^2 - 10^2 = 43 + 72 - 102. \\
 & \quad := 5^3 + 12^2 - 16^2 = 53 + 122 - 162. \\
 4 := 2^2 + 2^4 - 4^2 = 22 + 24 - 42. & \\
 5 := -3^5 - 29^2 + 33^2 = -35 - 292 + 332. & \\
 6 := 3^6 + 119^2 - 122^2 = 36 + 1192 - 1222. & 15 := 2^3 + 2^4 - 3^2 = 23 + 24 - 32. \\
 7 := -5^3 - 8^2 + 14^2 = -53 - 82 + 142. & \quad := 2^5 + 8^2 - 9^2 = 25 + 82 - 92. \\
 8 := 2^8 + 61^2 - 63^2 = 28 + 612 - 632. & \quad := 3^5 + 56^2 - 58^2 = 35 + 562 - 582.
 \end{array}$$

$$16 := -2^2 - 2^4 + 6^2 = -22 - 24 + 62.$$

$$:= -6^4 - 78^2 + 86^2 = -64 - 782 + 862.$$

$$17 := 2^7 + 55^2 - 56^2 = 27 + 552 - 562.$$

$$19 := 2^9 + 246^2 - 247^2 = 29 + 2462 - 2472.$$

$$24 := 2^3 - 2^4 + 2^5 = 23 - 24 + 25.$$

$$:= 3^4 + 28^2 - 29^2 = 34 + 282 - 292.$$

$$:= 4^4 + 57^2 - 59^2 = 44 + 572 - 592.$$

$$25 := -2^3 - 2^4 + 7^2 = -23 - 24 + 72.$$

$$27 := -10^3 - 33^2 + 46^2 = -103 - 332 + 462.$$

$$:= -12^3 - 51^2 + 66^2 = -123 - 512 + 662.$$

$$:= -14^3 - 73^2 + 90^2 = -143 - 732 + 902.$$

$$:= -16^3 - 99^2 + 118^2 = -163 - 992 + 1182.$$

$$:= -18^3 - 129^2 + 150^2 = -183 - 1292 + 1502.$$

$$:= -20^3 - 163^2 + 186^2 = -203 - 1632 + 1862.$$

$$:= -22^3 - 201^2 + 226^2 = -223 - 2012 + 2262.$$

$$:= -24^3 - 243^2 + 270^2 = -243 - 2432 + 2702.$$

$$:= -3^2 - 4^3 + 10^2 = -32 - 43 + 102.$$

$$:= -6^3 - 9^2 + 18^2 = -63 - 92 + 182.$$

$$:= -8^3 - 19^2 + 30^2 = -83 - 192 + 302.$$

$$33 := 2^3 - 12^2 + 13^2 = 23 - 122 + 132.$$

$$:= 3^4 + 4^2 - 4^3 = 34 + 42 - 43.$$

$$:= 4^3 + 15^2 - 16^2 = 43 + 152 - 162.$$

$$:= 5^3 + 22^2 - 24^2 = 53 + 222 - 242.$$

$$:= 6^3 + 29^2 - 32^2 = 63 + 292 - 322.$$

$$:= 9^3 + 55^2 - 61^2 = 93 + 552 - 612.$$

$$34 := -3^6 - 51^2 + 58^2 = -36 - 512 + 582.$$

$$41 := -2^9 - 36^2 + 43^2 = -29 - 362 + 432.$$

$$42 := 3^2 - 16^2 + 17^2 = 32 - 162 + 172.$$

$$44 := 2^4 - 6^2 + 8^2 = 24 - 62 + 82.$$

$$45 := -2^2 - 2^5 + 9^2 = -22 - 25 + 92.$$

$$:= -3^5 - 14^2 + 22^2 = -35 - 142 + 222.$$

$$47 := -21^3 - 166^2 + 192^2 = -213 - 1662 + 1922.$$

$$:= -8^3 - 15^2 + 28^2 = -83 - 152 + 282.$$

$$53 := 13^3 + 130^2 - 138^2 = 133 + 1302 - 1382.$$

$$:= 14^3 + 145^2 - 154^2 = 143 + 1452 - 1542.$$

$$:= 2^3 - 6^2 + 9^2 = 23 - 62 + 92.$$

$$:= 3^4 - 4^3 + 6^2 = 34 - 43 + 62.$$

$$:= 6^3 + 81^2 - 82^2 = 63 + 812 - 822.$$

$$:= 8^3 + 75^2 - 78^2 = 83 + 752 - 782.$$

$$54 := -3^6 - 39^2 + 48^2 = -36 - 392 + 482.$$

$$56 := -7^4 - 88^2 + 101^2 = -74 - 882 + 1012.$$

$$62 := -3^3 + 4^3 + 5^2 = -33 + 43 + 52.$$

$$:= 5^2 - 18^2 + 19^2 = 52 - 182 + 192.$$

$$64 := 2^4 - 4^2 + 8^2 = 24 - 42 + 82.$$

$$:= 2^6 - 4^6 + 8^4 = 26 - 46 + 84.$$

$$65 := -4^5 - 44^2 + 55^2 = -45 - 442 + 552.$$

$$67 := -16^3 - 79^2 + 102^2 = -163 - 792 + 1022.$$

$$:= -2^2 - 5^3 + 14^2 = -22 - 53 + 142.$$

$$73 := 10^3 + 153^2 - 156^2 = 103 + 1532 - 1562.$$

$$:= 12^3 + 163^2 - 168^2 = 123 + 1632 - 1682.$$

$$:= 13^3 + 174^2 - 180^2 = 133 + 1742 - 1802.$$

$$:= 16^3 + 219^2 - 228^2 = 163 + 2192 - 2282.$$

$$:= 17^3 + 237^2 - 247^2 = 173 + 2372 - 2472.$$

$$:= 2^3 - 4^2 + 9^2 = 23 - 42 + 92.$$

$$:= 8^3 + 219^2 - 220^2 = 83 + 2192 - 2202.$$

$$:= 9^3 + 163^2 - 165^2 = 93 + 1632 - 1652.$$

$$74 := -3^6 - 31^2 + 42^2 = -36 - 312 + 422.$$

$$76 := -6^4 - 42^2 + 56^2 = -64 - 422 + 562.$$

$$82 := 5^2 - 8^2 + 11^2 = 52 - 82 + 112.$$

$$:= 7^2 - 16^2 + 17^2 = 72 - 162 + 172.$$

$$83 := -2^5 - 3^4 + 14^2 = -25 - 34 + 142.$$

$$93 := 12^3 + 271^2 - 274^2 = 123 + 2712 - 2742.$$

$$:= 13^3 + 261^2 - 265^2 = 133 + 2612 - 2652.$$



$$94 := -3^4 - 3^4 + 16^2 = -34 - 34 + 162.$$

$$102 := 2^3 - 3^3 + 11^2 = 23 - 33 + 112.$$

$$:= 9^2 - 10^2 + 11^2 = 92 - 102 + 112.$$

$$104 := 2^6 - 3^4 + 11^2 = 26 - 34 + 112.$$

$$107 := -13^3 - 36^2 + 60^2 = -133 - 362 + 602.$$

$$111 := -2^4 + 3^3 + 10^2 = -24 + 33 + 102.$$

$$120 := 2^3 - 2^5 + 12^2 = 23 - 25 + 122.$$

$$122 := 13^2 + 23^2 - 24^2 = 132 + 232 - 242.$$

$$125 := -2^4 - 7^3 + 22^2 = -24 - 73 + 222.$$

$$127 := -10^3 - 13^2 + 36^2 = -103 - 132 + 362.$$

$$:= -17^3 - 69^2 + 99^2 = -173 - 692 + 992.$$

$$133 := 14^3 + 29^3 - 30^3 = 143 + 293 - 303.$$

$$134 := -3^5 - 4^3 + 21^2 = -35 - 43 + 212.$$

$$142 := 15^2 + 41^2 - 42^2 = 152 + 412 - 422.$$

$$:= 17^2 + 23^2 - 26^2 = 172 + 232 - 262.$$

$$:= -2^2 + 5^2 + 11^2 = -22 + 52 + 112.$$

$$146 := 2^7 - 7^3 + 19^2 = 27 - 73 + 192.$$

$$147 := -21^4 - 22^2 + 58^3 = -214 - 222 + 583.$$

$$149 := -2^7 + 3^4 + 14^2 = -27 + 34 + 142.$$

$$156 := -2^3 - 8^3 + 26^2 = -23 - 83 + 262.$$

$$:= -6^4 - 22^2 + 44^2 = -64 - 222 + 442.$$

$$160 := 2^5 - 2^7 + 16^2 = 25 - 27 + 162.$$

$$:= -3^4 + 4^2 + 15^2 = -34 + 42 + 152.$$

$$162 := 17^2 + 63^2 - 64^2 = 172 + 632 - 642.$$

$$:= 6^3 - 7^3 + 17^2 = 63 - 73 + 172.$$

$$167 := -25^3 - 167^2 + 209^2 = -253 - 1672 + 2092.$$

$$169 := -4^9 + 8^6 + 13^2 = -49 + 86 + 132.$$

$$180 := -3^4 + 6^2 + 15^2 = -34 + 62 + 152.$$

$$181 := -2^9 - 6^2 + 27^2 = -29 - 62 + 272.$$

$$182 := 19^2 + 89^2 - 90^2 = 192 + 892 - 902.$$

$$:= 5^3 - 7^3 + 20^2 = 53 - 73 + 202.$$

$$187 := -29^3 - 232^2 + 280^2 = -293 - 2322 + 2802.$$

$$188 := 2^9 - 10^3 + 26^2 = 29 - 103 + 262.$$

$$189 := -2^5 + 10^2 + 11^2 = -25 + 102 + 112.$$

$$193 := 6^4 - 12^3 + 25^2 = 64 - 123 + 252.$$

$$196 := -2^9 + 8^3 + 14^2 = -29 + 83 + 142.$$

$$:= -9^4 - 102^2 + 131^2 = -94 - 1022 + 1312.$$

$$201 := -2^9 - 4^2 + 27^2 = -29 - 42 + 272.$$

$$202 := 21^2 + 119^2 - 120^2 = 212 + 1192 - 1202.$$

$$:= 23^2 + 53^2 - 56^2 = 232 + 532 - 562.$$

$$:= 29^2 + 31^2 - 40^2 = 292 + 312 - 402.$$

$$211 := 5^2 - 7^3 + 23^2 = 52 - 73 + 232.$$

$$:= -5^4 + 8^3 + 18^2 = -54 + 83 + 182.$$

$$216 := -6^4 - 13^2 + 41^2 = -64 - 132 + 412.$$

$$222 := 23^2 + 153^2 - 154^2 = 232 + 1532 - 1542.$$

$$235 := 2^6 - 9^3 + 30^2 = 26 - 93 + 302.$$

$$242 := 25^2 + 191^2 - 192^2 = 252 + 1912 - 1922.$$

$$256 := -8^4 - 47^2 + 81^2 = -84 - 472 + 812.$$

$$262 := 27^2 + 233^2 - 234^2 = 272 + 2332 - 2342.$$

$$:= 29^2 + 95^2 - 98^2 = 292 + 952 - 982.$$

$$:= 35^2 + 49^2 - 58^2 = 352 + 492 - 582.$$

$$263 := -4^7 - 253^2 + 284^2 = -47 - 2532 + 2842.$$

$$282 := 29^2 + 279^2 - 280^2 = 292 + 2792 - 2802.$$

$$289 := -4^6 + 16^3 + 17^2 = -46 + 163 + 172.$$

$$300 := 5^2 - 5^4 + 30^2 = 52 - 54 + 302.$$

$$302 := 43^2 + 53^2 - 66^2 = 432 + 532 - 662.$$

$$307 := -21^3 - 66^2 + 118^2 = -213 - 662 + 1182.$$

$$322 := 35^2 + 149^2 - 152^2 = 352 + 1492 - 1522.$$

$$:= 41^2 + 71^2 - 80^2 = 412 + 712 - 802.$$

$$:= 45^2 + 59^2 - 72^2 = 452 + 592 - 722.$$

$$342 := 45^2 + 71^2 - 82^2 = 452 + 712 - 822.$$

$$349 := 2^2 - 4^5 + 37^2 = 22 - 45 + 372.$$

$$360 := -5^4 + 12^2 + 29^2 = -54 + 122 + 292.$$

$$367 := -21^3 - 54^2 + 112^2 = -213 - 542 + 1122.$$

$$:= -5^2 - 14^3 + 56^2 = -52 - 143 + 562.$$

$$382 := 41^2 + 215^2 - 218^2 = 412 + 2152 - 2182.$$

$$:= 47^2 + 97^2 - 106^2 = 472 + 972 - 1062.$$

$$389 := -6^7 + 22^2 + 23^4 = -67 + 222 + 234.$$

$$400 := -5^4 + 20^2 + 25^2 = -54 + 202 + 252.$$

$$407 := -11^2 - 16^3 + 68^2 = -112 - 163 + 682.$$

$$409 := -4^5 + 8^2 + 37^2 = -45 + 82 + 372.$$

$$422 := 53^2 + 103^2 - 114^2 = 532 + 1032 - 1142.$$

$$434 := -3^4 - 7^4 + 54^2 = -34 - 74 + 542.$$

$$442 := 53^2 + 127^2 - 136^2 = 532 + 1272 - 1362.$$

$$487 := -20^3 - 27^2 + 96^2 = -203 - 272 + 962.$$

$$502 := 59^2 + 161^2 - 170^2 = 592 + 1612 - 1702.$$

$$:= 77^2 + 87^2 - 114^2 = 772 + 872 - 1142.$$

$$527 := -22^3 - 37^2 + 112^2 = -223 - 372 + 1122.$$

$$:= -33^3 - 169^2 + 255^2 = -333 - 1692 + 2552.$$

$$529 := -6^6 + 23^2 + 36^3 = -66 + 232 + 363.$$

$$536 := -3^3 - 17^3 + 74^2 = -33 - 173 + 742.$$

$$556 := -14^3 - 16^3 + 86^2 = -143 - 163 + 862.$$

$$560 := -3^8 + 4^6 + 55^2 = -38 + 46 + 552.$$

$$562 := 65^2 + 199^2 - 208^2 = 652 + 1992 - 2082.$$

$$:= 67^2 + 173^2 - 184^2 = 672 + 1732 - 1842.$$

$$:= 69^2 + 155^2 - 168^2 = 692 + 1552 - 1682.$$

$$:= 89^2 + 95^2 - 128^2 = 892 + 952 - 1282.$$

$$567 := -21^3 - 24^2 + 102^2 = -213 - 242 + 1022.$$

$$582 := 71^2 + 165^2 - 178^2 = 712 + 1652 - 1782.$$

$$600 := 5^3 - 5^5 + 60^2 = 53 - 55 + 602.$$

$$607 := -26^3 - 61^2 + 148^2 = -263 - 612 + 1482.$$

$$616 := -11^4 - 68^2 + 141^2 = -114 - 682 + 1412.$$

$$622 := 71^2 + 241^2 - 250^2 = 712 + 2412 - 2502.$$

$$642 := 75^2 + 221^2 - 232^2 = 752 + 2212 - 2322.$$

$$647 := -28^3 - 75^2 + 168^2 = -283 - 752 + 1682.$$

$$682 := 95^2 + 141^2 - 168^2 = 952 + 1412 - 1682.$$

$$693 := 71^3 + 243^3 - 245^3 = 713 + 2433 - 2453.$$

$$707 := -32^3 - 111^2 + 214^2 = -323 - 1112 + 2142.$$

$$720 := -7^4 + 39^2 + 40^2 = -74 + 392 + 402.$$

$$722 := 95^2 + 169^2 - 192^2 = 952 + 1692 - 1922.$$

$$727 := -32^3 - 107^2 + 212^2 = -323 - 1072 + 2122.$$

$$762 := 41^3 - 42^3 + 77^2 = 413 - 423 + 772.$$

$$762 := 99^2 + 185^2 - 208^2 = 992 + 1852 - 2082.$$

$$767 := -34^3 - 125^2 + 236^2 = -343 - 1252 + 2362.$$

$$776 := -14^4 - 167^2 + 259^2 = -144 - 1672 + 2592.$$

$$827 := -34^3 - 113^2 + 230^2 = -343 - 1132 + 2302.$$

$$862 := 113^2 + 207^2 - 234^2 = 1132 + 2072 - 2342.$$

$$:= 119^2 + 185^2 - 218^2 = 1192 + 1852 - 2182.$$

$$865 := -7^5 - 47^2 + 141^2 = -75 - 472 + 1412.$$

$$882 := 135^2 + 161^2 - 208^2 = 1352 + 1612 - 2082.$$

$$896 := -14^4 - 137^2 + 241^2 = -144 - 1372 + 2412.$$

$$900 := 3^3 - 6^5 + 93^2 = 33 - 65 + 932.$$

$$902 := 149^2 + 151^2 - 210^2 = 1492 + 1512 - 2102.$$

$$909 := -4^8 + 9^5 + 86^2 = -48 + 95 + 862.$$

$$916 := -3^8 + 9^2 + 86^2 = -38 + 92 + 862.$$

$$920 := -9^4 + 16^2 + 85^2 = -94 + 162 + 852.$$

$$967 := -7^2 - 25^3 + 129^2 = -72 - 253 + 1292.$$

$$1000 := 10^3 - 10^6 + 100^3 = 103 - 106 + 1003.$$

$$1007 := -3^2 - 25^3 + 129^2 = -32 - 253 + 1292.$$

$$1047 := -33^3 - 65^2 + 203^2 = -333 - 652 + 2032.$$

$$1049 := -6^5 + 19^2 + 92^2 = -65 + 192 + 922.$$

$$1102 := 157^2 + 227^2 - 274^2 = 1572 + 2272 - 2742.$$

$$:= 7^3 - 25^3 + 128^2 = 73 - 253 + 1282.$$

$$1131 := 23^2 - 23^3 + 113^2 = 232 - 233 + 1132.$$

$$1176 := -13^4 - 48^2 + 179^2 = -134 - 482 + 1792.$$

$$1202 := 5^5 - 7^5 + 122^2 = 55 - 75 + 1222.$$

$$\begin{array}{ll}
1214 := -3^5 - 28^3 + 153^2 = -35 - 283 + 1532. & 1696 := -14^4 - 17^2 + 201^2 = -144 - 172 + 2012. \\
1229 := -6^5 + 46^2 + 83^2 = -65 + 462 + 832. & 1940 := -12^4 + 76^2 + 130^2 = -124 + 762 + 1302. \\
1253 := 138^3 + 253^3 - 266^3 = 1383 + 2533 - 2663. & 2102 := 32^3 - 43^3 + 221^2 = 323 - 433 + 2212. \\
1369 := -25^9 + 37^2 + 125^6 = -259 + 372 + 1256. & 2334 := -11^4 - 15^4 + 260^2 = -114 - 154 + 2602. \\
1414 := -21^5 - 48^4 + 211^3 = -215 - 484 + 2113. & 2511 := 26^2 - 41^3 + 266^2 = 262 - 413 + 2662. \\
1502 := 59^3 - 61^3 + 152^2 = 593 - 613 + 1522. & 2521 := -4^3 - 4^8 + 261^2 = -43 - 48 + 2612. \\
1525 := -8^5 - 26^2 + 187^2 = -85 - 262 + 1872. & 2542 := 27^3 - 45^3 + 272^2 = 273 - 453 + 2722. \\
1567 := -41^3 - 79^2 + 277^2 = -413 - 792 + 2772. & 2991 := -41^3 + 86^2 + 254^2 = -413 + 862 + 2542. \\
1582 := 5^3 - 32^3 + 185^2 = 53 - 323 + 1852. & 3049 := -9^5 + 77^2 + 237^2 = -95 + 772 + 2372. \\
1591 := -25^3 + 80^2 + 104^2 = -253 + 802 + 1042. & 3300 := -16^4 + 106^2 + 240^2 = -164 + 1062 + 2402. \\
1662 := 93^3 - 94^3 + 167^2 = 933 - 943 + 1672. & 3540 := -17^4 + 90^2 + 281^2 = -174 + 902 + 2812.
\end{array}$$

### 5.2.2 Only Powers Bigger than One

This subsection brings examples of three term expressions with positive and negative signs, where only powers are bigger than one. In each example, at least there is one term with base one.

$$\begin{array}{ll}
1 := 1^7 + 2^8 - 4^4 = 17 + 28 - 44. & 23 := -1^3 - 1^6 + 5^2 = -13 - 16 + 52. \\
:= 1^8 + 2^6 - 4^3 = 18 + 26 - 43. & := -1^4 - 1^5 + 5^2 = -14 - 15 + 52. \\
:= 1^9 + 2^4 - 4^2 = 19 + 24 - 42. & \\
6 := 1^4 + 2^5 - 3^3 = 14 + 25 - 33. & 24 := 1^3 - 2^2 + 3^3 = 13 - 22 + 33. \\
:= 1^4 - 11^2 + 12^2 = 14 - 112 + 122. \\
:= 6^4 + 157^2 - 161^2 = 64 + 1572 - 1612. \\
7 := -1^2 - 1^3 + 3^2 = -12 - 13 + 32. & 26 := 1^6 - 12^2 + 13^2 = 16 - 122 + 132. \\
:= -1^2 - 2^3 + 4^2 = -12 - 23 + 42. & \\
8 := 1^6 + 2^4 - 3^2 = 16 + 24 - 32. & 27 := 1^2 - 1^8 + 3^3 = 12 - 18 + 33. \\
:= -1^2 - 1^6 + 4^2 = -12 - 16 + 42. & := -1^2 - 2^3 + 6^2 = -12 - 23 + 62. \\
:= -1^3 - 1^5 + 4^2 = -13 - 15 + 42. & := 1^3 - 1^9 + 3^3 = 13 - 19 + 33. \\
:= -1^4 - 1^4 + 4^2 = -14 - 14 + 42. & \\
16 := -1^3 - 2^3 + 5^2 = -13 - 23 + 52. & 28 := 1^8 - 13^2 + 14^2 = 18 - 132 + 142. \\
17 := 1^6 - 2^4 + 2^5 = 16 - 24 + 25. & 31 := -1^7 + 2^4 + 2^4 = -17 + 24 + 24. \\
19 := 1^8 - 3^2 + 3^3 = 18 - 32 + 33. & 32 := -1^2 + 1^9 + 2^5 = -12 + 19 + 25. \\
:= -1^9 - 2^4 + 6^2 = -19 - 24 + 62. & := -1^6 - 2^4 + 7^2 = -16 - 24 + 72. \\
:= -2^8 - 21^2 + 27^2 = -28 - 212 + 272. \\
21 := -1^8 - 3^3 + 7^2 = -18 - 33 + 72. & 33 := 1^3 - 7^2 + 9^2 = 13 - 72 + 92. \\
22 := 1^2 - 10^2 + 11^2 = 12 - 102 + 112. & := 1^5 - 2^5 + 4^3 = 15 - 25 + 43. \\
23 := -1^2 - 1^7 + 5^2 = -12 - 17 + 52. &
\end{array}$$

$$\begin{aligned}
34 &:= -1^2 - 1^6 + 6^2 = -12 - 16 + 62. \\
&:= -1^3 - 1^5 + 6^2 = -13 - 15 + 62. \\
&:= -1^4 - 1^4 + 6^2 = -14 - 14 + 62. \\
&:= -1^5 - 6^4 + 11^3 = -15 - 64 + 113.
\end{aligned}$$

$$\begin{aligned}
35 &:= -1^2 + 2^2 + 2^5 = -12 + 22 + 25. \\
36 &:= -1^3 - 3^3 + 8^2 = -13 - 33 + 82. \\
37 &:= 1^7 - 8^2 + 10^2 = 17 - 82 + 102. \\
40 &:= -1^7 + 2^5 + 3^2 = -17 + 25 + 32. \\
42 &:= -1^5 + 2^4 + 3^3 = -15 + 24 + 33.
\end{aligned}$$

$$\begin{aligned}
46 &:= 1^6 - 6^2 + 9^2 = 16 - 62 + 92. \\
47 &:= -1^2 - 1^3 + 7^2 = -12 - 13 + 72. \\
48 &:= -1^9 - 2^5 + 9^2 = -19 - 25 + 92. \\
53 &:= -1^3 + 3^3 + 3^3 = -13 + 33 + 33. \\
56 &:= -1^3 - 4^3 + 11^2 = -13 - 43 + 112.
\end{aligned}$$

$$\begin{aligned}
57 &:= 1^7 - 5^2 + 9^2 = 17 - 52 + 92. \\
66 &:= 1^6 - 4^2 + 9^2 = 16 - 42 + 92. \\
70 &:= -1^9 - 5^3 + 14^2 = -19 - 53 + 142. \\
73 &:= 1^3 - 3^2 + 9^2 = 13 - 32 + 92. \\
79 &:= -1^7 - 2^6 + 12^2 = -17 - 26 + 122.
\end{aligned}$$

$$\begin{aligned}
80 &:= -1^7 + 2^5 + 7^2 = -17 + 25 + 72. \\
93 &:= 1^4 - 2^3 + 10^2 = 14 - 23 + 102. \\
95 &:= -1^2 + 2^5 + 8^2 = -12 + 25 + 82. \\
95 &:= 1^6 - 3^3 + 11^2 = 16 - 33 + 112. \\
97 &:= 1^7 - 2^2 + 10^2 = 17 - 22 + 102.
\end{aligned}$$

$$\begin{aligned}
100 &:= 1^2 - 1^4 + 10^2 = 12 - 14 + 102. \\
&:= 1^3 - 1^5 + 10^2 = 13 - 15 + 102. \\
&:= 1^4 - 1^6 + 10^2 = 14 - 16 + 102. \\
&:= 1^5 - 1^7 + 10^2 = 15 - 17 + 102. \\
&:= 1^6 - 1^8 + 10^2 = 16 - 18 + 102. \\
&:= 1^7 - 1^9 + 10^2 = 17 - 19 + 102.
\end{aligned}$$

$$\begin{aligned}
106 &:= 1^7 - 4^3 + 13^2 = 17 - 43 + 132. \\
&:= 1^8 - 2^4 + 11^2 = 18 - 24 + 112.
\end{aligned}$$

$$\begin{aligned}
107 &:= -1^2 - 6^3 + 18^2 = -12 - 63 + 182. \\
&:= -1^8 + 2^3 + 10^2 = -18 + 23 + 102. \\
&:= -1^8 + 3^3 + 9^2 = -18 + 33 + 92.
\end{aligned}$$

$$\begin{aligned}
113 &:= 1^6 - 2^5 + 12^2 = 16 - 25 + 122. \\
129 &:= -1^5 + 3^2 + 11^2 = -15 + 32 + 112. \\
133 &:= 1^7 - 2^6 + 14^2 = 17 - 26 + 142. \\
136 &:= -1^8 + 4^2 + 11^2 = -18 + 42 + 112. \\
143 &:= -1^5 - 4^4 + 20^2 = -15 - 44 + 202.
\end{aligned}$$

$$\begin{aligned}
145 &:= -1^9 + 5^2 + 11^2 = -19 + 52 + 112. \\
146 &:= 1^7 - 6^3 + 19^2 = 17 - 63 + 192. \\
156 &:= -1^8 + 6^2 + 11^2 = -18 + 62 + 112. \\
162 &:= 1^7 - 2^7 + 17^2 = 17 - 27 + 172. \\
163 &:= -1^6 - 8^3 + 26^2 = -16 - 83 + 262.
\end{aligned}$$

$$\begin{aligned}
169 &:= -1^5 + 7^2 + 11^2 = -15 + 72 + 112. \\
174 &:= -3^6 - 11^2 + 32^2 = -36 - 112 + 322. \\
180 &:= -1^4 + 9^2 + 10^2 = -14 + 92 + 102. \\
186 &:= 1^8 - 4^4 + 21^2 = 18 - 44 + 212.
\end{aligned}$$

$$\begin{aligned}
233 &:= 1^4 - 9^3 + 31^2 = 14 - 93 + 312. \\
346 &:= 1^9 - 4^5 + 37^2 = 19 - 45 + 372. \\
836 &:= 1^2 - 3^8 + 86^2 = 12 - 38 + 862.
\end{aligned}$$

**Remark 5.1.** *There are many examples with power 0 and/or 1. Since the number is too high, the results are excluded.*

## 6 Four Terms Equalities

This section deals with four terms expressions. Since the quantity is too high, the results are limited only to positive signs expressions. This is divided in two subsections, one with at least one term with base 1 and other with both powers and bases are bigger than 1.

## 6.1 Powers and Bases Bigger than One

$$96 := 2^3 + 2^3 + 2^4 + 2^6 = 23 + 23 + 24 + 26.$$

$$107 := 2^4 + 2^5 + 2^5 + 3^3 = 24 + 25 + 25 + 33.$$

$$121 := 2^2 + 3^2 + 3^3 + 3^4 = 22 + 32 + 33 + 34.$$

$$125 := 2^2 + 2^5 + 2^6 + 5^2 = 22 + 25 + 26 + 52.$$

$$132 := 2^3 + 3^3 + 3^4 + 4^2 = 23 + 33 + 34 + 42.$$

$$134 := 2^6 + 3^3 + 3^3 + 4^2 = 26 + 33 + 33 + 42.$$

$$152 := 2^3 + 3^3 + 3^4 + 6^2 = 23 + 33 + 34 + 62.$$

$$154 := 2^6 + 3^3 + 3^3 + 6^2 = 26 + 33 + 33 + 62.$$

$$159 := 3^2 + 3^2 + 4^2 + 5^3 = 32 + 32 + 42 + 53.$$

$$161 := 2^2 + 3^3 + 3^4 + 7^2 = 22 + 33 + 34 + 72.$$

$$:= 2^3 + 4^3 + 4^3 + 5^2 = 23 + 43 + 43 + 52.$$

$$163 := 2^5 + 3^4 + 5^2 + 5^2 = 25 + 34 + 52 + 52.$$

$$170 := 2^2 + 2^2 + 3^4 + 9^2 = 22 + 22 + 34 + 92.$$

$$172 := 2^2 + 2^2 + 2^6 + 10^2 = 22 + 22 + 26 + 102.$$

$$179 := 2^2 + 5^2 + 5^2 + 5^3 = 22 + 52 + 52 + 53.$$

$$:= 3^2 + 3^2 + 5^3 + 6^2 = 32 + 32 + 53 + 62.$$

$$181 := 3^2 + 3^3 + 3^4 + 8^2 = 32 + 33 + 34 + 82.$$

$$185 := 2^4 + 2^4 + 2^5 + 11^2 = 24 + 24 + 25 + 112.$$

$$:= 2^5 + 2^6 + 5^2 + 8^2 = 25 + 26 + 52 + 82.$$

$$194 := 2^5 + 2^5 + 3^2 + 11^2 = 25 + 25 + 32 + 112.$$

$$199 := 3^2 + 4^2 + 5^3 + 7^2 = 32 + 42 + 53 + 72.$$

$$201 := 2^3 + 2^3 + 4^3 + 11^2 = 23 + 23 + 43 + 112.$$

$$203 := 2^4 + 2^4 + 3^3 + 12^2 = 24 + 24 + 33 + 122.$$

$$208 := 2^2 + 2^2 + 2^2 + 14^2 = 22 + 22 + 22 + 142.$$

$$210 := 2^2 + 3^4 + 5^2 + 10^2 = 22 + 34 + 52 + 102.$$

$$212 := 2^5 + 3^2 + 3^3 + 12^2 = 25 + 32 + 33 + 122.$$

$$212 := 2^5 + 4^2 + 4^3 + 10^2 = 25 + 42 + 43 + 102.$$

$$219 := 3^2 + 5^3 + 6^2 + 7^2 = 32 + 53 + 62 + 72.$$

$$221 := 2^2 + 2^5 + 4^2 + 13^2 = 22 + 25 + 42 + 132.$$

$$:= 2^4 + 3^2 + 3^3 + 13^2 = 24 + 32 + 33 + 132.$$

$$:= 3^3 + 3^4 + 7^2 + 8^2 = 33 + 34 + 72 + 82.$$

$$230 := 2^2 + 3^4 + 8^2 + 9^2 = 22 + 34 + 82 + 92.$$

$$:= 2^4 + 3^2 + 3^2 + 14^2 = 24 + 32 + 32 + 142.$$

$$232 := 2^2 + 2^6 + 8^2 + 10^2 = 22 + 26 + 82 + 102.$$

$$:= 2^5 + 4^3 + 6^2 + 10^2 = 25 + 43 + 62 + 102.$$

$$234 := 2^5 + 2^5 + 7^2 + 11^2 = 25 + 25 + 72 + 112.$$

$$239 := 4^2 + 5^3 + 7^2 + 7^2 = 42 + 53 + 72 + 72.$$

$$:= 5^2 + 5^2 + 5^3 + 8^2 = 52 + 52 + 53 + 82.$$

$$241 := 2^2 + 2^5 + 6^2 + 13^2 = 22 + 25 + 62 + 132.$$

$$252 := 2^5 + 3^3 + 7^2 + 12^2 = 25 + 33 + 72 + 122.$$

$$259 := 5^3 + 6^2 + 7^2 + 7^2 = 53 + 62 + 72 + 72.$$

$$261 := 2^2 + 2^5 + 9^2 + 12^2 = 22 + 25 + 92 + 122.$$

$$:= 2^4 + 3^3 + 7^2 + 13^2 = 24 + 33 + 72 + 132.$$

$$261 := 2^4 + 4^3 + 9^2 + 10^2 = 24 + 43 + 92 + 102.$$

$$268 := 2^2 + 2^2 + 8^2 + 14^2 = 22 + 22 + 82 + 142.$$

$$:= 3^2 + 3^2 + 5^2 + 15^2 = 32 + 32 + 52 + 152.$$

$$270 := 2^2 + 2^4 + 9^2 + 13^2 = 22 + 24 + 92 + 132.$$

$$:= 2^4 + 3^2 + 7^2 + 14^2 = 24 + 32 + 72 + 142.$$

$$:= 3^4 + 5^2 + 8^2 + 10^2 = 34 + 52 + 82 + 102.$$

$$281 := 2^5 + 4^2 + 8^2 + 13^2 = 25 + 42 + 82 + 132.$$

$$290 := 2^4 + 3^2 + 11^2 + 12^2 = 24 + 32 + 112 + 122.$$

$$:= 3^4 + 8^2 + 8^2 + 9^2 = 34 + 82 + 82 + 92.$$

$$292 := 2^6 + 8^2 + 8^2 + 10^2 = 26 + 82 + 82 + 102.$$

$$301 := 2^5 + 5^2 + 10^2 + 12^2 = 25 + 52 + 102 + 122.$$

$$:= 2^5 + 6^2 + 8^2 + 13^2 = 25 + 62 + 82 + 132.$$

$$\begin{aligned}
 308 &:= 2^2 + 4^2 + 12^2 + 12^2 = 22 + 42 + 122 + 122. \\
 &:= 3^2 + 3^2 + 11^2 + 13^2 = 32 + 32 + 112 + 132. \\
 &:= 3^2 + 5^2 + 7^2 + 15^2 = 32 + 52 + 72 + 152.
 \end{aligned}$$

$$\begin{aligned}
 310 &:= 2^4 + 5^2 + 10^2 + 13^2 = 24 + 52 + 102 + 132. \\
 &:= 2^4 + 7^2 + 7^2 + 14^2 = 24 + 72 + 72 + 142.
 \end{aligned}$$

$$321 := 2^5 + 8^2 + 9^2 + 12^2 = 25 + 82 + 92 + 122.$$

$$\begin{aligned}
 328 &:= 2^2 + 6^2 + 12^2 + 12^2 = 22 + 62 + 122 + 122. \\
 &:= 2^2 + 8^2 + 8^2 + 14^2 = 22 + 82 + 82 + 142. \\
 &:= 4^2 + 4^2 + 10^2 + 14^2 = 42 + 42 + 102 + 142.
 \end{aligned}$$

$$\begin{aligned}
 330 &:= 2^4 + 7^2 + 11^2 + 12^2 = 24 + 72 + 112 + 122. \\
 &:= 2^4 + 8^2 + 9^2 + 13^2 = 24 + 82 + 92 + 132.
 \end{aligned}$$

$$339 := 2^3 + 9^2 + 9^2 + 13^2 = 23 + 92 + 92 + 132.$$

$$\begin{aligned}
 348 &:= 2^2 + 10^2 + 10^2 + 12^2 = 22 + 102 + 102 + 122. \\
 &:= 3^2 + 7^2 + 11^2 + 13^2 = 32 + 72 + 112 + 132. \\
 &:= 4^2 + 6^2 + 10^2 + 14^2 = 42 + 62 + 102 + 142. \\
 &:= 5^2 + 7^2 + 7^2 + 15^2 = 52 + 72 + 72 + 152.
 \end{aligned}$$

$$\begin{aligned}
 368 &:= 4^2 + 8^2 + 12^2 + 12^2 = 42 + 82 + 122 + 122. \\
 &:= 6^2 + 6^2 + 10^2 + 14^2 = 62 + 62 + 102 + 142.
 \end{aligned}$$

$$\begin{aligned}
 388 &:= 5^2 + 11^2 + 11^2 + 11^2 = 52 + 112 + 112 + 112. \\
 &:= 6^2 + 8^2 + 12^2 + 12^2 = 62 + 82 + 122 + 122. \\
 &:= 7^2 + 7^2 + 11^2 + 13^2 = 72 + 72 + 112 + 132. \\
 &:= 8^2 + 8^2 + 8^2 + 14^2 = 82 + 82 + 82 + 142.
 \end{aligned}$$

$$408 := 8^2 + 10^2 + 10^2 + 12^2 = 82 + 102 + 102 + 122.$$

## 6.2 Only Powers Bigger than One

This subsection bring examples of equality expressions, where at least one term with base 1, but powers are always bigger than one.

$$\begin{aligned}
 67 &:= 1^2 + 1^2 + 1^7 + 2^6 = 12 + 12 + 17 + 26. \\
 &:= 1^2 + 1^3 + 1^6 + 2^6 = 12 + 13 + 16 + 26. \\
 &:= 1^2 + 1^4 + 1^5 + 2^6 = 12 + 14 + 15 + 26. \\
 &:= 1^3 + 1^3 + 1^5 + 2^6 = 13 + 13 + 15 + 26. \\
 &:= 1^3 + 1^4 + 1^4 + 2^6 = 13 + 14 + 14 + 26.
 \end{aligned}$$

$$74 := 1^2 + 1^3 + 2^3 + 2^6 = 12 + 13 + 23 + 26.$$

$$\begin{aligned}
 82 &:= 1^3 + 1^9 + 2^4 + 2^6 = 13 + 19 + 24 + 26. \\
 &:= 1^4 + 1^8 + 2^4 + 2^6 = 14 + 18 + 24 + 26. \\
 &:= 1^5 + 1^7 + 2^4 + 2^6 = 15 + 17 + 24 + 26. \\
 &:= 1^6 + 1^6 + 2^4 + 2^6 = 16 + 16 + 24 + 26.
 \end{aligned}$$

$$\begin{aligned}
 84 &:= 1^2 + 1^9 + 1^9 + 3^4 = 12 + 19 + 19 + 34. \\
 &:= 1^3 + 1^8 + 1^9 + 3^4 = 13 + 18 + 19 + 34. \\
 &:= 1^4 + 1^7 + 1^9 + 3^4 = 14 + 17 + 19 + 34. \\
 &:= 1^4 + 1^8 + 1^8 + 3^4 = 14 + 18 + 18 + 34. \\
 &:= 1^5 + 1^6 + 1^9 + 3^4 = 15 + 16 + 19 + 34. \\
 &:= 1^5 + 1^7 + 1^8 + 3^4 = 15 + 17 + 18 + 34. \\
 &:= 1^6 + 1^6 + 1^8 + 3^4 = 16 + 16 + 18 + 34. \\
 &:= 1^6 + 1^7 + 1^7 + 3^4 = 16 + 17 + 17 + 34.
 \end{aligned}$$

$$85 := 1^3 + 2^2 + 2^4 + 2^6 = 13 + 22 + 24 + 26.$$

$$\begin{aligned}
 87 &:= 1^2 + 1^9 + 2^2 + 3^4 = 12 + 19 + 22 + 34. \\
 &:= 1^3 + 1^8 + 2^2 + 3^4 = 13 + 18 + 22 + 34. \\
 &:= 1^4 + 1^7 + 2^2 + 3^4 = 14 + 17 + 22 + 34. \\
 &:= 1^5 + 1^6 + 2^2 + 3^4 = 15 + 16 + 22 + 34.
 \end{aligned}$$

$$\begin{aligned}
 89 &:= 1^6 + 2^3 + 2^4 + 2^6 = 16 + 23 + 24 + 26. \\
 90 &:= 1^2 + 2^2 + 2^2 + 3^4 = 12 + 22 + 22 + 34.
 \end{aligned}$$

$$\begin{aligned}
 91 &:= 1^5 + 1^9 + 2^3 + 3^4 = 15 + 19 + 23 + 34. \\
 &:= 1^6 + 1^8 + 2^3 + 3^4 = 16 + 18 + 23 + 34. \\
 &:= 1^7 + 1^7 + 2^3 + 3^4 = 17 + 17 + 23 + 34.
 \end{aligned}$$

$$\begin{aligned}
 92 &:= 1^2 + 1^4 + 3^2 + 3^4 = 12 + 14 + 32 + 34. \\
 &:= 1^3 + 1^3 + 3^2 + 3^4 = 13 + 13 + 32 + 34.
 \end{aligned}$$

$$\begin{aligned}
 93 &:= 1^5 + 1^9 + 2^6 + 3^3 = 15 + 19 + 26 + 33. \\
 &:= 1^6 + 1^8 + 2^6 + 3^3 = 16 + 18 + 26 + 33. \\
 &:= 1^7 + 1^7 + 2^6 + 3^3 = 17 + 17 + 26 + 33.
 \end{aligned}$$

$$94 := 1^5 + 2^2 + 2^3 + 3^4 = 15 + 22 + 23 + 34.$$

$$96 := 1^5 + 2^2 + 2^6 + 3^3 = 15 + 22 + 26 + 33.$$

$$98 := 1^2 + 1^8 + 2^5 + 4^3 = 12 + 18 + 25 + 43.$$

$$:= 1^3 + 1^7 + 2^5 + 4^3 = 13 + 17 + 25 + 43.$$

$$:= 1^4 + 1^6 + 2^5 + 4^3 = 14 + 16 + 25 + 43.$$

$$:= 1^5 + 1^5 + 2^5 + 4^3 = 15 + 15 + 25 + 43.$$

$$:= 1^8 + 2^3 + 2^3 + 3^4 = 18 + 23 + 23 + 34.$$

$$100 := 1^8 + 2^3 + 2^6 + 3^3 = 18 + 23 + 26 + 33.$$

$$105 := 1^4 + 2^3 + 2^5 + 4^3 = 14 + 23 + 25 + 43.$$

$$107 := 1^7 + 2^4 + 3^2 + 3^4 = 17 + 24 + 32 + 34.$$

$$114 := 1^4 + 2^4 + 3^4 + 4^2 = 14 + 24 + 34 + 42.$$

$$118 := 1^9 + 3^2 + 3^3 + 3^4 = 19 + 32 + 33 + 34.$$

$$122 := 1^9 + 2^5 + 2^6 + 5^2 = 19 + 25 + 26 + 52.$$

$$123 := 1^3 + 2^4 + 3^4 + 5^2 = 13 + 24 + 34 + 52.$$

$$125 := 1^6 + 3^3 + 3^4 + 4^2 = 16 + 33 + 34 + 42.$$

$$132 := 1^2 + 1^4 + 3^4 + 7^2 = 12 + 14 + 34 + 72.$$

$$:= 1^3 + 1^3 + 3^4 + 7^2 = 13 + 13 + 34 + 72.$$

$$134 := 1^4 + 2^4 + 3^4 + 6^2 = 14 + 24 + 34 + 62.$$

$$:= 1^5 + 3^3 + 3^4 + 5^2 = 15 + 33 + 34 + 52.$$

$$145 := 1^3 + 2^4 + 2^6 + 8^2 = 13 + 24 + 26 + 82.$$

$$:= 1^6 + 3^3 + 3^4 + 6^2 = 16 + 33 + 34 + 62.$$

$$:= 1^7 + 4^2 + 4^3 + 4^3 = 17 + 42 + 43 + 43.$$

$$147 := 1^2 + 1^7 + 2^6 + 9^2 = 12 + 17 + 26 + 92.$$

$$:= 1^2 + 1^9 + 3^4 + 8^2 = 12 + 19 + 34 + 82.$$

$$:= 1^3 + 1^6 + 2^6 + 9^2 = 13 + 16 + 26 + 92.$$

$$:= 1^3 + 1^8 + 3^4 + 8^2 = 13 + 18 + 34 + 82.$$

$$:= 1^4 + 1^5 + 2^6 + 9^2 = 14 + 15 + 26 + 92.$$

$$:= 1^4 + 1^7 + 3^4 + 8^2 = 14 + 17 + 34 + 82.$$

$$:= 1^5 + 1^6 + 3^4 + 8^2 = 15 + 16 + 34 + 82.$$

$$:= 1^7 + 2^4 + 3^4 + 7^2 = 17 + 24 + 34 + 72.$$

$$150 := 1^2 + 2^2 + 3^4 + 8^2 = 12 + 22 + 34 + 82.$$

$$154 := 1^3 + 2^3 + 2^6 + 9^2 = 13 + 23 + 26 + 92.$$

$$:= 1^5 + 2^3 + 3^4 + 8^2 = 15 + 23 + 34 + 82.$$

$$:= 1^6 + 4^3 + 4^3 + 5^2 = 16 + 43 + 43 + 52.$$

$$156 := 1^5 + 2^6 + 3^3 + 8^2 = 15 + 26 + 33 + 82.$$

$$158 := 1^9 + 3^3 + 3^4 + 7^2 = 19 + 33 + 34 + 72.$$

$$164 := 1^9 + 1^9 + 3^4 + 9^2 = 19 + 19 + 34 + 92.$$

$$165 := 1^3 + 2^5 + 2^5 + 10^2 = 13 + 25 + 25 + 102.$$

$$:= 1^7 + 4^3 + 4^3 + 6^2 = 17 + 43 + 43 + 62.$$

$$166 := 1^9 + 1^9 + 2^6 + 10^2 = 19 + 19 + 26 + 102.$$

$$167 := 1^9 + 2^2 + 3^4 + 9^2 = 19 + 22 + 34 + 92.$$

$$169 := 1^9 + 2^2 + 2^6 + 10^2 = 19 + 22 + 26 + 102.$$

$$172 := 1^2 + 1^2 + 1^6 + 13^2 = 12 + 12 + 16 + 132.$$

$$:= 1^2 + 1^3 + 1^5 + 13^2 = 12 + 13 + 15 + 132.$$

$$:= 1^2 + 1^4 + 1^4 + 13^2 = 12 + 14 + 14 + 132.$$

$$:= 1^3 + 1^3 + 1^4 + 13^2 = 13 + 13 + 14 + 132.$$

$$:= 1^4 + 3^2 + 3^4 + 9^2 = 14 + 32 + 34 + 92.$$

$$174 := 1^4 + 2^6 + 3^2 + 10^2 = 14 + 26 + 32 + 102.$$

$$176 := 1^9 + 5^2 + 5^2 + 5^3 = 19 + 52 + 52 + 53.$$

$$178 := 1^2 + 1^9 + 2^5 + 12^2 = 12 + 19 + 25 + 122.$$

$$:= 1^3 + 1^8 + 2^5 + 12^2 = 13 + 18 + 25 + 122.$$

$$:= 1^4 + 1^7 + 2^5 + 12^2 = 14 + 17 + 25 + 122.$$

$$:= 1^5 + 1^6 + 2^5 + 12^2 = 15 + 16 + 25 + 122.$$

$$:= 1^8 + 2^5 + 4^3 + 9^2 = 18 + 25 + 43 + 92.$$

$$179 := 1^2 + 1^2 + 2^3 + 13^2 = 12 + 12 + 23 + 132.$$

$$181 := 1^2 + 2^2 + 2^5 + 12^2 = 12 + 22 + 25 + 122.$$

$$:= 1^2 + 2^4 + 4^3 + 10^2 = 12 + 24 + 43 + 102.$$

$$185 := 1^5 + 2^3 + 2^5 + 12^2 = 15 + 23 + 25 + 122.$$

$$:= 2^4 + 2^4 + 2^5 + 11^2 = 24 + 24 + 25 + 112.$$

$$187 := 1^2 + 1^9 + 2^4 + 13^2 = 12 + 19 + 24 + 132.$$

$$:= 1^3 + 1^8 + 2^4 + 13^2 = 13 + 18 + 24 + 132.$$

$$:= 1^3 + 1^9 + 4^3 + 11^2 = 13 + 19 + 43 + 112.$$

$$:= 1^4 + 1^7 + 2^4 + 13^2 = 14 + 17 + 24 + 132.$$

$$:= 1^4 + 1^8 + 4^3 + 11^2 = 14 + 18 + 43 + 112.$$

$$:= 1^5 + 1^6 + 2^4 + 13^2 = 15 + 16 + 24 + 132.$$

$$:= 1^5 + 1^7 + 4^3 + 11^2 = 15 + 17 + 43 + 112.$$

$$:= 1^6 + 1^6 + 4^3 + 11^2 = 16 + 16 + 43 + 112.$$

$$190 := 1^2 + 2^2 + 2^4 + 13^2 = 12 + 22 + 24 + 132.$$

$$:= 1^3 + 2^2 + 4^3 + 11^2 = 13 + 22 + 43 + 112.$$

$$192 := 1^4 + 3^3 + 4^3 + 10^2 = 14 + 33 + 43 + 102.$$

$$194 := 1^5 + 2^3 + 2^4 + 13^2 = 15 + 23 + 24 + 132.$$

$$:= 1^6 + 2^3 + 4^3 + 11^2 = 16 + 23 + 43 + 112.$$

$$:= 2^5 + 2^5 + 3^2 + 11^2 = 25 + 25 + 32 + 112.$$

$$198 := 1^4 + 1^9 + 3^3 + 13^2 = 14 + 19 + 33 + 132.$$

$$:= 1^5 + 1^8 + 3^3 + 13^2 = 15 + 18 + 33 + 132.$$

$$:= 1^6 + 1^7 + 3^3 + 13^2 = 16 + 17 + 33 + 132.$$

$$199 := 1^9 + 1^9 + 1^9 + 14^2 = 19 + 19 + 19 + 142.$$

$$201 := 1^4 + 2^2 + 3^3 + 13^2 = 14 + 22 + 33 + 132.$$

$$202 := 1^9 + 1^9 + 2^2 + 14^2 = 19 + 19 + 22 + 142.$$

$$205 := 1^7 + 2^3 + 3^3 + 13^2 = 17 + 23 + 33 + 132.$$

$$205 := 1^9 + 2^2 + 2^2 + 14^2 = 19 + 22 + 22 + 142.$$

$$207 := 1^4 + 1^9 + 3^2 + 14^2 = 14 + 19 + 32 + 142.$$

$$:= 1^5 + 1^8 + 3^2 + 14^2 = 15 + 18 + 32 + 142.$$

$$:= 1^6 + 1^7 + 3^2 + 14^2 = 16 + 17 + 32 + 142.$$

$$:= 1^9 + 3^4 + 5^2 + 10^2 = 19 + 34 + 52 + 102.$$

$$210 := 1^2 + 3^4 + 8^2 + 8^2 = 12 + 34 + 82 + 82.$$

$$:= 1^4 + 2^2 + 3^2 + 14^2 = 14 + 22 + 32 + 142.$$

$$212 := 1^4 + 3^4 + 7^2 + 9^2 = 14 + 34 + 72 + 92.$$

$$214 := 1^2 + 1^8 + 4^2 + 14^2 = 12 + 18 + 42 + 142.$$

$$:= 1^3 + 1^7 + 4^2 + 14^2 = 13 + 17 + 42 + 142.$$

$$:= 1^4 + 1^6 + 4^2 + 14^2 = 14 + 16 + 42 + 142.$$

$$:= 1^4 + 2^6 + 7^2 + 10^2 = 14 + 26 + 72 + 102.$$

$$:= 1^5 + 1^5 + 4^2 + 14^2 = 15 + 15 + 42 + 142.$$

$$:= 1^7 + 2^3 + 3^2 + 14^2 = 17 + 23 + 32 + 142.$$

$$218 := 1^9 + 2^5 + 4^2 + 13^2 = 19 + 25 + 42 + 132.$$

$$221 := 1^4 + 2^3 + 4^2 + 14^2 = 14 + 23 + 42 + 142.$$

$$223 := 1^2 + 1^7 + 5^2 + 14^2 = 12 + 17 + 52 + 142.$$

$$:= 1^3 + 1^6 + 5^2 + 14^2 = 13 + 16 + 52 + 142.$$

$$:= 1^4 + 1^5 + 5^2 + 14^2 = 14 + 15 + 52 + 142.$$

$$225 := 1^8 + 4^2 + 4^3 + 12^2 = 18 + 42 + 43 + 122.$$

$$227 := 1^7 + 2^6 + 9^2 + 9^2 = 17 + 26 + 92 + 92.$$

$$:= 1^8 + 2^5 + 5^2 + 13^2 = 18 + 25 + 52 + 132.$$

$$:= 1^9 + 3^4 + 8^2 + 9^2 = 19 + 34 + 82 + 92.$$

$$229 := 1^9 + 2^6 + 8^2 + 10^2 = 19 + 26 + 82 + 102.$$

$$230 := 1^3 + 2^3 + 5^2 + 14^2 = 13 + 23 + 52 + 142.$$

$$234 := 1^2 + 1^8 + 6^2 + 14^2 = 12 + 18 + 62 + 142.$$

$$:= 1^3 + 1^7 + 6^2 + 14^2 = 13 + 17 + 62 + 142.$$

$$:= 1^4 + 1^6 + 6^2 + 14^2 = 14 + 16 + 62 + 142.$$

$$:= 1^5 + 1^5 + 6^2 + 14^2 = 15 + 15 + 62 + 142.$$

$$:= 1^7 + 4^3 + 5^2 + 12^2 = 17 + 43 + 52 + 122.$$

$$:= 2^5 + 2^5 + 7^2 + 11^2 = 25 + 25 + 72 + 112.$$

$$238 := 1^9 + 2^5 + 6^2 + 13^2 = 19 + 25 + 62 + 132.$$

$$241 := 1^2 + 2^5 + 8^2 + 12^2 = 12 + 25 + 82 + 122.$$

$$:= 1^4 + 2^3 + 6^2 + 14^2 = 14 + 23 + 62 + 142.$$

$$245 := 1^8 + 4^3 + 6^2 + 12^2 = 18 + 43 + 62 + 122.$$

$$247 := 1^4 + 1^9 + 7^2 + 14^2 = 14 + 19 + 72 + 142.$$

$$:= 1^5 + 1^8 + 7^2 + 14^2 = 15 + 18 + 72 + 142.$$

$$:= 1^6 + 1^7 + 7^2 + 14^2 = 16 + 17 + 72 + 142.$$

$$250 := 1^2 + 2^4 + 8^2 + 13^2 = 12 + 24 + 82 + 132.$$

$$:= 1^3 + 4^3 + 8^2 + 11^2 = 13 + 43 + 82 + 112.$$

$$:= 1^4 + 2^2 + 7^2 + 14^2 = 14 + 22 + 72 + 142.$$

$$252 := 1^2 + 1^6 + 9^2 + 13^2 = 12 + 16 + 92 + 132.$$

$$:= 1^3 + 1^5 + 9^2 + 13^2 = 13 + 15 + 92 + 132.$$

$$:= 1^4 + 1^4 + 9^2 + 13^2 = 14 + 14 + 92 + 132.$$

$$254 := 1^5 + 2^5 + 10^2 + 11^2 = 15 + 25 + 102 + 112.$$

$$:= 1^7 + 2^3 + 7^2 + 14^2 = 17 + 23 + 72 + 142.$$

$$258 := 1^9 + 2^5 + 9^2 + 12^2 = 19 + 25 + 92 + 122.$$

$$259 := 1^2 + 2^3 + 9^2 + 13^2 = 12 + 23 + 92 + 132.$$



$$261 := 1^3 + 2^4 + 10^2 + 12^2 = 13 + 24 + 102 + 122.$$

$$:= 1^4 + 3^3 + 8^2 + 13^2 = 14 + 33 + 82 + 132.$$

$$262 := 1^9 + 1^9 + 8^2 + 14^2 = 19 + 19 + 82 + 142.$$

$$265 := 1^8 + 4^3 + 10^2 + 10^2 = 18 + 43 + 102 + 102.$$

$$:= 1^9 + 2^2 + 8^2 + 14^2 = 19 + 22 + 82 + 142.$$

$$267 := 1^4 + 1^9 + 11^2 + 12^2 = 14 + 19 + 112 + 122.$$

$$:= 1^5 + 1^8 + 11^2 + 12^2 = 15 + 18 + 112 + 122.$$

$$:= 1^6 + 1^7 + 11^2 + 12^2 = 16 + 17 + 112 + 122.$$

$$:= 1^9 + 2^4 + 9^2 + 13^2 = 19 + 24 + 92 + 132.$$

$$270 := 1^3 + 3^3 + 11^2 + 11^2 = 13 + 33 + 112 + 112.$$

$$:= 1^4 + 2^2 + 11^2 + 12^2 = 14 + 22 + 112 + 122.$$

$$:= 1^4 + 3^2 + 8^2 + 14^2 = 14 + 32 + 82 + 142.$$

$$271 := 1^8 + 1^9 + 10^2 + 13^2 = 18 + 19 + 102 + 132.$$

$$272 := 1^5 + 3^3 + 10^2 + 12^2 = 15 + 33 + 102 + 122.$$

$$274 := 1^7 + 2^3 + 11^2 + 12^2 = 17 + 23 + 112 + 122.$$

$$:= 1^8 + 2^2 + 10^2 + 13^2 = 18 + 22 + 102 + 132.$$

$$279 := 1^3 + 3^2 + 10^2 + 13^2 = 13 + 32 + 102 + 132.$$

$$294 := 1^8 + 4^2 + 9^2 + 14^2 = 18 + 42 + 92 + 142.$$

$$303 := 1^7 + 5^2 + 9^2 + 14^2 = 17 + 52 + 92 + 142.$$

$$305 := 1^9 + 4^2 + 12^2 + 12^2 = 19 + 42 + 122 + 122.$$

$$310 := 1^4 + 7^2 + 8^2 + 14^2 = 14 + 72 + 82 + 142.$$

$$314 := 1^8 + 5^2 + 12^2 + 12^2 = 18 + 52 + 122 + 122.$$

$$:= 1^8 + 6^2 + 9^2 + 14^2 = 18 + 62 + 92 + 142.$$

$$319 := 1^3 + 7^2 + 10^2 + 13^2 = 13 + 72 + 102 + 132.$$

$$325 := 1^9 + 6^2 + 12^2 + 12^2 = 19 + 62 + 122 + 122.$$

$$:= 1^9 + 8^2 + 8^2 + 14^2 = 19 + 82 + 82 + 142.$$

$$330 := 1^4 + 8^2 + 11^2 + 12^2 = 14 + 82 + 112 + 122.$$

$$332 := 1^6 + 9^2 + 9^2 + 13^2 = 16 + 92 + 92 + 132.$$

$$334 := 1^8 + 8^2 + 10^2 + 13^2 = 18 + 82 + 102 + 132.$$

$$343 := 1^7 + 10^2 + 11^2 + 11^2 = 17 + 102 + 112 + 112.$$

$$345 := 1^9 + 10^2 + 10^2 + 12^2 = 19 + 102 + 102 + 122.$$

### 6.3 Positive-Negative Expressions with Powers Bigger Than One

$$1 := -2^3 - 2^3 - 2^5 + 7^2 = -23 - 23 - 25 + 72.$$

$$:= 2^4 + 3^6 + 4^4 - 10^3 = 24 + 36 + 44 - 103.$$

$$:= 2^5 + 2^6 + 7^2 - 12^2 = 25 + 26 + 72 - 122.$$

$$:= 2^9 + 10^2 + 17^2 - 30^2 = 29 + 102 + 172 - 302.$$

$$:= 2^9 + 7^2 + 23^2 - 33^2 = 29 + 72 + 232 - 332.$$

$$2 := -2^2 + 3^4 + 37^2 - 38^2 = -22 + 34 + 372 - 382.$$

$$:= -2^3 + 2^6 + 3^3 - 3^4 = -23 + 26 + 33 - 34.$$

$$:= 2^6 - 3^4 - 9^2 + 10^2 = 26 - 34 - 92 + 102.$$

$$:= 2^8 - 3^3 - 3^5 + 4^2 = 28 - 33 - 35 + 42.$$

$$:= -6^2 + 8^4 + 25^3 - 27^3 = -62 + 84 + 253 - 273.$$

$$3 := -2^4 - 5^2 - 5^3 + 13^2 = -24 - 52 - 53 + 132.$$

$$:= -3^4 - 6^3 - 10^2 + 20^2 = -34 - 63 - 102 + 202.$$

$$4 := -2^2 + 3^6 + 15^3 - 16^3 = -22 + 36 + 153 - 163.$$

$$5 := -2^2 - 6^3 - 8^2 + 17^2 = -22 - 63 - 82 + 172.$$

$$:= -2^8 + 9^3 + 36^2 - 42^2 = -28 + 93 + 362 - 422.$$

$$:= -2^9 + 5^4 + 26^2 - 28^2 = -29 + 54 + 262 - 282.$$

$$:= -4^2 - 8^3 - 14^2 + 27^2 = -42 - 83 - 142 + 272.$$

$$6 := 3^2 + 3^4 + 4^2 - 10^2 = 32 + 34 + 42 - 102.$$

$$:= 3^2 + 4^4 + 15^2 - 22^2 = 32 + 44 + 152 - 222.$$

$$:= 5^4 + 9^2 + 18^2 - 32^2 = 54 + 92 + 182 - 322.$$

$$7 := 2^2 - 2^5 - 17^2 + 18^2 = 22 - 25 - 172 + 182.$$

$$:= 2^3 - 3^6 - 10^3 + 12^3 = 23 - 36 - 103 + 123.$$

$$:= 2^5 - 3^8 - 32^3 + 34^3 = 25 - 38 - 323 + 343.$$

$$:= -2^6 + 7^3 + 32^2 - 36^2 = -26 + 73 + 322 - 362.$$

$$:= -2^7 + 12^4 + 23^3 - 32^3 = -27 + 124 + 233 - 323.$$

$$:= -3^6 + 10^3 + 19^2 - 25^2 = -36 + 103 + 192 - 252.$$

$$:= -3^7 + 7^4 + 33^2 - 36^2 = -37 + 74 + 332 - 362.$$

$$\begin{aligned}
7 &:= -3^8 + 4^8 + 9^2 - 9^5 = -38 + 48 + 92 - 95. \\
&:= -4^8 + 12^4 + 36^3 - 43^2 = -48 + 124 + 363 - 432. \\
&:= -6^7 + 23^3 + 24^4 - 40^3 = -67 + 233 + 244 - 403. \\
8 &:= 2^2 + 2^3 + 2^5 - 6^2 = 22 + 23 + 25 - 62. \\
&:= 2^4 + 4^4 + 19^2 - 25^2 = 24 + 44 + 192 - 252. \\
&:= 2^6 + 3^2 + 4^2 - 9^2 = 26 + 32 + 42 - 92. \\
&:= 3^4 + 4^4 + 20^2 - 27^2 = 34 + 44 + 202 - 272. \\
&:= -3^7 - 5^5 - 8^3 + 18^3 = -37 - 55 - 83 + 183. \\
9 &:= 2^2 - 2^3 - 6^2 + 7^2 = 22 - 23 - 62 + 72. \\
&:= 2^2 - 3^3 - 7^2 + 9^2 = 22 - 33 - 72 + 92. \\
&:= 2^2 - 4^3 - 10^2 + 13^2 = 22 - 43 - 102 + 132. \\
&:= 2^2 - 7^3 - 26^2 + 32^2 = 22 - 73 - 262 + 322. \\
&:= 2^3 - 2^4 - 8^2 + 9^2 = 23 - 24 - 82 + 92. \\
&:= -2^4 + 4^3 + 19^2 - 20^2 = -24 + 43 + 192 - 202. \\
&:= -2^4 + 5^3 + 24^2 - 26^2 = -24 + 53 + 242 - 262. \\
&:= -2^4 - 2^4 + 2^5 + 3^2 = -24 - 24 + 25 + 32. \\
&:= 2^4 - 2^5 - 12^2 + 13^2 = 24 - 25 - 122 + 132. \\
&:= 2^6 - 2^7 - 36^2 + 37^2 = 26 - 27 - 362 + 372. \\
&:= 3^2 - 3^3 - 13^2 + 14^2 = 32 - 33 - 132 + 142. \\
&:= 3^2 - 4^3 - 15^2 + 17^2 = 32 - 43 - 152 + 172. \\
&:= 3^2 - 6^3 - 25^2 + 29^2 = 32 - 63 - 252 + 292. \\
&:= -3^4 + 5^3 + 17^2 - 18^2 = -34 + 53 + 172 - 182. \\
&:= 4^2 - 4^3 - 28^2 + 29^2 = 42 - 43 - 282 + 292. \\
&:= 4^2 - 7^3 - 40^2 + 44^2 = 42 - 73 - 402 + 442. \\
10 &:= 2^5 + 3^5 + 24^2 - 29^2 = 25 + 35 + 242 - 292. \\
&:= 2^7 + 3^3 + 12^2 - 17^2 = 27 + 33 + 122 - 172. \\
&:= 2^7 + 9^3 + 33^2 - 44^2 = 27 + 93 + 332 - 442. \\
&:= 2^8 + 3^2 + 23^2 - 28^2 = 28 + 32 + 232 - 282. \\
&:= -3^5 - 3^5 - 27^2 + 35^2 = -35 - 35 - 272 + 352. \\
11 &:= -14^2 + 17^3 + 27^3 - 29^3 = -142 + 173 + 273 - 293. \\
&:= -2^2 + 2^3 - 3^2 + 4^2 = -22 + 23 - 32 + 42. \\
&:= -2^2 + 4^3 + 24^2 - 25^2 = -22 + 43 + 242 - 252. \\
&:= -2^2 + 6^3 + 32^2 - 35^2 = -22 + 63 + 322 - 352. \\
&:= -2^2 + 7^3 + 39^2 - 43^2 = -22 + 73 + 392 - 432. \\
&:= 2^4 - 5^3 - 13^2 + 17^2 = 24 - 53 - 132 + 172. \\
&:= 2^5 - 3^4 - 14^2 + 16^2 = 25 - 34 - 142 + 162. \\
&:= 2^5 - 5^3 - 5^4 + 9^3 = 25 - 53 - 54 + 93. \\
&:= 3^5 - 4^4 - 5^2 + 7^2 = 35 - 44 - 52 + 72. \\
&:= 5^4 - 9^2 - 9^3 + 14^2 = 54 - 92 - 93 + 142. \\
12 &:= -2^3 - 2^4 - 4^3 + 10^2 = -23 - 24 - 43 + 102. \\
&:= -2^5 - 6^3 - 8^2 + 18^2 = -25 - 63 - 82 + 182. \\
&:= 2^8 + 3^4 + 30^2 - 35^2 = 28 + 34 + 302 - 352. \\
&:= -3^5 - 5^3 - 14^2 + 24^2 = -35 - 53 - 142 + 242. \\
&:= -3^5 - 8^3 - 23^2 + 36^2 = -35 - 83 - 232 + 362. \\
13 &:= 2^6 - 6^3 - 14^2 + 19^2 = 26 - 63 - 142 + 192. \\
&:= 2^7 - 4^4 - 22^2 + 25^2 = 27 - 44 - 222 + 252. \\
&:= 3^7 - 5^5 - 7^2 + 10^3 = 37 - 55 - 72 + 103. \\
14 &:= -2^7 - 2^7 + 3^3 + 3^5 = -27 - 27 + 33 + 35. \\
&:= -3^3 - 7^3 - 10^2 + 22^2 = -33 - 73 - 102 + 222. \\
&:= -5^2 - 5^3 - 5^3 + 17^2 = -52 - 53 - 53 + 172. \\
&:= -5^3 - 10^3 - 25^2 + 42^2 = -53 - 103 - 252 + 422. \\
15 &:= -2^7 - 2^8 - 25^2 + 32^2 = -27 - 28 - 252 + 322. \\
&:= 2^9 - 5^4 - 14^2 + 18^2 = 29 - 54 - 142 + 182. \\
&:= 3^2 + 5^2 + 5^3 - 12^2 = 32 + 52 + 53 - 122. \\
&:= 4^2 + 10^3 + 32^2 - 45^2 = 42 + 103 + 322 - 452. \\
&:= 6^2 + 8^3 + 14^2 - 27^2 = 62 + 83 + 142 - 272. \\
16 &:= 2^2 - 2^5 - 3^4 + 5^3 = 22 - 25 - 34 + 53. \\
&:= 2^2 - 2^6 - 18^2 + 20^2 = 22 - 26 - 182 + 202. \\
&:= 2^3 - 2^7 - 33^2 + 35^2 = 23 - 27 - 332 + 352. \\
&:= -2^6 + 3^2 - 35^2 + 36^2 = -26 + 32 - 352 + 362. \\
&:= -2^7 + 6^3 + 17^2 - 19^2 = -27 + 63 + 172 - 192. \\
&:= -2^7 + 8^4 + 12^2 - 16^3 = -27 + 84 + 122 - 163. \\
&:= -2^7 - 2^7 + 2^8 + 4^2 = -27 - 27 + 28 + 42. \\
17 &:= 2^3 + 3^2 + 4^6 - 8^4 = 23 + 32 + 46 - 84. \\
&:= 3^3 + 3^3 + 3^3 - 8^2 = 33 + 33 + 33 - 82. \\
&:= 3^4 + 5^3 + 10^2 - 17^2 = 34 + 53 + 102 - 172. \\
18 &:= -17^4 + 18^2 - 27^4 + 28^4 = -174 + 182 - 274 + 284. \\
&:= -2^4 + 3^2 - 12^2 + 13^2 = -24 + 32 - 122 + 132. \\
&:= -2^5 + 5^3 + 37^2 - 38^2 = -25 + 53 + 372 - 382. \\
&:= -2^6 - 3^2 + 3^3 + 4^3 = -26 - 32 + 33 + 43. \\
19 &:= 2^4 + 3^5 + 28^2 - 32^2 = 24 + 35 + 282 - 322. \\
&:= 2^7 + 4^2 + 10^2 - 15^2 = 27 + 42 + 102 - 152. \\
&:= -2^8 - 5^3 - 15^2 + 25^2 = -28 - 53 - 152 + 252. \\
&:= 3^3 + 4^6 + 12^3 - 18^3 = 33 + 46 + 123 - 183. \\
&:= 3^4 + 3^5 + 28^2 - 33^2 = 34 + 35 + 282 - 332. \\
&:= 3^5 + 4^4 + 37^2 - 43^2 = 35 + 44 + 372 - 432.
\end{aligned}$$

$$\begin{aligned}
20 &:= -10^2 + 13^2 + 24^2 - 25^2 = -102 + 132 + 242 - 252. & 20 &:= -7^2 + 10^2 + 15^2 - 16^2 = -72 + 102 + 152 - 162. \\
&:= -10^2 + 14^2 + 18^2 - 20^2 = -102 + 142 + 182 - 202. & &:= 7^3 - 8^3 - 30^2 + 33^2 = 73 - 83 - 302 + 332. \\
&:= -10^2 + 15^2 + 16^2 - 19^2 = -102 + 152 + 162 - 192. & &:= -8^2 + 12^2 + 14^2 - 16^2 = -82 + 122 + 142 - 162. \\
&:= -12^2 + 16^2 + 22^2 - 24^2 = -122 + 162 + 222 - 242. & &:= -9^2 + 13^2 + 16^2 - 18^2 = -92 + 132 + 162 - 182. \\
&:= -12^2 + 18^2 + 18^2 - 22^2 = -122 + 182 + 182 - 222. \\
&:= -13^2 + 16^2 + 33^2 - 34^2 = -132 + 162 + 332 - 342. \\
&:= -13^2 + 17^2 + 24^2 - 26^2 = -132 + 172 + 242 - 262. \\
&:= -14^2 + 17^2 + 36^2 - 37^2 = -142 + 172 + 362 - 372. \\
&:= -14^2 + 18^2 + 26^2 - 28^2 = -142 + 182 + 262 - 282. \\
&:= -15^2 + 18^2 + 39^2 - 40^2 = -152 + 182 + 392 - 402. \\
&:= -15^2 + 19^2 + 28^2 - 30^2 = -152 + 192 + 282 - 302. \\
&:= -15^3 + 18^3 + 28^3 - 29^3 = -153 + 183 + 283 - 293. \\
&:= -16^2 + 19^2 + 42^2 - 43^2 = -162 + 192 + 422 - 432. \\
&:= -16^2 + 20^2 + 30^2 - 32^2 = -162 + 202 + 302 - 322. \\
&:= -16^2 + 22^2 + 24^2 - 28^2 = -162 + 222 + 242 - 282. \\
&:= -18^2 + 22^2 + 34^2 - 36^2 = -182 + 222 + 342 - 362. \\
&:= -19^2 + 23^2 + 36^2 - 38^2 = -192 + 232 + 362 - 382. \\
&:= -19^2 + 26^2 + 27^2 - 32^2 = -192 + 262 + 272 - 322. \\
&:= -2^2 + 3^2 - 7^2 + 8^2 = -22 + 32 - 72 + 82. \\
&:= 2^3 - 3^3 - 5^2 + 8^2 = 23 - 33 - 52 + 82. \\
&:= 2^3 - 6^3 - 16^2 + 22^2 = 23 - 63 - 162 + 222. \\
&:= 2^5 - 3^5 - 37^2 + 40^2 = 25 - 35 - 372 + 402. \\
21 &:= 2^3 + 2^8 + 39^2 - 42^2 = 23 + 28 + 392 - 422. \\
&:= 2^4 + 2^7 + 19^2 - 22^2 = 24 + 27 + 192 - 222. \\
&:= -2^5 - 3^3 - 4^3 + 12^2 = -25 - 33 - 43 + 122. \\
&:= 2^8 + 5^3 + 27^2 - 33^2 = 28 + 53 + 272 - 332. \\
&:= -7^5 - 9^4 - 10^3 + 29^3 = -75 - 94 - 103 + 293. \\
22 &:= 2^5 - 5^3 - 9^2 + 14^2 = 25 - 53 - 92 + 142. \\
&:= 2^6 - 3^3 - 4^3 + 7^2 = 26 - 33 - 43 + 72. \\
&:= 2^6 - 3^4 - 5^2 + 8^2 = 26 - 34 - 52 + 82. \\
&:= 2^8 - 3^3 - 3^5 + 6^2 = 28 - 33 - 35 + 62. \\
&:= -4^2 + 8^4 + 25^3 - 27^3 = -42 + 84 + 253 - 273. \\
23 &:= -3^4 - 8^3 - 15^2 + 29^2 = -34 - 83 - 152 + 292. \\
24 &:= -2^7 + 3^2 - 35^2 + 37^2 = -27 + 32 - 352 + 372. \\
&:= 2^8 + 2^8 + 5^2 - 8^3 = 28 + 28 + 52 - 83. \\
&:= -2^8 + 4^3 - 8^3 + 9^3 = -28 + 43 - 83 + 93. \\
&:= -2^8 + 8^3 + 37^2 - 40^2 = -28 + 83 + 372 - 402. \\
&:= -2^8 - 2^8 + 2^9 + 5^2 = -28 - 28 + 29 + 52. \\
&:= 2^9 + 3^6 + 8^3 - 12^3 = 29 + 36 + 83 - 123. \\
&:= -3^8 + 4^2 - 17^2 + 19^3 = -38 + 42 - 172 + 193. \\
25 &:= 2^3 + 9^3 + 35^2 - 44^2 = 23 + 93 + 352 - 442. \\
&:= 2^9 - 9^2 - 9^3 + 18^2 = 29 - 92 - 93 + 182. \\
&:= 3^2 + 3^4 + 6^2 - 10^2 = 32 + 34 + 62 - 102. \\
&:= 3^3 + 4^2 + 4^3 - 9^2 = 33 + 42 + 43 - 92. \\
&:= 3^3 + 6^3 + 12^2 - 19^2 = 33 + 63 + 122 - 192. \\
&:= 3^3 + 8^3 + 24^2 - 33^2 = 33 + 83 + 242 - 332. \\
&:= 5^2 + 5^4 + 35^2 - 43^2 = 52 + 54 + 352 - 432. \\
&:= 5^3 + 5^3 + 10^2 - 18^2 = 53 + 53 + 102 - 182. \\
&:= 5^3 + 6^3 + 13^2 - 22^2 = 53 + 63 + 132 - 222. \\
&:= 5^4 + 13^2 + 16^2 - 32^2 = 54 + 132 + 162 - 322. \\
26 &:= 20^2 + 24^2 + 38^2 - 40^2 = -202 + 242 + 382 - 402. \\
&:= -20^2 + 26^2 + 30^2 - 34^2 = -202 + 262 + 302 - 342. \\
&:= -22^2 + 26^2 + 42^2 - 44^2 = -222 + 262 + 422 - 442. \\
&:= -22^2 + 27^2 + 36^2 - 39^2 = -222 + 272 + 362 - 392. \\
&:= -22^2 + 28^2 + 33^2 - 37^2 = -222 + 282 + 332 - 372. \\
&:= -22^2 + 30^2 + 30^2 - 36^2 = -222 + 302 + 302 - 362. \\
&:= -24^2 + 30^2 + 36^2 - 40^2 = -242 + 302 + 362 - 402. \\
&:= -25^2 + 33^2 + 34^2 - 40^2 = -252 + 332 + 342 - 402. \\
&:= -26^2 + 32^2 + 39^2 - 43^2 = -262 + 322 + 392 - 432. \\
&:= -28^2 + 36^2 + 38^2 - 44^2 = -282 + 362 + 382 - 442. \\
&:= -3^2 + 4^2 - 6^2 + 7^2 = -32 + 42 - 62 + 72. \\
&:= -3^3 + 6^3 + 7^3 - 8^3 = -33 + 63 + 73 - 83. \\
&:= 4^3 - 5^3 - 12^2 + 15^2 = 43 - 53 - 122 + 152. \\
&:= 4^3 - 8^3 - 36^2 + 42^2 = 43 - 83 - 362 + 422. \\
&:= -4^7 + 4^8 - 37^3 + 39^2 = -47 + 48 - 373 + 392. \\
&:= -5^2 + 8^2 + 9^2 - 10^2 = -52 + 82 + 92 - 102. \\
&:= 5^3 - 6^3 - 17^2 + 20^2 = 53 - 63 - 172 + 202. \\
&:= -6^2 + 9^2 + 12^2 - 13^2 = -62 + 92 + 122 - 132. \\
&:= 6^3 - 7^3 - 23^2 + 26^2 = 63 - 73 - 232 + 262.
\end{aligned}$$

$$\begin{aligned}
27 &:= 2^2 - 3^4 - 5^4 + 9^3 = 22 - 34 - 54 + 93. & 32 &:= 2^3 + 2^9 + 8^3 - 10^3 = 23 + 29 + 83 - 103. \\
&:= 2^3 - 3^4 - 3^5 + 7^3 = 23 - 34 - 35 + 73. & &:= 2^4 + 2^4 + 2^8 - 4^4 = 24 + 24 + 28 - 44. \\
&:= 2^3 - 4^6 - 14^3 + 19^3 = 23 - 46 - 143 + 193. & &:= 2^5 + 16^6 + 16^6 - 32^5 = 25 + 166 + 166 - 325. \\
&:= -2^6 + 3^3 - 15^2 + 17^2 = -26 + 33 - 152 + 172. & &:= 2^5 + 2^5 + 2^5 - 4^3 = 25 + 25 + 25 - 43. \\
&:= -2^6 + 4^3 - 13^2 + 14^2 = -26 + 43 - 132 + 142. & &:= 2^6 + 2^6 + 23^2 - 25^2 = 26 + 26 + 232 - 252. \\
&:= -2^7 + 6^4 + 19^3 - 20^3 = -27 + 64 + 193 - 203. & &:= -3^6 - 8^2 - 20^2 + 35^2 = -36 - 82 - 202 + 352. \\
&:= 3^2 - 3^5 - 42^2 + 45^2 = 32 - 35 - 422 + 452. & 34 &:= -2^9 + 9^3 + 29^2 - 32^2 = -29 + 93 + 292 - 322. \\
&:= 3^3 - 8^5 - 8^5 + 16^4 = 33 - 85 - 85 + 164. & &:= -5^2 - 5^3 - 6^3 + 20^2 = -52 - 53 - 63 + 202. \\
&:= -3^6 + 15^4 + 28^2 - 37^3 = -36 + 154 + 282 - 373. & 35 &:= 2^2 + 4^2 + 4^3 - 7^2 = 22 + 42 + 43 - 72. \\
&:= -3^6 + 5^3 - 14^3 + 15^3 = -36 + 53 - 143 + 153. & &:= 2^2 + 7^3 + 23^2 - 29^2 = 22 + 73 + 232 - 292. \\
& & &:= 5^2 + 7^3 + 14^2 - 23^2 = 52 + 73 + 142 - 232. \\
28 &:= 2^2 + 2^3 + 2^5 - 4^2 = 22 + 23 + 25 - 42. & &:= 6^2 + 10^3 + 32^2 - 45^2 = 62 + 103 + 322 - 452. \\
&:= 2^4 + 3^4 + 10^2 - 13^2 = 24 + 34 + 102 - 132. & 36 &:= 2^2 - 2^6 - 10^2 + 14^2 = 22 - 26 - 102 + 142. \\
&:= 2^6 + 3^2 + 6^2 - 9^2 = 26 + 32 + 62 - 92. & &:= -2^6 + 4^2 - 20^2 + 22^2 = -26 + 42 - 202 + 222. \\
&:= -2^8 - 4^4 - 22^2 + 32^2 = -28 - 44 - 222 + 322. & &:= -2^6 + 5^2 - 37^2 + 38^2 = -26 + 52 - 372 + 382. \\
&:= -2^9 - 3^3 - 27^2 + 36^2 = -29 - 33 - 272 + 362. & &:= -2^7 + 4^3 - 24^2 + 26^2 = -27 + 43 - 242 + 262. \\
&:= 3^6 + 12^2 + 26^2 - 39^2 = 36 + 122 + 262 - 392. & &:= -2^7 + 5^3 - 19^2 + 20^2 = -27 + 53 - 192 + 202. \\
& & &:= -2^7 - 2^7 + 2^8 + 6^2 = -27 - 27 + 28 + 62. \\
29 &:= 2^2 - 2^3 - 4^2 + 7^2 = 22 - 23 - 42 + 72. & &:= -2^8 + 4^4 - 8^2 + 10^2 = -28 + 44 - 82 + 102. \\
&:= 2^2 - 7^3 - 19^2 + 27^2 = 22 - 73 - 192 + 272. & 37 &:= 2^2 + 2^4 + 3^4 - 4^3 = 22 + 24 + 34 - 43. \\
&:= -2^3 + 3^2 - 6^2 + 8^2 = -23 + 32 - 62 + 82. & &:= 2^3 + 3^3 + 3^3 - 5^2 = 23 + 33 + 33 - 52. \\
&:= 2^4 - 2^5 - 6^2 + 9^2 = 24 - 25 - 62 + 92. & &:= 2^3 + 3^4 + 12^2 - 14^2 = 23 + 34 + 122 - 142. \\
&:= 2^4 - 3^5 - 30^2 + 34^2 = 24 - 35 - 302 + 342. & &:= 2^4 + 6^3 + 17^2 - 22^2 = 24 + 63 + 172 - 222. \\
&:= 2^6 - 2^7 - 14^2 + 17^2 = 26 - 27 - 142 + 172. & &:= 4^5 + 18^2 + 25^2 - 44^2 = 45 + 182 + 252 - 442. \\
&:= -3^2 - 3^5 + 4^4 + 5^2 = -32 - 35 + 44 + 52. & 38 &:= -2^2 - 2^6 + 3^4 + 5^2 = -22 - 26 + 34 + 52. \\
&:= 3^2 - 5^3 - 12^2 + 17^2 = 32 - 53 - 122 + 172. & &:= 2^2 - 3^4 - 9^2 + 14^2 = 22 - 34 - 92 + 142. \\
&:= -3^3 + 5^2 - 15^2 + 16^2 = -33 + 52 - 152 + 162. & &:= -2^4 + 3^2 - 6^2 + 9^2 = -24 + 32 - 62 + 92. \\
&:= -4^3 + 5^2 - 16^2 + 18^2 = -43 + 52 - 162 + 182. & &:= -2^4 + 3^4 - 3^5 + 6^3 = -24 + 34 - 35 + 63. \\
&:= -4^3 + 6^2 - 28^2 + 29^2 = -43 + 62 - 282 + 292. & &:= -2^4 + 5^2 - 14^2 + 15^2 = -24 + 52 - 142 + 152. \\
&:= -4^4 + 6^3 - 34^2 + 35^2 = -44 + 63 - 342 + 352. & &:= -3^5 + 5^3 - 38^2 + 40^2 = -35 + 53 - 382 + 402. \\
&:= 5^2 - 5^3 - 20^2 + 23^2 = 52 - 53 - 202 + 232. & &:= -3^5 + 6^3 - 32^2 + 33^2 = -35 + 63 - 322 + 332. \\
&:= -5^4 + 9^3 + 37^2 - 38^2 = -54 + 93 + 372 - 382. & 39 &:= 2^3 + 2^3 + 2^5 - 3^2 = 23 + 23 + 25 - 32. \\
&:= 6^2 - 7^3 - 40^2 + 44^2 = 62 - 73 - 402 + 442. & &:= 2^3 + 2^6 + 16^2 - 17^2 = 23 + 26 + 162 - 172. \\
30 &:= 2^7 + 7^3 + 28^2 - 35^2 = 27 + 73 + 282 - 352. & &:= 2^4 + 2^5 + 4^2 - 5^2 = 24 + 25 + 42 - 52. \\
& & &:= 2^5 + 4^4 + 40^2 - 43^2 = 25 + 44 + 402 - 432. \\
31 &:= -2^2 + 2^3 - 3^2 + 6^2 = -22 + 23 - 32 + 62. & &:= -2^5 - 2^6 - 3^2 + 12^2 = -25 - 26 - 32 + 122. \\
&:= 2^4 - 6^3 - 13^2 + 20^2 = 24 - 63 - 132 + 202. & &:= -2^5 - 3^6 - 35^2 + 45^2 = -25 - 36 - 352 + 452. \\
&:= 2^5 - 3^4 - 8^2 + 12^2 = 25 - 34 - 82 + 122. & &:= 2^6 + 3^3 + 12^2 - 14^2 = 26 + 33 + 122 - 142. \\
&:= 2^5 - 4^4 - 23^2 + 28^2 = 25 - 44 - 232 + 282. & &:= 2^7 + 3^2 + 3^3 - 5^3 = 27 + 32 + 33 - 53. \\
&:= 3^4 - 5^2 - 5^3 + 10^2 = 34 - 52 - 53 + 102. \\
&:= 4^4 - 8^3 - 17^2 + 24^2 = 44 - 83 - 172 + 242.
\end{aligned}$$

$$\begin{aligned}
39 &:= 2^7 + 4^2 + 16^2 - 19^2 = 27 + 42 + 162 - 192. & 40 &:= -6^2 + 12^2 + 16^2 - 18^2 = -62 + 122 + 162 - 182. \\
&:= 2^7 + 6^2 + 10^2 - 15^2 = 27 + 62 + 102 - 152. & &:= -6^2 + 13^2 + 14^2 - 17^2 = -62 + 132 + 142 - 172. \\
&:= -2^7 - 5^4 - 27^2 + 39^2 = -27 - 54 - 272 + 392. & &:= 6^3 - 9^3 - 36^2 + 43^2 = 63 - 93 - 362 + 432. \\
&:= -2^8 - 9^3 - 24^2 + 40^2 = -28 - 93 - 242 + 402. & &:= 6^4 - 8^3 - 10^3 + 16^2 = 64 - 83 - 103 + 162. \\
&:= -2^9 - 3^2 - 23^2 + 33^2 = -29 - 32 - 232 + 332. & &:= -7^2 + 12^2 + 27^2 - 28^2 = -72 + 122 + 272 - 282. \\
&:= -2^9 - 5^2 - 18^2 + 30^2 = -29 - 52 - 182 + 302. & &:= -7^2 + 15^2 + 15^2 - 19^2 = -72 + 152 + 152 - 192. \\
&:= -2^9 - 8^2 - 13^2 + 28^2 = -29 - 82 - 132 + 282. & &:= -8^2 + 13^2 + 32^2 - 33^2 = -82 + 132 + 322 - 332. \\
&:= 4^4 + 4^4 + 4^4 - 9^3 = 44 + 44 + 44 - 93. & &:= -8^2 + 14^2 + 22^2 - 24^2 = -82 + 142 + 222 - 242. \\
&:= 5^3 + 5^7 + 36^2 - 43^3 = 53 + 57 + 362 - 433. & &:= -9^2 + 14^2 + 37^2 - 38^2 = -92 + 142 + 372 - 382. \\
& & &:= -9^2 + 15^2 + 25^2 - 27^2 = -92 + 152 + 252 - 272. \\
40 &:= -10^2 + 15^2 + 42^2 - 43^2 = -102 + 152 + 422 - 432. & &:= -9^2 + 17^2 + 19^2 - 23^2 = -92 + 172 + 192 - 232. \\
&:= -10^2 + 16^2 + 28^2 - 30^2 = -102 + 162 + 282 - 302. \\
&:= 10^4 - 14^3 - 20^3 + 28^2 = 104 - 143 - 203 + 282. & 41 &:= -2^4 - 3^5 - 10^2 + 20^2 = -24 - 35 - 102 + 202. \\
&:= -12^2 + 18^2 + 34^2 - 36^2 = -122 + 182 + 342 - 362. & &:= 2^5 + 2^6 + 27^2 - 28^2 = 25 + 26 + 272 - 282. \\
&:= -12^2 + 20^2 + 25^2 - 29^2 = -122 + 202 + 252 - 292. & &:= 2^5 + 2^8 + 3^2 - 4^4 = 25 + 28 + 32 - 44. \\
&:= -12^2 + 22^2 + 22^2 - 28^2 = -122 + 222 + 222 - 282. & &:= -2^5 - 3^3 - 5^3 + 15^2 = -25 - 33 - 53 + 152. \\
&:= -13^2 + 19^2 + 37^2 - 39^2 = -132 + 192 + 372 - 392. & &:= -2^6 - 7^3 - 9^2 + 23^2 = -26 - 73 - 92 + 232. \\
&:= -13^2 + 22^2 + 25^2 - 30^2 = -132 + 222 + 252 - 302. & &:= 2^8 + 4^3 + 4^3 - 7^3 = 28 + 43 + 43 - 73. \\
40 &:= 13^4 - 15^4 - 32^3 + 38^3 = 134 - 154 - 323 + 383. & 43 &:= 2^2 + 2^8 + 2^9 - 3^6 = 22 + 28 + 29 - 36. \\
&:= -14^2 + 20^2 + 40^2 - 42^2 = -142 + 202 + 402 - 422. & 44 &:= 2^8 - 5^4 - 26^2 + 33^2 = 28 - 54 - 262 + 332. \\
&:= -14^2 + 22^2 + 29^2 - 33^2 = -142 + 222 + 292 - 332. \\
&:= -15^2 + 22^2 + 35^2 - 38^2 = -152 + 222 + 352 - 382. & 45 &:= -2^4 - 2^7 + 4^3 + 5^3 = -24 - 27 + 43 + 53. \\
&:= -15^2 + 25^2 + 27^2 - 33^2 = -152 + 252 + 272 - 332. & &:= 2^5 - 2^8 - 3^5 + 8^3 = 25 - 28 - 35 + 83. \\
&:= -16^2 + 24^2 + 33^2 - 37^2 = -162 + 242 + 332 - 372. & &:= -2^7 + 5^2 - 36^2 + 38^2 = -27 + 52 - 362 + 382. \\
&:= -17^2 + 25^2 + 35^2 - 39^2 = -172 + 252 + 352 - 392. & &:= -2^8 + 5^3 - 43^2 + 45^2 = -28 + 53 - 432 + 452. \\
&:= -17^2 + 28^2 + 29^2 - 36^2 = -172 + 282 + 292 - 362. & &:= -2^8 + 6^3 - 42^2 + 43^2 = -28 + 63 - 422 + 432. \\
&:= -18^2 + 25^2 + 42^2 - 45^2 = -182 + 252 + 422 - 452. & &:= -3^8 + 6^2 - 17^2 + 19^3 = -38 + 62 - 172 + 193. \\
&:= -18^2 + 27^2 + 34^2 - 39^2 = -182 + 272 + 342 - 392. \\
&:= -18^2 + 28^2 + 32^2 - 38^2 = -182 + 282 + 322 - 382. & 46 &:= 2^2 + 3^4 + 19^2 - 20^2 = 22 + 34 + 192 - 202. \\
&:= -19^2 + 27^2 + 39^2 - 43^2 = -192 + 272 + 392 - 432. & &:= 2^3 + 5^3 + 13^2 - 16^2 = 23 + 53 + 132 - 162. \\
& & &:= 2^3 + 7^3 + 28^2 - 33^2 = 23 + 73 + 282 - 332. \\
40 &:= -2^2 + 4^2 - 6^2 + 8^2 = -22 + 42 - 62 + 82. & &:= 3^2 + 3^4 + 10^2 - 12^2 = 32 + 34 + 102 - 122. \\
&:= -2^2 + 5^2 - 9^2 + 10^2 = -22 + 52 - 92 + 102. & &:= 3^2 + 4^4 + 35^2 - 38^2 = 32 + 44 + 352 - 382. \\
&:= -2^2 - 2^3 + 3^3 + 5^2 = -22 - 23 + 33 + 52. & &:= 3^3 + 4^3 + 6^2 - 9^2 = 33 + 43 + 62 - 92. \\
&:= -23^2 + 35^2 + 37^2 - 45^2 = -232 + 352 + 372 - 452. & &:= 3^3 + 7^3 + 24^2 - 30^2 = 33 + 73 + 242 - 302. \\
&:= 3^4 - 4^4 - 19^2 + 24^2 = 34 - 44 - 192 + 242. & &:= 3^4 + 4^2 + 7^2 - 10^2 = 34 + 42 + 72 - 102. \\
&:= -4^2 + 10^2 + 10^2 - 12^2 = -42 + 102 + 102 - 122. & &:= 4^2 + 10^4 + 13^3 - 23^3 = 42 + 104 + 133 - 233. \\
&:= -4^2 + 9^2 + 12^2 - 13^2 = -42 + 92 + 122 - 132. & &:= 4^4 + 7^2 + 15^2 - 22^2 = 44 + 72 + 152 - 222. \\
&:= -4^2 - 4^2 + 6^2 + 6^2 = -42 - 42 + 62 + 62. & &:= 5^3 + 5^3 + 14^2 - 20^2 = 53 + 53 + 142 - 202. \\
&:= 4^3 - 6^3 - 13^2 + 19^2 = 43 - 63 - 132 + 192. & &:= 5^4 + 9^2 + 28^2 - 38^2 = 54 + 92 + 282 - 382. \\
&:= -5^2 + 10^2 + 17^2 - 18^2 = -52 + 102 + 172 - 182. & &:= 6^3 + 7^3 + 24^2 - 33^2 = 63 + 73 + 242 - 332. \\
&:= 5^3 - 8^3 - 27^2 + 34^2 = 53 - 83 - 272 + 342. & &:= 7^3 + 7^3 + 27^2 - 37^2 = 73 + 73 + 272 - 372.
\end{aligned}$$

$$\begin{aligned}
47 &:= 2^2 - 2^5 - 5^2 + 10^2 = 22 - 25 - 52 + 102. \\
&:= -2^5 + 4^2 - 9^2 + 12^2 = -25 + 42 - 92 + 122. \\
&:= 2^7 - 2^9 - 3^4 + 8^3 = 27 - 29 - 34 + 83. \\
&:= 2^8 + 2^9 + 15^3 - 16^3 = 28 + 29 + 153 - 163. \\
&:= -4^8 + 6^3 - 13^2 + 16^4 = -48 + 63 - 132 + 164. \\
&:= -4^9 + 8^6 - 23^2 + 24^2 = -49 + 86 - 232 + 242.
\end{aligned}$$

$$\begin{aligned}
48 &:= 2^4 + 3^4 + 24^2 - 25^2 = 24 + 34 + 242 - 252. \\
&:= 2^4 + 6^5 + 16^2 - 20^3 = 24 + 65 + 162 - 203. \\
&:= -2^4 - 2^4 - 2^6 + 12^2 = -24 - 24 - 26 + 122. \\
&:= 2^5 + 3^3 + 5^2 - 6^2 = 25 + 33 + 52 - 62. \\
&:= 2^5 + 6^3 + 23^2 - 27^2 = 25 + 63 + 232 - 272. \\
&:= 2^6 + 3^2 + 12^2 - 13^2 = 26 + 32 + 122 - 132. \\
&:= 2^6 + 4^2 + 7^2 - 9^2 = 26 + 42 + 72 - 92. \\
&:= -2^8 - 3^4 - 12^2 + 23^2 = -28 - 34 - 122 + 232. \\
&:= -2^9 - 4^3 - 20^2 + 32^2 = -29 - 43 - 202 + 322. \\
&:= 3^5 + 5^3 + 38^2 - 42^2 = 35 + 53 + 382 - 422. \\
&:= 3^6 + 12^2 + 32^2 - 43^2 = 36 + 122 + 322 - 432.
\end{aligned}$$

$$\begin{aligned}
49 &:= 2^2 - 3^2 - 3^3 + 9^2 = 22 - 32 - 33 + 92. \\
&:= 2^2 - 6^3 - 10^2 + 19^2 = 22 - 63 - 102 + 192. \\
&:= -2^3 + 3^2 - 4^2 + 8^2 = -23 + 32 - 42 + 82. \\
&:= -2^3 + 5^2 - 7^2 + 9^2 = -23 + 52 - 72 + 92. \\
&:= -2^4 - 2^4 + 2^5 + 7^2 = -24 - 24 + 25 + 72. \\
&:= 2^4 - 2^5 - 4^2 + 9^2 = 24 - 25 - 42 + 92. \\
&:= 2^4 - 3^5 - 20^2 + 26^2 = 24 - 35 - 202 + 262. \\
&:= 2^8 - 2^9 - 28^2 + 33^2 = 28 - 29 - 282 + 332. \\
&:= 3^2 - 6^3 - 12^2 + 20^2 = 32 - 63 - 122 + 202. \\
&:= -3^3 + 5^2 - 7^2 + 10^2 = -33 + 52 - 72 + 102.
\end{aligned}$$

$$\begin{aligned}
49 &:= -3^3 + 7^2 - 13^2 + 14^2 = -33 + 72 - 132 + 142. \\
&:= -4^3 + 5^2 - 9^2 + 13^2 = -43 + 52 - 92 + 132. \\
&:= -4^3 + 7^2 - 15^2 + 17^2 = -43 + 72 - 152 + 172. \\
&:= -4^3 + 8^2 - 24^2 + 25^2 = -43 + 82 - 242 + 252. \\
&:= -4^3 - 4^5 + 5^4 + 8^3 = -43 - 45 + 54 + 83. \\
&:= 5^2 - 6^3 - 17^2 + 23^2 = 52 - 63 - 172 + 232. \\
&:= -6^3 + 7^2 - 25^2 + 29^2 = -63 + 72 - 252 + 292. \\
&:= -6^3 + 8^2 - 32^2 + 35^2 = -63 + 82 - 322 + 352. \\
&:= -7^3 + 8^2 - 39^2 + 43^2 = -73 + 82 - 392 + 432.
\end{aligned}$$

$$\begin{aligned}
50 &:= 2^8 + 5^2 + 37^2 - 40^2 = 28 + 52 + 372 - 402. \\
&:= 2^8 + 7^2 + 23^2 - 28^2 = 28 + 72 + 232 - 282. \\
&:= 2^8 + 9^2 + 17^2 - 24^2 = 28 + 92 + 172 - 242. \\
&:= 2^9 + 5^2 + 5^2 - 8^3 = 29 + 52 + 52 - 83.
\end{aligned}$$

$$\begin{aligned}
51 &:= 2^4 - 5^3 - 6^2 + 14^2 = 24 - 53 - 62 + 142. \\
&:= 8^4 - 17^3 - 24^2 + 38^2 = 84 - 173 - 242 + 382.
\end{aligned}$$

$$\begin{aligned}
52 &:= -3^5 - 5^3 - 8^2 + 22^2 = -35 - 53 - 82 + 222. \\
&:= 3^9 + 4^5 + 9^2 - 12^4 = 39 + 45 + 92 - 124.
\end{aligned}$$

$$53 := -3^2 + 3^7 - 5^5 + 10^3 = -32 + 37 - 55 + 103.$$

$$\begin{aligned}
54 &:= -2^5 - 2^6 + 5^2 + 5^3 = -25 - 26 + 52 + 53. \\
&:= -5^2 - 5^4 - 14^2 + 30^2 = -52 - 54 - 142 + 302. \\
&:= -5^4 - 9^2 - 9^2 + 29^2 = -54 - 92 - 92 + 292.
\end{aligned}$$

$$\begin{aligned}
55 &:= 2^2 + 2^6 - 2^8 + 3^5 = 22 + 26 - 28 + 35. \\
&:= 2^2 + 4^3 + 6^2 - 7^2 = 22 + 43 + 62 - 72. \\
&:= 2^2 + 6^3 + 26^2 - 29^2 = 22 + 63 + 262 - 292. \\
&:= 2^8 - 9^3 - 16^2 + 28^2 = 28 - 93 - 162 + 282. \\
&:= 5^2 + 5^3 + 7^2 - 12^2 = 52 + 53 + 72 - 122. \\
&:= 6^3 + 8^2 + 8^2 - 17^2 = 63 + 82 + 82 - 172.
\end{aligned}$$

$$\begin{aligned}
56 &:= -2^6 + 6^2 - 20^2 + 22^2 = -26 + 62 - 202 + 222. \\
&:= -2^6 + 7^2 - 35^2 + 36^2 = -26 + 72 - 352 + 362. \\
&:= -2^7 + 4^3 - 13^2 + 17^2 = -27 + 43 - 132 + 172. \\
&:= -2^8 + 4^4 - 5^2 + 9^2 = -28 + 44 - 52 + 92. \\
&:= -2^9 + 3^5 - 30^2 + 35^2 = -29 + 35 - 302 + 352. \\
&:= -3^6 + 8^2 - 15^3 + 16^3 = -36 + 82 - 153 + 163.
\end{aligned}$$

$$\begin{aligned}
57 &:= 2^2 + 2^6 - 3^3 + 4^2 = 22 + 26 - 33 + 42. \\
&:= 2^3 + 2^4 - 16^2 + 17^2 = 23 + 24 - 162 + 172. \\
&:= 2^3 + 4^6 + 7^2 - 8^4 = 23 + 46 + 72 - 84. \\
&:= 2^4 + 5^3 + 20^2 - 22^2 = 24 + 53 + 202 - 222. \\
&:= 2^4 - 2^5 + 2^6 + 3^2 = 24 - 25 + 26 + 32.
\end{aligned}$$

$$\begin{aligned}
57 &:= -2^4 - 2^5 - 2^6 + 13^2 = -24 - 25 - 26 + 132. \\
&:= 3^3 + 3^4 + 25^2 - 26^2 = 33 + 34 + 252 - 262. \\
&:= 3^4 + 6^3 + 28^2 - 32^2 = 34 + 63 + 282 - 322. \\
&:= 4^4 + 6^3 + 39^2 - 44^2 = 44 + 63 + 392 - 442. \\
&:= 4^5 + 23^2 + 23^2 - 45^2 = 45 + 232 + 232 - 452.
\end{aligned}$$

$$\begin{aligned}
58 &:= -2^4 + 3^2 - 4^2 + 9^2 = -24 + 32 - 42 + 92. \\
&:= -2^4 + 7^2 - 12^2 + 13^2 = -24 + 72 - 122 + 132. \\
&:= -2^8 + 3^7 - 13^3 + 18^2 = -28 + 37 - 133 + 182. \\
&:= -3^4 + 8^2 - 37^2 + 38^2 = -34 + 82 - 372 + 382. \\
&:= -3^5 + 5^3 - 20^2 + 24^2 = -35 + 53 - 202 + 242. \\
&:= -5^5 + 15^3 + 22^2 - 26^2 = -55 + 153 + 222 - 262.
\end{aligned}$$

$$\begin{aligned}
59 &:= 2^4 + 2^5 - 5^2 + 6^2 = 24 + 25 - 52 + 62. & 60 &:= -7^2 + 18^2 + 19^2 - 24^2 = -72 + 182 + 192 - 242. \\
&:= 2^6 + 4^3 + 34^2 - 35^2 = 26 + 43 + 342 - 352. & &:= -8^2 + 16^2 + 32^2 - 34^2 = -82 + 162 + 322 - 342. \\
&:= 2^7 + 4^2 + 42^2 - 43^2 = 27 + 42 + 422 - 432. & &:= -8^2 + 17^2 + 26^2 - 29^2 = -82 + 172 + 262 - 292. \\
&:= 2^7 + 6^2 + 16^2 - 19^2 = 27 + 62 + 162 - 192. & &:= -8^2 + 18^2 + 23^2 - 27^2 = -82 + 182 + 232 - 272. \\
&:= -2^7 - 5^4 - 22^2 + 36^2 = -27 - 54 - 222 + 362. & &:= -8^2 + 20^2 + 20^2 - 26^2 = -82 + 202 + 202 - 262. \\
&:= -2^8 - 9^3 - 20^2 + 38^2 = -28 - 93 - 202 + 382. & &:= -9^2 + 17^2 + 36^2 - 38^2 = -92 + 172 + 362 - 382. \\
& & &:= -9^2 + 18^2 + 29^2 - 32^2 = -92 + 182 + 292 - 322. \\
60 &:= -10^2 + 18^2 + 40^2 - 42^2 = -102 + 182 + 402 - 422. & 61 &:= 2^6 + 4^5 + 18^3 - 19^3 = 26 + 45 + 183 - 193. \\
&:= -10^2 + 19^2 + 32^2 - 35^2 = -102 + 192 + 322 - 352. & &:= 2^9 + 13^2 + 26^2 - 36^2 = 29 + 132 + 262 - 362. \\
&:= -10^2 + 20^2 + 28^2 - 32^2 = -102 + 202 + 282 - 322. & &:= -3^5 - 4^4 - 13^2 + 27^2 = -35 - 44 - 132 + 272. \\
&:= -10^2 + 22^2 + 24^2 - 30^2 = -102 + 222 + 242 - 302. & &:= -3^6 - 5^3 - 23^2 + 38^2 = -36 - 53 - 232 + 382. \\
&:= -12^2 + 22^2 + 33^2 - 37^2 = -122 + 222 + 332 - 372. & & \\
60 &:= -12^2 + 23^2 + 30^2 - 35^2 = -122 + 232 + 302 - 352. & 62 &:= 3^5 - 10^3 - 25^2 + 38^2 = 35 - 103 - 252 + 382. \\
&:= -12^2 + 24^2 + 28^2 - 34^2 = -122 + 242 + 282 - 342. & & \\
&:= -13^2 + 25^2 + 30^2 - 36^2 = -132 + 252 + 302 - 362. & 63 &:= -5^3 - 5^3 - 6^3 + 23^2 = -53 - 53 - 63 + 232. \\
&:= 13^3 - 13^4 - 24^2 + 30^3 = 133 - 134 - 242 + 303. & &:= -5^4 - 8^3 - 20^2 + 40^2 = -54 - 83 - 202 + 402. \\
&:= -14^2 + 24^2 + 38^2 - 42^2 = -142 + 242 + 382 - 422. & 64 &:= 2^2 + 2^2 - 13^2 + 15^2 = 22 + 22 - 132 + 152. \\
&:= -14^2 + 26^2 + 32^2 - 38^2 = -142 + 262 + 322 - 382. & &:= 2^2 + 2^2 - 2^3 + 4^3 = 22 + 22 - 23 + 43. \\
&:= -14^2 + 28^2 + 29^2 - 37^2 = -142 + 282 + 292 - 372. & &:= 2^2 + 3^2 - 25^2 + 26^2 = 22 + 32 - 252 + 262. \\
&:= -15^2 + 27^2 + 34^2 - 40^2 = -152 + 272 + 342 - 402. & &:= -2^8 - 2^8 - 18^2 + 30^2 = -28 - 28 - 182 + 302. \\
&:= -16^2 + 28^2 + 36^2 - 42^2 = -162 + 282 + 362 - 422. & &:= 2^9 - 4^5 - 32^2 + 40^2 = 29 - 45 - 322 + 402. \\
&:= -17^2 + 29^2 + 38^2 - 44^2 = -172 + 292 + 382 - 442. & & \\
60 &:= -17^2 + 32^2 + 33^2 - 42^2 = -172 + 322 + 332 - 422. & 65 &:= -2^2 - 2^2 - 6^3 + 17^2 = -22 - 22 - 63 + 172. \\
&:= -18^2 + 32^2 + 36^2 - 44^2 = -182 + 322 + 362 - 442. & &:= 2^2 - 2^7 - 10^2 + 17^2 = 22 - 27 - 102 + 172. \\
&:= -2^3 + 3^5 - 4^4 + 9^2 = -23 + 35 - 44 + 92. & &:= -2^6 + 5^2 - 5^4 + 9^3 = -26 + 52 - 54 + 93. \\
&:= -3^2 + 10^2 + 15^2 - 16^2 = -32 + 102 + 152 - 162. & &:= -2^7 + 5^2 - 19^2 + 23^2 = -27 + 52 - 192 + 232. \\
&:= -3^2 - 4^2 + 6^2 + 7^2 = -32 - 42 + 62 + 72. & &:= -2^7 + 7^2 - 35^2 + 37^2 = -27 + 72 - 352 + 372. \\
&:= -3^3 + 3^5 - 4^4 + 10^2 = -33 + 35 - 44 + 102. & &:= -2^8 + 6^3 - 16^2 + 19^2 = -28 + 63 - 162 + 192. \\
&:= -4^2 + 12^2 + 16^2 - 18^2 = -42 + 122 + 162 - 182. & &:= -5^2 - 9^2 - 9^3 + 30^2 = -52 - 92 - 93 + 302. \\
&:= -4^2 + 13^2 + 14^2 - 17^2 = -42 + 132 + 142 - 172. & 66 &:= 2^3 + 3^3 - 15^2 + 16^2 = 23 + 33 - 152 + 162. \\
&:= -5^2 + 12^2 + 29^2 - 30^2 = -52 + 122 + 292 - 302. & &:= 2^3 + 5^3 + 33^2 - 34^2 = 23 + 53 + 332 - 342. \\
&:= -5^2 + 13^2 + 20^2 - 22^2 = -52 + 132 + 202 - 222. & &:= -2^4 + 2^6 + 3^2 + 3^2 = -24 + 26 + 32 + 32. \\
&:= -5^2 + 14^2 + 17^2 - 20^2 = -52 + 142 + 172 - 202. & &:= 2^5 - 2^7 + 3^4 + 3^4 = 25 - 27 + 34 + 34. \\
60 &:= -6^2 + 13^2 + 36^2 - 37^2 = -62 + 132 + 362 - 372. & &:= 3^3 + 4^3 + 12^2 - 13^2 = 33 + 43 + 122 - 132. \\
&:= -6^2 + 14^2 + 24^2 - 26^2 = -62 + 142 + 242 - 262. & &:= 3^3 + 7^3 + 36^2 - 40^2 = 33 + 73 + 362 - 402. \\
&:= -6^2 + 15^2 + 20^2 - 23^2 = -62 + 152 + 202 - 232. & &:= 3^4 + 4^2 + 15^2 - 16^2 = 34 + 42 + 152 - 162. \\
&:= -6^2 + 16^2 + 18^2 - 22^2 = -62 + 162 + 182 - 222. & &:= 3^4 + 6^2 + 7^2 - 10^2 = 34 + 62 + 72 - 102. \\
&:= -7^2 + 14^2 + 43^2 - 44^2 = -72 + 142 + 432 - 442. & &:= 4^3 + 5^3 + 19^2 - 22^2 = 43 + 53 + 192 - 222. \\
&:= -7^2 + 15^2 + 28^2 - 30^2 = -72 + 152 + 282 - 302. & &:= 5^3 + 6^3 + 25^2 - 30^2 = 53 + 63 + 252 - 302. \\
&:= -7^2 + 16^2 + 23^2 - 26^2 = -72 + 162 + 232 - 262. & &:= 5^4 + 9^2 + 36^2 - 44^2 = 54 + 92 + 362 - 442. \\
& & &:= 6^2 + 10^4 + 13^3 - 23^3 = 62 + 104 + 133 - 233.
\end{aligned}$$

$$\begin{aligned}
67 &:= -2^5 + 6^2 - 9^2 + 12^2 = -25 + 62 - 92 + 122. \\
&:= -2^5 + 8^2 - 17^2 + 18^2 = -25 + 82 - 172 + 182. \\
&:= 3^2 - 3^5 - 18^2 + 25^2 = 32 - 35 - 182 + 252. \\
&:= -3^5 + 7^2 - 42^2 + 45^2 = -35 + 72 - 422 + 452. \\
&:= -3^6 + 9^3 - 33^2 + 34^2 = -36 + 93 - 332 + 342.
\end{aligned}$$

$$\begin{aligned}
68 &:= 2^3 + 2^5 - 6^2 + 8^2 = 23 + 25 - 62 + 82. \\
&:= 2^4 + 2^4 - 8^2 + 10^2 = 24 + 24 - 82 + 102. \\
&:= 2^5 + 3^3 - 4^2 + 5^2 = 25 + 33 - 42 + 52. \\
&:= 2^5 + 5^3 + 44^2 - 45^2 = 25 + 53 + 442 - 452. \\
&:= -2^5 - 2^6 - 5^3 + 17^2 = -25 - 26 - 53 + 172. \\
&:= 2^6 + 6^2 + 7^2 - 9^2 = 26 + 62 + 72 - 92. \\
&:= 2^8 - 2^9 + 3^4 + 3^5 = 28 - 29 + 34 + 35. \\
&:= -2^9 - 4^3 - 16^2 + 30^2 = -29 - 43 - 162 + 302.
\end{aligned}$$

$$\begin{aligned}
69 &:= -14^4 + 25^2 + 34^3 - 38^2 = -144 + 252 + 343 - 382. \\
&:= -2^2 + 2^3 - 2^4 + 9^2 = -22 + 23 - 24 + 92. \\
&:= 2^2 - 10^3 - 28^2 + 43^2 = 22 - 103 - 282 + 432. \\
&:= -2^3 - 6^2 + 7^2 + 8^2 = -23 - 62 + 72 + 82. \\
&:= 2^6 - 2^7 - 6^2 + 13^2 = 26 - 27 - 62 + 132.
\end{aligned}$$

$$\begin{aligned}
69 &:= 2^6 - 4^7 - 20^3 + 29^3 = 26 - 47 - 203 + 293. \\
&:= -3^3 - 7^2 + 8^2 + 9^2 = -33 - 72 + 82 + 92. \\
&:= 3^4 - 3^5 - 13^2 + 20^2 = 34 - 35 - 132 + 202. \\
&:= -4^3 + 10^2 - 16^2 + 17^2 = -43 + 102 - 162 + 172. \\
&:= -4^3 + 5^2 - 6^2 + 12^2 = -43 + 52 - 62 + 122. \\
&:= -4^3 + 8^2 - 10^2 + 13^2 = -43 + 82 - 102 + 132. \\
&:= -4^3 + 9^2 - 12^2 + 14^2 = -43 + 92 - 122 + 142. \\
&:= -4^5 + 5^4 - 36^2 + 42^2 = -45 + 54 - 362 + 422. \\
&:= 5^2 - 7^3 - 17^2 + 26^2 = 52 - 73 - 172 + 262. \\
&:= -5^3 + 7^2 - 12^2 + 17^2 = -53 + 72 - 122 + 172. \\
&:= -7^3 + 8^2 - 26^2 + 32^2 = -73 + 82 - 262 + 322.
\end{aligned}$$

$$70 := 2^5 + 2^8 - 3^5 + 5^2 = 25 + 28 - 35 + 52.$$

$$\begin{aligned}
71 &:= 2^4 - 4^2 - 5^3 + 14^2 = 24 - 42 - 53 + 142. \\
&:= 4^5 - 5^2 - 5^5 + 13^3 = 45 - 52 - 55 + 133. \\
&:= -5^2 + 14^3 + 20^3 - 22^3 = -52 + 143 + 203 - 223.
\end{aligned}$$

$$72 := -2^2 - 2^5 - 6^3 + 18^2 = -22 - 25 - 63 + 182.$$

$$\begin{aligned}
73 &:= -2^3 + 2^7 - 6^3 + 13^2 = -23 + 27 - 63 + 132. \\
&:= 2^7 - 4^3 - 6^3 + 15^2 = 27 - 43 - 63 + 152.
\end{aligned}$$

$$\begin{aligned}
74 &:= -2^8 + 5^2 - 28^2 + 33^2 = -28 + 52 - 282 + 332. \\
&:= -2^8 - 4^5 + 5^4 + 9^3 = -28 - 45 + 54 + 93. \\
&:= -2^9 + 7^3 - 39^2 + 42^2 = -29 + 73 - 392 + 422. \\
&:= -2^9 - 3^5 + 3^6 + 10^2 = -29 - 35 + 36 + 102. \\
&:= -6^4 - 13^2 - 15^2 + 42^2 = -64 - 132 - 152 + 422.
\end{aligned}$$

$$\begin{aligned}
75 &:= 2^2 + 2^3 - 9^2 + 12^2 = 22 + 23 - 92 + 122. \\
&:= 2^2 + 3^3 - 10^2 + 12^2 = 22 + 33 - 102 + 122. \\
&:= 2^2 - 3^2 + 4^2 + 4^3 = 22 - 32 + 42 + 43. \\
&:= 2^3 + 4^2 - 25^2 + 26^2 = 23 + 42 - 252 + 262. \\
&:= 2^4 - 2^5 + 3^3 + 4^3 = 24 - 25 + 33 + 43. \\
&:= 3^2 + 3^3 - 19^2 + 20^2 = 32 + 33 - 192 + 202. \\
&:= 3^2 + 5^3 + 29^2 - 30^2 = 32 + 53 + 292 - 302.
\end{aligned}$$

$$\begin{aligned}
76 &:= -2^5 - 3^4 + 5^3 + 8^2 = -25 - 34 + 53 + 82. \\
&:= -2^6 + 5^2 - 9^2 + 14^2 = -26 + 52 - 92 + 142. \\
&:= -2^6 + 8^2 - 18^2 + 20^2 = -26 + 82 - 182 + 202. \\
&:= -2^6 + 9^2 - 29^2 + 30^2 = -26 + 92 - 292 + 302. \\
&:= -3^8 + 9^4 - 18^2 + 20^2 = -38 + 94 - 182 + 202.
\end{aligned}$$

$$\begin{aligned}
77 &:= 2^2 + 2^6 - 3^3 + 6^2 = 22 + 26 - 33 + 62. \\
&:= -2^2 + 3^3 + 3^3 + 3^3 = -22 + 33 + 33 + 33. \\
&:= 2^5 + 3^2 - 8^2 + 10^2 = 25 + 32 - 82 + 102. \\
&:= 2^5 + 4^2 - 14^2 + 15^2 = 25 + 42 - 142 + 152.
\end{aligned}$$

$$\begin{aligned}
78 &:= -2^4 - 6^2 + 7^2 + 9^2 = -24 - 62 + 72 + 92. \\
&:= -3^4 + 10^2 - 29^2 + 30^2 = -34 + 102 - 292 + 302. \\
&:= -3^5 + 6^3 - 8^2 + 13^2 = -35 + 63 - 82 + 132. \\
&:= -5^5 + 15^3 + 42^2 - 44^2 = -55 + 153 + 422 - 442.
\end{aligned}$$

$$\begin{aligned}
79 &:= -2^5 - 3^6 - 23^2 + 37^2 = -25 - 36 - 232 + 372. \\
&:= 2^7 + 3^3 - 5^3 + 7^2 = 27 + 33 - 53 + 72. \\
&:= 2^7 + 6^2 + 42^2 - 43^2 = 27 + 62 + 422 - 432. \\
&:= -2^7 - 5^4 - 18^2 + 34^2 = -27 - 54 - 182 + 342. \\
&:= 3^4 + 6^5 + 35^3 - 37^3 = 34 + 65 + 353 - 373. \\
&:= 3^8 + 4^2 + 19^2 - 19^3 = 38 + 42 + 192 - 193. \\
&:= -5^6 - 6^4 - 10^4 + 30^3 = -56 - 64 - 104 + 303.
\end{aligned}$$



$$\begin{aligned}
80 &:= -10^2 + 22^2 + 36^2 - 40^2 = -102 + 222 + 362 - 402. & 83 &:= -4^5 - 9^2 - 16^2 + 38^2 = -45 - 92 - 162 + 382. \\
&:= -10^2 + 24^2 + 30^2 - 36^2 = -102 + 242 + 302 - 362. & &:= -5^3 - 5^3 - 7^3 + 26^2 = -53 - 53 - 73 + 262. \\
&:= -10^2 + 26^2 + 27^2 - 35^2 = -102 + 262 + 272 - 352. \\
&:= 12^3 - 13^3 - 26^2 + 35^2 = 123 - 133 - 262 + 352. & 84 &:= 2^2 + 4^2 - 15^2 + 17^2 = 22 + 42 - 152 + 172. \\
&:= -13^2 + 27^2 + 37^2 - 43^2 = -132 + 272 + 372 - 432. & &:= 2^2 + 5^2 - 27^2 + 28^2 = 22 + 52 - 272 + 282. \\
&:= -14^2 + 30^2 + 35^2 - 43^2 = -142 + 302 + 352 - 432. & &:= -2^4 + 3^2 + 3^3 + 4^3 = -24 + 32 + 33 + 43. \\
&:= 14^3 - 15^3 - 35^2 + 44^2 = 143 - 153 - 352 + 442. & &:= 2^7 - 5^2 - 7^3 + 18^2 = 27 - 52 - 73 + 182. \\
&:= -16^3 + 27^3 + 40^3 - 43^3 = -163 + 273 + 403 - 433. & &:= 3^2 + 4^2 - 29^2 + 30^2 = 32 + 42 - 292 + 302. \\
&:= -2^2 + 12^2 + 14^2 - 16^2 = -22 + 122 + 142 - 162. \\
&:= -2^2 - 4^2 + 6^2 + 8^2 = -22 - 42 + 62 + 82. & 85 &:= 2^3 - 2^8 - 14^2 + 23^2 = 23 - 28 - 142 + 232. \\
& & &:= -2^5 - 2^6 + 3^4 + 10^2 = -25 - 26 + 34 + 102. \\
80 &:= 2^3 - 6^2 - 6^3 + 18^2 = 23 - 62 - 63 + 182. & &:= -2^7 + 9^2 - 32^2 + 34^2 = -27 + 92 - 322 + 342. \\
&:= -2^4 + 3^5 - 7^3 + 14^2 = -24 + 35 - 73 + 142. & &:= -2^8 + 6^3 - 10^2 + 15^2 = -28 + 63 - 102 + 152. \\
&:= -2^6 + 2^8 - 4^4 + 12^2 = -26 + 28 - 44 + 122. \\
&:= -3^2 + 12^2 + 27^2 - 28^2 = -32 + 122 + 272 - 282. \\
&:= -3^2 + 15^2 + 15^2 - 19^2 = -32 + 152 + 152 - 192. \\
&:= -3^2 - 3^2 + 7^2 + 7^2 = -32 - 32 + 72 + 72. \\
&:= -4^2 + 13^2 + 36^2 - 37^2 = -42 + 132 + 362 - 372. \\
&:= -4^2 + 14^2 + 24^2 - 26^2 = -42 + 142 + 242 - 262. \\
&:= -4^2 + 15^2 + 20^2 - 23^2 = -42 + 152 + 202 - 232. \\
&:= -4^2 + 16^2 + 18^2 - 22^2 = -42 + 162 + 182 - 222. \\
80 &:= 4^3 - 8^3 - 16^2 + 28^2 = 43 - 83 - 162 + 282. \\
&:= 4^4 - 6^3 - 6^3 + 16^2 = 44 - 63 - 63 + 162. \\
&:= -5^2 + 5^3 - 6^3 + 14^2 = -52 + 53 - 63 + 142. \\
&:= -6^2 + 16^2 + 34^2 - 36^2 = -62 + 162 + 342 - 362. \\
&:= -6^2 + 18^2 + 24^2 - 28^2 = -62 + 182 + 242 - 282. \\
&:= -6^2 + 19^2 + 22^2 - 27^2 = -62 + 192 + 222 - 272. \\
&:= 6^3 - 10^3 - 30^2 + 42^2 = 63 - 103 - 302 + 422. \\
&:= 6^3 - 7^2 - 7^3 + 16^2 = 63 - 72 - 73 + 162. \\
&:= -7^3 + 18^3 + 23^3 - 26^3 = -73 + 183 + 233 - 263. \\
80 &:= 7^3 - 10^3 - 28^2 + 39^2 = 73 - 103 - 282 + 392. \\
&:= -8^2 + 20^2 + 30^2 - 34^2 = -82 + 202 + 302 - 342. \\
&:= -9^2 + 25^2 + 25^2 - 33^2 = -92 + 252 + 252 - 332. \\
&:= 9^3 - 10^3 - 15^2 + 24^2 = 93 - 103 - 152 + 242. \\
81 &:= 2^5 + 2^8 - 4^4 + 7^2 = 25 + 28 - 44 + 72. \\
&:= 2^8 + 4^4 - 8^3 + 9^2 = 28 + 44 - 83 + 92. \\
&:= 2^9 + 17^2 + 24^2 - 36^2 = 29 + 172 + 242 - 362. \\
&:= -3^6 - 5^3 - 19^2 + 36^2 = -36 - 53 - 192 + 362. \\
&:= -8^9 - 8^9 + 9^2 + 16^7 = -89 - 89 + 92 + 167. \\
82 &:= 2^2 - 2^7 + 3^4 + 5^3 = 22 - 27 + 34 + 53. \\
&:= 3^5 - 7^2 - 8^3 + 20^2 = 35 - 72 - 83 + 202. \\
&:= 3^6 - 6^4 - 24^2 + 35^2 = 36 - 64 - 242 + 352. \\
& & 86 &:= 2^3 + 3^3 - 7^2 + 10^2 = 23 + 33 - 72 + 102. \\
& & &:= 2^4 + 5^2 - 22^2 + 23^2 = 24 + 52 - 222 + 232. \\
& & &:= 3^3 + 3^3 - 7^2 + 9^2 = 33 + 33 - 72 + 92. \\
& & &:= 3^4 + 6^2 + 15^2 - 16^2 = 34 + 62 + 152 - 162. \\
& & &:= 3^4 + 7^2 + 10^2 - 12^2 = 34 + 72 + 102 - 122. \\
& & &:= 4^4 + 7^2 + 35^2 - 38^2 = 44 + 72 + 352 - 382. \\
& & &:= 5^3 + 5^3 + 40^2 - 42^2 = 53 + 53 + 402 - 422. \\
& & 87 &:= -2^3 - 2^5 + 3^3 + 10^2 = -23 - 25 + 33 + 102. \\
& & &:= -2^5 + 12^2 + 12^2 - 13^2 = -25 + 122 + 122 - 132. \\
& & &:= -2^5 - 9^2 + 10^2 + 10^2 = -25 - 92 + 102 + 102. \\
& & &:= -3^4 - 4^4 + 7^3 + 9^2 = -34 - 44 + 73 + 92. \\
& & &:= -3^4 - 5^4 + 8^2 + 9^3 = -34 - 54 + 82 + 93. \\
& & &:= -3^5 + 9^2 - 40^2 + 43^2 = -35 + 92 - 402 + 432. \\
& & &:= -3^6 + 8^3 - 36^2 + 40^2 = -36 + 83 - 362 + 402. \\
& & &:= -3^6 + 9^3 - 13^2 + 16^2 = -36 + 93 - 132 + 162. \\
& & &:= -5^6 + 15^4 + 32^2 - 33^3 = -56 + 154 + 322 - 333. \\
& & 88 &:= 2^2 + 2^7 - 5^3 + 9^2 = 22 + 27 - 53 + 92. \\
& & &:= 2^3 + 2^5 - 4^2 + 8^2 = 23 + 25 - 42 + 82. \\
& & &:= -2^3 - 2^7 - 6^5 + 20^3 = -23 - 27 - 65 + 203. \\
& & &:= 2^4 + 2^4 - 5^2 + 9^2 = 24 + 24 - 52 + 92. \\
& & &:= -2^5 - 2^6 - 6^3 + 20^2 = -25 - 26 - 63 + 202. \\
& & 89 &:= 2^6 + 4^3 - 4^4 + 6^3 = 26 + 43 - 44 + 63. \\
& & &:= 2^6 + 7^2 + 12^2 - 13^2 = 26 + 72 + 122 - 132. \\
& & &:= -2^7 - 3^3 - 3^4 + 18^2 = -27 - 33 - 34 + 182. \\
& & &:= -2^7 - 3^4 - 4^3 + 19^2 = -27 - 34 - 43 + 192. \\
& & &:= 2^7 - 3^6 + 4^3 + 5^4 = 27 - 36 + 43 + 54. \\
& & &:= -2^8 - 5^4 - 20^2 + 37^2 = -28 - 54 - 202 + 372.
\end{aligned}$$

$$\begin{aligned}
89 &:= -2^3 + 12^2 + 23^2 - 24^2 = -23 + 122 + 232 - 242. \\
&:= -2^3 + 13^2 + 17^2 - 19^2 = -23 + 132 + 172 - 192. \\
&:= -2^3 + 14^2 + 15^2 - 18^2 = -23 + 142 + 152 - 182. \\
&:= -2^3 - 3^2 + 5^2 + 9^2 = -23 - 32 + 52 + 92. \\
&:= -2^3 - 4^2 + 7^2 + 8^2 = -23 - 42 + 72 + 82. \\
&:= 2^6 - 2^7 - 4^2 + 13^2 = 26 - 27 - 42 + 132. \\
&:= -3^2 - 3^3 + 5^2 + 10^2 = -32 - 33 + 52 + 102. \\
&:= -3^3 + 13^2 + 26^2 - 27^2 = -33 + 132 + 262 - 272. \\
&:= -4^2 - 4^3 + 5^2 + 12^2 = -42 - 43 + 52 + 122. \\
&:= 4^2 - 8^3 - 16^2 + 29^2 = 42 - 83 - 162 + 292.
\end{aligned}$$

$$\begin{aligned}
89 &:= -4^3 + 15^2 + 17^2 - 19^2 = -43 + 152 + 172 - 192. \\
&:= 5^2 - 5^3 - 6^2 + 15^2 = 52 - 53 - 62 + 152. \\
&:= 5^2 - 6^3 - 9^2 + 19^2 = 52 - 63 - 92 + 192. \\
&:= 5^2 - 7^3 - 13^2 + 24^2 = 52 - 73 - 132 + 242. \\
&:= 5^2 - 8^3 - 18^2 + 30^2 = 52 - 83 - 182 + 302. \\
&:= 5^2 - 9^3 - 24^2 + 37^2 = 52 - 93 - 242 + 372. \\
&:= -5^3 + 13^2 - 22^2 + 23^2 = -53 + 132 - 222 + 232. \\
&:= -5^4 + 7^3 - 23^2 + 30^2 = -54 + 73 - 232 + 302. \\
&:= -6^3 + 10^2 - 18^2 + 23^2 = -63 + 102 - 182 + 232. \\
&:= -6^3 + 13^2 - 33^2 + 35^2 = -63 + 132 - 332 + 352.
\end{aligned}$$

$$\begin{aligned}
89 &:= -6^3 + 7^2 - 12^2 + 20^2 = -63 + 72 - 122 + 202. \\
&:= -7^3 + 12^2 - 34^2 + 38^2 = -73 + 122 - 342 + 382. \\
&:= -7^3 + 8^2 - 19^2 + 27^2 = -73 + 82 - 192 + 272. \\
&:= -8^4 + 16^3 - 44^2 + 45^2 = -84 + 163 - 442 + 452.
\end{aligned}$$

$$90 := -3^5 - 3^5 - 10^2 + 26^2 = -35 - 35 - 102 + 262.$$

$$\begin{aligned}
91 &:= -2^2 + 2^5 - 3^4 + 12^2 = -22 + 25 - 34 + 122. \\
&:= 3^5 - 5^4 - 16^2 + 27^2 = 35 - 54 - 162 + 272. \\
&:= 6^4 - 13^3 - 23^2 + 39^2 = 64 - 133 - 232 + 392. \\
&:= -8^2 + 18^3 + 43^3 - 44^3 = -82 + 183 + 433 - 443.
\end{aligned}$$

$$\begin{aligned}
92 &:= -2^2 - 3^6 - 20^2 + 35^2 = -22 - 36 - 202 + 352. \\
&:= -2^4 - 5^3 - 7^3 + 24^2 = -24 - 53 - 73 + 242. \\
&:= -3^5 - 5^2 - 6^3 + 24^2 = -35 - 52 - 63 + 242.
\end{aligned}$$

$$\begin{aligned}
93 &:= 2^4 - 2^6 + 4^2 + 5^3 = 24 - 26 + 42 + 53. \\
&:= -2^8 + 3^4 + 3^5 + 5^2 = -28 + 34 + 35 + 52. \\
&:= 3^9 - 5^7 - 28^2 + 39^3 = 39 - 57 - 282 + 393.
\end{aligned}$$

$$\begin{aligned}
95 &:= 2^2 + 3^3 - 6^2 + 10^2 = 22 + 33 - 62 + 102. \\
&:= 2^2 - 3^2 + 4^3 + 6^2 = 22 - 32 + 43 + 62. \\
&:= 2^3 + 2^8 - 2^9 + 7^3 = 23 + 28 - 29 + 73. \\
&:= 2^3 + 6^2 - 25^2 + 26^2 = 23 + 62 - 252 + 262. \\
&:= -3^3 + 3^4 + 4^2 + 5^2 = -33 + 34 + 42 + 52.
\end{aligned}$$

$$\begin{aligned}
95 &:= 3^3 + 4^2 - 12^2 + 14^2 = 33 + 42 - 122 + 142. \\
&:= 4^2 + 4^3 - 7^2 + 8^2 = 42 + 43 - 72 + 82. \\
&:= 5^2 + 5^3 + 27^2 - 28^2 = 52 + 53 + 272 - 282. \\
&:= 7^3 + 8^2 + 23^2 - 29^2 = 73 + 82 + 232 - 292. \\
&:= 7^3 + 9^2 + 20^2 - 27^2 = 73 + 92 + 202 - 272.
\end{aligned}$$

$$\begin{aligned}
96 &:= -2^2 - 2^8 + 4^4 + 10^2 = -22 - 28 + 44 + 102. \\
&:= 2^4 - 2^5 - 2^5 + 12^2 = 24 - 25 - 25 + 122. \\
&:= -2^6 + 10^2 - 14^2 + 16^2 = -26 + 102 - 142 + 162. \\
&:= -2^6 + 4^2 - 5^2 + 13^2 = -26 + 42 - 52 + 132. \\
&:= -2^6 + 8^2 - 10^2 + 14^2 = -26 + 82 - 102 + 142. \\
&:= -2^7 + 4^3 - 6^2 + 14^2 = -27 + 43 - 62 + 142. \\
&:= -3^8 + 9^4 - 10^2 + 14^2 = -38 + 94 - 102 + 142.
\end{aligned}$$

$$\begin{aligned}
97 &:= -2^3 + 2^6 + 4^2 + 5^2 = -23 + 26 + 42 + 52. \\
&:= 2^4 + 3^4 - 4^3 + 8^2 = 24 + 34 - 43 + 82. \\
&:= 2^4 - 2^5 + 2^6 + 7^2 = 24 - 25 + 26 + 72. \\
&:= 2^5 + 3^2 - 5^2 + 9^2 = 25 + 32 - 52 + 92. \\
&:= 2^5 + 6^2 - 14^2 + 15^2 = 25 + 62 - 142 + 152. \\
&:= 2^7 - 3^4 + 5^2 + 5^2 = 27 - 34 + 52 + 52. \\
&:= 3^5 + 13^2 + 19^2 - 26^2 = 35 + 132 + 192 - 262. \\
&:= 4^2 + 4^9 - 8^6 + 9^2 = 42 + 49 - 86 + 92.
\end{aligned}$$

$$\begin{aligned}
98 &:= -2^4 + 13^2 + 27^2 - 28^2 = -24 + 132 + 272 - 282. \\
&:= -2^4 + 15^2 + 17^2 - 20^2 = -24 + 152 + 172 - 202. \\
&:= -2^4 - 4^2 + 7^2 + 9^2 = -24 - 42 + 72 + 92. \\
&:= -3^3 + 5^3 - 8^8 + 16^6 = -33 + 53 - 88 + 166. \\
&:= -3^4 + 12^2 - 17^2 + 18^2 = -34 + 122 - 172 + 182. \\
&:= -3^4 + 8^2 - 9^2 + 14^2 = -34 + 82 - 92 + 142.
\end{aligned}$$

$$\begin{aligned}
99 &:= -2^2 - 2^9 - 13^2 + 28^2 = -22 - 29 - 132 + 282. \\
&:= 2^7 + 10^2 + 20^2 - 23^2 = 27 + 102 + 202 - 232. \\
&:= 3^5 + 7^5 + 25^2 - 26^3 = 35 + 75 + 252 - 263. \\
&:= -3^5 - 3^6 - 23^2 + 40^2 = -35 - 36 - 232 + 402. \\
&:= 3^7 + 8^3 + 12^2 - 14^3 = 37 + 83 + 122 - 143. \\
&:= 3^7 + 9^2 + 14^3 - 17^3 = 37 + 92 + 143 - 173. \\
&:= 3^8 + 6^2 + 19^2 - 19^3 = 38 + 62 + 192 - 193.
\end{aligned}$$

$$\begin{aligned}
100 &:= -10^2 + 25^2 + 40^2 - 45^2 = -102 + 252 + 402 - 452. & 102 &:= 2^5 - 9^3 - 15^2 + 32^2 = 25 - 93 - 152 + 322. \\
&:= -10^2 + 30^2 + 30^2 - 40^2 = -102 + 302 + 302 - 402. & &:= 2^6 - 5^4 - 19^2 + 32^2 = 26 - 54 - 192 + 322. \\
&:= -12^2 + 30^2 + 37^2 - 45^2 = -122 + 302 + 372 - 452. & &:= -3^3 + 3^6 - 10^3 + 20^2 = -33 + 36 - 103 + 202. \\
&:= -12^2 + 32^2 + 34^2 - 44^2 = -122 + 322 + 342 - 442. \\
&:= -2^2 + 13^2 + 32^2 - 33^2 = -22 + 132 + 322 - 332. & 103 &:= 2^8 + 2^9 - 3^6 + 8^2 = 28 + 29 - 36 + 82. \\
100 &:= -2^2 + 14^2 + 22^2 - 24^2 = -22 + 142 + 222 - 242. \\
&:= -2^2 + 2^4 - 3^4 + 13^2 = -22 + 24 - 34 + 132. \\
&:= -2^2 - 3^2 + 7^2 + 8^2 = -22 - 32 + 72 + 82. \\
&:= 2^3 - 4^2 - 6^3 + 18^2 = 23 - 42 - 63 + 182. \\
&:= 2^3 - 7^2 - 7^3 + 22^2 = 23 - 72 - 73 + 222. \\
100 &:= -3^2 + 14^2 + 43^2 - 44^2 = -32 + 142 + 432 - 442. \\
&:= -3^2 + 15^2 + 28^2 - 30^2 = -32 + 152 + 282 - 302. \\
&:= -3^2 + 16^2 + 23^2 - 26^2 = -32 + 162 + 232 - 262. \\
&:= -3^2 + 18^2 + 19^2 - 24^2 = -32 + 182 + 192 - 242. \\
&:= 3^3 - 8^3 - 12^2 + 27^2 = 33 - 83 - 122 + 272. \\
100 &:= 3^4 - 4^4 - 7^2 + 18^2 = 34 - 44 - 72 + 182. \\
&:= -4^2 + 16^2 + 34^2 - 36^2 = -42 + 162 + 342 - 362. \\
&:= -4^2 + 18^2 + 24^2 - 28^2 = -42 + 182 + 242 - 282. \\
&:= -4^2 + 19^2 + 22^2 - 27^2 = -42 + 192 + 222 - 272. \\
&:= 4^3 - 9^3 - 18^2 + 33^2 = 43 - 93 - 182 + 332. \\
100 &:= -5^2 + 17^2 + 40^2 - 42^2 = -52 + 172 + 402 - 422. \\
&:= -5^2 + 20^2 + 25^2 - 30^2 = -52 + 202 + 252 - 302. \\
&:= 5^3 - 10^3 - 25^2 + 40^2 = 53 - 103 - 252 + 402. \\
&:= -6^2 + 19^2 + 36^2 - 39^2 = -62 + 192 + 362 - 392. \\
&:= -6^2 + 22^2 + 26^2 - 32^2 = -62 + 222 + 262 - 322. \\
100 &:= -7^2 + 24^2 + 27^2 - 34^2 = -72 + 242 + 272 - 342. \\
&:= 7^4 - 9^3 - 13^3 + 25^2 = 74 - 93 - 133 + 252. \\
&:= -8^2 + 22^2 + 38^2 - 42^2 = -82 + 222 + 382 - 422. \\
&:= -8^2 + 23^2 + 34^2 - 39^2 = -82 + 232 + 342 - 392. \\
100 &:= -8^2 + 26^2 + 28^2 - 36^2 = -82 + 262 + 282 - 362. \\
&:= -9^2 + 24^2 + 37^2 - 42^2 = -92 + 242 + 372 - 422. \\
&:= -9^2 + 25^2 + 34^2 - 40^2 = -92 + 252 + 342 - 402. \\
&:= -9^2 + 28^2 + 29^2 - 38^2 = -92 + 282 + 292 - 382. \\
101 &:= -2^3 - 2^5 - 7^3 + 22^2 = -23 - 25 - 73 + 222. \\
&:= -2^4 - 3^3 - 4^4 + 20^2 = -24 - 33 - 44 + 202. \\
&:= 2^9 + 17^2 + 30^2 - 40^2 = 29 + 172 + 302 - 402. \\
&:= -3^5 - 5^4 - 16^2 + 35^2 = -35 - 54 - 162 + 352. \\
104 &:= 2^2 + 6^2 - 15^2 + 17^2 = 22 + 62 - 152 + 172. \\
&:= 2^2 + 7^2 - 25^2 + 26^2 = 22 + 72 - 252 + 262. \\
&:= -2^3 + 2^9 - 5^4 + 15^2 = -23 + 29 - 54 + 152. \\
&:= 2^7 - 2^8 + 4^2 + 6^3 = 27 - 28 + 42 + 63. \\
&:= 3^2 + 6^2 - 29^2 + 30^2 = 32 + 62 - 292 + 302. \\
&:= 4^2 + 4^2 - 17^2 + 19^2 = 42 + 42 - 172 + 192. \\
105 &:= -2^4 - 2^5 + 3^2 + 12^2 = -24 - 25 + 32 + 122. \\
&:= -2^7 + 12^2 - 44^2 + 45^2 = -27 + 122 - 442 + 452. \\
&:= -2^7 + 5^2 - 9^2 + 17^2 = -27 + 52 - 92 + 172. \\
&:= -2^8 - 4^3 + 4^4 + 13^2 = -28 - 43 + 44 + 132. \\
106 &:= 2^3 + 3^4 - 4^3 + 9^2 = 23 + 34 - 43 + 92. \\
&:= 2^3 + 9^3 + 14^3 - 15^3 = 23 + 93 + 143 - 153. \\
&:= -2^4 + 2^6 + 3^2 + 7^2 = -24 + 26 + 32 + 72. \\
&:= 3^4 + 8^2 + 19^2 - 20^2 = 34 + 82 + 192 - 202. \\
&:= 3^4 + 9^2 + 13^2 - 15^2 = 34 + 92 + 132 - 152. \\
&:= 4^4 + 9^2 + 37^2 - 40^2 = 44 + 92 + 372 - 402. \\
&:= 4^6 + 5^2 - 8^4 + 9^2 = 46 + 52 - 84 + 92. \\
107 &:= 2^3 - 2^4 - 3^4 + 14^2 = 23 - 24 - 34 + 142. \\
&:= 2^3 - 2^5 - 5^3 + 16^2 = 23 - 25 - 53 + 162. \\
&:= -2^5 + 14^2 + 28^2 - 29^2 = -25 + 142 + 282 - 292. \\
&:= -2^5 + 7^3 - 7^4 + 13^3 = -25 + 73 - 74 + 133. \\
&:= -2^5 - 5^2 + 8^2 + 10^2 = -25 - 52 + 82 + 102. \\
107 &:= -3^4 - 3^4 + 5^3 + 12^2 = -34 - 34 + 53 + 122. \\
&:= -3^5 + 7^2 - 18^2 + 25^2 = -35 + 72 - 182 + 252. \\
&:= -3^6 + 5^3 - 35^2 + 44^2 = -36 + 53 - 352 + 442. \\
&:= -3^6 + 8^3 - 24^2 + 30^2 = -36 + 83 - 242 + 302. \\
&:= -5^5 + 12^2 - 14^3 + 18^3 = -55 + 122 - 143 + 183. \\
108 &:= 2^3 + 2^6 - 4^3 + 10^2 = 23 + 26 - 43 + 102. \\
&:= 2^6 + 10^2 + 13^2 - 15^2 = 26 + 102 + 132 - 152. \\
&:= 2^6 + 3^3 - 4^3 + 9^2 = 26 + 33 - 43 + 92. \\
&:= 2^6 + 9^2 + 18^2 - 19^2 = 26 + 92 + 182 - 192.
\end{aligned}$$

$$\begin{aligned}
108 &:= -2^6 - 3^6 - 18^2 + 35^2 = -26 - 36 - 182 + 352. & 114 &:= -2^3 - 7^2 - 9^3 + 30^2 = -23 - 72 - 93 + 302. \\
&:= -2^7 - 4^5 - 26^2 + 44^2 = -27 - 45 - 262 + 442. & &:= -2^5 - 2^5 + 3^2 + 13^2 = -25 - 25 + 32 + 132. \\
&:= -2^9 - 4^3 - 10^2 + 28^2 = -29 - 43 - 102 + 282. \\
&:= 4^6 + 9^3 + 14^2 - 17^3 = 46 + 93 + 142 - 173. \\
109 &:= 2^2 - 6^2 - 7^3 + 22^2 = 22 - 62 - 73 + 222. & 115 &:= 2^2 + 3^3 - 4^2 + 10^2 = 22 + 33 - 42 + 102. \\
&:= -2^3 + 14^2 + 39^2 - 40^2 = -23 + 142 + 392 - 402. & &:= 2^6 - 2^8 + 3^5 + 8^2 = 26 - 28 + 35 + 82. \\
&:= -2^3 + 15^2 + 26^2 - 28^2 = -23 + 152 + 262 - 282. & &:= 2^8 - 13^2 - 15^4 + 37^3 = 28 - 132 - 154 + 373. \\
&:= 2^4 - 3^5 - 8^2 + 20^2 = 24 - 35 - 82 + 202. & &:= -3^3 + 3^4 + 5^2 + 6^2 = -33 + 34 + 52 + 62. \\
&:= -3^2 - 3^3 + 8^2 + 9^2 = -32 - 33 + 82 + 92. & &:= 3^3 + 5^2 - 9^2 + 12^2 = 33 + 52 - 92 + 122. \\
& & &:= 3^3 + 6^2 - 12^2 + 14^2 = 33 + 62 - 122 + 142. \\
109 &:= -3^3 + 15^2 + 44^2 - 45^2 = -33 + 152 + 442 - 452. \\
&:= -3^3 + 17^2 + 24^2 - 27^2 = -33 + 172 + 242 - 272. \\
&:= -3^3 + 19^2 + 20^2 - 25^2 = -33 + 192 + 202 - 252. \\
&:= -4^2 + 5^2 - 5^3 + 15^2 = -42 + 52 - 53 + 152. \\
&:= -4^3 + 17^2 + 28^2 - 30^2 = -43 + 172 + 282 - 302. \\
109 &:= -4^4 + 5^3 - 7^2 + 17^2 = -44 + 53 - 72 + 172. \\
&:= -5^3 + 17^2 + 27^2 - 28^2 = -53 + 172 + 272 - 282. \\
&:= 6^2 - 8^3 - 16^2 + 29^2 = 62 - 83 - 162 + 292. \\
&:= -6^3 + 14^2 - 20^2 + 23^2 = -63 + 142 - 202 + 232. \\
109 &:= -6^3 + 15^2 - 24^2 + 26^2 = -63 + 152 - 242 + 262. \\
&:= -6^3 + 16^2 - 34^2 + 35^2 = -63 + 162 - 342 + 352. \\
&:= -6^3 + 8^2 - 10^2 + 19^2 = -63 + 82 - 102 + 192. \\
&:= -6^4 + 9^4 - 18^3 + 26^2 = -64 + 94 - 183 + 262. \\
109 &:= -7^3 + 10^2 - 18^2 + 26^2 = -73 + 102 - 182 + 262. \\
&:= -7^3 + 14^2 - 30^2 + 34^2 = -73 + 142 - 302 + 342. \\
&:= -8^3 + 14^2 - 40^2 + 45^2 = -83 + 142 - 402 + 452. \\
&:= -8^3 + 9^2 - 22^2 + 32^2 = -83 + 92 - 222 + 322. \\
110 &:= 2^8 + 13^2 + 29^2 - 34^2 = 28 + 132 + 292 - 342. \\
&:= 2^8 + 15^2 + 23^2 - 30^2 = 28 + 152 + 232 - 302. \\
111 &:= -5^2 + 10^4 - 22^3 + 28^2 = -52 + 104 - 223 + 282. \\
&:= -8^2 + 12^4 - 13^4 + 20^3 = -82 + 124 - 134 + 203. \\
112 &:= -2^2 - 3^5 - 5^3 + 22^2 = -22 - 35 - 53 + 222. \\
&:= -4^3 - 4^5 - 20^2 + 40^2 = -43 - 45 - 202 + 402. \\
113 &:= 2^4 - 2^6 + 5^3 + 6^2 = 24 - 26 + 53 + 62. \\
&:= 2^5 - 2^9 + 3^4 + 8^3 = 25 - 29 + 34 + 83. \\
&:= 2^6 - 8^2 - 8^3 + 25^2 = 26 - 82 - 83 + 252. \\
&:= 3^8 - 8^3 - 9^4 + 25^2 = 38 - 83 - 94 + 252. \\
&:= -4^3 + 4^7 - 26^3 + 37^2 = -43 + 47 - 263 + 372. \\
&:= 4^7 - 6^3 - 26^3 + 39^2 = 47 - 63 - 263 + 392. \\
114 &:= -2^3 - 7^2 - 9^3 + 30^2 = -23 - 72 - 93 + 302. \\
&:= -2^5 - 2^5 + 3^2 + 13^2 = -25 - 25 + 32 + 132. \\
115 &:= 2^2 + 3^3 - 4^2 + 10^2 = 22 + 33 - 42 + 102. \\
&:= 2^6 - 2^8 + 3^5 + 8^2 = 26 - 28 + 35 + 82. \\
&:= 2^8 - 13^2 - 15^4 + 37^3 = 28 - 132 - 154 + 373. \\
&:= -3^3 + 3^4 + 5^2 + 6^2 = -33 + 34 + 52 + 62. \\
&:= 3^3 + 5^2 - 9^2 + 12^2 = 33 + 52 - 92 + 122. \\
&:= 3^3 + 6^2 - 12^2 + 14^2 = 33 + 62 - 122 + 142. \\
115 &:= 3^3 + 7^2 - 19^2 + 20^2 = 33 + 72 - 192 + 202. \\
&:= 4^3 + 6^2 - 7^2 + 8^2 = 43 + 62 - 72 + 82. \\
&:= 5^3 + 7^2 + 29^2 - 30^2 = 53 + 72 + 292 - 302. \\
&:= 6^3 + 8^2 + 26^2 - 29^2 = 63 + 82 + 262 - 292. \\
&:= 8^3 + 10^2 + 32^2 - 39^2 = 83 + 102 + 322 - 392. \\
116 &:= -2^5 + 4^2 - 4^3 + 14^2 = -25 + 42 - 43 + 142. \\
&:= -2^6 + 15^2 + 22^2 - 23^2 = -26 + 152 + 222 - 232. \\
&:= -2^6 + 16^2 + 18^2 - 20^2 = -26 + 162 + 182 - 202. \\
&:= -2^6 - 5^2 + 6^2 + 13^2 = -26 - 52 + 62 + 132. \\
116 &:= -2^6 - 8^2 + 10^2 + 12^2 = -26 - 82 + 102 + 122. \\
&:= -2^7 - 4^2 + 4^3 + 14^2 = -27 - 42 + 43 + 142. \\
&:= -2^9 + 3^5 - 12^2 + 23^2 = -29 + 35 - 122 + 232. \\
&:= -4^5 - 5^5 + 8^4 + 13^2 = -45 - 55 + 84 + 132. \\
117 &:= 2^2 + 2^8 - 3^5 + 10^2 = 22 + 28 - 35 + 102. \\
&:= -2^3 + 2^6 + 5^2 + 6^2 = -23 + 26 + 52 + 62. \\
&:= 2^5 + 7^2 - 8^2 + 10^2 = 25 + 72 - 82 + 102. \\
&:= 2^6 - 3^3 + 4^2 + 8^2 = 26 - 33 + 42 + 82. \\
&:= 3^5 + 13^2 + 27^2 - 32^2 = 35 + 132 + 272 - 322. \\
&:= 4^9 + 6^2 - 8^6 + 9^2 = 49 + 62 - 86 + 92. \\
118 &:= -2^4 + 5^3 - 6^3 + 15^2 = -24 + 53 - 63 + 152. \\
&:= -3^4 + 16^2 + 28^2 - 29^2 = -34 + 162 + 282 - 292. \\
&:= -3^5 + 4^3 - 8^2 + 19^2 = -35 + 43 - 82 + 192. \\
&:= -4^5 + 9^3 - 26^2 + 33^2 = -45 + 93 - 262 + 332. \\
&:= -5^6 + 7^3 - 15^2 + 25^3 = -56 + 73 - 152 + 253.
\end{aligned}$$

$$\begin{aligned}
119 &:= 2^7 + 12^2 + 24^2 - 27^2 = 27 + 122 + 242 - 272. & 125 &:= -2^7 + 13^2 - 20^2 + 22^2 = -27 + 132 - 202 + 222. \\
&:= 2^7 + 14^2 + 18^2 - 23^2 = 27 + 142 + 182 - 232. & &:= -2^7 + 14^2 - 28^2 + 29^2 = -27 + 142 - 282 + 292. \\
&:= -2^8 - 10^3 - 15^2 + 40^2 = -28 - 103 - 152 + 402. & &:= -2^7 + 8^2 - 10^2 + 17^2 = -27 + 82 - 102 + 172. \\
&:= 3^7 + 10^2 + 18^3 - 20^3 = 37 + 102 + 183 - 203. \\
&:= 4^6 + 10^3 + 22^3 - 25^3 = 46 + 103 + 223 - 253. \\
&:= 4^6 + 9^3 + 27^3 - 29^3 = 46 + 93 + 273 - 293. \\
120 &:= -10^2 + 33^2 + 34^2 - 45^2 = -102 + 332 + 342 - 452. & 126 &:= 2^3 - 3^2 + 3^3 + 10^2 = 23 - 32 + 33 + 102. \\
&:= -2^2 + 16^2 + 32^2 - 34^2 = -22 + 162 + 322 - 342. & &:= 2^4 + 9^2 - 14^2 + 15^2 = 24 + 92 - 142 + 152. \\
&:= -2^2 + 17^2 + 26^2 - 29^2 = -22 + 172 + 262 - 292. & &:= 2^5 - 3^5 + 4^4 + 9^2 = 25 - 35 + 44 + 92. \\
&:= -2^2 + 18^2 + 23^2 - 27^2 = -22 + 182 + 232 - 272. & &:= -3^2 + 3^3 + 3^3 + 9^2 = -32 + 33 + 33 + 92. \\
&:= -2^2 + 20^2 + 20^2 - 26^2 = -22 + 202 + 202 - 262. \\
120 &:= -2^2 - 2^2 + 8^2 + 8^2 = -22 - 22 + 82 + 82. & 126 &:= 3^4 + 10^2 + 27^2 - 28^2 = 34 + 102 + 272 - 282. \\
&:= -2^3 + 2^7 - 4^8 + 16^4 = -23 + 27 - 48 + 164. & &:= 3^4 + 12^2 + 15^2 - 18^2 = 34 + 122 + 152 - 182. \\
&:= 2^3 - 2^8 + 5^2 + 7^3 = 23 - 28 + 52 + 73. & &:= 5^3 + 9^3 + 10^3 - 12^3 = 53 + 93 + 103 - 123. \\
&:= -2^7 + 4^2 + 4^2 + 6^3 = -27 + 42 + 42 + 63. & &:= 7^4 + 10^2 + 10^3 - 15^3 = 74 + 102 + 103 - 153. \\
&:= -3^2 + 6^3 - 7^3 + 16^2 = -32 + 63 - 73 + 162. \\
120 &:= -4^2 + 19^2 + 36^2 - 39^2 = -42 + 192 + 362 - 392. & 127 &:= -2^5 + 18^2 + 26^2 - 29^2 = -25 + 182 + 262 - 292. \\
&:= -4^2 + 22^2 + 26^2 - 32^2 = -42 + 222 + 262 - 322. & &:= 2^5 - 2^8 - 7^2 + 20^2 = 25 - 28 - 72 + 202. \\
&:= -5^2 + 23^2 + 29^2 - 35^2 = -52 + 232 + 292 - 352. & &:= 3^2 - 3^4 - 5^3 + 18^2 = 32 - 34 - 53 + 182. \\
&:= -5^2 + 25^2 + 26^2 - 34^2 = -52 + 252 + 262 - 342. & &:= -3^4 + 4^2 - 4^3 + 16^2 = -34 + 42 - 43 + 162. \\
& & &:= -3^4 - 3^4 + 4^3 + 15^2 = -34 - 34 + 43 + 152. \\
& & &:= -3^5 + 13^2 - 32^2 + 35^2 = -35 + 132 - 322 + 352. \\
120 &:= -6^2 + 22^2 + 39^2 - 43^2 = -62 + 222 + 392 - 432. & 127 &:= -3^6 + 4^3 - 27^2 + 39^2 = -36 + 43 - 272 + 392. \\
&:= -6^2 + 24^2 + 32^2 - 38^2 = -62 + 242 + 322 - 382. & &:= -3^6 + 6^3 - 27^2 + 37^2 = -36 + 63 - 272 + 372. \\
&:= -6^2 + 25^2 + 30^2 - 37^2 = -62 + 252 + 302 - 372. & &:= -3^6 + 7^3 - 24^2 + 33^2 = -36 + 73 - 242 + 332. \\
&:= -8^2 + 26^2 + 38^2 - 44^2 = -82 + 262 + 382 - 442. & &:= -4^6 - 6^3 + 7^3 + 16^3 = -46 - 63 + 73 + 163. \\
&:= -9^2 + 29^2 + 36^2 - 44^2 = -92 + 292 + 362 - 442. & &:= -6^6 - 9^5 + 10^5 + 18^3 = -66 - 95 + 105 + 183. \\
121 &:= -2^5 - 4^3 - 8^3 + 27^2 = -25 - 43 - 83 + 272. \\
&:= -2^5 - 6^4 - 24^2 + 45^2 = -25 - 64 - 242 + 452. \\
122 &:= -3^2 + 3^5 - 8^3 + 20^2 = -32 + 35 - 83 + 202. \\
&:= 3^7 - 4^3 - 7^4 + 20^2 = 37 - 43 - 74 + 202. \\
124 &:= 2^2 + 5^2 - 7^2 + 12^2 = 22 + 52 - 72 + 122. \\
&:= 2^2 + 8^2 - 13^2 + 15^2 = 22 + 82 - 132 + 152. \\
&:= 2^2 + 9^2 - 19^2 + 20^2 = 22 + 92 - 192 + 202. \\
&:= 2^2 - 2^3 + 4^3 + 8^2 = 22 - 23 + 43 + 82. \\
&:= -2^4 + 3^3 + 4^3 + 7^2 = -24 + 33 + 43 + 72. \\
124 &:= 2^7 - 2^8 + 6^2 + 6^3 = 27 - 28 + 62 + 63. \\
&:= 3^2 + 8^2 - 25^2 + 26^2 = 32 + 82 - 252 + 262. \\
&:= 4^2 + 6^2 - 17^2 + 19^2 = 42 + 62 - 172 + 192. \\
&:= 4^2 + 7^2 - 29^2 + 30^2 = 42 + 72 - 292 + 302. \\
&:= -5^2 + 5^7 - 18^4 + 30^3 = -52 + 57 - 184 + 303. \\
& & 128 &:= -2^2 + 2^4 + 2^4 + 10^2 = -22 + 24 + 24 + 102. \\
& & &:= -2^3 - 2^3 - 2^8 + 20^2 = -23 - 23 - 28 + 202. \\
& & &:= -2^3 - 2^9 - 9^2 + 27^2 = -23 - 29 - 92 + 272. \\
& & &:= 2^4 + 2^5 - 4^3 + 12^2 = 24 + 25 - 43 + 122. \\
& & &:= -2^5 - 3^4 - 3^5 + 22^2 = -25 - 34 - 35 + 222. \\
& & &:= 2^6 + 13^2 + 16^2 - 19^2 = 26 + 132 + 162 - 192. \\
& & &:= -2^6 - 3^4 - 4^4 + 23^2 = -26 - 34 - 44 + 232. \\
& & 128 &:= 2^7 + 5^2 - 5^3 + 10^2 = 27 + 52 - 53 + 102. \\
& & &:= -2^7 - 4^3 - 4^4 + 24^2 = -27 - 43 - 44 + 242. \\
& & &:= -2^7 - 4^5 - 22^2 + 42^2 = -27 - 45 - 222 + 422. \\
& & &:= -2^8 - 4^4 - 6^2 + 26^2 = -28 - 44 - 62 + 262. \\
& & &:= -2^9 - 8^3 - 12^2 + 36^2 = -29 - 83 - 122 + 362. \\
& & &:= 8^4 + 12^4 + 28^3 - 36^3 = 84 + 124 + 283 - 363.
\end{aligned}$$

$$\begin{aligned}
129 &:= 2^2 - 2^9 + 5^3 + 8^3 = 22 - 29 + 53 + 83. & 136 &:= -2^3 + 2^4 - 2^7 + 16^2 = -23 + 24 - 27 + 162. \\
&:= 2^2 - 4^2 - 7^3 + 22^2 = 22 - 42 - 73 + 222. & &:= -2^3 - 4^9 + 8^6 + 12^2 = -23 - 49 + 86 + 122. \\
&:= -2^3 + 17^2 + 37^2 - 39^2 = -23 + 172 + 372 - 392. & &:= 2^5 - 2^9 - 15^2 + 29^2 = 25 - 29 - 152 + 292. \\
&:= -2^3 + 19^2 + 26^2 - 30^2 = -23 + 192 + 262 - 302. & &:= -2^5 - 4^3 + 6^2 + 14^2 = -25 - 43 + 62 + 142. \\
&:= -2^3 + 4^3 - 6^3 + 17^2 = -23 + 43 - 63 + 172. & &:= -2^6 + 17^2 + 44^2 - 45^2 = -26 + 172 + 442 - 452. \\
\\
129 &:= 3^2 - 10^3 - 18^2 + 38^2 = 32 - 103 - 182 + 382. & 136 &:= -2^6 + 18^2 + 30^2 - 32^2 = -26 + 182 + 302 - 322. \\
&:= -4^3 + 20^2 + 33^2 - 36^2 = -43 + 202 + 332 - 362. & &:= -2^6 + 20^2 + 23^2 - 27^2 = -26 + 202 + 232 - 272. \\
&:= -4^5 + 5^4 - 16^2 + 28^2 = -45 + 54 - 162 + 282. & &:= -2^6 - 5^2 + 9^2 + 12^2 = -26 - 52 + 92 + 122. \\
&:= 5^2 - 9^3 - 16^2 + 33^2 = 52 - 93 - 162 + 332. & &:= 3^2 - 3^4 - 3^4 + 17^2 = 32 - 34 - 34 + 172. \\
&:= -5^3 + 23^2 + 25^2 - 30^2 = -53 + 232 + 252 - 302. & &:= -4^8 + 16^4 - 33^2 + 35^2 = -48 + 164 - 332 + 352. \\
&:= -6^3 + 20^2 + 27^2 - 28^2 = -63 + 202 + 272 - 282. \\
\\
129 &:= -6^3 - 13^2 + 15^2 + 17^2 = -63 - 132 + 152 + 172. & 137 &:= -2^2 + 2^5 + 3^2 + 10^2 = -22 + 25 + 32 + 102. \\
&:= -7^3 + 14^2 - 20^2 + 26^2 = -73 + 142 - 202 + 262. & &:= 2^4 + 2^4 - 4^3 + 13^2 = 24 + 24 - 43 + 132. \\
&:= -7^3 + 16^2 - 25^2 + 29^2 = -73 + 162 - 252 + 292. & &:= 2^4 + 5^4 - 9^3 + 15^2 = 24 + 54 - 93 + 152. \\
&:= -7^3 + 17^2 - 29^2 + 32^2 = -73 + 172 - 292 + 322. & &:= -2^4 - 2^8 - 6^3 + 25^2 = -24 - 28 - 63 + 252. \\
&:= -7^3 + 18^2 - 36^2 + 38^2 = -73 + 182 - 362 + 382. & &:= -2^4 - 2^9 - 8^2 + 27^2 = -24 - 29 - 82 + 272. \\
&:= 8^2 - 10^3 - 28^2 + 43^2 = 82 - 103 - 282 + 432. \\
\\
130 &:= -2^6 - 5^4 - 9^2 + 30^2 = -26 - 54 - 92 + 302. \\
\\
131 &:= -2^4 + 3^7 - 7^4 + 19^2 = -24 + 37 - 74 + 192. & 137 &:= 2^5 + 12^2 + 19^2 - 20^2 = 25 + 122 + 192 - 202. \\
&:= 2^4 - 7^2 - 8^3 + 26^2 = 24 - 72 - 83 + 262. & &:= 2^5 + 13^2 + 15^2 - 17^2 = 25 + 132 + 152 - 172. \\
&:= 3^5 - 10^3 - 14^4 + 34^3 = 35 - 103 - 144 + 343. & &:= 2^5 - 5^2 + 7^2 + 9^2 = 25 - 52 + 72 + 92. \\
&:= 3^5 - 6^4 - 29^2 + 45^2 = 35 - 64 - 292 + 452. & &:= 2^6 - 3^3 + 6^2 + 8^2 = 26 - 33 + 62 + 82. \\
\\
132 &:= 2^2 - 2^6 - 2^6 + 16^2 = 22 - 26 - 26 + 162. & &:= 2^7 + 3^2 - 8^8 + 16^6 = 27 + 32 - 88 + 166. \\
&:= -2^6 - 2^8 + 4^4 + 14^2 = -26 - 28 + 44 + 142. \\
\\
133 &:= 2^2 - 2^4 + 4^3 + 9^2 = 22 - 24 + 43 + 92. & 138 &:= -2^2 - 3^5 + 6^3 + 13^2 = -22 - 35 + 63 + 132. \\
&:= 2^3 - 3^6 + 5^3 + 9^3 = 23 - 36 + 53 + 93. & &:= -2^4 + 19^2 + 33^2 - 36^2 = -24 + 192 + 332 - 362. \\
\\
134 &:= -3^3 - 8^2 - 10^3 + 35^2 = -33 - 82 - 103 + 352. & &:= 3^3 - 8^4 - 13^4 + 32^3 = 33 - 84 - 134 + 323. \\
&:= -6^2 - 9^5 - 10^2 + 39^3 = -62 - 95 - 102 + 393. & &:= -3^4 + 22^2 + 24^2 - 29^2 = -34 + 222 + 242 - 292. \\
\\
135 &:= 10^3 + 22^2 + 26^2 - 45^2 = 103 + 222 + 262 - 452. & &:= -3^4 - 5^2 + 10^2 + 12^2 = -34 - 52 + 102 + 122. \\
&:= 2^2 + 3^5 - 4^4 + 12^2 = 22 + 35 - 44 + 122. & &:= -3^6 + 4^4 - 17^2 + 30^2 = -36 + 44 - 172 + 302. \\
&:= 2^3 + 10^2 - 13^2 + 14^2 = 23 + 102 - 132 + 142. & &:= -4^4 + 13^2 - 20^2 + 25^2 = -44 + 132 - 202 + 252. \\
&:= 2^3 + 8^2 - 9^2 + 12^2 = 23 + 82 - 92 + 122. & 139 &:= 2^7 + 16^2 + 22^2 - 27^2 = 27 + 162 + 222 - 272. \\
&:= -3^2 + 4^2 + 4^3 + 8^2 = -32 + 42 + 43 + 82. & &:= 2^9 - 3^6 + 4^4 + 10^2 = 29 - 36 + 44 + 102. \\
\\
135 &:= 3^3 + 8^2 - 10^2 + 12^2 = 33 + 82 - 102 + 122. & 140 &:= -2^2 + 20^2 + 30^2 - 34^2 = -22 + 202 + 302 - 342. \\
&:= 3^3 + 9^2 - 13^2 + 14^2 = 33 + 92 - 132 + 142. & &:= 2^3 - 3^2 - 7^3 + 22^2 = 23 - 32 - 73 + 222. \\
&:= 3^9 - 12^4 - 16^2 + 38^2 = 39 - 124 - 162 + 382. & &:= -2^7 + 4^2 + 6^2 + 6^3 = -27 + 42 + 62 + 63. \\
&:= 4^3 + 10^2 + 14^2 - 15^2 = 43 + 102 + 142 - 152. & &:= -3^2 + 24^2 + 27^2 - 34^2 = -32 + 242 + 272 - 342. \\
&:= 5^3 + 9^2 + 35^2 - 36^2 = 53 + 92 + 352 - 362. & &:= -3^2 + 3^4 - 4^4 + 18^2 = -32 + 34 - 44 + 182. \\
&:= 6^3 + 12^2 + 20^2 - 25^2 = 63 + 122 + 202 - 252.
\end{aligned}$$

$$\begin{aligned}
140 &:= 3^3 - 10^3 - 16^2 + 37^2 = 33 - 103 - 162 + 372. \\
&:= -4^2 + 22^2 + 39^2 - 43^2 = -42 + 222 + 392 - 432. \\
&:= -4^2 + 24^2 + 32^2 - 38^2 = -42 + 242 + 322 - 382. \\
&:= -4^2 + 25^2 + 30^2 - 37^2 = -42 + 252 + 302 - 372. \\
&:= -5^2 + 26^2 + 33^2 - 40^2 = -52 + 262 + 332 - 402. \\
140 &:= 5^3 - 7^2 - 8^3 + 24^2 = 53 - 72 - 83 + 242. \\
&:= -6^2 + 27^2 + 36^2 - 43^2 = -62 + 272 + 362 - 432. \\
&:= -6^2 + 28^2 + 34^2 - 42^2 = -62 + 282 + 342 - 422. \\
&:= -7^2 + 30^2 + 35^2 - 44^2 = -72 + 302 + 352 - 442. \\
&:= -7^2 - 9^4 + 15^3 + 15^3 = -72 - 94 + 153 + 153. \\
&:= 9^3 - 12^3 - 25^2 + 42^2 = 93 - 123 - 252 + 422. \\
142 &:= -2^7 + 3^4 + 5^3 + 8^2 = -27 + 34 + 53 + 82. \\
&:= 2^8 - 3^6 - 13^2 + 28^2 = 28 - 36 - 132 + 282. \\
143 &:= -3^3 - 5^3 - 9^3 + 32^2 = -33 - 53 - 93 + 322. \\
144 &:= 2^2 + 13^2 + 14^2 - 15^2 = 22 + 132 + 142 - 152. \\
&:= 2^2 + 2^3 - 4^3 + 14^2 = 22 + 23 - 43 + 142. \\
&:= 2^3 + 2^3 - 2^4 + 12^2 = 23 + 23 - 24 + 122. \\
&:= 3^2 + 10^2 - 17^2 + 18^2 = 32 + 102 - 172 + 182. \\
&:= 3^2 + 4^2 - 5^2 + 12^2 = 32 + 42 - 52 + 122. \\
144 &:= 4^2 + 8^2 - 15^2 + 17^2 = 42 + 82 - 152 + 172. \\
&:= 4^2 + 9^2 - 23^2 + 24^2 = 42 + 92 - 232 + 242. \\
&:= 5^2 + 8^2 - 27^2 + 28^2 = 52 + 82 - 272 + 282. \\
&:= 6^2 + 6^2 - 17^2 + 19^2 = 62 + 62 - 172 + 192. \\
&:= 6^2 + 7^2 - 29^2 + 30^2 = 62 + 72 - 292 + 302. \\
145 &:= -2^4 - 2^5 + 7^2 + 12^2 = -24 - 25 + 72 + 122. \\
&:= -2^7 + 18^2 + 25^2 - 26^2 = -27 + 182 + 252 - 262. \\
&:= -2^7 - 8^2 + 9^2 + 16^2 = -27 - 82 + 92 + 162. \\
&:= -2^8 + 4^4 - 6^3 + 19^2 = -28 + 44 - 63 + 192. \\
&:= -2^8 + 7^4 - 10^4 + 20^3 = -28 + 74 - 104 + 203. \\
146 &:= 2^3 + 2^7 - 3^7 + 13^3 = 23 + 27 - 37 + 133. \\
&:= 2^3 + 4^4 - 7^3 + 15^2 = 23 + 44 - 73 + 152. \\
&:= 2^4 + 13^2 + 19^2 - 20^2 = 24 + 132 + 192 - 202. \\
&:= -2^4 + 2^6 + 7^2 + 7^2 = -24 + 26 + 72 + 72. \\
&:= 2^5 + 3^2 - 4^3 + 13^2 = 25 + 32 - 43 + 132. \\
&:= 3^4 + 12^2 + 39^2 - 40^2 = 34 + 122 + 392 - 402. \\
146 &:= 3^4 + 13^2 + 25^2 - 27^2 = 34 + 132 + 252 - 272. \\
&:= 3^4 + 15^2 + 18^2 - 22^2 = 34 + 152 + 182 - 222. \\
&:= 4^3 + 4^4 - 7^3 + 13^2 = 43 + 44 - 73 + 132. \\
&:= 4^4 + 17^2 + 25^2 - 32^2 = 44 + 172 + 252 - 322. \\
&:= 5^4 + 23^2 + 29^2 - 43^2 = 54 + 232 + 292 - 432. \\
&:= 7^3 + 10^3 + 10^3 - 13^3 = 73 + 103 + 103 - 133. \\
147 &:= -2^5 + 22^2 + 28^2 - 33^2 = -25 + 222 + 282 - 332. \\
&:= -3^4 - 4^3 + 6^2 + 16^2 = -34 - 43 + 62 + 162. \\
&:= -3^5 + 15^2 - 26^2 + 29^2 = -35 + 152 - 262 + 292. \\
&:= -3^6 + 4^3 - 22^2 + 36^2 = -36 + 43 - 222 + 362. \\
&:= -4^6 + 16^3 - 23^2 + 26^2 = -46 + 163 - 232 + 262. \\
&:= -4^7 + 9^4 - 13^3 + 23^3 = -47 + 94 - 133 + 233. \\
&:= -5^7 + 6^9 - 10^7 + 24^2 = -57 + 69 - 107 + 242. \\
&:= -6^5 - 7^4 + 10^4 + 18^2 = -65 - 74 + 104 + 182. \\
148 &:= 2^4 + 2^5 - 5^3 + 15^2 = 24 + 25 - 53 + 152. \\
&:= 2^6 + 13^2 + 42^2 - 43^2 = 26 + 132 + 422 - 432. \\
&:= 2^6 + 14^2 + 27^2 - 29^2 = 26 + 142 + 272 - 292. \\
&:= 2^6 + 15^2 + 22^2 - 25^2 = 26 + 152 + 222 - 252. \\
&:= 2^6 + 17^2 + 18^2 - 23^2 = 26 + 172 + 182 - 232. \\
&:= 2^7 - 5^3 + 8^2 + 9^2 = 27 - 53 + 82 + 92. \\
&:= -2^8 - 4^2 - 4^4 + 26^2 = -28 - 42 - 44 + 262. \\
&:= 5^5 + 12^4 + 26^2 - 29^3 = 55 + 124 + 262 - 293. \\
149 &:= -2^3 + 20^2 + 39^2 - 42^2 = -23 + 202 + 392 - 422. \\
&:= -2^3 + 23^2 + 28^2 - 34^2 = -23 + 232 + 282 - 342. \\
&:= -3^2 - 4^4 + 5^3 + 17^2 = -32 - 44 + 53 + 172. \\
&:= 3^3 - 4^3 - 7^3 + 23^2 = 33 - 43 - 73 + 232. \\
&:= -5^3 + 27^2 + 29^2 - 36^2 = -53 + 272 + 292 - 362. \\
&:= -6^3 + 23^2 + 40^2 - 42^2 = -63 + 232 + 402 - 422. \\
149 &:= -7^3 + 18^2 - 19^2 + 23^2 = -73 + 182 - 192 + 232. \\
&:= -7^3 + 20^2 - 22^2 + 24^2 = -73 + 202 - 222 + 242. \\
&:= -8^3 + 12^2 - 18^2 + 29^2 = -83 + 122 - 182 + 292. \\
&:= -8^3 + 17^2 - 28^2 + 34^2 = -83 + 172 - 282 + 342. \\
&:= -8^3 + 20^2 - 42^2 + 45^2 = -83 + 202 - 422 + 452. \\
150 &:= 2^8 + 17^2 + 37^2 - 42^2 = 28 + 172 + 372 - 422. \\
&:= -3^3 - 3^5 - 4^4 + 26^2 = -33 - 35 - 44 + 262. \\
151 &:= -2^2 + 18^3 + 43^3 - 44^3 = -22 + 183 + 433 - 443. \\
&:= -2^6 + 3^2 + 5^3 + 9^2 = -26 + 32 + 53 + 92.
\end{aligned}$$

$$\begin{aligned}
153 &:= 2^3 + 2^3 - 2^5 + 13^2 = 23 + 23 - 25 + 132. \\
&:= 3^2 - 3^4 + 5^3 + 10^2 = 32 - 34 + 53 + 102. \\
&:= 3^3 - 3^6 + 7^3 + 8^3 = 33 - 36 + 73 + 83. \\
&:= 3^6 - 12^2 - 12^3 + 36^2 = 36 - 122 - 123 + 362. \\
154 &:= -2^3 - 3^2 - 9^3 + 30^2 = -23 - 32 - 93 + 302. \\
&:= -2^5 - 2^5 + 7^2 + 13^2 = -25 - 25 + 72 + 132. \\
&:= -4^2 - 9^5 - 10^2 + 39^3 = -42 - 95 - 102 + 393. \\
155 &:= 2^3 + 14^2 + 24^2 - 25^2 = 23 + 142 + 242 - 252. \\
&:= -3^2 + 4^3 + 6^2 + 8^2 = -32 + 43 + 62 + 82. \\
&:= 3^3 + 14^2 + 16^2 - 18^2 = 33 + 142 + 162 - 182. \\
&:= 3^3 - 6^2 + 8^2 + 10^2 = 33 - 62 + 82 + 102. \\
&:= 4^3 + 12^2 + 26^2 - 27^2 = 43 + 122 + 262 - 272. \\
155 &:= 4^3 + 14^2 + 16^2 - 19^2 = 43 + 142 + 162 - 192. \\
&:= 5^3 + 15^2 + 17^2 - 22^2 = 53 + 152 + 172 - 222. \\
&:= 7^3 + 14^2 + 29^2 - 35^2 = 73 + 142 + 292 - 352. \\
&:= 7^3 + 15^2 + 26^2 - 33^2 = 73 + 152 + 262 - 332. \\
&:= 8^3 + 14^2 + 36^2 - 43^2 = 83 + 142 + 362 - 432. \\
156 &:= 2^4 - 2^7 - 6^3 + 22^2 = 24 - 27 - 63 + 222. \\
157 &:= 2^5 + 14^2 + 35^2 - 36^2 = 25 + 142 + 352 - 362. \\
&:= 2^5 + 15^2 + 24^2 - 26^2 = 25 + 152 + 242 - 262. \\
&:= 2^5 + 5^3 - 8^4 + 16^3 = 25 + 53 - 84 + 163. \\
&:= 3^5 + 17^2 + 35^2 - 40^2 = 35 + 172 + 352 - 402. \\
158 &:= -2^4 + 23^2 + 33^2 - 38^2 = -24 + 232 + 332 - 382. \\
&:= -4^4 + 19^2 - 26^2 + 27^2 = -44 + 192 - 262 + 272. \\
&:= -5^5 + 14^3 - 35^2 + 42^2 = -55 + 143 - 352 + 422. \\
159 &:= 2^7 + 16^2 + 36^2 - 39^2 = 27 + 162 + 362 - 392. \\
160 &:= -10^2 + 12^3 - 13^3 + 27^2 = -102 + 123 - 133 + 272. \\
&:= -2^2 + 22^2 + 38^2 - 42^2 = -22 + 222 + 382 - 422. \\
&:= -2^2 + 23^2 + 34^2 - 39^2 = -22 + 232 + 342 - 392. \\
&:= -2^2 + 26^2 + 28^2 - 36^2 = -22 + 262 + 282 - 362. \\
&:= 2^3 - 10^3 - 12^2 + 36^2 = 23 - 103 - 122 + 362. \\
&:= -2^7 + 6^2 + 6^2 + 6^3 = -27 + 62 + 62 + 63. \\
160 &:= -4^2 + 27^2 + 36^2 - 43^2 = -42 + 272 + 362 - 432. \\
&:= -4^2 + 28^2 + 34^2 - 42^2 = -42 + 282 + 342 - 422. \\
&:= -4^3 + 26^3 + 28^3 - 34^3 = -43 + 263 + 283 - 343. \\
&:= -5^2 + 29^2 + 37^2 - 45^2 = -52 + 292 + 372 - 452. \\
&:= 8^3 - 9^2 - 10^3 + 27^2 = 83 - 92 - 103 + 272. \\
161 &:= 2^6 + 2^7 - 4^4 + 15^2 = 26 + 27 - 44 + 152. \\
&:= -2^7 - 2^8 + 4^4 + 17^2 = -27 - 28 + 44 + 172. \\
&:= 2^9 + 13^3 + 14^2 - 14^3 = 29 + 133 + 142 - 143. \\
162 &:= 2^6 - 7^3 - 7^3 + 28^2 = 26 - 73 - 73 + 282. \\
163 &:= -2^9 - 7^3 + 9^3 + 17^2 = -29 - 73 + 93 + 172. \\
&:= -5^2 - 5^4 - 7^3 + 34^2 = -52 - 54 - 73 + 342. \\
164 &:= 2^2 + 15^2 + 32^2 - 33^2 = 22 + 152 + 322 - 332. \\
&:= 2^2 + 16^2 + 23^2 - 25^2 = 22 + 162 + 232 - 252. \\
&:= 2^2 + 17^2 + 20^2 - 23^2 = 22 + 172 + 202 - 232. \\
&:= 2^2 + 2^4 - 3^4 + 15^2 = 22 + 24 - 34 + 152. \\
&:= 2^2 - 3^2 + 5^2 + 12^2 = 22 - 32 + 52 + 122. \\
164 &:= 2^4 + 2^4 - 2^6 + 14^2 = 24 + 24 - 26 + 142. \\
&:= 2^5 - 2^6 + 3^3 + 13^2 = 25 - 26 + 33 + 132. \\
&:= -2^7 - 2^7 - 4^4 + 26^2 = -27 - 27 - 44 + 262. \\
&:= 3^2 - 5^2 + 6^2 + 12^2 = 32 - 52 + 62 + 122. \\
164 &:= 5^2 + 10^2 - 19^2 + 20^2 = 52 + 102 - 192 + 202. \\
&:= 6^2 + 8^2 - 15^2 + 17^2 = 62 + 82 - 152 + 172. \\
&:= 6^2 + 9^2 - 23^2 + 24^2 = 62 + 92 - 232 + 242. \\
&:= 7^2 + 8^2 - 25^2 + 26^2 = 72 + 82 - 252 + 262. \\
166 &:= 2^4 + 15^2 + 37^2 - 38^2 = 24 + 152 + 372 - 382. \\
&:= -2^8 - 3^5 - 4^3 + 27^2 = -28 - 35 - 43 + 272. \\
&:= 3^4 + 15^2 + 34^2 - 36^2 = 34 + 152 + 342 - 362. \\
&:= 3^4 + 16^2 + 27^2 - 30^2 = 34 + 162 + 272 - 302. \\
&:= 3^4 + 19^2 + 20^2 - 26^2 = 34 + 192 + 202 - 262. \\
167 &:= -2^5 + 28^2 + 28^2 - 37^2 = -25 + 282 + 282 - 372. \\
&:= 2^5 - 2^8 - 3^2 + 20^2 = 25 - 28 - 32 + 202. \\
&:= 2^6 - 2^8 - 5^3 + 22^2 = 26 - 28 - 53 + 222. \\
&:= -3^4 - 5^3 + 7^2 + 18^2 = -34 - 53 + 72 + 182. \\
&:= -3^5 + 19^2 - 24^2 + 25^2 = -35 + 192 - 242 + 252. \\
&:= -3^6 + 4^3 - 18^2 + 34^2 = -36 + 43 - 182 + 342. \\
&:= -3^6 + 8^3 - 10^2 + 22^2 = -36 + 83 - 102 + 222. \\
168 &:= -2^5 - 5^7 - 19^3 + 44^3 = -25 - 57 - 193 + 443. \\
&:= 2^6 + 16^2 + 37^2 - 39^2 = 26 + 162 + 372 - 392. \\
&:= 2^6 + 4^3 - 6^3 + 16^2 = 26 + 43 - 63 + 162. \\
&:= -2^9 - 10^3 - 13^2 + 43^2 = -29 - 103 - 132 + 432.
\end{aligned}$$



$$\begin{aligned}
169 &:= -17^3 - 25^3 + 27^3 + 32^2 = -173 - 253 + 273 + 322. & 174 &:= -2^8 + 15^2 - 18^2 + 23^2 = -28 + 152 - 182 + 232. \\
&:= -18^3 - 22^3 + 25^3 + 32^2 = -183 - 223 + 253 + 322. & &:= -2^8 + 17^2 - 22^2 + 25^2 = -28 + 172 - 222 + 252. \\
&:= -2^2 + 2^4 - 3^5 + 20^2 = -22 + 24 - 35 + 202. & &:= -2^8 + 19^2 - 34^2 + 35^2 = -28 + 192 - 342 + 352. \\
&:= 2^4 - 4^4 - 6^3 + 25^2 = 24 - 44 - 63 + 252. & &:= -6^4 - 7^2 - 9^2 + 40^2 = -64 - 72 - 92 + 402. \\
&:= -3^3 + 26^2 + 37^2 - 43^2 = -33 + 262 + 372 - 432. \\
&:= -3^4 + 5^4 - 10^3 + 25^2 = -34 + 54 - 103 + 252. & 175 &:= 2^3 + 16^2 + 44^2 - 45^2 = 23 + 162 + 442 - 452. \\
& & &:= 2^8 - 12^3 - 17^2 + 44^2 = 28 - 123 - 172 + 442. \\
169 &:= -4^3 + 29^2 + 34^2 - 42^2 = -43 + 292 + 342 - 422. & &:= 3^3 + 15^2 + 38^2 - 39^2 = 33 + 152 + 382 - 392. \\
&:= -4^3 + 6^3 - 8^3 + 23^2 = -43 + 63 - 83 + 232. & &:= 3^3 + 16^2 + 26^2 - 28^2 = 33 + 162 + 262 - 282. \\
&:= 5^2 - 10^3 - 15^2 + 37^2 = 52 - 103 - 152 + 372. & &:= 3^3 + 17^2 + 22^2 - 25^2 = 33 + 172 + 222 - 252. \\
&:= -6^2 - 6^3 + 14^2 + 15^2 = -62 - 63 + 142 + 152. \\
&:= -6^2 - 7^3 + 8^2 + 22^2 = -62 - 73 + 82 + 222. & 175 &:= 3^3 + 18^2 + 20^2 - 24^2 = 33 + 182 + 202 - 242. \\
&:= 7^2 - 10^3 - 18^2 + 38^2 = 72 - 103 - 182 + 382. & &:= 3^3 - 4^2 + 8^2 + 10^2 = 33 - 42 + 82 + 102. \\
& & &:= 4^3 + 14^2 + 42^2 - 43^2 = 43 + 142 + 422 - 432. \\
169 &:= -7^3 + 26^2 + 40^2 - 42^2 = -73 + 262 + 402 - 422. & &:= 6^3 + 20^2 + 20^2 - 29^2 = 63 + 202 + 202 - 292. \\
&:= -7^3 + 28^2 + 32^2 - 36^2 = -73 + 282 + 322 - 362. & &:= 8^3 + 20^2 + 28^2 - 39^2 = 83 + 202 + 282 - 392. \\
&:= -7^3 + 8^3 - 16^5 + 32^4 = -73 + 83 - 165 + 324. \\
&:= -7^3 - 12^2 + 16^2 + 20^2 = -73 - 122 + 162 + 202. & 176 &:= -2^2 - 2^6 + 10^2 + 12^2 = -22 - 26 + 102 + 122. \\
&:= -8^3 + 18^2 - 22^2 + 29^2 = -83 + 182 - 222 + 292. & &:= -2^5 + 4^3 - 4^4 + 20^2 = -25 + 43 - 44 + 202. \\
&:= -8^3 + 23^2 - 37^2 + 39^2 = -83 + 232 - 372 + 392. & &:= -2^6 + 24^2 + 40^2 - 44^2 = -26 + 242 + 402 - 442. \\
& & &:= -2^6 + 28^2 + 30^2 - 38^2 = -26 + 282 + 302 - 382. \\
170 &:= 2^9 + 3^3 - 5^4 + 16^2 = 29 + 33 - 54 + 162. & &:= -3^4 - 3^4 + 7^2 + 17^2 = -34 - 34 + 72 + 172. \\
&:= 4^5 + 5^6 - 10^5 + 17^4 = 45 + 56 - 105 + 174. & &:= -3^4 - 3^6 + 5^4 + 19^2 = -34 - 36 + 54 + 192. \\
& & & \\
171 &:= -2^2 + 12^4 - 13^4 + 20^3 = -22 + 124 - 134 + 203. & 177 &:= -2^2 + 2^5 + 7^2 + 10^2 = -22 + 25 + 72 + 102. \\
&:= 2^4 - 3^2 - 8^3 + 26^2 = 24 - 32 - 83 + 262. & &:= 2^4 + 2^4 - 6^3 + 19^2 = 24 + 24 - 63 + 192. \\
&:= -2^8 + 3^3 + 4^4 + 12^2 = -28 + 33 + 44 + 122. & &:= 2^5 + 17^2 + 35^2 - 37^2 = 25 + 172 + 352 - 372. \\
&:= 4^6 - 8^4 - 9^3 + 30^2 = 46 - 84 - 93 + 302. & &:= 2^5 + 19^2 + 25^2 - 29^2 = 25 + 192 + 252 - 292. \\
&:= -6^2 + 8^4 - 17^3 + 32^2 = -62 + 84 - 173 + 322. & 177 &:= 2^5 + 20^2 + 23^2 - 28^2 = 25 + 202 + 232 - 282. \\
& & &:= 2^7 + 7^2 - 8^8 + 16^6 = 27 + 72 - 88 + 166. \\
172 &:= -4^4 - 5^4 - 6^2 + 33^2 = -44 - 54 - 62 + 332. & &:= 2^8 - 3^5 + 8^2 + 10^2 = 28 - 35 + 82 + 102. \\
& & &:= -2^9 - 3^3 - 5^3 + 29^2 = -29 - 33 - 53 + 292. \\
173 &:= -2^2 + 2^6 - 8^3 + 25^2 = -22 + 26 - 83 + 252. & 178 &:= -2^2 - 3^5 + 4^3 + 19^2 = -22 - 35 + 43 + 192. \\
&:= -2^4 + 4^3 + 5^2 + 10^2 = -24 + 43 + 52 + 102. & &:= 3^3 - 8^4 - 15^4 + 38^3 = 33 - 84 - 154 + 383. \\
&:= 2^5 - 2^6 + 3^2 + 14^2 = 25 - 26 + 32 + 142. & &:= -4^4 + 27^2 + 27^2 - 32^2 = -44 + 272 + 272 - 322. \\
&:= 2^5 - 2^7 + 5^3 + 12^2 = 25 - 27 + 53 + 122. & &:= -4^4 - 12^2 + 17^2 + 17^2 = -44 - 122 + 172 + 172. \\
& & &:= -8^4 - 10^3 + 17^3 + 19^2 = -84 - 103 + 173 + 192. \\
173 &:= 2^7 - 7^3 - 8^3 + 30^2 = 27 - 73 - 83 + 302. \\
&:= 2^7 - 9^5 - 15^2 + 39^3 = 27 - 95 - 152 + 393. & 180 &:= -2^2 + 26^2 + 38^2 - 44^2 = -22 + 262 + 382 - 442. \\
&:= -3^5 + 4^2 + 4^4 + 12^2 = -35 + 42 + 44 + 122. & &:= -2^4 + 2^5 - 8^3 + 26^2 = -24 + 25 - 83 + 262. \\
&:= -3^6 + 6^3 + 7^3 + 7^3 = -36 + 63 + 73 + 73. & &:= -3^2 + 30^2 + 35^2 - 44^2 = -32 + 302 + 352 - 442. \\
&:= -3^7 + 4^3 + 6^4 + 10^3 = -37 + 43 + 64 + 103. & &:= -3^2 + 5^3 - 8^3 + 24^2 = -32 + 53 - 83 + 242.
\end{aligned}$$

$$\begin{aligned}
180 &:= -3^2 - 9^4 + 15^3 + 15^3 = -32 - 94 + 153 + 153. & 187 &:= -3^5 - 10^2 + 13^2 + 19^2 = -35 - 102 + 132 + 192. \\
&:= 4^7 - 5^7 - 23^3 + 42^3 = 47 - 57 - 233 + 423. & &:= -8^4 - 9^4 + 14^2 + 22^3 = -84 - 94 + 142 + 223. \\
&:= -5^3 + 12^4 - 28^3 + 39^2 = -53 + 124 - 283 + 392. & 188 &:= 2^6 + 22^2 + 27^2 - 33^2 = 26 + 222 + 272 - 332. \\
&:= -6^2 + 6^3 - 9^3 + 27^2 = -62 + 63 - 93 + 272. & &:= 2^7 + 3^3 - 4^4 + 17^2 = 27 + 33 - 44 + 172. \\
181 &:= -3^5 - 6^3 - 9^3 + 37^2 = -35 - 63 - 93 + 372. & &:= 5^7 + 27^2 + 29^2 - 43^3 = 57 + 272 + 292 - 433. \\
182 &:= 2^2 - 2^4 + 5^2 + 13^2 = 22 - 24 + 52 + 132. & 189 &:= -16^5 - 30^2 + 32^4 + 33^2 = -165 - 302 + 324 + 332. \\
&:= 2^4 - 2^7 + 5^3 + 13^2 = 24 - 27 + 53 + 132. & &:= 2^4 - 4^5 - 18^2 + 39^2 = 24 - 45 - 182 + 392. \\
&:= -3^7 + 4^2 + 5^4 + 12^3 = -37 + 42 + 54 + 123. & &:= -2^9 + 5^3 + 8^2 + 8^3 = -29 + 53 + 82 + 83. \\
&:= 3^7 - 5^5 - 18^2 + 38^2 = 37 - 55 - 182 + 382. & &:= -3^3 + 6^3 - 16^5 + 32^4 = -33 + 63 - 165 + 324. \\
183 &:= -4^5 - 5^2 - 8^2 + 36^2 = -45 - 52 - 82 + 362. & &:= -4^2 - 6^3 + 14^2 + 15^2 = -42 - 63 + 142 + 152. \\
&:= -8^3 - 8^3 - 9^3 + 44^2 = -83 - 83 - 93 + 442. & 189 &:= -4^2 - 7^3 + 8^2 + 22^2 = -42 - 73 + 82 + 222. \\
184 &:= 2^2 + 18^2 + 35^2 - 37^2 = 22 + 182 + 352 - 372. & &:= 5^3 - 6^4 - 24^2 + 44^2 = 53 - 64 - 242 + 442. \\
&:= -2^3 + 4^3 + 8^2 + 8^2 = -23 + 43 + 82 + 82. & &:= -6^3 + 9^3 - 10^3 + 26^2 = -63 + 93 - 103 + 262. \\
&:= 3^2 + 20^2 + 20^2 - 25^2 = 32 + 202 + 202 - 252. & &:= -7^3 + 32^2 + 38^2 - 44^2 = -73 + 322 + 382 - 442. \\
&:= 3^2 - 5^2 + 10^2 + 10^2 = 32 - 52 + 102 + 102. & &:= -7^3 + 34^2 + 35^2 - 43^2 = -73 + 342 + 352 - 432. \\
184 &:= 3^3 - 4^3 + 5^2 + 14^2 = 33 - 43 + 52 + 142. & 189 &:= -7^3 - 8^2 + 14^2 + 20^2 = -73 - 82 + 142 + 202. \\
&:= 4^2 + 15^2 + 28^2 - 29^2 = 42 + 152 + 282 - 292. & &:= -7^3 - 9^2 + 17^2 + 18^2 = -73 - 92 + 172 + 182. \\
&:= 4^2 - 5^2 + 7^2 + 12^2 = 42 - 52 + 72 + 122. & &:= -8^3 + 29^2 + 34^2 - 36^2 = -83 + 292 + 342 - 362. \\
&:= 5^2 + 14^2 + 18^2 - 19^2 = 52 + 142 + 182 - 192. & &:= -8^3 - 12^2 + 13^2 + 26^2 = -83 - 122 + 132 + 262. \\
&:= 5^2 - 7^2 + 8^2 + 12^2 = 52 - 72 + 82 + 122. & &:= -8^3 - 18^2 + 20^2 + 25^2 = -83 - 182 + 202 + 252. \\
184 &:= -5^4 + 6^3 + 8^3 + 9^2 = -54 + 63 + 83 + 92. & 191 &:= -2^6 + 5^3 + 7^2 + 9^2 = -26 + 53 + 72 + 92. \\
&:= 7^2 + 10^2 - 17^2 + 18^2 = 72 + 102 - 172 + 182. & &:= -4^2 + 8^4 - 17^3 + 32^2 = -42 + 84 - 173 + 322. \\
&:= 8^2 + 8^2 - 13^2 + 15^2 = 82 + 82 - 132 + 152. & &:= 6^4 - 8^2 - 13^3 + 34^2 = 64 - 82 - 133 + 342. \\
&:= 8^2 + 9^2 - 19^2 + 20^2 = 82 + 92 - 192 + 202. & 192 &:= -2^6 - 2^6 + 8^2 + 16^2 = -26 - 26 + 82 + 162. \\
185 &:= -2^6 + 4^2 - 7^3 + 24^2 = -26 + 42 - 73 + 242. & &:= -2^6 - 3^8 + 9^4 + 16^2 = -26 - 38 + 94 + 162. \\
&:= -2^6 - 4^3 + 12^2 + 13^2 = -26 - 43 + 122 + 132. & &:= -4^2 - 4^4 - 5^4 + 33^2 = -42 - 44 - 54 + 332. \\
&:= -2^7 + 29^2 + 29^2 - 37^2 = -27 + 292 + 292 - 372. & 193 &:= 2^2 + 5^2 - 5^3 + 17^2 = 22 + 52 - 53 + 172. \\
&:= -2^7 - 5^2 + 13^2 + 13^2 = -27 - 52 + 132 + 132. & &:= -2^3 + 4^2 + 4^2 + 13^2 = -23 + 42 + 42 + 132. \\
&:= -2^8 + 10^4 - 22^3 + 33^2 = -28 + 104 - 223 + 332. & &:= 2^4 + 2^4 - 2^7 + 17^2 = 24 + 24 - 27 + 172. \\
&:= -2^8 + 3^4 - 6^3 + 24^2 = -28 + 34 - 63 + 242. & &:= -2^4 + 4^3 + 8^2 + 9^2 = -24 + 43 + 82 + 92. \\
&:= -2^8 + 7^4 - 14^3 + 28^2 = -28 + 74 - 143 + 282. & 193 &:= 2^5 - 2^7 + 4^3 + 15^2 = 25 - 27 + 43 + 152. \\
186 &:= -2^3 + 2^5 + 9^2 + 9^2 = -23 + 25 + 92 + 92. & &:= 2^6 - 2^8 + 6^3 + 13^2 = 26 - 28 + 63 + 132. \\
&:= 2^5 + 3^2 - 6^3 + 19^2 = 25 + 32 - 63 + 192. & &:= 2^7 - 8^3 - 8^3 + 33^2 = 27 - 83 - 83 + 332. \\
&:= 2^5 - 3^3 + 9^2 + 10^2 = 25 - 33 + 92 + 102. & &:= -3^4 + 5^3 + 7^2 + 10^2 = -34 + 53 + 72 + 102. \\
&:= 2^5 - 4^3 + 7^2 + 13^2 = 25 - 43 + 72 + 132. & & \\
&:= 3^4 + 18^2 + 35^2 - 38^2 = 34 + 182 + 352 - 382. & & \\
&:= 3^4 + 19^2 + 30^2 - 34^2 = 34 + 192 + 302 - 342. & & \\
&:= 3^4 + 20^2 + 27^2 - 32^2 = 34 + 202 + 272 - 322. & &
\end{aligned}$$

$$\begin{aligned}
 193 &:= -3^5 + 4^4 + 6^2 + 12^2 = -35 + 44 + 62 + 122. \\
 &:= 4^2 + 4^2 - 4^3 + 15^2 = 42 + 42 - 43 + 152. \\
 &:= 4^2 - 4^7 + 9^4 + 10^4 = 42 - 47 + 94 + 104. \\
 &:= -5^2 + 5^6 - 18^5 + 37^4 = -52 + 56 - 185 + 374.
 \end{aligned}$$

$$\begin{aligned}
 194 &:= -2^2 - 3^3 - 10^3 + 35^2 = -22 - 33 - 103 + 352. \\
 &:= -2^7 + 3^4 - 3^5 + 22^2 = -27 + 34 - 35 + 222. \\
 &:= -2^8 + 23^2 + 39^2 - 40^2 = -28 + 232 + 392 - 402.
 \end{aligned}$$

$$\begin{aligned}
 195 &:= 2^3 + 20^2 + 34^2 - 37^2 = 23 + 202 + 342 - 372. \\
 &:= 3^2 + 17^4 + 43^2 - 44^3 = 32 + 174 + 432 - 443. \\
 &:= 3^2 + 7^4 - 14^3 + 23^2 = 32 + 74 - 143 + 232. \\
 &:= 3^3 + 18^2 + 38^2 - 40^2 = 33 + 182 + 382 - 402.
 \end{aligned}$$

$$\begin{aligned}
 195 &:= 3^5 - 4^4 + 8^2 + 12^2 = 35 - 44 + 82 + 122. \\
 &:= 5^3 + 17^2 + 35^2 - 38^2 = 53 + 172 + 352 - 382. \\
 &:= 6^3 + 18^2 + 32^2 - 37^2 = 63 + 182 + 322 - 372. \\
 &:= 6^3 + 8^3 - 9^3 + 14^2 = 63 + 83 - 93 + 142.
 \end{aligned}$$

$$\begin{aligned}
 196 &:= -2^5 + 2^8 - 2^9 + 22^2 = -25 + 28 - 29 + 222. \\
 &:= -2^6 + 29^2 + 38^2 - 45^2 = -26 + 292 + 382 - 452. \\
 &:= -2^6 + 30^2 + 36^2 - 44^2 = -26 + 302 + 362 - 442. \\
 &:= -3^6 + 14^2 - 36^2 + 45^2 = -36 + 142 - 362 + 452. \\
 &:= -3^6 + 5^2 - 16^2 + 34^2 = -36 + 52 - 162 + 342.
 \end{aligned}$$

$$\begin{aligned}
 197 &:= -2^2 - 2^4 - 2^9 + 27^2 = -22 - 24 - 29 + 272. \\
 &:= 2^6 + 5^2 - 6^3 + 18^2 = 26 + 52 - 63 + 182.
 \end{aligned}$$

$$\begin{aligned}
 198 &:= -3^3 - 8^4 + 15^2 + 16^3 = -33 - 84 + 152 + 163. \\
 &:= -5^4 + 14^2 - 23^2 + 34^2 = -54 + 142 - 232 + 342. \\
 &:= -5^4 + 16^2 - 27^2 + 36^2 = -54 + 162 - 272 + 362.
 \end{aligned}$$

$$\begin{aligned}
 199 &:= 2^8 - 5^4 + 7^3 + 15^2 = 28 - 54 + 73 + 152. \\
 &:= 3^3 + 3^7 - 14^3 + 27^2 = 33 + 37 - 143 + 272. \\
 &:= 5^5 + 9^5 - 40^3 + 45^2 = 55 + 95 - 403 + 452. \\
 &:= 7^5 + 14^4 + 18^4 - 20^4 = 75 + 144 + 184 - 204.
 \end{aligned}$$

$$\begin{aligned}
 200 &:= -4^2 + 6^3 - 9^3 + 27^2 = -42 + 63 - 93 + 272. \\
 &:= 5^3 - 9^2 - 10^3 + 34^2 = 53 - 92 - 103 + 342.
 \end{aligned}$$

$$\begin{aligned}
 201 &:= 2^8 + 23^3 + 23^3 - 29^3 = 28 + 233 + 233 - 293. \\
 &:= -3^5 - 6^4 - 14^2 + 44^2 = -35 - 64 - 142 + 442.
 \end{aligned}$$

$$\begin{aligned}
 202 &:= 2^2 - 3^5 + 6^3 + 15^2 = 22 - 35 + 63 + 152. \\
 &:= 2^4 - 2^6 + 5^2 + 15^2 = 24 - 26 + 52 + 152. \\
 &:= 2^5 - 2^7 + 3^2 + 17^2 = 25 - 27 + 32 + 172. \\
 &:= -3^7 + 5^4 + 6^2 + 12^3 = -37 + 54 + 62 + 123.
 \end{aligned}$$

$$\begin{aligned}
 204 &:= 2^3 + 2^7 - 2^8 + 18^2 = 23 + 27 - 28 + 182. \\
 &:= 2^3 - 4^3 + 8^2 + 14^2 = 23 - 43 + 82 + 142. \\
 &:= 4^2 + 18^2 + 33^2 - 35^2 = 42 + 182 + 332 - 352. \\
 &:= 5^2 + 16^2 + 38^2 - 39^2 = 52 + 162 + 382 - 392. \\
 &:= -5^2 + 6^2 + 7^2 + 12^2 = -52 + 62 + 72 + 122. \\
 &:= 6^2 + 15^2 + 28^2 - 29^2 = 62 + 152 + 282 - 292. \\
 &:= 8^2 + 13^2 + 14^2 - 15^2 = 82 + 132 + 142 - 152.
 \end{aligned}$$

$$\begin{aligned}
 205 &:= -2^2 - 2^7 + 9^2 + 16^2 = -22 - 27 + 92 + 162. \\
 &:= -2^6 + 6^2 - 7^3 + 24^2 = -26 + 62 - 73 + 242. \\
 &:= -2^6 - 5^3 + 13^2 + 15^2 = -26 - 53 + 132 + 152. \\
 &:= -2^7 + 30^2 + 37^2 - 44^2 = -27 + 302 + 372 - 442.
 \end{aligned}$$

$$\begin{aligned}
 206 &:= 12^4 + 15^3 + 22^2 - 29^3 = 124 + 153 + 222 - 293. \\
 &:= 3^5 - 7^3 + 9^2 + 15^2 = 35 - 73 + 92 + 152. \\
 &:= 4^4 + 25^2 + 33^2 - 42^2 = 44 + 252 + 332 - 422. \\
 &:= 5^3 + 10^4 - 22^3 + 27^2 = 53 + 104 - 223 + 272.
 \end{aligned}$$

$$\begin{aligned}
 207 &:= -2^5 + 7^3 - 9^3 + 25^2 = -25 + 73 - 93 + 252. \\
 &:= -3^4 + 4^2 - 8^3 + 28^2 = -34 + 42 - 83 + 282. \\
 &:= 3^4 - 3^5 - 4^4 + 25^2 = 34 - 35 - 44 + 252. \\
 &:= -3^5 + 4^3 - 7^3 + 27^2 = -35 + 43 - 73 + 272. \\
 &:= 3^5 - 3^9 - 6^2 + 27^3 = 35 - 39 - 62 + 273.
 \end{aligned}$$

$$\begin{aligned}
 207 &:= -3^5 - 8^2 + 15^2 + 17^2 = -35 - 82 + 152 + 172. \\
 &:= -4^6 - 7^2 + 16^2 + 16^3 = -46 - 72 + 162 + 163. \\
 &:= -4^7 + 7^5 - 10^3 + 28^2 = -47 + 75 - 103 + 282. \\
 &:= -5^4 - 6^4 + 12^3 + 20^2 = -54 - 64 + 123 + 202. \\
 &:= -9^9 + 27^6 - 33^2 + 36^2 = -99 + 276 - 332 + 362.
 \end{aligned}$$

$$\begin{aligned}
 208 &:= 2^5 + 2^5 - 4^4 + 20^2 = 25 + 25 - 44 + 202. \\
 &:= 2^6 + 24^2 + 33^2 - 39^2 = 26 + 242 + 332 - 392. \\
 &:= 2^6 + 27^2 + 28^2 - 37^2 = 26 + 272 + 282 - 372. \\
 &:= 2^6 + 8^3 - 9^3 + 19^2 = 26 + 83 - 93 + 192. \\
 &:= 2^7 - 6^3 + 10^2 + 14^2 = 27 - 63 + 102 + 142.
 \end{aligned}$$

$$\begin{aligned}
 209 &:= -18^3 - 18^3 + 22^3 + 35^2 = -183 - 183 + 223 + 352. \\
 &:= 2^2 - 2^7 + 3^2 + 18^2 = 22 - 27 + 32 + 182. \\
 &:= 2^3 - 8^3 - 8^3 + 35^2 = 23 - 83 - 83 + 352. \\
 &:= -6^2 - 8^3 + 9^2 + 26^2 = -62 - 83 + 92 + 262.
 \end{aligned}$$

$$\begin{aligned}
209 &:= -8^3 + 35^2 + 39^2 - 45^2 = -83 + 352 + 392 - 452. & 221 &:= -2^5 - 2^8 + 5^2 + 22^2 = -25 - 28 + 52 + 222. \\
&:= -8^3 - 10^2 + 14^2 + 25^2 = -83 - 102 + 142 + 252. & 222 &:= 4^5 - 7^2 - 13^3 + 38^2 = 45 - 72 - 133 + 382. \\
&:= -8^3 - 12^2 + 17^2 + 24^2 = -83 - 122 + 172 + 242. & 223 &:= -2^3 - 2^9 + 7^3 + 20^2 = -23 - 29 + 73 + 202. \\
&:= -8^3 - 13^2 + 19^2 + 23^2 = -83 - 132 + 192 + 232. & &:= -2^9 + 14^2 - 19^2 + 30^2 = -29 + 142 - 192 + 302. \\
211 &:= 2^5 - 6^4 - 17^2 + 42^2 = 25 - 64 - 172 + 422. \\
212 &:= -2^6 - 2^6 + 12^2 + 14^2 = -26 - 26 + 122 + 142. \\
213 &:= 2^2 + 5^2 - 6^3 + 20^2 = 22 + 52 - 63 + 202. & 224 &:= 10^2 + 13^2 + 22^2 - 23^2 = 102 + 132 + 222 - 232. \\
&:= -2^3 + 4^2 + 6^2 + 13^2 = -23 + 42 + 62 + 132. & &:= 10^2 + 14^2 + 17^2 - 19^2 = 102 + 142 + 172 - 192. \\
&:= 2^5 - 2^6 + 7^2 + 14^2 = 25 - 26 + 72 + 142. & &:= 12^2 + 12^2 + 15^2 - 17^2 = 122 + 122 + 152 - 172. \\
&:= -3^5 + 4^4 + 10^2 + 10^2 = -35 + 44 + 102 + 102. & &:= 2^2 + 25^2 + 38^2 - 43^2 = 22 + 252 + 382 - 432. \\
&:= 4^2 - 4^3 + 6^2 + 15^2 = 42 - 43 + 62 + 152. & &:= 2^2 + 29^2 + 30^2 - 39^2 = 22 + 292 + 302 - 392. \\
&:= -4^7 + 6^2 + 9^4 + 10^4 = -47 + 62 + 94 + 104. \\
214 &:= -2^7 - 3^3 + 12^2 + 15^2 = -27 - 33 + 122 + 152. & 224 &:= 2^4 + 2^6 - 2^8 + 20^2 = 24 + 26 - 28 + 202. \\
&:= -3^2 - 6^4 - 9^2 + 40^2 = -32 - 64 - 92 + 402. & &:= 2^4 - 3^4 + 8^2 + 15^2 = 24 - 34 + 82 + 152. \\
&:= -3^7 + 7^4 - 9^9 + 27^6 = -37 + 74 - 99 + 276. & &:= -2^5 - 2^9 - 4^4 + 32^2 = -25 - 29 - 44 + 322. \\
215 &:= 2^3 + 26^2 + 30^2 - 37^2 = 23 + 262 + 302 - 372. & &:= -3^2 + 5^2 + 8^2 + 12^2 = -32 + 52 + 82 + 122. \\
&:= 2^4 + 3^4 - 3^5 + 19^2 = 24 + 34 - 35 + 192. & &:= 5^2 + 20^2 + 32^2 - 35^2 = 52 + 202 + 322 - 352. \\
&:= -2^9 - 3^6 - 12^2 + 40^2 = -29 - 36 - 122 + 402. & &:= -5^2 + 7^2 + 10^2 + 10^2 = -52 + 72 + 102 + 102. \\
&:= 3^3 + 22^2 + 35^2 - 39^2 = 33 + 222 + 352 - 392. & 224 &:= 6^2 + 18^2 + 33^2 - 35^2 = 62 + 182 + 332 - 352. \\
&:= 4^3 + 20^2 + 40^2 - 43^2 = 43 + 202 + 402 - 432. & &:= 7^2 + 20^2 + 20^2 - 25^2 = 72 + 202 + 202 - 252. \\
216 &:= -3^6 + 17^2 - 37^2 + 45^2 = -36 + 172 - 372 + 452. & &:= 8^2 + 15^2 + 32^2 - 33^2 = 82 + 152 + 322 - 332. \\
&:= -3^6 + 5^2 - 13^2 + 33^2 = -36 + 52 - 132 + 332. & &:= 8^2 + 16^2 + 23^2 - 25^2 = 82 + 162 + 232 - 252. \\
&:= -3^6 + 9^2 - 19^2 + 35^2 = -36 + 92 - 192 + 352. & &:= 8^2 + 17^2 + 20^2 - 23^2 = 82 + 172 + 202 - 232. \\
&:= -3^6 - 4^4 + 5^4 + 24^2 = -36 - 44 + 54 + 242. & &:= 9^2 + 14^2 + 26^2 - 27^2 = 92 + 142 + 262 - 272. \\
217 &:= 2^4 + 5^4 - 10^3 + 24^2 = 24 + 54 - 103 + 242. & 225 &:= -2^6 - 6^3 + 12^2 + 19^2 = -26 - 63 + 122 + 192. \\
&:= 2^5 + 27^2 + 30^2 - 38^2 = 25 + 272 + 302 - 382. & &:= -2^6 - 8^4 + 16^3 + 17^2 = -26 - 84 + 163 + 172. \\
218 &:= -2^4 - 10^4 + 15^3 + 19^3 = -24 - 104 + 153 + 193. & 226 &:= 2^4 + 25^2 + 39^2 - 44^2 = 24 + 252 + 392 - 442. \\
&:= -5^3 - 5^4 + 7^3 + 25^2 = -53 - 54 + 73 + 252. & &:= 2^5 - 6^3 + 7^2 + 19^2 = 25 - 63 + 72 + 192. \\
219 &:= -2^4 - 3^6 - 5^3 + 33^2 = -24 - 36 - 53 + 332. & &:= 3^4 + 25^2 + 37^2 - 43^2 = 34 + 252 + 372 - 432. \\
&:= 2^7 + 28^2 + 34^2 - 43^2 = 27 + 282 + 342 - 432. & &:= 9^3 + 18^3 + 18^3 - 23^3 = 93 + 183 + 183 - 233. \\
&:= 2^7 + 3^3 - 8^3 + 24^2 = 27 + 33 - 83 + 242. & 227 &:= -2^9 + 3^7 - 14^3 + 36^2 = -29 + 37 - 143 + 362. \\
&:= 4^6 + 10^4 - 12^4 + 19^3 = 46 + 104 - 124 + 193. & &:= -3^4 + 6^2 - 8^3 + 28^2 = -34 + 62 - 83 + 282. \\
220 &:= 2^3 - 2^7 + 4^2 + 18^2 = 23 - 27 + 42 + 182. & &:= 3^5 - 3^9 - 4^2 + 27^3 = 35 - 39 - 42 + 273. \\
&:= -2^8 + 4^3 + 6^3 + 14^2 = -28 + 43 + 63 + 142. & 228 &:= -2^7 - 4^5 - 8^2 + 38^2 = -27 - 45 - 82 + 382. \\
&:= -4^3 + 4^4 - 15^4 + 37^3 = -43 + 44 - 154 + 373. & &:= 4^4 + 4^5 - 12^3 + 26^2 = 44 + 45 - 123 + 262. \\
&:= 4^4 - 5^3 - 10^3 + 33^2 = 44 - 53 - 103 + 332. \\
&:= 4^4 - 6^2 - 8^5 + 32^3 = 44 - 62 - 85 + 323. \\
&:= -7^2 + 14^3 - 15^3 + 30^2 = -72 + 143 - 153 + 302.
\end{aligned}$$

$$\begin{aligned}
229 &:= -10^3 + 19^2 - 24^2 + 38^2 = -103 + 192 - 242 + 382. & 238 &:= 3^3 - 4^3 - 5^4 + 30^2 = 33 - 43 - 54 + 302. \\
&:= -10^3 + 23^2 - 30^2 + 40^2 = -103 + 232 - 302 + 402. & &:= -5^4 + 18^2 - 19^2 + 30^2 = -54 + 182 - 192 + 302. \\
&:= -10^3 + 26^2 - 36^2 + 43^2 = -103 + 262 - 362 + 432. & &:= -5^4 + 28^2 - 39^2 + 40^2 = -54 + 282 - 392 + 402. \\
&:= -2^3 + 5^3 - 9^3 + 29^2 = -23 + 53 - 93 + 292. \\
&:= 2^8 - 3^3 - 3^9 + 27^3 = 28 - 33 - 39 + 273. & 240 &:= -2^3 + 2^5 - 5^4 + 29^2 = -23 + 25 - 54 + 292. \\
&:= -4^2 - 8^3 + 9^2 + 26^2 = -42 - 83 + 92 + 262. & &:= 2^3 - 2^7 + 6^2 + 18^2 = 23 - 27 + 62 + 182. \\
& & &:= -2^4 + 2^8 - 3^6 + 27^2 = -24 + 28 - 36 + 272. \\
230 &:= 2^7 + 3^5 - 5^4 + 22^2 = 27 + 35 - 54 + 222. & &:= -4^2 + 4^4 - 8^5 + 32^3 = -42 + 44 - 85 + 323. \\
&:= 2^8 + 3^3 - 9^3 + 26^2 = 28 + 33 - 93 + 262. & &:= 7^4 - 12^3 - 13^3 + 42^2 = 74 - 123 - 133 + 422. \\
& & &:= 8^3 - 12^2 - 12^3 + 40^2 = 83 - 122 - 123 + 402. \\
231 &:= -2^8 + 3^5 + 10^2 + 12^2 = -28 + 35 + 102 + 122. \\
232 &:= -2^5 - 2^7 + 14^2 + 14^2 = -25 - 27 + 142 + 142. & 241 &:= -2^6 - 2^7 + 12^2 + 17^2 = -26 - 27 + 122 + 172. \\
& & &:= 2^8 + 4^4 - 10^3 + 27^2 = 28 + 44 - 103 + 272. \\
233 &:= -2^3 + 4^2 + 9^2 + 12^2 = -23 + 42 + 92 + 122. & &:= -2^9 - 3^5 + 8^3 + 22^2 = -29 - 35 + 83 + 222. \\
&:= -2^3 + 6^2 + 6^2 + 13^2 = -23 + 62 + 62 + 132. \\
&:= 2^3 - 3^4 + 9^2 + 15^2 = 23 - 34 + 92 + 152. & 242 &:= -2^4 + 5^2 + 8^2 + 13^2 = -24 + 52 + 82 + 132. \\
&:= 2^6 - 2^8 + 4^3 + 19^2 = 26 - 28 + 43 + 192. & &:= 2^5 - 2^7 + 7^2 + 17^2 = 25 - 27 + 72 + 172. \\
&:= 3^2 - 4^3 + 12^2 + 12^2 = 32 - 43 + 122 + 122. & &:= 2^6 - 7^3 - 10^3 + 39^2 = 26 - 73 - 103 + 392. \\
233 &:= -3^3 + 4^2 + 10^2 + 12^2 = -33 + 42 + 102 + 122. & 243 &:= -2^2 - 4^5 - 5^2 + 36^2 = -22 - 45 - 52 + 362. \\
&:= 3^3 - 3^5 + 5^3 + 18^2 = 33 - 35 + 53 + 182. & &:= -2^7 - 3^4 + 14^2 + 16^2 = -27 - 34 + 142 + 162. \\
&:= -3^4 + 4^3 + 9^2 + 13^2 = -34 + 43 + 92 + 132. & &:= -2^9 + 14^2 - 15^2 + 28^2 = -29 + 142 - 152 + 282. \\
&:= 3^7 - 7^3 - 15^3 + 42^2 = 37 - 73 - 153 + 422. & &:= -2^9 + 26^2 - 39^2 + 40^2 = -29 + 262 - 392 + 402. \\
&:= -4^3 + 6^2 + 6^2 + 15^2 = -43 + 62 + 62 + 152. \\
234 &:= -2^9 + 3^4 - 4^3 + 27^2 = -29 + 34 - 43 + 272. & 244 &:= 10^2 + 16^2 + 27^2 - 29^2 = 102 + 162 + 272 - 292. \\
&:= -2^9 + 7^4 - 14^3 + 33^2 = -29 + 74 - 143 + 332. & &:= 12^2 + 13^2 + 34^2 - 35^2 = 122 + 132 + 342 - 352. \\
&:= -3^3 - 6^2 - 12^3 + 45^2 = -33 - 62 - 123 + 452. & &:= 12^2 + 14^2 + 23^2 - 25^2 = 122 + 142 + 232 - 252. \\
&:= -3^7 - 6^5 + 13^3 + 20^3 = -37 - 65 + 133 + 203. & &:= 8^2 + 18^2 + 35^2 - 37^2 = 82 + 182 + 352 - 372. \\
&:= -4^6 - 6^6 + 15^4 + 19^2 = -46 - 66 + 154 + 192. & 247 &:= -3^2 - 4^6 + 16^2 + 16^3 = -32 - 46 + 162 + 163. \\
& & &:= -3^3 - 4^4 + 13^2 + 19^2 = -33 - 44 + 132 + 192. \\
235 &:= 3^3 + 26^2 + 36^2 - 42^2 = 33 + 262 + 362 - 422. & &:= -3^6 + 5^3 - 7^2 + 30^2 = -36 + 53 - 72 + 302. \\
&:= 3^3 + 28^2 + 32^2 - 40^2 = 33 + 282 + 322 - 402. & &:= -3^6 - 4^3 + 4^4 + 28^2 = -36 - 43 + 44 + 282. \\
&:= 3^4 - 6^3 + 9^2 + 17^2 = 34 - 63 + 92 + 172. & &:= -4^4 - 5^3 + 12^2 + 22^2 = -44 - 53 + 122 + 222. \\
&:= 4^3 + 24^2 + 38^2 - 43^2 = 43 + 242 + 382 - 432. & &:= -5^4 - 7^4 + 14^3 + 23^2 = -54 - 74 + 143 + 232. \\
&:= 7^2 + 17^4 + 43^2 - 44^3 = 72 + 174 + 432 - 443. \\
&:= 7^2 + 7^4 - 14^3 + 23^2 = 72 + 74 - 143 + 232. & 248 &:= -2^5 - 3^6 - 8^3 + 39^2 = -25 - 36 - 83 + 392. \\
&:= 7^3 + 29^2 + 30^2 - 43^2 = 73 + 292 + 302 - 432. \\
236 &:= 2^6 - 2^9 - 6^3 + 30^2 = 26 - 29 - 63 + 302. \\
237 &:= 2^6 + 3^2 - 8^3 + 26^2 = 26 + 32 - 83 + 262. \\
&:= 2^6 - 6^3 + 10^2 + 17^2 = 26 - 63 + 102 + 172. & 249 &:= -10^3 + 23^2 - 24^2 + 36^2 = -103 + 232 - 242 + 362. \\
& & &:= -10^3 + 32^2 - 36^2 + 39^2 = -103 + 322 - 362 + 392. \\
& & &:= 2^2 - 2^7 + 7^2 + 18^2 = 22 - 27 + 72 + 182. \\
& & &:= -2^2 - 7^3 + 14^2 + 20^2 = -22 - 73 + 142 + 202. \\
& & &:= -4^7 + 5^6 - 9^2 + 33^2 = -47 + 56 - 92 + 332.
\end{aligned}$$

$$\begin{aligned} 251 &:= -2^2 + 6^4 - 13^3 + 34^2 = -22 + 64 - 133 + 342. \\ &:= -2^6 + 3^3 + 12^2 + 12^2 = -26 + 33 + 122 + 122. \\ &:= 4^6 - 6^6 - 8^2 + 35^3 = 46 - 66 - 82 + 353. \end{aligned}$$

$$252 := -2^4 - 6^2 - 6^4 + 40^2 = -24 - 62 - 64 + 402.$$

$$\begin{aligned} 253 &:= -2^3 + 6^2 + 9^2 + 12^2 = -23 + 62 + 92 + 122. \\ &:= 2^7 - 6^4 - 10^2 + 39^2 = 27 - 64 - 102 + 392. \\ &:= 3^2 - 5^3 + 12^2 + 15^2 = 32 - 53 + 122 + 152. \\ &:= -3^3 + 6^2 + 10^2 + 12^2 = -33 + 62 + 102 + 122. \\ &:= 4^6 - 6^2 - 18^3 + 45^2 = 46 - 62 - 183 + 452. \\ &:= 5^2 - 5^3 + 8^2 + 17^2 = 52 - 53 + 82 + 172. \end{aligned}$$

$$\begin{aligned} 254 &:= -2^7 - 7^3 + 10^2 + 25^2 = -27 - 73 + 102 + 252. \\ &:= -3^3 - 4^2 - 12^3 + 45^2 = -33 - 42 - 123 + 452. \end{aligned}$$

$$\begin{aligned} 255 &:= 3^3 + 4^3 - 8^3 + 26^2 = 33 + 43 - 83 + 262. \\ &:= 5^3 + 29^2 + 35^2 - 44^2 = 53 + 292 + 352 - 442. \\ &:= 7^3 + 8^3 - 10^3 + 20^2 = 73 + 83 - 103 + 202. \end{aligned}$$

$$\begin{aligned} 256 &:= -3^6 + 17^2 - 23^2 + 35^2 = -36 + 172 - 232 + 352. \\ &:= -3^6 + 20^2 - 28^2 + 37^2 = -36 + 202 - 282 + 372. \\ &:= -3^6 + 5^2 - 8^2 + 32^2 = -36 + 52 - 82 + 322. \end{aligned}$$

$$\begin{aligned} 258 &:= -5^4 - 15^2 + 18^2 + 28^2 = -54 - 152 + 182 + 282. \\ 259 &:= 3^8 + 9^2 - 14^5 + 27^4 = 38 + 92 - 145 + 274. \end{aligned}$$

$$\begin{aligned} 260 &:= 2^4 - 2^8 + 4^2 + 22^2 = 24 - 28 + 42 + 222. \\ &:= -3^2 + 14^3 - 15^3 + 30^2 = -32 + 143 - 153 + 302. \end{aligned}$$

$$\begin{aligned} 261 &:= -3^5 - 6^4 - 7^2 + 43^2 = -35 - 64 - 72 + 432. \\ &:= -3^7 - 3^8 + 16^3 + 17^3 = -37 - 38 + 163 + 173. \\ &:= 3^8 + 4^4 - 20^3 + 38^2 = 38 + 44 - 203 + 382. \end{aligned}$$

$$\begin{aligned} 262 &:= -3^2 + 4^5 - 13^3 + 38^2 = -32 + 45 - 133 + 382. \\ &:= 3^2 - 4^4 + 5^2 + 22^2 = 32 - 44 + 52 + 222. \\ &:= -3^5 + 6^3 + 8^2 + 15^2 = -35 + 63 + 82 + 152. \end{aligned}$$

$$\begin{aligned} 263 &:= -2^9 + 32^2 + 40^2 - 43^2 = -29 + 322 + 402 - 432. \\ &:= -2^9 - 15^2 + 18^2 + 26^2 = -29 - 152 + 182 + 262. \end{aligned}$$

$$\begin{aligned} 264 &:= 12^2 + 16^2 + 33^2 - 35^2 = 122 + 162 + 332 - 352. \\ &:= 2^3 + 4^4 - 5^6 + 25^3 = 23 + 44 - 56 + 253. \\ &:= 2^3 - 8^4 + 16^2 + 16^3 = 23 - 84 + 162 + 163. \\ &:= 2^4 - 6^7 + 7^3 + 23^4 = 24 - 67 + 73 + 234. \end{aligned}$$

$$265 := -2^6 - 6^4 + 10^3 + 25^2 = -26 - 64 + 103 + 252.$$

$$266 := 2^5 - 6^3 + 15^2 + 15^2 = 25 - 63 + 152 + 152.$$

$$\begin{aligned} 267 &:= -2^2 - 3^5 + 15^2 + 17^2 = -22 - 35 + 152 + 172. \\ &:= -4^4 - 5^3 + 18^2 + 18^2 = -44 - 53 + 182 + 182. \\ &:= -4^5 + 16^2 - 27^2 + 42^2 = -45 + 162 - 272 + 422. \end{aligned}$$

$$\begin{aligned} 269 &:= -10^2 - 10^3 + 12^2 + 35^2 = -102 - 103 + 122 + 352. \\ &:= -10^3 - 22^2 + 27^2 + 32^2 = -103 - 222 + 272 + 322. \\ &:= -2^7 + 3^2 + 8^2 + 18^2 = -27 + 32 + 82 + 182. \\ &:= -3^3 + 10^3 - 12^3 + 32^2 = -33 + 103 - 123 + 322. \\ &:= 3^4 - 4^4 - 10^3 + 38^2 = 34 - 44 - 103 + 382. \\ &:= 5^4 - 6^3 - 6^4 + 34^2 = 54 - 63 - 64 + 342. \end{aligned}$$

$$\begin{aligned} 272 &:= -2^4 - 2^8 + 12^2 + 20^2 = -24 - 28 + 122 + 202. \\ &:= -2^4 - 4^2 - 6^4 + 40^2 = -24 - 42 - 64 + 402. \\ &:= -4^4 - 5^2 - 6^4 + 43^2 = -44 - 52 - 64 + 432. \end{aligned}$$

$$\begin{aligned} 273 &:= 2^2 - 6^3 + 14^2 + 17^2 = 22 - 63 + 142 + 172. \\ &:= -2^3 + 9^2 + 10^2 + 10^2 = -23 + 92 + 102 + 102. \\ &:= -2^5 + 2^9 - 12^3 + 39^2 = -25 + 29 - 123 + 392. \\ &:= -3^3 + 10^2 + 10^2 + 10^2 = -33 + 102 + 102 + 102. \\ &:= -4^2 + 4^6 - 18^3 + 45^2 = -42 + 46 - 183 + 452. \end{aligned}$$

$$\begin{aligned} 273 &:= -4^3 + 7^2 + 12^2 + 12^2 = -43 + 72 + 122 + 122. \\ &:= -4^4 + 6^3 + 12^2 + 13^2 = -44 + 63 + 122 + 132. \\ &:= -4^5 + 7^3 + 9^3 + 15^2 = -45 + 73 + 93 + 152. \\ &:= 5^2 - 5^4 + 8^3 + 19^2 = 52 - 54 + 83 + 192. \\ &:= 5^2 - 6^3 + 8^2 + 20^2 = 52 - 63 + 82 + 202. \end{aligned}$$

$$\begin{aligned} 274 &:= -2^5 - 3^5 + 15^2 + 18^2 = -25 - 35 + 152 + 182. \\ &:= -2^7 - 7^3 + 13^2 + 24^2 = -27 - 73 + 132 + 242. \end{aligned}$$

$$\begin{aligned} 276 &:= 2^3 - 3^3 - 3^6 + 32^2 = 23 - 33 - 36 + 322. \\ &:= -2^5 - 8^3 + 12^2 + 26^2 = -25 - 83 + 122 + 262. \\ &:= -3^4 - 4^4 + 17^2 + 18^2 = -34 - 44 + 172 + 182. \\ &:= -3^6 + 20^2 - 22^2 + 33^2 = -36 + 202 - 222 + 332. \\ &:= -3^6 + 29^2 - 40^2 + 42^2 = -36 + 292 - 402 + 422. \\ &:= -3^6 + 9^2 - 10^2 + 32^2 = -36 + 92 - 102 + 322. \end{aligned}$$

$$277 := 2^6 + 7^2 - 8^3 + 26^2 = 26 + 72 - 83 + 262.$$

$$\begin{aligned}
278 &:= 2^6 - 3^4 - 3^6 + 32^2 = 26 - 34 - 36 + 322. & 291 &:= -3^5 + 5^2 + 5^2 + 22^2 = -35 + 52 + 52 + 222. \\
&:= -6^4 + 15^2 - 26^2 + 45^2 = -64 + 152 - 262 + 452. & &:= 3^5 - 5^2 - 6^4 + 37^2 = 35 - 52 - 64 + 372. \\
& & &:= -5^2 + 6^4 - 14^3 + 42^2 = -52 + 64 - 143 + 422. \\
279 &:= -2^6 - 5^3 - 6^4 + 42^2 = -26 - 53 - 64 + 422. \\
&:= -3^6 - 5^4 - 6^3 + 43^2 = -36 - 54 - 63 + 432. \\
280 &:= -10^2 + 19^3 - 20^3 + 39^2 = -102 + 193 - 203 + 392. \\
&:= 2^3 - 2^7 + 12^2 + 16^2 = 23 - 27 + 122 + 162. & 293 &:= 2^7 - 2^8 + 14^2 + 15^2 = 27 - 28 + 142 + 152. \\
&:= 2^4 - 2^8 + 6^2 + 22^2 = 24 - 28 + 62 + 222. & &:= -2^8 - 3^5 - 3^6 + 39^2 = -28 - 35 - 36 + 392. \\
&:= 3^2 - 3^8 + 10^3 + 18^3 = 32 - 38 + 103 + 183. & &:= 4^2 - 6^3 + 13^2 + 18^2 = 42 - 63 + 132 + 182. \\
&:= -4^3 + 9^4 - 16^4 + 39^3 = -43 + 94 - 164 + 393. & &:= -4^4 + 5^3 + 10^2 + 18^2 = -44 + 53 + 102 + 182. \\
&:= 4^3 - 9^2 - 12^3 + 45^2 = 43 - 92 - 123 + 452. & &:= -5^3 + 7^2 + 12^2 + 15^2 = -53 + 72 + 122 + 152. \\
&:= 4^4 - 6^4 - 7^2 + 37^2 = 44 - 64 - 72 + 372. & &:= -5^3 + 9^2 + 9^2 + 16^2 = -53 + 92 + 92 + 162. \\
281 &:= -2^4 - 2^9 + 5^2 + 28^2 = -24 - 29 + 52 + 282. & 294 &:= -3^9 - 7^3 + 14^3 + 26^3 = -39 - 73 + 143 + 263. \\
&:= -2^4 - 6^4 - 7^3 + 44^2 = -24 - 64 - 73 + 442. \\
&:= -2^5 - 2^8 + 13^2 + 20^2 = -25 - 28 + 132 + 202. \\
282 &:= 2^4 - 3^7 + 13^3 + 16^2 = 24 - 37 + 133 + 162. & 295 &:= 14^2 + 16^3 + 36^3 - 37^3 = 142 + 163 + 363 - 373. \\
&:= -3^4 + 5^2 + 13^2 + 13^2 = -34 + 52 + 132 + 132. & &:= 3^4 - 7^3 + 14^2 + 19^2 = 34 - 73 + 142 + 192. \\
& & &:= 6^4 - 7^4 + 10^3 + 20^2 = 64 - 74 + 103 + 202. \\
283 &:= 2^3 - 2^8 - 5^4 + 34^2 = 23 - 28 - 54 + 342. & 296 &:= -4^9 + 8^6 - 10^3 + 36^2 = -49 + 86 - 103 + 362. \\
& & 297 &:= 2^6 - 6^4 + 10^3 + 23^2 = 26 - 64 + 103 + 232. \\
284 &:= 10^2 + 23^2 + 32^2 - 37^2 = 102 + 232 + 322 - 372. & 298 &:= -2^3 - 8^3 + 17^2 + 23^2 = -23 - 83 + 172 + 232. \\
&:= 10^2 + 25^2 + 28^2 - 35^2 = 102 + 252 + 282 - 352. & &:= -4^4 + 5^4 - 6^4 + 35^2 = -44 + 54 - 64 + 352. \\
&:= 14^2 + 17^2 + 32^2 - 35^2 = 142 + 172 + 322 - 352. \\
&:= 14^2 + 20^2 + 23^2 - 29^2 = 142 + 202 + 232 - 292. \\
&:= 15^2 + 18^2 + 24^2 - 29^2 = 152 + 182 + 242 - 292. \\
&:= 17^2 + 18^2 + 20^2 - 27^2 = 172 + 182 + 202 - 272. \\
&:= 8^2 + 25^2 + 38^2 - 43^2 = 82 + 252 + 382 - 432. \\
&:= 8^2 + 29^2 + 30^2 - 39^2 = 82 + 292 + 302 - 392. \\
287 &:= -3^2 - 3^6 + 5^3 + 30^2 = -32 - 36 + 53 + 302. & 302 &:= 2^6 - 2^9 + 5^3 + 25^2 = 26 - 29 + 53 + 252. \\
&:= -4^6 + 15^3 - 19^2 + 37^2 = -46 + 153 - 192 + 372. & &:= -3^5 + 4^3 + 9^2 + 20^2 = -35 + 43 + 92 + 202. \\
&:= -6^6 - 9^4 + 12^4 + 32^3 = -66 - 94 + 124 + 323. & &:= -4^4 + 5^2 + 7^2 + 22^2 = -44 + 52 + 72 + 222. \\
288 &:= 2^2 + 2^7 - 10^3 + 34^2 = 22 + 27 - 103 + 342. & 304 &:= 13^2 + 24^2 + 28^2 - 35^2 = 132 + 242 + 282 - 352. \\
&:= -2^2 - 2^7 - 4^5 + 38^2 = -22 - 27 - 45 + 382. & &:= 2^4 - 4^4 + 12^2 + 20^2 = 24 - 44 + 122 + 202. \\
&:= -2^5 - 4^4 - 4^5 + 40^2 = -25 - 44 - 45 + 402. & &:= 3^3 - 4^5 + 5^4 + 26^2 = 33 - 45 + 54 + 262. \\
&:= 3^7 + 13^2 - 14^3 + 26^2 = 37 + 132 - 143 + 262. \\
&:= 4^6 + 10^3 - 18^3 + 32^2 = 46 + 103 - 183 + 322. \\
289 &:= -2^9 + 4^2 + 4^4 + 23^2 = -29 + 42 + 44 + 232. & 305 &:= -2^6 - 8^3 + 16^2 + 25^2 = -26 - 83 + 162 + 252. \\
&:= 3^5 - 5^4 - 5^4 + 36^2 = 35 - 54 - 54 + 362. & &:= -3^6 + 5^2 - 6^3 + 35^2 = -36 + 52 - 63 + 352. \\
&:= -6^2 + 10^2 - 10^3 + 35^2 = -62 + 102 - 103 + 352. & 306 &:= 2^5 - 7^3 + 16^2 + 19^2 = 25 - 73 + 162 + 192.
\end{aligned}$$

$$\begin{aligned}
307 &:= -2^5 + 16^3 - 17^3 + 34^2 = -25 + 163 - 173 + 342. & 321 &:= 2^4 + 2^9 - 6^4 + 33^2 = 24 + 29 - 64 + 332. \\
&:= -3^4 + 4^4 - 4^5 + 34^2 = -34 + 44 - 45 + 342. & &:= -2^8 - 3^5 + 12^2 + 26^2 = -28 - 35 + 122 + 262. \\
&:= -3^4 - 8^3 + 18^2 + 24^2 = -34 - 83 + 182 + 242. & &:= 2^9 + 3^4 - 6^4 + 32^2 = 29 + 34 - 64 + 322. \\
&:= -6^2 - 6^8 + 7^3 + 36^4 = -62 - 68 + 73 + 364. \\
&:= -6^6 + 40^3 + 42^3 - 45^3 = -66 + 403 + 423 - 453. & 322 &:= 2^3 - 3^5 + 14^2 + 19^2 = 23 - 35 + 142 + 192. \\
& & &:= 2^6 - 2^8 + 15^2 + 17^2 = 26 - 28 + 152 + 172. \\
308 &:= 2^6 + 6^3 - 15^4 + 37^3 = 26 + 63 - 154 + 373. & &:= 3^2 - 4^4 + 13^2 + 20^2 = 32 - 44 + 132 + 202. \\
&:= 3^7 - 14^3 + 17^2 + 24^2 = 37 - 143 + 172 + 242. \\
&:= 4^4 + 4^5 - 13^3 + 35^2 = 44 + 45 - 133 + 352. & 323 &:= 2^4 - 2^9 - 5^4 + 38^2 = 24 - 29 - 54 + 382. \\
& & &:= -2^9 - 7^2 + 20^2 + 22^2 = -29 - 72 + 202 + 222. \\
309 &:= -2^4 + 5^5 - 8^4 + 36^2 = -24 + 55 - 84 + 362. & 324 &:= 10^2 + 32^2 + 35^2 - 45^2 = 102 + 322 + 352 - 452. \\
&:= -2^7 + 4^2 + 14^2 + 15^2 = -27 + 42 + 142 + 152. & &:= 14^2 + 25^2 + 32^2 - 39^2 = 142 + 252 + 322 - 392. \\
&:= -2^7 + 7^2 + 8^2 + 18^2 = -27 + 72 + 82 + 182. & &:= 17^2 + 20^2 + 34^2 - 39^2 = 172 + 202 + 342 - 392. \\
&:= -2^9 + 4^4 + 6^2 + 23^2 = -29 + 44 + 62 + 232. & &:= -2^4 + 2^9 - 13^3 + 45^2 = -24 + 29 - 133 + 452. \\
&:= 3^6 - 3^7 - 13^2 + 44^2 = 36 - 37 - 132 + 442. & &:= 20^2 + 22^2 + 23^2 - 33^2 = 202 + 222 + 232 - 332. \\
&:= -4^2 + 10^2 - 10^3 + 35^2 = -42 + 102 - 103 + 352. & &:= 3^5 - 5^6 + 9^2 + 25^3 = 35 - 56 + 92 + 253. \\
&:= -6^3 + 17^3 - 18^3 + 38^2 = -63 + 173 - 183 + 382. & 326 &:= 2^7 + 3^3 - 3^6 + 30^2 = 27 + 33 - 36 + 302. \\
311 &:= -2^2 + 4^6 - 6^6 + 35^3 = -22 + 46 - 66 + 353. \\
&:= 2^5 - 5^2 - 6^4 + 40^2 = 25 - 52 - 64 + 402. & 327 &:= -2^6 + 3^5 - 6^4 + 38^2 = -26 + 35 - 64 + 382. \\
& & &:= 4^2 - 5^4 - 10^3 + 44^2 = 42 - 54 - 103 + 442. \\
312 &:= -2^6 - 3^6 + 4^2 + 33^2 = -26 - 36 + 42 + 332. & &:= -4^2 - 6^8 + 7^3 + 36^4 = -42 - 68 + 73 + 364. \\
313 &:= 4^3 - 4^4 + 12^2 + 19^2 = 43 - 44 + 122 + 192. & &:= -4^5 + 40^2 + 40^2 - 43^2 = -45 + 402 + 402 - 432. \\
&:= -5^3 + 10^2 + 13^2 + 13^2 = -53 + 102 + 132 + 132. & &:= -4^5 - 27^2 + 28^2 + 36^2 = -45 - 272 + 282 + 362. \\
&:= 6^2 - 6^3 + 13^2 + 18^2 = 62 - 63 + 132 + 182. & &:= -5^4 - 6^3 + 12^2 + 32^2 = -54 - 63 + 122 + 322. \\
314 &:= -2^7 - 8^3 + 15^2 + 27^2 = -27 - 83 + 152 + 272. & &:= -5^7 + 9^4 - 13^3 + 42^3 = -57 + 94 - 133 + 423. \\
315 &:= 3^2 + 3^4 - 10^3 + 35^2 = 32 + 34 - 103 + 352. \\
&:= 3^6 - 4^5 + 9^2 + 23^2 = 36 - 45 + 92 + 232. & 329 &:= -10^2 - 10^3 + 23^2 + 30^2 = -102 - 103 + 232 + 302. \\
& & &:= -2^7 + 6^2 + 14^2 + 15^2 = -27 + 62 + 142 + 152. \\
316 &:= -2^2 - 3^6 + 5^2 + 32^2 = -22 - 36 + 52 + 322. & &:= -7^2 - 10^3 + 17^2 + 33^2 = -72 - 103 + 172 + 332. \\
&:= 2^6 - 2^9 - 10^3 + 42^2 = 26 - 29 - 103 + 422. \\
&:= -3^6 - 12^2 + 17^2 + 30^2 = -36 - 122 + 172 + 302. \\
&:= -3^6 - 14^2 + 20^2 + 29^2 = -36 - 142 + 202 + 292. \\
&:= -3^6 - 16^2 + 25^2 + 26^2 = -36 - 162 + 252 + 262. & 330 &:= 2^9 - 10^3 + 17^2 + 23^2 = 29 - 103 + 172 + 232. \\
& & & 332 &:= -2^6 - 3^6 + 6^2 + 33^2 = -26 - 36 + 62 + 332. \\
318 &:= -2^8 + 3^2 + 9^2 + 22^2 = -28 + 32 + 92 + 222. \\
&:= -5^2 - 6^6 + 7^3 + 36^3 = -52 - 66 + 73 + 363. \\
&:= -5^4 + 7^3 - 10^3 + 40^2 = -54 + 73 - 103 + 402. \\
&:= -6^5 + 19^3 - 23^2 + 42^2 = -65 + 193 - 232 + 422. & 333 &:= 4^2 - 8^3 + 10^2 + 27^2 = 42 - 83 + 102 + 272. \\
& & &:= -6^3 + 8^2 + 14^2 + 17^2 = -63 + 82 + 142 + 172. \\
& & &:= -6^3 + 9^2 + 12^2 + 18^2 = -63 + 92 + 122 + 182. \\
320 &:= 2^5 - 2^9 + 4^2 + 28^2 = 25 - 29 + 42 + 282. \\
&:= -3^2 + 4^4 - 6^4 + 37^2 = -32 + 44 - 64 + 372. \\
&:= -3^8 + 7^2 + 10^3 + 18^3 = -38 + 72 + 103 + 183. & 335 &:= 17^2 + 19^3 + 26^3 - 29^3 = 172 + 193 + 263 - 293. \\
& & &:= 2^6 - 3^6 + 6^3 + 28^2 = 26 - 36 + 63 + 282. \\
& & &:= 5^3 + 14^3 - 15^3 + 29^2 = 53 + 143 - 153 + 292.
\end{aligned}$$



$$\begin{aligned}
336 &:= -2^5 - 9^3 + 16^2 + 29^2 = -25 - 93 + 162 + 292. & 350 &:= -2^9 - 3^5 + 9^2 + 32^2 = -29 - 35 + 92 + 322. \\
&:= -2^7 + 4^4 - 12^3 + 44^2 = -27 + 44 - 123 + 442. \\
&:= -3^4 - 4^5 + 6^3 + 35^2 = -34 - 45 + 63 + 352. & 351 &:= -3^5 + 4^2 + 17^2 + 17^2 = -35 + 42 + 172 + 172. \\
&:= -3^6 - 10^2 + 18^2 + 29^2 = -36 - 102 + 182 + 292. & &:= -3^5 + 5^2 + 13^2 + 20^2 = -35 + 52 + 132 + 202. \\
&:= -4^3 - 9^9 + 20^2 + 27^6 = -43 - 99 + 202 + 276. \\
&:= -5^2 - 5^8 + 19^2 + 25^4 = -52 - 58 + 192 + 254. & 352 &:= -2^3 - 2^9 + 14^2 + 26^2 = -23 - 29 + 142 + 262. \\
&:= -6^8 + 36^4 - 40^2 + 44^2 = -68 + 364 - 402 + 442. \\
\\
337 &:= 2^6 - 8^3 + 16^2 + 23^2 = 26 - 83 + 162 + 232. & 353 &:= -4^7 + 7^4 + 8^3 + 24^3 = -47 + 74 + 83 + 243. \\
339 &:= 4^6 + 9^4 - 23^3 + 43^2 = 46 + 94 - 233 + 432. & &:= -4^8 + 9^5 + 14^3 + 16^3 = -48 + 95 + 143 + 163. \\
\\
340 &:= 2^4 - 2^8 + 16^2 + 18^2 = 24 - 28 + 162 + 182. & &:= 6^2 - 8^3 + 10^2 + 27^2 = 62 - 83 + 102 + 272. \\
&:= 2^5 - 2^9 + 6^2 + 28^2 = 25 - 29 + 62 + 282. & &:= -6^3 + 12^2 + 13^2 + 16^2 = -63 + 122 + 132 + 162. \\
&:= 4^2 - 4^8 + 16^4 + 18^2 = 42 - 48 + 164 + 182. & &:= -6^5 + 10^2 + 13^3 + 18^3 = -65 + 102 + 133 + 183. \\
\\
344 &:= 14^2 + 27^2 + 38^2 - 45^2 = 142 + 272 + 382 - 452. & 355 &:= 3^4 + 7^2 - 10^3 + 35^2 = 34 + 72 - 103 + 352. \\
&:= 14^2 + 29^2 + 34^2 - 43^2 = 142 + 292 + 342 - 432. & &:= 3^4 - 6^4 + 9^3 + 29^2 = 34 - 64 + 93 + 292. \\
&:= 17^2 + 26^2 + 30^2 - 39^2 = 172 + 262 + 302 - 392. & &:= 3^6 - 4^5 + 17^2 + 19^2 = 36 - 45 + 172 + 192. \\
&:= 19^2 + 26^2 + 26^2 - 37^2 = 192 + 262 + 262 - 372. & 356 &:= -5^3 - 6^7 + 23^4 + 24^2 = -53 - 67 + 234 + 242. \\
&:= 20^2 + 23^2 + 28^2 - 37^2 = 202 + 232 + 282 - 372. \\
&:= 3^5 - 6^7 + 14^2 + 23^4 = 35 - 67 + 142 + 234. & 358 &:= -2^8 + 7^2 + 9^2 + 22^2 = -28 + 72 + 92 + 222. \\
\\
345 &:= -2^4 + 4^2 - 4^5 + 37^2 = -24 + 42 - 45 + 372. & &:= 3^5 - 4^5 - 5^4 + 42^2 = 35 - 45 - 54 + 422. \\
&:= -2^4 - 9^9 + 19^2 + 27^6 = -24 - 99 + 192 + 276. \\
\\
346 &:= 14^3 + 15^4 - 38^3 + 43^2 = 143 + 154 - 383 + 432. & 360 &:= -3^3 + 4^5 - 7^4 + 42^2 = -33 + 45 - 74 + 422. \\
&:= 3^5 - 9^3 + 16^2 + 24^2 = 35 - 93 + 162 + 242. & &:= -3^8 + 9^2 + 14^3 + 16^3 = -38 + 92 + 143 + 163. \\
&:= 4^4 + 9^3 - 12^3 + 33^2 = 44 + 93 - 123 + 332. & &:= -4^8 + 6^2 + 16^4 + 18^2 = -48 + 62 + 164 + 182. \\
&:= 4^7 - 7^5 + 12^2 + 25^2 = 47 - 75 + 122 + 252. & 361 &:= 2^5 + 2^8 - 6^4 + 37^2 = 25 + 28 - 64 + 372. \\
\\
347 &:= -2^3 - 5^4 + 14^2 + 28^2 = -23 - 54 + 142 + 282. & &:= -2^9 + 3^4 - 3^6 + 39^2 = -29 + 34 - 36 + 392. \\
&:= -2^5 + 7^3 - 12^3 + 42^2 = -25 + 73 - 123 + 422. & &:= -2^9 - 3^4 + 15^2 + 27^2 = -29 - 34 + 152 + 272. \\
&:= -4^5 - 19^2 + 24^2 + 34^2 = -45 - 192 + 242 + 342. & 362 &:= -3^6 + 5^3 + 5^3 + 29^2 = -36 + 53 + 53 + 292. \\
&:= -5^3 - 5^4 + 16^2 + 29^2 = -53 - 54 + 162 + 292. & &:= -3^9 + 5^6 + 16^3 + 18^2 = -39 + 56 + 163 + 182. \\
&:= -5^4 + 6^2 - 10^3 + 44^2 = -54 + 62 - 103 + 442. & &:= -4^4 + 7^2 + 13^2 + 20^2 = -44 + 72 + 132 + 202. \\
&:= -5^5 - 25^3 + 26^3 + 39^2 = -55 - 253 + 263 + 392. \\
\\
348 &:= 2^7 + 8^2 - 10^3 + 34^2 = 27 + 82 - 103 + 342. & 363 &:= -2^5 - 3^6 + 10^2 + 32^2 = -25 - 36 + 102 + 322. \\
&:= 2^8 + 3^3 - 4^5 + 33^2 = 28 + 33 - 45 + 332. & &:= -2^9 - 3^2 + 20^2 + 22^2 = -29 - 32 + 202 + 222. \\
&:= 2^8 - 4^5 + 6^3 + 30^2 = 28 - 45 + 63 + 302. \\
\\
349 &:= -12^2 - 12^3 + 14^2 + 45^2 = -122 - 123 + 142 + 452. & 364 &:= 17^2 + 30^2 + 32^2 - 43^2 = 172 + 302 + 322 - 432. \\
&:= -12^3 - 22^2 + 25^2 + 44^2 = -123 - 222 + 252 + 442. & 365 &:= -2^4 - 4^5 + 6^2 + 37^2 = -24 - 45 + 62 + 372. \\
&:= -2^8 + 3^3 + 17^2 + 17^2 = -28 + 33 + 172 + 172. & &:= -2^6 + 5^3 - 6^4 + 40^2 = -26 + 53 - 64 + 402. \\
&:= -6^2 - 10^3 + 19^2 + 32^2 = -62 - 103 + 192 + 322. & &:= -3^5 - 5^4 + 12^2 + 33^2 = -35 - 54 + 122 + 332.
\end{aligned}$$

$$366 := 2^5 + 4^3 - 9^5 + 39^3 = 25 + 43 - 95 + 393.$$

$$367 := -2^3 - 5^4 + 18^2 + 26^2 = -23 - 54 + 182 + 262.$$

$$:= -4^4 - 7^4 + 12^3 + 36^2 = -44 - 74 + 123 + 362.$$

$$:= -4^5 - 7^2 + 12^2 + 36^2 = -45 - 72 + 122 + 362.$$

$$368 := 2^5 + 2^6 - 4^5 + 36^2 = 25 + 26 - 45 + 362.$$

$$:= 2^7 - 6^4 + 8^3 + 32^2 = 27 - 64 + 83 + 322.$$

$$:= 3^4 + 3^7 - 5^5 + 35^2 = 34 + 37 - 55 + 352.$$

$$369 := 2^4 - 2^9 + 9^2 + 28^2 = 24 - 29 + 92 + 282.$$

$$:= -2^9 + 4^4 + 15^2 + 20^2 = -29 + 44 + 152 + 202.$$

$$:= -3^2 - 10^3 + 17^2 + 33^2 = -32 - 103 + 172 + 332.$$

$$:= -4^2 - 10^3 + 19^2 + 32^2 = -42 - 103 + 192 + 322.$$

$$:= -6^2 - 10^3 + 26^2 + 27^2 = -62 - 103 + 262 + 272.$$

$$370 := -2^5 - 2^9 + 17^2 + 25^2 = -25 - 29 + 172 + 252.$$

$$371 := -3^5 + 6^2 + 17^2 + 17^2 = -35 + 62 + 172 + 172.$$

$$374 := -3^7 - 4^4 + 12^3 + 33^2 = -37 - 44 + 123 + 332.$$

$$375 := 2^5 - 4^5 + 7^3 + 32^2 = 25 - 45 + 73 + 322.$$

$$376 := -3^5 - 9^3 + 18^2 + 32^2 = -35 - 93 + 182 + 322.$$

$$:= -3^6 - 5^2 + 17^2 + 29^2 = -36 - 52 + 172 + 292.$$

$$:= -3^6 - 7^2 + 23^2 + 25^2 = -36 - 72 + 232 + 252.$$

$$:= -4^5 - 5^3 + 9^2 + 38^2 = -45 - 53 + 92 + 382.$$

$$379 := 3^8 - 8^5 + 13^3 + 29^3 = 38 - 85 + 133 + 293.$$

$$382 := -4^4 + 9^2 + 14^2 + 19^2 = -44 + 92 + 142 + 192.$$

$$383 := -3^8 - 8^5 + 14^4 + 36^2 = -38 - 85 + 144 + 362.$$

$$:= -4^5 + 5^2 - 5^7 + 43^3 = -45 + 52 - 57 + 433.$$

$$384 := 19^2 + 32^2 + 32^2 - 45^2 = 192 + 322 + 322 - 452.$$

$$:= 20^2 + 28^2 + 35^2 - 45^2 = 202 + 282 + 352 - 452.$$

$$:= 3^4 - 5^4 + 12^2 + 28^2 = 34 - 54 + 122 + 282.$$

$$:= 8^3 - 10^3 + 14^2 + 26^2 = 83 - 103 + 142 + 262.$$

$$385 := 3^2 - 4^5 - 5^4 + 45^2 = 32 - 45 - 54 + 452.$$

$$386 := 13^4 + 14^3 - 32^3 + 43^2 = 134 + 143 - 323 + 432.$$

$$:= 2^3 + 3^4 - 12^3 + 45^2 = 23 + 34 - 123 + 452.$$

$$:= 3^4 + 8^3 - 12^3 + 39^2 = 34 + 83 - 123 + 392.$$

$$:= 3^6 - 6^4 + 13^2 + 28^2 = 36 - 64 + 132 + 282.$$

$$:= 4^5 - 12^3 + 19^2 + 27^2 = 45 - 123 + 192 + 272.$$

$$387 := -3^3 - 9^5 + 12^2 + 39^3 = -33 - 95 + 122 + 393.$$

$$:= -6^6 - 17^2 + 26^2 + 36^3 = -66 - 172 + 262 + 363.$$

$$388 := 2^6 + 10^3 - 13^3 + 39^2 = 26 + 103 - 133 + 392.$$

$$:= 2^6 + 3^3 - 12^3 + 45^2 = 26 + 33 - 123 + 452.$$

$$389 := -12^3 - 18^2 + 29^2 + 40^2 = -123 - 182 + 292 + 402.$$

$$:= -2^9 + 3^4 + 12^2 + 26^2 = -29 + 34 + 122 + 262.$$

$$:= -4^2 - 10^3 + 26^2 + 27^2 = -42 - 103 + 262 + 272.$$

$$390 := 2^7 + 5^6 - 7^5 + 38^2 = 27 + 56 - 75 + 382.$$

$$393 := 2^3 - 5^4 + 13^2 + 29^2 = 23 - 54 + 132 + 292.$$

$$:= 4^2 + 9^2 - 10^3 + 36^2 = 42 + 92 - 103 + 362.$$

$$394 := -2^5 - 4^5 + 9^2 + 37^2 = -25 - 45 + 92 + 372.$$

$$395 := 2^4 - 9^3 + 18^2 + 28^2 = 24 - 93 + 182 + 282.$$

$$:= 7^4 + 12^2 - 15^3 + 35^2 = 74 + 122 - 153 + 352.$$

$$:= 8^3 + 19^3 - 20^3 + 32^2 = 83 + 193 - 203 + 322.$$

$$396 := -2^5 - 15^4 + 20^2 + 37^3 = -25 - 154 + 202 + 373.$$

$$400 := -3^9 + 4^4 + 12^2 + 27^3 = -39 + 44 + 122 + 273.$$

$$:= -4^8 + 12^2 + 16^2 + 16^4 = -48 + 122 + 162 + 164.$$

$$401 := -2^7 - 3^6 + 13^2 + 33^2 = -27 - 36 + 132 + 332.$$

$$:= -2^7 - 5^8 + 23^2 + 25^4 = -27 - 58 + 232 + 254.$$

$$402 := -4^4 + 12^2 + 15^2 + 17^2 = -44 + 122 + 152 + 172.$$

$$404 := 26^2 + 27^2 + 32^2 - 45^2 = 262 + 272 + 322 - 452.$$

$$407 := -3^2 - 4^5 + 12^2 + 36^2 = -32 - 45 + 122 + 362.$$

$$:= -4^5 - 7^2 + 18^2 + 34^2 = -45 - 72 + 182 + 342.$$

$$:= -6^6 - 13^2 + 24^2 + 36^3 = -66 - 132 + 242 + 363.$$

$$:= -7^4 - 9^4 + 20^3 + 37^2 = -74 - 94 + 203 + 372.$$

$$408 := 2^7 - 10^3 + 16^2 + 32^2 = 27 - 103 + 162 + 322.$$

$$409 := -12^3 - 15^2 + 29^2 + 39^2 = -123 - 152 + 292 + 392.$$

$$:= -12^3 - 16^2 + 32^2 + 37^2 = -123 - 162 + 322 + 372.$$

$$:= -2^3 + 22^3 - 23^3 + 44^2 = -23 + 223 - 233 + 442.$$

$$410 := -2^9 - 3^5 + 18^2 + 29^2 = -29 - 35 + 182 + 292.$$

$$411 := -3^5 + 13^2 + 14^2 + 17^2 = -35 + 132 + 142 + 172.$$

$$\begin{aligned}
413 &:= -3^9 + 4^6 + 20^3 + 20^3 = -39 + 46 + 203 + 203. & 447 &:= -3^2 - 4^5 + 18^2 + 34^2 = -32 - 45 + 182 + 342. \\
&:= 6^2 + 9^2 - 10^3 + 36^2 = 62 + 92 - 103 + 362. & &:= -5^4 - 9^3 + 24^2 + 35^2 = -54 - 93 + 242 + 352. \\
&:= -6^4 + 10^3 + 15^2 + 22^2 = -64 + 103 + 152 + 222. & 452 &:= 2^9 + 3^7 - 4^6 + 43^2 = 29 + 37 - 46 + 432. \\
&:= -7^4 + 13^3 + 16^2 + 19^2 = -74 + 133 + 162 + 192. & & \\
414 &:= -3^4 - 3^6 + 18^2 + 30^2 = -34 - 36 + 182 + 302. & 453 &:= 3^4 - 4^5 + 10^2 + 36^2 = 34 - 45 + 102 + 362. \\
&:= -3^5 - 4^5 + 9^2 + 40^2 = -35 - 45 + 92 + 402. & &:= -6^4 + 8^3 + 9^2 + 34^2 = -64 + 83 + 92 + 342. \\
& & &:= -8^3 + 15^2 + 16^2 + 22^2 = -83 + 152 + 162 + 222. \\
416 &:= -3^2 - 3^6 + 23^2 + 25^2 = -32 - 36 + 232 + 252. & 454 &:= -5^5 - 5^7 + 13^3 + 43^3 = -55 - 57 + 133 + 433. \\
&:= -4^5 - 5^3 + 14^2 + 37^2 = -45 - 53 + 142 + 372. & 455 &:= 7^4 - 15^3 + 23^2 + 30^2 = 74 - 153 + 232 + 302. \\
418 &:= -2^8 + 12^2 + 13^2 + 19^2 = -28 + 122 + 132 + 192. & 456 &:= -4^5 - 6^3 + 20^2 + 36^2 = -45 - 63 + 202 + 362. \\
420 &:= 2^5 - 2^9 + 18^2 + 24^2 = 25 - 29 + 182 + 242. & 457 &:= 5^4 + 20^4 - 22^4 + 42^3 = 54 + 204 - 224 + 423. \\
422 &:= -4^5 + 5^2 + 5^3 + 36^2 = -45 + 52 + 53 + 362. & 458 &:= -6^4 - 8^2 + 27^2 + 33^2 = -64 - 82 + 272 + 332. \\
423 &:= -2^5 - 3^6 + 20^2 + 28^2 = -25 - 36 + 202 + 282. & 462 &:= -3^7 + 4^5 + 5^2 + 40^2 = -37 + 45 + 52 + 402. \\
424 &:= 3^4 - 5^4 + 22^2 + 22^2 = 34 - 54 + 222 + 222. & 464 &:= 2^6 - 3^6 + 20^2 + 27^2 = 26 - 36 + 202 + 272. \\
425 &:= -2^4 - 4^5 + 13^2 + 36^2 = -24 - 45 + 132 + 362. & 466 &:= 23^3 + 32^3 + 36^3 - 45^3 = 233 + 323 + 363 - 453. \\
&:= -3^6 - 6^3 + 23^2 + 29^2 = -36 - 63 + 232 + 292. & 467 &:= -2^9 + 9^2 + 13^2 + 27^2 = -29 + 92 + 132 + 272. \\
&:= -4^5 - 5^4 + 7^2 + 45^2 = -45 - 54 + 72 + 452. & &:= -6^3 - 6^5 + 19^3 + 40^2 = -63 - 65 + 193 + 402. \\
427 &:= -9^3 - 9^6 + 27^4 + 34^2 = -93 - 96 + 274 + 342. & 473 &:= -6^4 + 9^3 + 16^2 + 28^2 = -64 + 93 + 162 + 282. \\
428 &:= 2^7 - 10^3 + 20^2 + 30^2 = 27 - 103 + 202 + 302. & 476 &:= -2^3 - 4^5 + 22^2 + 32^2 = -23 - 45 + 222 + 322. \\
432 &:= -2^8 - 5^4 + 23^2 + 28^2 = -28 - 54 + 232 + 282. & &:= -4^5 - 5^3 + 28^2 + 29^2 = -45 - 53 + 282 + 292. \\
433 &:= -6^4 + 9^3 + 10^2 + 30^2 = -64 + 93 + 102 + 302. & 480 &:= 2^2 - 3^6 + 23^2 + 26^2 = 22 - 36 + 232 + 262. \\
&:= -8^3 + 10^2 + 19^2 + 22^2 = -83 + 102 + 192 + 222. & 481 &:= -2^9 - 5^4 + 23^2 + 33^2 = -29 - 54 + 232 + 332. \\
&:= -8^3 + 12^2 + 15^2 + 24^2 = -83 + 122 + 152 + 242. & 482 &:= 4^2 - 9^5 + 14^2 + 39^3 = 42 - 95 + 142 + 393. \\
435 &:= 15^3 + 29^2 + 35^3 - 36^3 = 153 + 292 + 353 - 363. & &:= -5^4 + 7^2 + 23^2 + 23^2 = -54 + 72 + 232 + 232. \\
&:= 5^4 - 12^3 + 13^2 + 37^2 = 54 - 123 + 132 + 372. & 484 &:= 15^3 - 16^3 + 23^2 + 26^2 = 153 - 163 + 232 + 262. \\
&:= 7^3 + 14^3 - 16^3 + 38^2 = 73 + 143 - 163 + 382. & 485 &:= -2^4 - 4^5 + 25^2 + 30^2 = -24 - 45 + 252 + 302. \\
&:= 9^3 + 22^3 - 23^3 + 35^2 = 93 + 223 - 233 + 352. & 487 &:= -8^3 - 9^5 + 27^2 + 39^3 = -83 - 95 + 272 + 393. \\
436 &:= -3^3 - 3^7 + 5^4 + 45^2 = -33 - 37 + 54 + 452. & 493 &:= 4^4 - 4^5 + 19^2 + 30^2 = 44 - 45 + 192 + 302. \\
&:= -4^5 - 5^3 + 17^2 + 36^2 = -45 - 53 + 172 + 362. & &:= 5^3 - 5^5 + 13^3 + 36^2 = 53 - 55 + 133 + 362. \\
437 &:= -2^8 - 2^9 + 23^2 + 26^2 = -28 - 29 + 232 + 262. & &:= -6^4 + 9^3 + 22^2 + 24^2 = -64 + 93 + 222 + 242. \\
438 &:= -14^4 - 24^3 + 37^3 + 45^2 = -144 - 243 + 373 + 452. & &:= 9^2 - 10^3 + 16^2 + 34^2 = 92 - 103 + 162 + 342. \\
439 &:= 2^7 + 15^3 - 17^3 + 43^2 = 27 + 153 - 173 + 432. & &:= -9^3 + 13^2 + 18^2 + 27^2 = -93 + 132 + 182 + 272. \\
442 &:= 3^2 - 5^4 + 23^2 + 23^2 = 32 - 54 + 232 + 232. & 495 &:= -3^8 + 4^5 + 4^6 + 44^2 = -38 + 45 + 46 + 442. \\
445 &:= -3^6 - 7^3 + 26^2 + 29^2 = -36 - 73 + 262 + 292. & &:= 6^3 + 23^3 - 24^3 + 44^2 = 63 + 233 - 243 + 442. \\
446 &:= 9^5 - 17^4 + 23^2 + 29^3 = 95 - 174 + 232 + 293. & &
\end{aligned}$$

$$496 := -4^5 - 9^3 + 20^2 + 43^2 = -45 - 93 + 202 + 432.$$

$$497 := 2^6 - 12^3 + 15^2 + 44^2 = 26 - 123 + 152 + 442.$$

$$\begin{aligned} 500 &:= -3^6 + 4^2 + 22^2 + 27^2 = -36 + 42 + 222 + 272. \\ &:= -5^8 + 10^2 + 20^2 + 25^4 = -58 + 102 + 202 + 254. \\ &:= -7^2 - 18^4 + 37^3 + 38^3 = -72 - 184 + 373 + 383. \end{aligned}$$

$$502 := 6^2 - 9^5 + 14^2 + 39^3 = 62 - 95 + 142 + 393.$$

$$\begin{aligned} 507 &:= -2^9 + 13^2 + 15^2 + 25^2 = -29 + 132 + 152 + 252. \\ &:= -4^5 - 18^4 + 30^3 + 43^3 = -45 - 184 + 303 + 433. \\ &:= -6^4 - 7^3 + 25^2 + 39^2 = -64 - 73 + 252 + 392. \end{aligned}$$

$$512 := -2^6 - 6^8 + 24^2 + 36^4 = -26 - 68 + 242 + 364.$$

$$\begin{aligned} 513 &:= 10^2 - 10^3 + 18^2 + 33^2 = 102 - 103 + 182 + 332. \\ &:= -6^5 + 12^3 + 18^3 + 27^2 = -65 + 123 + 183 + 272. \\ &:= -9^3 + 16^2 + 19^2 + 25^2 = -93 + 162 + 192 + 252. \end{aligned}$$

$$514 := -3^5 - 4^5 + 25^2 + 34^2 = -35 - 45 + 252 + 342.$$

$$515 := 9^4 - 20^3 + 27^2 + 35^2 = 94 - 203 + 272 + 352.$$

$$516 := -2^5 - 12^3 + 26^2 + 40^2 = -25 - 123 + 262 + 402.$$

$$\begin{aligned} 518 &:= -2^2 - 6^4 + 27^2 + 33^2 = -22 - 64 + 272 + 332. \\ &:= -7^5 - 8^2 + 25^3 + 42^2 = -75 - 82 + 253 + 422. \end{aligned}$$

$$\begin{aligned} 520 &:= -3^6 + 6^2 + 22^2 + 27^2 = -36 + 62 + 222 + 272. \\ &:= -5^8 + 14^2 + 18^2 + 25^4 = -58 + 142 + 182 + 254. \end{aligned}$$

$$521 := -2^8 - 4^5 + 24^2 + 35^2 = -28 - 45 + 242 + 352.$$

$$\begin{aligned} 524 &:= 3^3 - 12^3 + 17^2 + 44^2 = 33 - 123 + 172 + 442. \\ &:= 3^3 - 8^4 + 14^3 + 43^2 = 33 - 84 + 143 + 432. \end{aligned}$$

$$528 := 2^8 - 6^4 + 28^2 + 28^2 = 28 - 64 + 282 + 282.$$

$$532 := -2^8 - 6^4 + 22^2 + 40^2 = -28 - 64 + 222 + 402.$$

$$\begin{aligned} 533 &:= 12^2 - 15^4 + 19^2 + 37^3 = 122 - 154 + 192 + 373. \\ &:= 3^4 - 4^5 + 24^2 + 30^2 = 34 - 45 + 242 + 302. \\ &:= -8^5 + 10^2 + 25^3 + 26^3 = -85 + 102 + 253 + 263. \end{aligned}$$

$$539 := 2^9 - 6^6 + 27^3 + 30^3 = 29 - 66 + 273 + 303.$$

$$\begin{aligned} 540 &:= -3^2 - 18^4 + 37^3 + 38^3 = -32 - 184 + 373 + 383. \\ &:= -3^6 + 12^2 + 15^2 + 30^2 = -36 + 122 + 152 + 302. \\ &:= -3^6 + 8^2 + 23^2 + 26^2 = -36 + 82 + 232 + 262. \end{aligned}$$

$$541 := -2^9 - 6^4 + 18^2 + 45^2 = -29 - 64 + 182 + 452.$$

$$545 := -6^4 - 6^7 + 23^4 + 44^2 = -64 - 67 + 234 + 442.$$

$$\begin{aligned} 553 &:= -10^3 + 12^2 + 25^2 + 28^2 = -103 + 122 + 252 + 282. \\ &:= -10^3 + 13^2 + 22^2 + 30^2 = -103 + 132 + 222 + 302. \end{aligned}$$

$$560 := -3^6 + 12^2 + 19^2 + 28^2 = -36 + 122 + 192 + 282.$$

$$567 := -6^4 - 9^3 + 36^2 + 36^2 = -64 - 93 + 362 + 362.$$

$$569 := -12^2 - 14^3 + 39^2 + 44^2 = -122 - 143 + 392 + 442.$$

$$\begin{aligned} 571 &:= -4^5 + 5^2 + 27^2 + 29^2 = -45 + 52 + 272 + 292. \\ &:= -4^5 + 9^2 + 17^2 + 35^2 = -45 + 92 + 172 + 352. \end{aligned}$$

$$573 := 3^5 - 4^7 + 25^3 + 33^2 = 35 - 47 + 253 + 332.$$

$$576 := -4^5 - 10^3 + 34^2 + 38^2 = -45 - 103 + 342 + 382.$$

$$\begin{aligned} 578 &:= -2^2 - 7^5 + 25^3 + 42^2 = -22 - 75 + 253 + 422. \\ &:= -3^9 + 17^2 + 17^2 + 27^3 = -39 + 172 + 172 + 273. \end{aligned}$$

$$580 := -3^6 + 16^2 + 18^2 + 27^2 = -36 + 162 + 182 + 272.$$

$$581 := -2^9 - 6^4 + 25^2 + 42^2 = -29 - 64 + 252 + 422.$$

$$582 := 5^2 - 6^4 + 22^2 + 37^2 = 52 - 64 + 222 + 372.$$

$$584 := 3^3 - 12^3 + 29^2 + 38^2 = 33 - 123 + 292 + 382.$$

$$\begin{aligned} 593 &:= -10^3 + 22^2 + 22^2 + 25^2 = -103 + 222 + 222 + 252. \\ &:= 3^2 - 12^3 + 34^2 + 34^2 = 32 - 123 + 342 + 342. \\ &:= 4^2 - 12^3 + 28^2 + 39^2 = 42 - 123 + 282 + 392. \end{aligned}$$

$$594 := -4^6 - 8^5 + 33^3 + 39^2 = -46 - 85 + 333 + 392.$$

$$595 := 4^5 - 7^4 + 26^2 + 36^2 = 45 - 74 + 262 + 362.$$

$$596 := -2^5 - 13^3 + 35^2 + 40^2 = -25 - 133 + 352 + 402.$$

$$597 := 3^6 - 14^3 + 26^2 + 44^2 = 36 - 143 + 262 + 442.$$

$$\begin{aligned} 600 &:= -3^6 + 19^2 + 22^2 + 22^2 = -36 + 192 + 222 + 222. \\ &:= -3^6 + 20^2 + 20^2 + 23^2 = -36 + 202 + 202 + 232. \end{aligned}$$

$$\begin{aligned} 602 &:= -3^7 + 4^5 + 26^2 + 33^2 = -37 + 45 + 262 + 332. \\ &:= 5^2 - 6^4 + 28^2 + 33^2 = 52 - 64 + 282 + 332. \end{aligned}$$

$$606 := 2^9 - 3^7 + 16^2 + 45^2 = 29 - 37 + 162 + 452.$$

$$607 := -4^4 - 13^3 + 36^2 + 42^2 = -44 - 133 + 362 + 422.$$

$$613 := 6^2 - 12^3 + 28^2 + 39^2 = 62 - 123 + 282 + 392.$$

$$631 := -4^6 + 15^3 + 26^2 + 26^2 = -46 + 153 + 262 + 262.$$

$$\begin{aligned}
633 &:= -12^3 + 16^2 + 16^2 + 43^2 = -123 + 162 + 162 + 432. & 703 &:= -2^7 - 7^4 + 36^2 + 44^2 = -27 - 74 + 362 + 442. \\
&:= 7^2 - 12^3 + 34^2 + 34^2 = 72 - 123 + 342 + 342. & 704 &:= -8^6 + 12^5 + 23^3 + 43^2 = -86 + 125 + 233 + 432. \\
635 &:= 5^4 - 14^3 + 27^2 + 45^2 = 54 - 143 + 272 + 452. & 705 &:= -2^2 - 3^7 + 36^2 + 40^2 = -22 - 37 + 362 + 402. \\
642 &:= -5^5 + 13^3 + 27^2 + 29^2 = -55 + 133 + 272 + 292. & 708 &:= 2^8 - 7^4 + 33^2 + 42^2 = 28 - 74 + 332 + 422. \\
&:= -6^4 + 13^2 + 20^2 + 37^2 = -64 + 132 + 202 + 372. & 710 &:= -2^7 - 3^7 + 33^2 + 44^2 = -27 - 37 + 332 + 442. \\
644 &:= 4^3 - 13^3 + 29^2 + 44^2 = 43 - 133 + 292 + 442. & 713 &:= -12^3 + 19^2 + 28^2 + 36^2 = -123 + 192 + 282 + 362. \\
&:= 5^4 - 7^4 + 22^2 + 44^2 = 54 - 74 + 222 + 442. & &:= -7^4 + 9^3 + 33^2 + 36^2 = -74 + 93 + 332 + 362. \\
645 &:= -3^7 - 8^2 + 36^2 + 40^2 = -37 - 82 + 362 + 402. & 715 &:= 3^5 - 7^4 + 32^2 + 43^2 = 35 - 74 + 322 + 432. \\
647 &:= -5^4 - 13^3 + 38^2 + 45^2 = -54 - 133 + 382 + 452. & &:= 3^7 - 4^6 + 32^2 + 40^2 = 37 - 46 + 322 + 402. \\
649 &:= -3^8 + 17^2 + 18^3 + 33^2 = -38 + 172 + 183 + 332. & 720 &:= -3^7 + 9^3 + 33^2 + 33^2 = -37 + 93 + 332 + 332. \\
&:= -3^9 + 18^3 + 24^3 + 26^2 = -39 + 183 + 243 + 262. & 733 &:= -12^3 + 24^2 + 27^2 + 34^2 = -123 + 242 + 272 + 342. \\
653 &:= -12^3 + 16^2 + 19^2 + 42^2 = -123 + 162 + 192 + 422. & 753 &:= 6^3 - 7^4 + 33^2 + 43^2 = 63 - 74 + 332 + 432. \\
659 &:= 2^9 - 7^4 + 28^2 + 42^2 = 29 - 74 + 282 + 422. & 760 &:= 3^3 - 3^7 + 34^2 + 42^2 = 33 - 37 + 342 + 422. \\
664 &:= 23^2 + 24^3 - 25^3 + 44^2 = 232 + 243 - 253 + 442. & 773 &:= -9^4 + 17^3 + 30^2 + 39^2 = -94 + 173 + 302 + 392. \\
&:= 5^4 - 7^4 + 26^2 + 42^2 = 54 - 74 + 262 + 422. & 793 &:= 3^6 - 4^8 + 40^2 + 40^3 = 36 - 48 + 402 + 403. \\
665 &:= -3^7 - 6^2 + 38^2 + 38^2 = -37 - 62 + 382 + 382. & 813 &:= -13^3 + 25^2 + 33^2 + 36^2 = -133 + 252 + 332 + 362. \\
673 &:= -12^3 + 15^2 + 24^2 + 40^2 = -123 + 152 + 242 + 402. & 833 &:= -14^3 + 16^2 + 36^2 + 45^2 = -143 + 162 + 362 + 452. \\
&:= 5^4 - 5^6 + 24^3 + 43^2 = 54 - 56 + 243 + 432. & 842 &:= -7^4 + 13^2 + 35^2 + 43^2 = -74 + 132 + 352 + 432. \\
674 &:= -2^7 - 14^3 + 39^2 + 45^2 = -27 - 143 + 392 + 452. & 853 &:= -10^4 + 20^3 + 33^2 + 42^2 = -104 + 203 + 332 + 422. \\
&:= -3^7 - 4^3 + 30^2 + 45^2 = -37 - 43 + 302 + 452. & 873 &:= -14^3 + 22^2 + 37^2 + 42^2 = -143 + 222 + 372 + 422. \\
682 &:= -6^4 + 15^2 + 27^2 + 32^2 = -64 + 152 + 272 + 322. & 882 &:= -7^4 + 23^2 + 27^2 + 45^2 = -74 + 232 + 272 + 452. \\
685 &:= -3^7 - 4^2 + 38^2 + 38^2 = -37 - 42 + 382 + 382. & 893 &:= -14^3 + 28^2 + 33^2 + 42^2 = -143 + 282 + 332 + 422. \\
693 &:= -12^3 + 15^2 + 30^2 + 36^2 = -123 + 152 + 302 + 362. & 900 &:= -4^8 + 30^2 + 32^3 + 32^3 = -48 + 302 + 323 + 323. \\
&:= -12^3 + 18^2 + 24^2 + 39^2 = -123 + 182 + 242 + 392. & 922 &:= -7^4 + 27^2 + 35^2 + 37^2 = -74 + 272 + 352 + 372. \\
&:= -12^4 + 15^2 + 27^3 + 39^2 = -124 + 152 + 273 + 392. & 1033 &:= -10^5 + 24^3 + 44^3 + 45^2 = -105 + 243 + 443 + 452. \\
&:= -8^4 + 14^3 + 26^2 + 37^2 = -84 + 143 + 262 + 372. & 1069 &:= -4^8 + 29^2 + 40^3 + 42^2 = -48 + 292 + 403 + 422. \\
&:= 9^2 - 13^3 + 28^2 + 45^2 = 92 - 133 + 282 + 452. & 1220 &:= -4^6 + 38^2 + 44^2 + 44^2 = -46 + 382 + 442 + 442.
\end{aligned}$$

## 7 Five Terms Equalities

This section deals with five terms expressions, where we have considered only positive expressions with both powers and bases bigger than one.

$$\begin{aligned}
120 &:= 2^3 + 2^3 + 2^3 + 2^5 + 2^6 = 23 + 23 + 23 + 25 + 26. \\
125 &:= 2^2 + 2^2 + 2^2 + 2^5 + 3^4 = 22 + 22 + 22 + 25 + 34. \\
131 &:= 2^3 + 2^5 + 2^5 + 2^5 + 3^3 = 23 + 25 + 25 + 25 + 33. \\
136 &:= 2^2 + 2^3 + 2^4 + 3^3 + 3^4 = 22 + 23 + 24 + 33 + 34. \\
\\
138 &:= 2^2 + 2^4 + 2^6 + 3^3 + 3^3 = 22 + 24 + 26 + 33 + 33. \\
&:= 2^4 + 2^4 + 2^4 + 3^2 + 3^4 = 24 + 24 + 24 + 32 + 34. \\
\\
141 &:= 2^2 + 2^2 + 2^2 + 2^2 + 5^3 = 22 + 22 + 22 + 22 + 53. \\
145 &:= 2^2 + 2^2 + 2^6 + 3^2 + 4^3 = 22 + 22 + 26 + 32 + 43. \\
147 &:= 2^4 + 2^5 + 3^2 + 3^2 + 3^4 = 24 + 25 + 32 + 32 + 34. \\
156 &:= 2^2 + 2^3 + 2^6 + 4^2 + 4^3 = 22 + 23 + 26 + 42 + 43. \\
160 &:= 2^5 + 2^5 + 2^6 + 4^2 + 4^2 = 25 + 25 + 26 + 42 + 42. \\
\\
163 &:= 2^2 + 2^2 + 3^3 + 4^3 + 4^3 = 22 + 22 + 33 + 43 + 43. \\
&:= 2^2 + 2^4 + 3^2 + 3^2 + 5^3 = 22 + 24 + 32 + 32 + 53. \\
\\
169 &:= 2^4 + 2^5 + 2^5 + 4^3 + 5^2 = 24 + 25 + 25 + 43 + 52. \\
\\
174 &:= 2^3 + 2^3 + 2^3 + 5^2 + 5^3 = 23 + 23 + 23 + 52 + 53. \\
&:= 2^3 + 2^4 + 3^2 + 4^2 + 5^3 = 23 + 24 + 32 + 42 + 53. \\
\\
176 &:= 2^2 + 2^3 + 2^6 + 4^3 + 6^2 = 22 + 23 + 26 + 43 + 62. \\
&:= 2^4 + 2^4 + 4^2 + 4^3 + 4^3 = 24 + 24 + 42 + 43 + 43. \\
&:= 2^4 + 3^3 + 3^3 + 3^4 + 5^2 = 24 + 33 + 33 + 34 + 52. \\
\\
178 &:= 2^4 + 2^4 + 2^4 + 3^4 + 7^2 = 24 + 24 + 24 + 34 + 72. \\
&:= 2^6 + 2^6 + 3^2 + 4^2 + 5^2 = 26 + 26 + 32 + 42 + 52. \\
\\
180 &:= 2^5 + 2^5 + 2^6 + 4^2 + 6^2 = 25 + 25 + 26 + 42 + 62. \\
183 &:= 2^2 + 3^2 + 3^4 + 4^3 + 5^2 = 22 + 32 + 34 + 43 + 52. \\
\\
185 &:= 2^2 + 2^2 + 2^5 + 3^4 + 8^2 = 22 + 22 + 25 + 34 + 82. \\
&:= 2^2 + 2^2 + 2^6 + 4^3 + 7^2 = 22 + 22 + 26 + 43 + 72. \\
&:= 2^5 + 3^2 + 4^2 + 4^3 + 4^3 = 25 + 32 + 42 + 43 + 43. \\
&:= 2^7 + 3^2 + 4^2 + 4^2 + 4^2 = 27 + 32 + 42 + 42 + 42. \\
\\
187 &:= 2^4 + 2^5 + 3^2 + 3^4 + 7^2 = 24 + 25 + 32 + 34 + 72. \\
\\
194 &:= 2^3 + 2^4 + 3^2 + 5^3 + 6^2 = 23 + 24 + 32 + 53 + 62. \\
&:= 2^3 + 3^4 + 4^2 + 4^3 + 5^2 = 23 + 34 + 42 + 43 + 52.
\end{aligned}$$

$$\begin{aligned}
 196 &:= 2^3 + 2^4 + 3^3 + 3^4 + 8^2 = 23 + 24 + 33 + 34 + 82. \\
 &:= 2^4 + 2^4 + 4^3 + 4^3 + 6^2 = 24 + 24 + 43 + 43 + 62. \\
 &:= 2^6 + 3^3 + 4^2 + 4^3 + 5^2 = 26 + 33 + 42 + 43 + 52.
 \end{aligned}$$

$$\begin{aligned}
 198 &:= 2^4 + 2^6 + 3^3 + 3^3 + 8^2 = 24 + 26 + 33 + 33 + 82. \\
 &:= 2^6 + 2^6 + 3^2 + 5^2 + 6^2 = 26 + 26 + 32 + 52 + 62.
 \end{aligned}$$

$$\begin{aligned}
 200 &:= 2^5 + 2^5 + 2^6 + 6^2 + 6^2 = 25 + 25 + 26 + 62 + 62. \\
 201 &:= 2^2 + 2^2 + 2^2 + 5^3 + 8^2 = 22 + 22 + 22 + 53 + 82. \\
 203 &:= 2^2 + 2^4 + 3^2 + 5^3 + 7^2 = 22 + 24 + 32 + 53 + 72.
 \end{aligned}$$

$$\begin{aligned}
 205 &:= 2^2 + 2^6 + 3^2 + 4^3 + 8^2 = 22 + 26 + 32 + 43 + 82. \\
 &:= 2^3 + 2^3 + 2^3 + 3^4 + 10^2 = 23 + 23 + 23 + 34 + 102. \\
 &:= 2^3 + 2^3 + 3^3 + 3^4 + 9^2 = 23 + 23 + 33 + 34 + 92. \\
 &:= 2^5 + 3^2 + 4^3 + 4^3 + 6^2 = 25 + 32 + 43 + 43 + 62. \\
 &:= 2^7 + 3^2 + 4^2 + 4^2 + 6^2 = 27 + 32 + 42 + 42 + 62.
 \end{aligned}$$

$$\begin{aligned}
 207 &:= 2^3 + 2^3 + 2^6 + 3^3 + 10^2 = 23 + 23 + 26 + 33 + 102. \\
 &:= 2^3 + 2^6 + 3^3 + 3^3 + 9^2 = 23 + 26 + 33 + 33 + 92.
 \end{aligned}$$

$$\begin{aligned}
 209 &:= 2^3 + 2^4 + 2^5 + 2^5 + 11^2 = 23 + 24 + 25 + 25 + 112. \\
 &:= 2^4 + 2^5 + 2^6 + 4^2 + 9^2 = 24 + 25 + 26 + 42 + 92.
 \end{aligned}$$

$$\begin{aligned}
 214 &:= 2^3 + 2^4 + 4^2 + 5^3 + 7^2 = 23 + 24 + 42 + 53 + 72. \\
 &:= 2^3 + 3^4 + 4^3 + 5^2 + 6^2 = 23 + 34 + 43 + 52 + 62. \\
 &:= 2^5 + 4^2 + 4^2 + 5^2 + 5^3 = 25 + 42 + 42 + 52 + 53.
 \end{aligned}$$

$$\begin{aligned}
 216 &:= 2^2 + 2^2 + 2^5 + 2^5 + 12^2 = 22 + 22 + 25 + 25 + 122. \\
 &:= 2^2 + 2^4 + 2^5 + 4^3 + 10^2 = 22 + 24 + 25 + 43 + 102. \\
 &:= 2^3 + 2^6 + 4^2 + 4^3 + 8^2 = 23 + 26 + 42 + 43 + 82. \\
 &:= 2^6 + 3^3 + 4^3 + 5^2 + 6^2 = 26 + 33 + 43 + 52 + 62.
 \end{aligned}$$

$$\begin{aligned}
 218 &:= 2^5 + 2^5 + 3^3 + 3^3 + 10^2 = 25 + 25 + 33 + 33 + 102. \\
 &:= 2^6 + 2^6 + 4^2 + 5^2 + 7^2 = 26 + 26 + 42 + 52 + 72.
 \end{aligned}$$

$$\begin{aligned}
 223 &:= 2^2 + 2^3 + 3^2 + 3^4 + 11^2 = 22 + 23 + 32 + 34 + 112. \\
 &:= 2^2 + 3^3 + 4^3 + 4^3 + 8^2 = 22 + 33 + 43 + 43 + 82. \\
 &:= 2^2 + 3^4 + 4^3 + 5^2 + 7^2 = 22 + 34 + 43 + 52 + 72. \\
 &:= 2^4 + 3^2 + 3^2 + 5^3 + 8^2 = 24 + 32 + 32 + 53 + 82.
 \end{aligned}$$

$$\begin{aligned}
225 &:= 2^2 + 2^2 + 2^4 + 2^5 + 13^2 = 22 + 22 + 24 + 25 + 132. \\
&:= 2^2 + 2^6 + 3^2 + 3^3 + 11^2 = 22 + 26 + 32 + 33 + 112. \\
&:= 2^5 + 4^2 + 4^3 + 4^3 + 7^2 = 25 + 42 + 43 + 43 + 72. \\
&:= 2^7 + 3^2 + 4^2 + 6^2 + 6^2 = 27 + 32 + 42 + 62 + 62. \\
&:= 2^7 + 4^2 + 4^2 + 4^2 + 7^2 = 27 + 42 + 42 + 42 + 72.
\end{aligned}$$

$$\begin{aligned}
227 &:= 2^3 + 2^4 + 2^5 + 3^3 + 12^2 = 23 + 24 + 25 + 33 + 122. \\
&:= 2^4 + 2^5 + 3^4 + 7^2 + 7^2 = 24 + 25 + 34 + 72 + 72.
\end{aligned}$$

$$\begin{aligned}
229 &:= 2^4 + 2^5 + 2^6 + 6^2 + 9^2 = 24 + 25 + 26 + 62 + 92. \\
232 &:= 2^3 + 3^2 + 3^2 + 5^3 + 9^2 = 23 + 32 + 32 + 53 + 92.
\end{aligned}$$

$$\begin{aligned}
234 &:= 2^3 + 2^3 + 3^4 + 4^2 + 11^2 = 23 + 23 + 34 + 42 + 112. \\
&:= 2^3 + 2^4 + 5^3 + 6^2 + 7^2 = 23 + 24 + 53 + 62 + 72. \\
&:= 2^4 + 3^2 + 4^3 + 4^3 + 9^2 = 24 + 32 + 43 + 43 + 92. \\
&:= 2^5 + 4^2 + 5^2 + 5^3 + 6^2 = 25 + 42 + 52 + 53 + 62.
\end{aligned}$$

$$\begin{aligned}
236 &:= 2^3 + 2^4 + 2^4 + 3^3 + 13^2 = 23 + 24 + 24 + 33 + 132. \\
&:= 2^3 + 2^6 + 3^3 + 4^2 + 11^2 = 23 + 26 + 33 + 42 + 112. \\
&:= 2^3 + 2^6 + 4^3 + 6^2 + 8^2 = 23 + 26 + 43 + 62 + 82.
\end{aligned}$$

$$238 := 2^6 + 2^6 + 5^2 + 6^2 + 7^2 = 26 + 26 + 52 + 62 + 72.$$

$$\begin{aligned}
243 &:= 2^2 + 2^3 + 2^3 + 3^3 + 14^2 = 22 + 23 + 23 + 33 + 142. \\
&:= 2^2 + 2^4 + 5^3 + 7^2 + 7^2 = 22 + 24 + 53 + 72 + 72. \\
&:= 2^2 + 3^3 + 3^3 + 4^3 + 11^2 = 22 + 33 + 33 + 43 + 112. \\
&:= 3^2 + 3^4 + 4^3 + 5^2 + 8^2 = 32 + 34 + 43 + 52 + 82.
\end{aligned}$$

$$\begin{aligned}
245 &:= 2^2 + 2^3 + 2^6 + 5^2 + 12^2 = 22 + 23 + 26 + 52 + 122. \\
&:= 2^2 + 2^5 + 3^4 + 8^2 + 8^2 = 22 + 25 + 34 + 82 + 82. \\
&:= 2^2 + 2^6 + 4^3 + 7^2 + 8^2 = 22 + 26 + 43 + 72 + 82. \\
&:= 2^3 + 2^4 + 2^4 + 3^2 + 14^2 = 23 + 24 + 24 + 32 + 142. \\
&:= 2^3 + 2^5 + 3^2 + 3^3 + 13^2 = 23 + 25 + 32 + 33 + 132. \\
&:= 2^5 + 3^4 + 4^2 + 4^2 + 10^2 = 25 + 34 + 42 + 42 + 102. \\
&:= 2^5 + 4^3 + 4^3 + 6^2 + 7^2 = 25 + 43 + 43 + 62 + 72. \\
&:= 2^7 + 3^2 + 6^2 + 6^2 + 6^2 = 27 + 32 + 62 + 62 + 62. \\
&:= 2^7 + 4^2 + 4^2 + 6^2 + 7^2 = 27 + 42 + 42 + 62 + 72.
\end{aligned}$$

$$252 := 3^2 + 3^2 + 3^2 + 3^4 + 12^2 = 32 + 32 + 32 + 34 + 122.$$



$$\begin{aligned}
254 &:= 2^3 + 2^3 + 3^4 + 6^2 + 11^2 = 23 + 23 + 34 + 62 + 112. \\
&:= 2^3 + 2^5 + 3^2 + 3^2 + 14^2 = 23 + 25 + 32 + 32 + 142. \\
&:= 2^5 + 5^2 + 5^3 + 6^2 + 6^2 = 25 + 52 + 53 + 62 + 62.
\end{aligned}$$

$$\begin{aligned}
256 &:= 2^3 + 2^6 + 3^3 + 6^2 + 11^2 = 23 + 26 + 33 + 62 + 112. \\
&:= 2^4 + 2^6 + 4^2 + 4^2 + 12^2 = 24 + 26 + 42 + 42 + 122.
\end{aligned}$$

$$258 := 2^4 + 2^4 + 2^6 + 9^2 + 9^2 = 24 + 24 + 26 + 92 + 92.$$

$$\begin{aligned}
261 &:= 2^2 + 2^2 + 5^3 + 8^2 + 8^2 = 22 + 22 + 53 + 82 + 82. \\
&:= 2^2 + 4^2 + 4^2 + 5^3 + 10^2 = 22 + 42 + 42 + 53 + 102.
\end{aligned}$$

$$\begin{aligned}
263 &:= 2^2 + 2^3 + 3^4 + 7^2 + 11^2 = 22 + 23 + 34 + 72 + 112. \\
&:= 2^4 + 3^2 + 5^3 + 7^2 + 8^2 = 24 + 32 + 53 + 72 + 82. \\
&:= 2^4 + 4^2 + 5^2 + 5^3 + 9^2 = 24 + 42 + 52 + 53 + 92. \\
&:= 3^2 + 3^3 + 3^4 + 5^2 + 11^2 = 32 + 33 + 34 + 52 + 112.
\end{aligned}$$

$$\begin{aligned}
265 &:= 2^2 + 2^6 + 3^3 + 7^2 + 11^2 = 22 + 26 + 33 + 72 + 112. \\
&:= 2^4 + 2^4 + 4^3 + 5^2 + 12^2 = 24 + 24 + 43 + 52 + 122. \\
&:= 2^5 + 3^4 + 4^2 + 6^2 + 10^2 = 25 + 34 + 42 + 62 + 102. \\
&:= 2^6 + 3^2 + 4^3 + 8^2 + 8^2 = 26 + 32 + 43 + 82 + 82. \\
&:= 2^7 + 4^2 + 6^2 + 6^2 + 7^2 = 27 + 42 + 62 + 62 + 72.
\end{aligned}$$

$$\begin{aligned}
267 &:= 2^5 + 2^6 + 3^2 + 9^2 + 9^2 = 25 + 26 + 32 + 92 + 92. \\
&:= 2^5 + 2^6 + 5^2 + 5^2 + 11^2 = 25 + 26 + 52 + 52 + 112.
\end{aligned}$$

$$272 := 2^3 + 3^2 + 5^3 + 7^2 + 9^2 = 23 + 32 + 53 + 72 + 92.$$

$$\begin{aligned}
274 &:= 2^2 + 2^2 + 2^6 + 9^2 + 11^2 = 22 + 22 + 26 + 92 + 112. \\
&:= 2^4 + 4^3 + 4^3 + 7^2 + 9^2 = 24 + 43 + 43 + 72 + 92. \\
&:= 2^5 + 3^2 + 4^3 + 5^2 + 12^2 = 25 + 32 + 43 + 52 + 122. \\
&:= 2^6 + 3^2 + 4^2 + 4^2 + 13^2 = 26 + 32 + 42 + 42 + 132.
\end{aligned}$$

$$\begin{aligned}
276 &:= 2^2 + 2^5 + 2^5 + 8^2 + 12^2 = 22 + 25 + 25 + 82 + 122. \\
&:= 2^4 + 2^5 + 4^3 + 8^2 + 10^2 = 24 + 25 + 43 + 82 + 102. \\
&:= 2^4 + 2^6 + 4^2 + 6^2 + 12^2 = 24 + 26 + 42 + 62 + 122.
\end{aligned}$$

$$\begin{aligned}
281 &:= 2^2 + 3^2 + 3^3 + 4^2 + 15^2 = 22 + 32 + 33 + 42 + 152. \\
&:= 2^2 + 4^2 + 5^3 + 6^2 + 10^2 = 22 + 42 + 53 + 62 + 102.
\end{aligned}$$

$$\begin{aligned}
283 &:= 2^3 + 2^4 + 3^2 + 5^2 + 15^2 = 23 + 24 + 32 + 52 + 152. \\
&:= 2^3 + 3^2 + 3^4 + 8^2 + 11^2 = 23 + 32 + 34 + 82 + 112. \\
&:= 2^3 + 3^3 + 3^3 + 5^2 + 14^2 = 23 + 33 + 33 + 52 + 142. \\
&:= 2^3 + 3^4 + 5^2 + 5^2 + 12^2 = 23 + 34 + 52 + 52 + 122. \\
&:= 2^4 + 3^2 + 4^3 + 5^2 + 13^2 = 24 + 32 + 43 + 52 + 132. \\
&:= 2^4 + 5^2 + 5^3 + 6^2 + 9^2 = 24 + 52 + 53 + 62 + 92. \\
&:= 3^3 + 4^3 + 4^3 + 8^2 + 8^2 = 33 + 43 + 43 + 82 + 82. \\
&:= 3^4 + 4^3 + 5^2 + 7^2 + 8^2 = 34 + 43 + 52 + 72 + 82.
\end{aligned}$$

$$\begin{aligned}
285 &:= 2^2 + 2^4 + 2^5 + 8^2 + 13^2 = 22 + 24 + 25 + 82 + 132. \\
&:= 2^3 + 2^4 + 2^4 + 7^2 + 14^2 = 23 + 24 + 24 + 72 + 142. \\
&:= 2^3 + 2^5 + 3^3 + 7^2 + 13^2 = 23 + 25 + 33 + 72 + 132. \\
&:= 2^3 + 2^5 + 4^3 + 9^2 + 10^2 = 23 + 25 + 43 + 92 + 102. \\
&:= 2^4 + 2^5 + 4^2 + 5^2 + 14^2 = 24 + 25 + 42 + 52 + 142. \\
&:= 2^5 + 3^3 + 4^3 + 9^2 + 9^2 = 25 + 33 + 43 + 92 + 92. \\
&:= 2^5 + 3^4 + 6^2 + 6^2 + 10^2 = 25 + 34 + 62 + 62 + 102. \\
&:= 2^6 + 3^2 + 3^3 + 8^2 + 11^2 = 26 + 32 + 33 + 82 + 112. \\
&:= 2^6 + 3^3 + 5^2 + 5^2 + 12^2 = 26 + 33 + 52 + 52 + 122. \\
&:= 2^7 + 6^2 + 6^2 + 6^2 + 7^2 = 27 + 62 + 62 + 62 + 72.
\end{aligned}$$

$$\begin{aligned}
292 &:= 2^3 + 3^3 + 4^2 + 4^2 + 15^2 = 23 + 33 + 42 + 42 + 152. \\
&:= 3^2 + 3^2 + 3^4 + 7^2 + 12^2 = 32 + 32 + 34 + 72 + 122. \\
&:= 3^3 + 4^2 + 4^2 + 4^3 + 13^2 = 33 + 42 + 42 + 43 + 132.
\end{aligned}$$

$$\begin{aligned}
294 &:= 2^2 + 2^3 + 2^5 + 9^2 + 13^2 = 22 + 23 + 25 + 92 + 132. \\
&:= 2^3 + 2^5 + 3^2 + 7^2 + 14^2 = 23 + 25 + 32 + 72 + 142. \\
&:= 2^4 + 3^4 + 4^2 + 9^2 + 10^2 = 24 + 34 + 42 + 92 + 102. \\
&:= 2^6 + 3^2 + 4^2 + 6^2 + 13^2 = 26 + 32 + 42 + 62 + 132.
\end{aligned}$$

$$\begin{aligned}
296 &:= 2^4 + 2^5 + 3^3 + 10^2 + 11^2 = 24 + 25 + 33 + 102 + 112. \\
&:= 2^4 + 2^6 + 4^2 + 10^2 + 10^2 = 24 + 26 + 42 + 102 + 102. \\
&:= 2^4 + 2^6 + 6^2 + 6^2 + 12^2 = 24 + 26 + 62 + 62 + 122.
\end{aligned}$$

$$\begin{aligned}
301 &:= 2^2 + 3^2 + 3^3 + 6^2 + 15^2 = 22 + 32 + 33 + 62 + 152. \\
&:= 2^2 + 5^3 + 6^2 + 6^2 + 10^2 = 22 + 53 + 62 + 62 + 102. \\
&:= 3^2 + 4^2 + 4^2 + 4^3 + 14^2 = 32 + 42 + 42 + 43 + 142.
\end{aligned}$$

$$\begin{aligned}
303 &:= 2^3 + 2^3 + 3^3 + 8^2 + 14^2 = 23 + 23 + 33 + 82 + 142. \\
&:= 2^4 + 5^3 + 7^2 + 7^2 + 8^2 = 24 + 53 + 72 + 72 + 82. \\
&:= 3^3 + 3^3 + 4^3 + 8^2 + 11^2 = 33 + 33 + 43 + 82 + 112. \\
&:= 3^3 + 3^4 + 5^2 + 7^2 + 11^2 = 33 + 34 + 52 + 72 + 112.
\end{aligned}$$

$$\begin{aligned}
305 &:= 2^3 + 2^4 + 2^4 + 11^2 + 12^2 = 23 + 24 + 24 + 112 + 122. \\
&:= 2^3 + 2^6 + 5^2 + 8^2 + 12^2 = 23 + 26 + 52 + 82 + 122. \\
&:= 2^4 + 2^5 + 5^2 + 6^2 + 14^2 = 24 + 25 + 52 + 62 + 142. \\
&:= 2^5 + 3^4 + 8^2 + 8^2 + 8^2 = 25 + 34 + 82 + 82 + 82. \\
&:= 2^6 + 4^3 + 7^2 + 8^2 + 8^2 = 26 + 43 + 72 + 82 + 82. \\
307 &:= 2^5 + 2^6 + 7^2 + 9^2 + 9^2 = 25 + 26 + 72 + 92 + 92. \\
310 &:= 2^2 + 3^2 + 4^2 + 5^2 + 16^2 = 22 + 32 + 42 + 52 + 162. \\
312 &:= 2^2 + 2^2 + 2^4 + 12^2 + 12^2 = 22 + 22 + 24 + 122 + 122. \\
&:= 2^2 + 3^4 + 5^2 + 9^2 + 11^2 = 22 + 34 + 52 + 92 + 112. \\
&:= 2^3 + 3^3 + 4^2 + 6^2 + 15^2 = 23 + 33 + 42 + 62 + 152. \\
&:= 2^3 + 5^3 + 7^2 + 7^2 + 9^2 = 23 + 53 + 72 + 72 + 92. \\
&:= 3^3 + 4^2 + 4^3 + 6^2 + 13^2 = 33 + 42 + 43 + 62 + 132. \\
314 &:= 2^2 + 2^6 + 5^2 + 10^2 + 11^2 = 22 + 26 + 52 + 102 + 112. \\
&:= 2^3 + 2^5 + 3^2 + 11^2 + 12^2 = 23 + 25 + 32 + 112 + 122. \\
&:= 2^4 + 3^3 + 3^3 + 10^2 + 12^2 = 24 + 33 + 33 + 102 + 122. \\
&:= 2^4 + 3^4 + 6^2 + 9^2 + 10^2 = 24 + 34 + 62 + 92 + 102. \\
&:= 2^5 + 4^2 + 4^3 + 9^2 + 11^2 = 25 + 42 + 43 + 92 + 112. \\
&:= 2^5 + 4^3 + 5^2 + 7^2 + 12^2 = 25 + 43 + 52 + 72 + 122. \\
&:= 2^6 + 3^2 + 4^2 + 9^2 + 12^2 = 26 + 32 + 42 + 92 + 122. \\
&:= 2^6 + 3^2 + 6^2 + 6^2 + 13^2 = 26 + 32 + 62 + 62 + 132. \\
&:= 2^6 + 4^2 + 4^2 + 7^2 + 13^2 = 26 + 42 + 42 + 72 + 132. \\
316 &:= 2^4 + 2^6 + 6^2 + 10^2 + 10^2 = 24 + 26 + 62 + 102 + 102. \\
321 &:= 2^2 + 3^2 + 4^3 + 10^2 + 12^2 = 22 + 32 + 43 + 102 + 122. \\
&:= 2^2 + 3^3 + 4^2 + 7^2 + 15^2 = 22 + 33 + 42 + 72 + 152. \\
&:= 2^2 + 5^3 + 8^2 + 8^2 + 8^2 = 22 + 53 + 82 + 82 + 82. \\
&:= 2^3 + 4^2 + 4^2 + 5^2 + 16^2 = 23 + 42 + 42 + 52 + 162. \\
&:= 3^2 + 4^2 + 4^3 + 6^2 + 14^2 = 32 + 42 + 43 + 62 + 142. \\
&:= 3^2 + 5^2 + 5^3 + 9^2 + 9^2 = 32 + 52 + 53 + 92 + 92. \\
&:= 4^2 + 4^2 + 5^3 + 8^2 + 10^2 = 42 + 42 + 53 + 82 + 102. \\
&:= 5^2 + 5^2 + 5^2 + 5^3 + 11^2 = 52 + 52 + 52 + 53 + 112. \\
323 &:= 2^3 + 2^4 + 3^2 + 11^2 + 13^2 = 23 + 24 + 32 + 112 + 132. \\
&:= 2^3 + 2^4 + 5^2 + 7^2 + 15^2 = 23 + 24 + 52 + 72 + 152. \\
&:= 2^3 + 3^4 + 7^2 + 8^2 + 11^2 = 23 + 34 + 72 + 82 + 112. \\
&:= 2^4 + 4^3 + 5^2 + 7^2 + 13^2 = 24 + 43 + 52 + 72 + 132. \\
&:= 2^5 + 4^2 + 5^2 + 5^2 + 15^2 = 25 + 42 + 52 + 52 + 152. \\
&:= 3^3 + 3^3 + 3^3 + 11^2 + 11^2 = 33 + 33 + 33 + 112 + 112.
\end{aligned}$$

$$325 := 2^6 + 3^3 + 7^2 + 8^2 + 11^2 = 26 + 33 + 72 + 82 + 112.$$

$$\begin{aligned} 330 &:= 2^2 + 2^2 + 3^2 + 12^2 + 13^2 = 22 + 22 + 32 + 122 + 132. \\ &:= 2^2 + 2^2 + 4^2 + 9^2 + 15^2 = 22 + 22 + 42 + 92 + 152. \\ &:= 2^2 + 3^2 + 5^2 + 6^2 + 16^2 = 22 + 32 + 52 + 62 + 162. \end{aligned}$$

$$\begin{aligned} 332 &:= 2^2 + 2^4 + 4^2 + 10^2 + 14^2 = 22 + 24 + 42 + 102 + 142. \\ &:= 2^3 + 3^2 + 3^3 + 12^2 + 12^2 = 23 + 32 + 33 + 122 + 122. \\ &:= 2^3 + 3^3 + 6^2 + 6^2 + 15^2 = 23 + 33 + 62 + 62 + 152. \\ &:= 2^3 + 4^2 + 4^3 + 10^2 + 12^2 = 23 + 42 + 43 + 102 + 122. \\ &:= 3^2 + 3^3 + 3^3 + 10^2 + 13^2 = 32 + 33 + 33 + 102 + 132. \\ &:= 3^2 + 3^4 + 7^2 + 7^2 + 12^2 = 32 + 34 + 72 + 72 + 122. \\ &:= 3^3 + 4^2 + 4^3 + 9^2 + 12^2 = 33 + 42 + 43 + 92 + 122. \\ &:= 3^3 + 4^3 + 6^2 + 6^2 + 13^2 = 33 + 43 + 62 + 62 + 132. \end{aligned}$$

$$\begin{aligned} 334 &:= 2^2 + 2^6 + 8^2 + 9^2 + 11^2 = 22 + 26 + 82 + 92 + 112. \\ &:= 2^3 + 2^5 + 5^2 + 10^2 + 13^2 = 23 + 25 + 52 + 102 + 132. \\ &:= 2^3 + 2^5 + 7^2 + 7^2 + 14^2 = 23 + 25 + 72 + 72 + 142. \\ &:= 2^4 + 2^4 + 5^2 + 9^2 + 14^2 = 24 + 24 + 52 + 92 + 142. \\ &:= 2^5 + 3^3 + 5^2 + 9^2 + 13^2 = 25 + 33 + 52 + 92 + 132. \\ &:= 2^5 + 4^3 + 6^2 + 9^2 + 11^2 = 25 + 43 + 62 + 92 + 112. \\ &:= 2^6 + 3^2 + 6^2 + 9^2 + 12^2 = 26 + 32 + 62 + 92 + 122. \\ &:= 2^6 + 4^2 + 6^2 + 7^2 + 13^2 = 26 + 42 + 62 + 72 + 132. \end{aligned}$$

$$336 := 2^5 + 2^5 + 8^2 + 8^2 + 12^2 = 25 + 25 + 82 + 82 + 122.$$

$$\begin{aligned} 341 &:= 2^2 + 2^3 + 4^2 + 12^2 + 13^2 = 22 + 23 + 42 + 122 + 132. \\ &:= 2^2 + 3^3 + 6^2 + 7^2 + 15^2 = 22 + 33 + 62 + 72 + 152. \\ &:= 2^3 + 4^2 + 5^2 + 6^2 + 16^2 = 23 + 42 + 52 + 62 + 162. \\ &:= 3^2 + 3^2 + 3^3 + 10^2 + 14^2 = 32 + 32 + 33 + 102 + 142. \\ &:= 3^2 + 3^3 + 4^2 + 8^2 + 15^2 = 32 + 33 + 42 + 82 + 152. \\ &:= 3^2 + 4^3 + 6^2 + 6^2 + 14^2 = 32 + 43 + 62 + 62 + 142. \\ &:= 4^2 + 4^2 + 4^3 + 7^2 + 14^2 = 42 + 42 + 43 + 72 + 142. \\ &:= 4^2 + 5^3 + 6^2 + 8^2 + 10^2 = 42 + 53 + 62 + 82 + 102. \end{aligned}$$

$$\begin{aligned} 343 &:= 2^5 + 3^2 + 5^2 + 9^2 + 14^2 = 25 + 32 + 52 + 92 + 142. \\ &:= 2^5 + 5^2 + 5^2 + 6^2 + 15^2 = 25 + 52 + 52 + 62 + 152. \end{aligned}$$

$$345 := 2^4 + 2^5 + 8^2 + 8^2 + 13^2 = 24 + 25 + 82 + 82 + 132.$$

$$\begin{aligned}
350 &:= 2^2 + 2^2 + 5^2 + 11^2 + 14^2 = 22 + 22 + 52 + 112 + 142. \\
&:= 2^2 + 2^2 + 6^2 + 9^2 + 15^2 = 22 + 22 + 62 + 92 + 152. \\
&:= 2^2 + 4^2 + 5^2 + 7^2 + 16^2 = 22 + 42 + 52 + 72 + 162.
\end{aligned}$$

$$\begin{aligned}
352 &:= 2^2 + 2^4 + 6^2 + 10^2 + 14^2 = 22 + 24 + 62 + 102 + 142. \\
&:= 2^3 + 4^3 + 6^2 + 10^2 + 12^2 = 23 + 43 + 62 + 102 + 122. \\
&:= 3^2 + 3^4 + 9^2 + 9^2 + 10^2 = 32 + 34 + 92 + 92 + 102. \\
&:= 3^3 + 4^3 + 6^2 + 9^2 + 12^2 = 33 + 43 + 62 + 92 + 122. \\
&:= 3^4 + 5^2 + 5^2 + 10^2 + 11^2 = 34 + 52 + 52 + 102 + 112.
\end{aligned}$$

$$\begin{aligned}
354 &:= 2^3 + 2^5 + 7^2 + 11^2 + 12^2 = 23 + 25 + 72 + 112 + 122. \\
&:= 2^3 + 2^5 + 8^2 + 9^2 + 13^2 = 23 + 25 + 82 + 92 + 132. \\
&:= 2^6 + 3^2 + 9^2 + 10^2 + 10^2 = 26 + 32 + 92 + 102 + 102. \\
&:= 2^6 + 4^2 + 7^2 + 9^2 + 12^2 = 26 + 42 + 72 + 92 + 122. \\
&:= 2^6 + 6^2 + 6^2 + 7^2 + 13^2 = 26 + 62 + 62 + 72 + 132.
\end{aligned}$$

$$\begin{aligned}
361 &:= 2^2 + 2^3 + 6^2 + 12^2 + 13^2 = 22 + 23 + 62 + 122 + 132. \\
&:= 2^2 + 4^3 + 7^2 + 10^2 + 12^2 = 22 + 43 + 72 + 102 + 122. \\
&:= 2^3 + 5^2 + 6^2 + 6^2 + 16^2 = 23 + 52 + 62 + 62 + 162. \\
&:= 3^2 + 3^3 + 6^2 + 8^2 + 15^2 = 32 + 33 + 62 + 82 + 152. \\
&:= 4^2 + 4^2 + 4^3 + 11^2 + 12^2 = 42 + 42 + 43 + 112 + 122. \\
&:= 4^2 + 4^3 + 6^2 + 7^2 + 14^2 = 42 + 43 + 62 + 72 + 142. \\
&:= 5^2 + 5^3 + 7^2 + 9^2 + 9^2 = 52 + 53 + 72 + 92 + 92. \\
&:= 5^3 + 6^2 + 6^2 + 8^2 + 10^2 = 53 + 62 + 62 + 82 + 102.
\end{aligned}$$

$$\begin{aligned}
363 &:= 2^3 + 2^4 + 7^2 + 11^2 + 13^2 = 23 + 24 + 72 + 112 + 132. \\
&:= 2^4 + 4^3 + 9^2 + 9^2 + 11^2 = 24 + 43 + 92 + 92 + 112. \\
&:= 2^5 + 4^2 + 5^2 + 11^2 + 13^2 = 25 + 42 + 52 + 112 + 132.
\end{aligned}$$

$$\begin{aligned}
370 &:= 2^2 + 2^2 + 7^2 + 12^2 + 13^2 = 22 + 22 + 72 + 122 + 132. \\
&:= 2^2 + 4^2 + 5^2 + 10^2 + 15^2 = 22 + 42 + 52 + 102 + 152. \\
&:= 2^2 + 5^2 + 6^2 + 7^2 + 16^2 = 22 + 52 + 62 + 72 + 162. \\
&:= 3^2 + 4^2 + 5^2 + 8^2 + 16^2 = 32 + 42 + 52 + 82 + 162.
\end{aligned}$$

$$\begin{aligned}
372 &:= 2^2 + 2^4 + 8^2 + 12^2 + 12^2 = 22 + 24 + 82 + 122 + 122. \\
&:= 2^3 + 3^3 + 7^2 + 12^2 + 12^2 = 23 + 33 + 72 + 122 + 122. \\
&:= 2^3 + 4^3 + 10^2 + 10^2 + 10^2 = 23 + 43 + 102 + 102 + 102. \\
&:= 2^4 + 5^2 + 5^2 + 9^2 + 15^2 = 24 + 52 + 52 + 92 + 152. \\
&:= 3^3 + 3^3 + 7^2 + 10^2 + 13^2 = 33 + 33 + 72 + 102 + 132. \\
&:= 3^3 + 4^3 + 9^2 + 10^2 + 10^2 = 33 + 43 + 92 + 102 + 102. \\
&:= 3^4 + 5^2 + 8^2 + 9^2 + 11^2 = 34 + 52 + 82 + 92 + 112. \\
&:= 3^4 + 7^2 + 7^2 + 7^2 + 12^2 = 34 + 72 + 72 + 72 + 122.
\end{aligned}$$

$$\begin{aligned}
374 &:= 2^4 + 2^4 + 10^2 + 11^2 + 11^2 = 24 + 24 + 102 + 112 + 112. \\
&:= 2^6 + 5^2 + 8^2 + 10^2 + 11^2 = 26 + 52 + 82 + 102 + 112. \\
&:= 2^6 + 6^2 + 7^2 + 9^2 + 12^2 = 26 + 62 + 72 + 92 + 122.
\end{aligned}$$

$$\begin{aligned}
381 &:= 2^2 + 2^3 + 10^2 + 10^2 + 13^2 = 22 + 23 + 102 + 102 + 132. \\
&:= 2^2 + 2^3 + 9^2 + 12^2 + 12^2 = 22 + 23 + 92 + 122 + 122. \\
&:= 2^2 + 3^3 + 9^2 + 10^2 + 13^2 = 22 + 33 + 92 + 102 + 132. \\
&:= 3^2 + 3^3 + 7^2 + 10^2 + 14^2 = 32 + 33 + 72 + 102 + 142. \\
&:= 3^2 + 4^3 + 8^2 + 10^2 + 12^2 = 32 + 43 + 82 + 102 + 122. \\
&:= 3^3 + 4^2 + 5^2 + 12^2 + 13^2 = 33 + 42 + 52 + 122 + 132. \\
&:= 3^3 + 4^2 + 7^2 + 8^2 + 15^2 = 33 + 42 + 72 + 82 + 152. \\
&:= 4^2 + 4^3 + 6^2 + 11^2 + 12^2 = 42 + 43 + 62 + 112 + 122. \\
&:= 4^3 + 6^2 + 6^2 + 7^2 + 14^2 = 43 + 62 + 62 + 72 + 142. \\
&:= 5^3 + 8^2 + 8^2 + 8^2 + 8^2 = 53 + 82 + 82 + 82 + 82.
\end{aligned}$$

$$\begin{aligned}
383 &:= 2^5 + 3^2 + 10^2 + 11^2 + 11^2 = 25 + 32 + 102 + 112 + 112. \\
&:= 2^5 + 5^2 + 6^2 + 11^2 + 13^2 = 25 + 52 + 62 + 112 + 132. \\
&:= 2^5 + 5^2 + 7^2 + 9^2 + 14^2 = 25 + 52 + 72 + 92 + 142.
\end{aligned}$$

$$\begin{aligned}
390 &:= 2^2 + 3^2 + 8^2 + 12^2 + 13^2 = 22 + 32 + 82 + 122 + 132. \\
&:= 2^2 + 3^2 + 9^2 + 10^2 + 14^2 = 22 + 32 + 92 + 102 + 142. \\
&:= 2^2 + 4^2 + 8^2 + 9^2 + 15^2 = 22 + 42 + 82 + 92 + 152. \\
&:= 2^2 + 5^2 + 6^2 + 10^2 + 15^2 = 22 + 52 + 62 + 102 + 152. \\
&:= 3^2 + 4^2 + 5^2 + 12^2 + 14^2 = 32 + 42 + 52 + 122 + 142. \\
&:= 3^2 + 5^2 + 6^2 + 8^2 + 16^2 = 32 + 52 + 62 + 82 + 162.
\end{aligned}$$

$$\begin{aligned}
392 &:= 2^4 + 4^2 + 8^2 + 10^2 + 14^2 = 24 + 42 + 82 + 102 + 142. \\
&:= 3^4 + 7^2 + 9^2 + 9^2 + 10^2 = 34 + 72 + 92 + 92 + 102.
\end{aligned}$$

$$\begin{aligned}
394 &:= 2^6 + 7^2 + 9^2 + 10^2 + 10^2 = 26 + 72 + 92 + 102 + 102. \\
&:= 2^6 + 8^2 + 8^2 + 9^2 + 11^2 = 26 + 82 + 82 + 92 + 112.
\end{aligned}$$

$$\begin{aligned}
401 &:= 2^3 + 4^2 + 8^2 + 12^2 + 13^2 = 23 + 42 + 82 + 122 + 132. \\
&:= 2^3 + 4^2 + 9^2 + 10^2 + 14^2 = 23 + 42 + 92 + 102 + 142. \\
&:= 3^2 + 3^3 + 10^2 + 11^2 + 12^2 = 32 + 33 + 102 + 112 + 122. \\
&:= 3^3 + 4^2 + 9^2 + 9^2 + 14^2 = 33 + 42 + 92 + 92 + 142. \\
&:= 3^3 + 5^2 + 6^2 + 12^2 + 13^2 = 33 + 52 + 62 + 122 + 132. \\
&:= 3^3 + 6^2 + 7^2 + 8^2 + 15^2 = 33 + 62 + 72 + 82 + 152. \\
&:= 4^2 + 4^3 + 10^2 + 10^2 + 11^2 = 42 + 43 + 102 + 102 + 112. \\
&:= 4^3 + 6^2 + 6^2 + 11^2 + 12^2 = 43 + 62 + 62 + 112 + 122.
\end{aligned}$$

$$403 := 2^5 + 5^2 + 9^2 + 11^2 + 12^2 = 25 + 52 + 92 + 112 + 122.$$

$$\begin{aligned} 410 &:= 2^2 + 4^2 + 10^2 + 11^2 + 13^2 = 22 + 42 + 102 + 112 + 132. \\ &:= 2^2 + 5^2 + 8^2 + 11^2 + 14^2 = 22 + 52 + 82 + 112 + 142. \\ &:= 2^2 + 6^2 + 8^2 + 9^2 + 15^2 = 22 + 62 + 82 + 92 + 152. \\ &:= 3^2 + 5^2 + 6^2 + 12^2 + 14^2 = 32 + 52 + 62 + 122 + 142. \\ &:= 4^2 + 5^2 + 7^2 + 8^2 + 16^2 = 42 + 52 + 72 + 82 + 162. \end{aligned}$$

$$\begin{aligned} 412 &:= 2^4 + 5^2 + 9^2 + 11^2 + 13^2 = 24 + 52 + 92 + 112 + 132. \\ &:= 2^4 + 6^2 + 8^2 + 10^2 + 14^2 = 24 + 62 + 82 + 102 + 142. \end{aligned}$$

$$\begin{aligned} 421 &:= 2^3 + 5^2 + 10^2 + 12^2 + 12^2 = 23 + 52 + 102 + 122 + 122. \\ &:= 2^3 + 6^2 + 8^2 + 12^2 + 13^2 = 23 + 62 + 82 + 122 + 132. \\ &:= 2^3 + 6^2 + 9^2 + 10^2 + 14^2 = 23 + 62 + 92 + 102 + 142. \\ &:= 3^3 + 5^2 + 10^2 + 10^2 + 13^2 = 33 + 52 + 102 + 102 + 132. \\ &:= 3^3 + 5^2 + 9^2 + 12^2 + 12^2 = 33 + 52 + 92 + 122 + 122. \\ &:= 3^3 + 6^2 + 9^2 + 9^2 + 14^2 = 33 + 62 + 92 + 92 + 142. \\ &:= 3^3 + 7^2 + 7^2 + 10^2 + 14^2 = 33 + 72 + 72 + 102 + 142. \\ &:= 4^3 + 6^2 + 10^2 + 10^2 + 11^2 = 43 + 62 + 102 + 102 + 112. \\ &:= 4^3 + 7^2 + 8^2 + 10^2 + 12^2 = 43 + 72 + 82 + 102 + 122. \end{aligned}$$

$$423 := 2^5 + 7^2 + 10^2 + 11^2 + 11^2 = 25 + 72 + 102 + 112 + 112.$$

$$\begin{aligned} 430 &:= 2^2 + 6^2 + 10^2 + 11^2 + 13^2 = 22 + 62 + 102 + 112 + 132. \\ &:= 2^2 + 7^2 + 8^2 + 12^2 + 13^2 = 22 + 72 + 82 + 122 + 132. \\ &:= 2^2 + 7^2 + 9^2 + 10^2 + 14^2 = 22 + 72 + 92 + 102 + 142. \\ &:= 3^2 + 5^2 + 10^2 + 10^2 + 14^2 = 32 + 52 + 102 + 102 + 142. \\ &:= 4^2 + 4^2 + 9^2 + 11^2 + 14^2 = 42 + 42 + 92 + 112 + 142. \\ &:= 4^2 + 5^2 + 7^2 + 12^2 + 14^2 = 42 + 52 + 72 + 122 + 142. \\ &:= 4^2 + 5^2 + 8^2 + 10^2 + 15^2 = 42 + 52 + 82 + 102 + 152. \\ &:= 5^2 + 6^2 + 7^2 + 8^2 + 16^2 = 52 + 62 + 72 + 82 + 162. \end{aligned}$$

$$432 := 2^4 + 8^2 + 8^2 + 12^2 + 12^2 = 24 + 82 + 82 + 122 + 122.$$

$$\begin{aligned} 441 &:= 2^3 + 8^2 + 10^2 + 10^2 + 13^2 = 23 + 82 + 102 + 102 + 132. \\ &:= 2^3 + 8^2 + 9^2 + 12^2 + 12^2 = 23 + 82 + 92 + 122 + 122. \\ &:= 3^3 + 7^2 + 10^2 + 11^2 + 12^2 = 33 + 72 + 102 + 112 + 122. \\ &:= 3^3 + 8^2 + 9^2 + 10^2 + 13^2 = 33 + 82 + 92 + 102 + 132. \end{aligned}$$

$$\begin{aligned}
450 &:= 2^2 + 9^2 + 10^2 + 11^2 + 12^2 = 22 + 92 + 102 + 112 + 122. \\
&:= 3^2 + 8^2 + 8^2 + 12^2 + 13^2 = 32 + 82 + 82 + 122 + 132. \\
&:= 3^2 + 8^2 + 9^2 + 10^2 + 14^2 = 32 + 82 + 92 + 102 + 142. \\
&:= 4^2 + 5^2 + 11^2 + 12^2 + 12^2 = 42 + 52 + 112 + 122 + 122. \\
&:= 4^2 + 6^2 + 9^2 + 11^2 + 14^2 = 42 + 62 + 92 + 112 + 142. \\
&:= 4^2 + 8^2 + 8^2 + 9^2 + 15^2 = 42 + 82 + 82 + 92 + 152. \\
&:= 5^2 + 6^2 + 7^2 + 12^2 + 14^2 = 52 + 62 + 72 + 122 + 142. \\
&:= 5^2 + 6^2 + 8^2 + 10^2 + 15^2 = 52 + 62 + 82 + 102 + 152.
\end{aligned}$$

$$\begin{aligned}
470 &:= 4^2 + 8^2 + 10^2 + 11^2 + 13^2 = 42 + 82 + 102 + 112 + 132. \\
&:= 5^2 + 6^2 + 11^2 + 12^2 + 12^2 = 52 + 62 + 112 + 122 + 122. \\
&:= 5^2 + 7^2 + 10^2 + 10^2 + 14^2 = 52 + 72 + 102 + 102 + 142. \\
&:= 5^2 + 8^2 + 8^2 + 11^2 + 14^2 = 52 + 82 + 82 + 112 + 142. \\
&:= 6^2 + 6^2 + 9^2 + 11^2 + 14^2 = 62 + 62 + 92 + 112 + 142. \\
&:= 6^2 + 8^2 + 8^2 + 9^2 + 15^2 = 62 + 82 + 82 + 92 + 152.
\end{aligned}$$

$$\begin{aligned}
490 &:= 5^2 + 10^2 + 10^2 + 11^2 + 12^2 = 52 + 102 + 102 + 112 + 122. \\
&:= 6^2 + 8^2 + 10^2 + 11^2 + 13^2 = 62 + 82 + 102 + 112 + 132. \\
&:= 7^2 + 8^2 + 8^2 + 12^2 + 13^2 = 72 + 82 + 82 + 122 + 132. \\
&:= 7^2 + 8^2 + 9^2 + 10^2 + 14^2 = 72 + 82 + 92 + 102 + 142.
\end{aligned}$$

$$510 := 8^2 + 9^2 + 10^2 + 11^2 + 12^2 = 82 + 92 + 102 + 112 + 122.$$

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