Crazy Sequential Representations: Exhaustive Search

A.E. Bras
V.H.J. van der Velden

Laboratory Medical Immunology (LMI), Department of Immunology, Erasmus Medical Center, Erasmus University, Rotterdam, the Netherlands
Correspondence: a.e.bras@gmail.com / a.bras@erasmusmc.nl / v.h.j.vandervelden@erasmusmc.nl

DOI

10.5281/zenodo.1288822

Introduction

Others have attempted to write the natural numbers from 1 to 11111 in terms of 1 to 9 (in increasing and decreasing order) by using the operations of addition, subtraction, multiplication, division and/or potentiation (and optionally parentheses).

For example:

Number	Increasing	Decreasing
10957	(1+2)^(3+4)*5–67+89	(9+8*7*65+4)*3–2*1
10958		(9+8*7*65+4)*3–2+1
10959	12+3+456*(7+8+9)	9+(8*76*(5+4)+3)*2*1
10960	12+(3^4+5+6)*7*(8+9)	9+(8*76*(5+4)+3)*2+1
10961	(1+2+34)*(5*6+7)*8+9	(9+8*7*65+4)*3+2*1
10962	12*3^4*5+678*9	9876+543*2*1

Generally these expressions are referred to as crazy sequential representations (CSR). Interestingly, only one CSR remains to be identified, the increasing CSR for 10958.

Historic Overview

Inder Taneja published five papers on arXiv devoted to CSR:

ARXIV Version	Evaluated Range	Allowed Operations	Missing Increasing	Missing Decreasing	Valid Representations
1 (06-02-2013)[1]	44 to 1000	+ * ^	2	10	1902 (of 1914)
2 (19-03-2013)[2]	44 to 4444	+ * ^	50	53	8699 (of 8802)
3 (05-06-2013)[3]	44 to 11111	+ * ^ ()	590	605	20941 (of 22136)
4 (05-08-2013)[4]	0 to 11111	+ * ^ () -	449	315	21460 (of 22224)
5 (08-01-2014)[5]	0 to 11111	+ * ^ () - /	9	10	22205 (of 22224)

Numbers of missing CSR are higher compared to the numbers reported in the papers as various reported CSR proofed invalid during validation (see validation section).

Validation

CSR were extracted from the original PDF files and converted into default notation (notation as used by most programming languages, see definitions), for example:

Version	Number	Quoted Increasing	Parsed Increasing
5	10806	$(1 + 2)^{(3 + 4)} \times 5 + 6 - (7 + 8) \times 9.$	(1+2)^(3+4)*5+6-(7+8)*9
5	10919	$(1 + 2)^{(3 + 4)} \times 5 - 6 + 7 - 8 - 9.$	(1+2)^(3+4)*5-6+7-8-9

Syntactically invalid CSR were excluded, for example:

Version	Number	Quoted Decreasing	Interpretation
5	8989	$9 - 8 + 7(6 + 5) \times 4 \times 321.$	7(6+5) is invalid
5	9069	$9 \times 8 \times 7 \times 6(5 + 4) \times 3 - 2 - 1.$	6(5+4) is invalid

Incorrectly evaluating CSR were excluded, for example:

Version	Number	Quoted Decreasing	Evaluation Result
5	7683	$(9 \times 8 \times 7 + 6) \times 5 + 4 \times 3 + 21.$	2583
5	8580	$9 + 8 \times 7 + 65 \times 43 \times (2 + 1).$	8450

Incorrectly ordered CSR were excluded, for example:

Version	Number	Quoted Increasing	Quoted Decreasing
5	6704	$(1 + 2^3)^4 + 56 + 78 + 9.$	$1 - (2 - 34) \times 5 \times 6 \times 7 - (8 + 9).$
5	10966	$-1 + 23 + 456 \times (7 + 8 + 9).$	$(1 \times 2 + 3) \times ((4 + 5 - 6)^7 + 8) - 9.$

Obvious mistakes were corrected by hand, not excluded.

Following CSR from the original PDF files on arXiv proofed invalid during validation:

Version	Order	Number	Parsed CSR	Reason
1^1	Increasing	312	12+34*5+6+7+8+9	Evaluates to 212
	Decreasing	212	98*7+6+5+4*3+2+1	Evaluates to 712
		289	98+7+65*4+3+21	Evaluates to 389
2^2	Increasing	292	1+2*3+4+56*7+89	Evaluates to 492
		312	12+34*5+6+7+8+9	Evaluates to 212
		1548	1+2*34*(5+6)+789	Evaluates to 1538
		2443	(9+8)*7*6+54*32+1	Not increasing
		4174	1+2(3*4)+5(6+7)+8*9	Invalid
	Decreasing	289	98+7+65*4+3+21	Evaluates to 389
		988	9+8*7+6*5+43*21	Evaluates to 998
		1826	98+7+65*4*(3+2)+1	Evaluates to 1406
		2146	98+7+6*54*(3+2)+1	Evaluates to 1726
		4303	98+76*5*(4+3+2)+1	Evaluates to 3519
3^3	Increasing	292	1+2*3+4+56*7+89	Evaluates to 492
		312	12+34*5+6+7+8+9	Evaluates to 212
		1548	1+2*34*(5+6)+789	Evaluates to 1538
		2443	(9+8)*7*6+54*32+1	Not increasing
		4498	(1+2+3^4+7*(5*6))*(8+9)	Evaluates to 4998
		9055	1+2*345*(6+7)+8*9	Evaluates to 9043
		9940	1+2*3*4*5*(6+7*8+9)	Evaluates to 8521
	Decreasing	289	98+7+65*4+3+21	Evaluates to 389
		7558	6	Invalid
		7683	(9*8*7+6)*5+4*3+21	Evaluates to 2583
		8580	9+8*7+65*43*(2+1)	Evaluates to 8450
		10391	6	Invalid
		10576	9+8*(7+(654+3)*2*1)	Evaluates to 10577
5^5	Increasing	292	1+2*3+4+56*7+89	Evaluates to 492
		312	12+34*5+6+7+8+9	Evaluates to 212
		1548	1+2*34*(5+6)+789	Evaluates to 1538
		2443	(9+8)*7*6+54*32+1	Not increasing
		4498	(1+2+3^4+7*(5*6))*(8+9)	Evaluates to 4998
		9055	1+2*345*(6+7)+8*9	Evaluates to 9043
		9940	1+2*3*4*5*(6+7*8+9)	Evaluates to 8521
		10637	-9*8+765*(4*3+2)-1	Not increasing
	Decreasing	289	98+7+65*4+3+21	Evaluates to 389
		6704	1–(2–34)*5*6*7–(8+9)	Not decreasing
		7683	(9*8*7+6)*5+4*3+21	Evaluates to 2583
		8580	9+8*7+65*43*(2+1)	Evaluates to 8450
		8989	9–8+7(6+5)*4*321	Invalid
		9069	9*8*7*6(5+4)*3–2–1	Invalid
		10498	1+23*456–(7–8)*9	Not decreasing
		10535	9+87*(6+5)(4*3)2–1	Invalid
		10576	9+8*(7+(654+3)*2*1)	Evaluates to 10577
		10966	(1*2+3)*((4+5–6)^7+8)–9	Not decreasing

Definitions

Default Notation

Notation as used by most programming languages, restricted to following characters:

1	2	3	4	5	6	7	8	9	+	-	*	/	^	(	)

Potential CSR

Valid mathematical expression, thus well-formed interpretable syntactic construct, matching against either of the following regular expressions (using @ delimiter):

@^ [-+*/^()]* **1** [-+*/^()]* **2** [-+*/^()]* **3** [-+*/^()]* **4** [-+*/^()]* **5** [-+*/^()]* **6** [-+*/^()]* **7** [-+*/^()]* **8** [-+*/^()]* **9** [-+*/^()]* **$**
@^ [-+*/^()]* **9** [-+*/^()]* **8** [-+*/^()]* **7** [-+*/^()]* **6** [-+*/^()]* **5** [-+*/^()]* **4** [-+*/^()]* **3** [-+*/^()]* **2** [-+*/^()]* **1** [-+*/^()]* **$**

Ignoring evaluation result (natural, integer, real, rational, indeterminate, etc.).

Genuine CSR

Natural number (or zero) in terms of 1 to 9 (in increasing or decreasing order) by using the operations of addition, subtraction, multiplication, division and/or potentiation (and optionally parentheses).

Pseudo CSR

Potential non-genuine CSR evaluating to natural number (or zero).
For example, expressions with implicit multiplication by minus one.

Result	Pseudo CSR	Expansion
756	-(-98*(7-6*5/-(43-(2-1))))	(-1)*(-98*(7-6*5/-(43-(2-1))))
119	-(((-98+7-65)/-4*-3-2)*1)	(-1)*(((-98+7-65)/-4*-3-2)*1)
1170	-(-1-2*3-4^5-67-8*9)	(-1)*(-1-2*3-4^5-67-8*9)
388	-(1+2*3-4^5+6+7*89)	(-1)*(1+2*3-4^5+6+7*89)
1857	9+876+54*-(3-21)	9+876+54*(-1)*(3-21)
1944	9-87*-(65-43)+21	9-87*(-1)*(65-43)+21
1468	1-2*-(345-6)+789	1-2*(-1)*(345-6)+789
1614	1234+5*-(6+7-89)	1234+5*(-1)*(6+7-89)
6197	9+8+7-6*-(5+4^-(-3-2))-1	9+8+7-6*-(5+4^((-1)*(-3-2)))-1
7099	9-8-7*(6+5-4^-(-3-2)-1)	9-8-7*(6+5-4^((-1)*(-3-2))-1)
8202	1^23+4^5^-(6-7)*8+9	1^23+4^5^((-1)*(6-7))*8+9
9911	12^3+4^5^-(6-7)*8-9	12^3+4^5^((-1)*(6-7))*8-9
11093	(9+876*(5-43))/-(2+1)	(9+876*(5-43))/((-1)*(2+1))
4218	98/-(7-6)-5+4321	98/((-1)*(7-6))-5+4321
9929	12^3+4^5/-(6-7)*8+9	12^3+4^5/((-1)*(6-7))*8+9
10023	(-1+23)*456/-(7-8)-9	(-1+23)*456/((-1)*(7-8))-9
10267	-1-2*-34*(-(5-67)+89)	-1-2*-34*((-1)*(5-67)+89)
10298	(-1/-2+3*45)*(-(6+7)+89)	(-1/-2+3*45)*((-1)*(6+7)+89)
9733	(-(-9+(-8-7)*6*54)-3)*2+1	((-1)*(-9+(-8-7)*6*54)-3)*2+1
10257	9+8+(-(7+6)+5)^4*(3/2+1)	9+8+((-1)*(7+6)+5)^4*(3/2+1)

In terms of 1 to 9

Digits 1 to 9 occur once and in order, either in increasing or decreasing order.
Digits can be used as individual numbers (thus 1, 2, 3, 4, 5, 6, 7, 8 and 9).
Digits can be concatenated into larger numbers (for example 123, 4, 5, 6 and 789).
Negative counterparts of numbers may be used as well (also used by Inder Taneja).

Result	CSR by Inder Taneja
6344	(-9+8)*76+5*4*321
8951	-9-8+76*(-5+4^3)*2*1
9053	(-9+8)*7+6^5+4*321
9592	(-9+876+5)*(4+3*2+1)
9706	-98-76*(-5-4*(32-1))
9988	(-9+8*(7-6)*5^4+3)*2*1
10048	(-9-8+7+6*54)*32*1
10085	(-9+8+7)*(6+5*(4+3))^2-1
10156	-9+8+7*(-6+(5+4)^3*2-1)
10222	(-9+8*7*(65-4))*3+2-1
10229	(-9+87*6)*5*4-32+1
10246	(9-8*7)*(-6-5*43+2+1)
10253	(-9+87*6)*5*4-3*2-1
10334	(9+8*(7-654))*(-3+2-1)
10717	(9*(8+7)+6)*(-5+43)*2+1
10763	(9-8*7)*(-65*4+32-1)
10887	(-9-8+7*65*4*3)*2+1
10964	(-9-87+6*5^4)*3+2*1
10975	(9+8+76)*(-5+4^3)*2+1
10994	9+8+7^(-6+5+4)*32+1
11069	(-9+8*7-6)*54*(3+2)-1
11085	(-9+8*7*65+4^3)*(2+1)
11093	(-9-8-7+6*5)*43^2-1
11095	(-9-8-7+6*5)*43^2+1

Result	CSR by Inder Taneja
7330	(1+2+3+4)*(-56+789)
7364	(-1+23+4^5+6)*7*(-8+9)
7658	-1+23*(-456+789)
7892	1-2+3*(-4+5*(67*8-9))
7987	(123+4^5-6)*7*(-8+9)
8033	((-1+23)*45+6+7)*8+9
8365	1+2*(-3+45*(6+78+9))
8549	1234*(-5+6)*7-89
8566	1234*(-5+6)*7-8*9
8756	1*2*(-3+4+56*78+9)
8869	(1+(2*3)^4-5*6)*7*(-8+9)
8885	-1+2*3*(-4+(5+6)*(7+8)*9)
8895	(-1+23+4^5+67)*8-9
8930	(-1+(23-4)*5)*((6+7)*8-9)
9020	(1-2+3^4+5*6)*(-7+89)
9179	(1*2+3*45)*67*(-8+9)
9293	1*23+(4^5+6)*(-7+8)*9
9298	1^2+(3+4^5+6)*(-7+8)*9
9421	1+2-34*(5+6*(-7*8+9))
9491	(-12+3*456)*7+8-9
9584	(-1+2+3*456)*7-8+9
9823	(-1-2+(34*5+6)*7)*8-9
9904	(-1+(2+3)^4-5)*(6-7+8+9)
9925	-1+2*(3+4)*(-5+6*7*(8+9))
9926	1*2*(3+4)*(-5+6*7*(8+9))
10100	1*(2+3)*4*(-5+6+7*8*9)
10151	(-1+23)*456+7*(8+9)
10213	1-23*(4+56*(-7+8-9))
10292	(-1-2+34)*(5+6*7*8-9)
10490	1+23*456+(-7+8)^9
10604	(-12+34)*(5+6*78+9)
10636	(-1+2^3*4*5)*67-8-9
10639	(-12+3+4*5*67)*8-9
10670	(-1+23)*(4+56*7+89)
10699	12*3^4*(5+6)+7*(-8+9)
11002	(1+2)^(3+4)*5+67*(-8+9)
11055	(1-2+34)*5*67*(-8+9)
11075	1+2*(-3-4+(5+6)*7*8*9)
11093	-1^2+(3^4+5)*(-6+(7+8)*9)

Categories

Authors defined various (self-explanatory) categories:

Category	Example	Result
Reference (as published by Inder Taneja[5])	1+2+34+56+7+8+9	117
Shortest	1^2345/6*78*9	117
Shortest Without Division	1*23-45+67+8*9	117
Shortest Without Potentiation	1*2+34-56/7+89	117
Shortest Without Concatenation	1^2*3+4*5*6-7-8+9	117
Equal Length	12*3*4-5+67-89 123+4-5+67-8*9 1+2+3-45+67+89 12+34+5+67+8-9 1-23-4+56+78+9 Etc.	117
Consecutive Length	1^2345/6*78*9 1*2*3-45+67+89 1*23*4+56/7+8+9 1*2+3*4+56+7*8-9 1*2^3*4*5-6*7+8-9 Etc.	117
Consecutive Concatenation	12*(3-4)^5678*9 1+23+4+56+7+8+9 1+2+34+5+67+8-9 Etc.	108
Consecutive Addition	1+2+3+(-45-67)/8+9 12+(-34+5/-6*78)/9 (-1+23+45)/-67*8+9 Etc.	1
Consecutive Subtraction	(-1+23+45)/-67*8+9 1^-234+(-56+7*8)*9 1^(-2-3^4)^567^-89 Etc.	1
Consecutive Multiplication	1*(-2^3+4+5)^-6789 12*(-34-5)/6+7+8*9 1-2*(-3+4+5-6)*789 Etc.	1
Consecutive Division	1/(-2^3+4+5)^-6789 12/3+4*5/(6-7)+8+9 (-1/2^-3+4+5)^6789 Etc.	1
Consecutive Potentiation	1^(-2-3^4)^567^-89 12^3-(-4+5^6-78)/9 1^2^(34-5^6)^7^-89 Etc.	1
Reversible Digits	1+23-45-67+89 9+87-65-43+21	1 9
Reversible Characters	1^23456789 98765432^1	1 98765432

Within this article, authors limited the reversible categories to genuine CSR, thus the initial/input CSR and reversed/output CSR must be genuine CSR.

True character reverse of genuine CSR (and pseudo CSR) with parentheses always results in ill-formed syntactic constructs, therefor opening and closing parentheses were always swapped after true character reverse. For example:

Result	Genuine CSR	True Character Reverse	Fixed Character Reverse
301	(987-654-32)^1	1^)23-456-789(	1^(23-456-789)
490	(987*6-5432)^1	1^)2345-6*789(	1^(2345-6*789)

True character reverse of pseudo CSR always results in ill-formed syntactic constructs, therefor pseudo CSR were excluded from the reversible character category. For example:

Result	Pseudo CSR	Character Reverse
388	-(1+2*3-4^5+6+7*89)	(98*7+6+5^4-3*2+1)-
1944	9-87*-(65-43)+21	12+(34-56)-*78-9
9911	12^3+4^5^-(6-7)*8-9	9-8*(7-6)-^5^4+3^21
4218	98/-(7-6)-5+4321	1234+5-(6-7)-/89
10298	(-1/-2+3*45)*(-(6+7)+89)	(98+(7+6)-)*(54*3+2-/1-)

Selection

Most natural numbers can be represented by multiple increasing and decreasing CSR.

Inder Taneja preferred to publish genuine CSR without subtraction and/or division. In other words, genuine CSR with subtraction and/or division were only published in case no genuine CSR without subtraction and/or division was available.

Ignoring this preference for CSR without subtraction and/or division, significant shorter CSR can be identified, for example:

	Increasing		Decreasing	
Number	By Inder Taneja	Shorter	By Inder Taneja	Shorter
105	9+8*7+6*5+4+3+2+1	98*7-65*4-321	1+2*3*4+56+7+8+9	12*34-56*7+89
106	9+8*7+6*5+4+3*2+1	98+7+65-43-21	12+3+4*5+6+7*8+9	1-2*345+6+789
107	9+8+76+5+4+3+2*1	98-76+54+32-1	1*23+4+56+7+8+9	12/3*4*56-789
108	9+8+76+5+4+3+2+1	98+7+6*54-321	1+2+3+4+5+6+78+9	1+2345/67+8*9

Measuring CSR length can be rather subjective. For example, exponents might be denoted by superscript characters or preceded by carets, which influences absolute length:

Number	Representation	Exponent Format	Absolute Length
8272	$9+8+(7+6)*(5^4+3^2+1)$	Superscript	19
8272	9+8+(7+6)*(5^4+3^2+1)	Caret Character	21

During further evaluation, genuine CSR were preferred over pseudo CSR.
During further evaluation, absolute length based on default notation was used.

Final Notes

Authors consider following CSR to be proof-of-work,
as identification of CSR is computationally expensive,
while verification of CSR is computationally inexpensive.

Authors do not guaranty:

- Published CSR are the shortest CSR in existence.
- Published CSR are in their simplest form.
- Unavailable CSR do not exists.

Results

No increasing CSR was found for 10958.

Various CSR as published by Inder Taneja[5] proofed invalid during validation. Alternative genuine CSR were identified, including seven without subtraction and/or division.

Order	Number	Shortest Genuine CSR	Genuine CSR without subtraction/division
Increasing	292	12+34+5*67-89	1^2+3*45+67+89
Increasing	312	-12-345+678-9	1^23+4*56+78+9
Increasing	1548	12*3^4+56/7*8*9	12*(34+5*6+7*8+9)
Increasing	2443	12+3*4*5*6*7-89	1+2*(3*(4+56*7+8)+9)
Increasing	4498	1^2*3+4567-8*9	-
Increasing	9055	12/3*4*567-8-9	1+2*((3+4)*5+6*78)*9
Increasing	9940	-12*-3*(45*6+7-8/9)	-
Increasing	10637	(12^3+45)*6+(7-8)^-9	-
Decreasing	289	98-76-54+321	9+87+65+4*32*1
Decreasing	6704	-987+6^5-43*2+1	-
Decreasing	7683	9-8-7+6^5-43*2-1	-
Decreasing	8580	9*87+6^5^(4-3)+21	(9+8*7)*(65+4+3*21)
Decreasing	8989	98*76*5/4-321	-
Decreasing	9069	98/7*6^5/4/3-2-1	-
Decreasing	10498	9876+5^4-3/(2-1)	-
Decreasing	10535	98^(7-6)*5*43/2^1	-
Decreasing	10576	-9*8+(76-54)^3/(2-1)	-
Decreasing	10966	9-8+765*43/(2+1)	-

432 shorter genuine CSR without subtraction and/or division were identified, including 267 increasing and 165 decreasing, for example:

Increasing Genuine CSR			Decreasing Genuine CSR		
	by Inder Taneja	Shorter		by Inder Taneja	Shorter
4306	(1^2+3)^4+5*6*(7+8)*9	1+2*(345*6+78)+9	3119	9+8+(7*6+5)*(4^3+2)*1	9+8+7*(6+5+432)+1
4351	(1+2*3)^4+5*6*(7*8+9)	1+2^3*456+78*9	3163	(98+7)*6*5+4+3^2*1	98+765*4+3+2*1
4402	1*(2+3*4*5)*(6+7*8+9)	1+2*3*4+56*78+9	4890	9*87+6+5+4^(3+2+1)	9*8*7+65+4321
4421	1+(2+3*4*5+6)*(7*8+9)	12^3+4+5*67*8+9	4944	(9+8+7)*(6+5*4*(3^2+1))	(987+654)*3+21
4423	1+2+34*(5+6+7*(8+9))	12+34+56*78+9	4963	(9*87+(6+5)*4)*3*2+1	9+8*(76+543)+2^1
4437	1*2*34*5*(6+7)+8+9	1*2^3*456+789	4985	(9+8*(7*(6+5)*4+3)*2*1)	9+8*(76+543+2+1)
4438	1+2*34*5*(6+7)+8+9	1+2^3*456+789	5027	9*(8*7+6)*(5+4)+3+2*1	(9+8+76)*54+3+2*1
6320	(1+2)*(345*6+7)+89	12+345+67*89	5768	9*(87*6+5)+4^(3+2)+1	98+(7+65*4+3)*21
7530	1*2*(3*(4+5)+6*7*89)	(1234+5)*6+7+89	7610	(9*(8+76)+5)*(4+3+2+1)	98*7*(6+5)+43+21
8645	(12+3+4)*(5+(6*7+8)*9)	12+(34+56+7)*89	8981	(98*(7+6)+5+4)*(3*2+1)	98+(76*5+43)*21
4306	(1^2+3)^4+5*6*(7+8)*9	1+2*(345*6+78)+9	10556	(9+8)*76*5+4^(3*2)*1	98+(7*65+43)*21
4351	(1+2*3)^4+5*6*(7*8+9)	1+2^3*456+78*9	10916	(9+8)*(7*6*5+4)*3+2*1	9+8+(7*65+4^3)*21

Shorter increasing CSR (without subtraction and/or division) were identified for:

65,72,73,79,80,85,87,89,90,94,96,97,131,132,156,157,161,189,387,424,477,481,482,488,544,553,584,585,
623,624,629,656,657,687,688,691,703,708,763,789,790,795,796,820,840,841,845,846,850,863,872,890,995,1027,
1055,1056,1066,1067,1121,1269,1326,1409,1600,1623,1722,1747,1812,1830,1857,1858,1873,2157,2158,2159,2358,
2415,2417,2476,2490,2496,2497,2518,2540,2577,2696,2705,2714,2732,2782,2797,2823,2833,2862,2880,2885,3024,
3025,3030,3044,3054,3075,3087,3105,3140,3145,3181,3264,3289,3291,3327,3442,3484,3485,3486,3543,3552,3553,
3583,3646,3667,3738,3739,3743,3767,3772,3783,3981,4060,4081,4083,4084,4085,4212,4213,4218,4227,4236,4282,
4306,4314,4318,4351,4352,4402,4404,4421,4423,4428,4429,4431,4432,4433,4437,4438,4591,4597,4754,4769,4805,
4815,4832,4844,4896,4913,5064,5089,5130,5172,5215,5377,5484,5626,5631,5785,5793,5800,5849,5983,6008,6106,
6108,6145,6147,6229,6262,6320,6337,6455,6515,6809,6834,6850,6878,6884,6890,6896,6992,7010,7074,7081,7087,
7134,7149,7150,7266,7282,7324,7413,7427,7510,7530,7593,7619,7697,7704,7707,7876,7884,7913,7973,8030,8057,
8066,8100,8160,8185,8250,8378,8385,8479,8499,8551,8562,8641,8645,8652,8775,8814,8823,8831,8857,8868,8875,
8929,9007,9175,9176,9432,9443,9510,9720,9749,9754,9797,9810,9811,9906,9919,9951,9975,10152,10204,10609,
10620,10879,10947,11099

Shorter decreasing CSR (without subtraction and/or division) were identified for:

194,225,234,257,260,498,559,577,590,593,657,678,782,791,792,797,803,805,814,899,901,910,911,948,971,1062,
1076,1119,1163,1257,1349,1350,1430,1497,1542,1650,1689,1971,1988,1989,2010,2210,2301,2414,2418,2426,2499,
2529,2531,2604,2631,2644,2686,2891,2902,2917,3110,3119,3144,3163,3234,3395,3405,3489,3578,3584,3777,4023,
4130,4167,4207,4333,4428,4517,4527,4769,4791,4792,4828,4890,4944,4957,4960,4963,4985,5003,5012,5027,5028,
5096,5277,5546,5606,5630,5768,5992,5993,6055,6056,6249,6257,6264,6265,6279,6314,6339,6340,6563,6663,6714,
6735,6842,6863,6870,6894,6944,6957,6994,7085,7105,7581,7610,7947,7948,7984,8009,8017,8018,8088,8364,8547,
8591,8638,8811,8830,8844,8892,8906,8910,8942,8981,9006,9117,9222,9307,9412,9486,9487,9504,9576,9579,9585,
9764,9939,10065,10473,10521,10556,10585,10818,10866,10907,10916,11047,11049

Ignoring the preference for genuine CSR without subtraction and/or division, 14585 shorter genuine CSR were identified (6817 increasing and 7768 decreasing).

Authors provide up to 10 distinct CSR for the numbers from 0 up to 11111, for example:

Increasing					
	Reference	**Shortest Overall**	**Shortest Without Division**	**Shortest Without Potentiation**	**Shortest Without Concatenation**
1531	1+(234+5)*6+7+89	12^3/4*5-6-7*89	12-3+4^5-6+7*8*9	-12*3+4*56*7+8-9	1+2^3+4^5-6+7*8*9
3650	12+34*(5+6+7+89)	1-234-5+6^7/8/9	-12-3^4+5+6*7*89	-1-23*4+5+6*7*89	(-1+2-3*4)*(5-6*7*8)+9
5263	(1+2)^3+4^5+6*78*9	1^2-3+45/6*78*9	12+(3*4+5+6*7)*89	-1+2-3+45/6*78*9	1+2+3-(-4^5*(6-7/8)-9)
7891	(1+(2*3)^4+5)*6+7+8*9	1^2+3*4*5/6*789	1+(-2-3+4+5+6)*789	-1+2+3*4*5/6*789	1*2-(-3-4^5+6*7)*8+9

Decreasing					
	Reference	**Shortest Overall**	**Shortest Without Division**	**Shortest Without Potentiation**	**Shortest Without Concatenation**
1531	98*(7+6)+5+4*3*21	9+8*765/4-3^2+1	9-8+76*5*4+3^2+1	9+8+76*5*4-3*2/1	9*8+7-6+(5+4)^3*2^1
3650	98*(7+6*5)+4*3*2*1	98/7*65*4+3^2+1	9+8*7*65-4+3+2^1	9+8*7*65-4+3+2/1	9*8*7*6+5^4+3-2/1
5263	(9*8+7)*65+4^3*2*1	987/6^(5-4)*32-1	987*6^(-5+4)*32-1	(9*8+7)*65+4*32*1	9*8+7+6^5*4/3/2*1
7891	9*8+7+6^5+4+32*1	9*876+54/3^2+1	9*876-5+4+3^2-1	9*876+5-4+3*2/1	9*8+7+6^5+4*3^2*1

See supplement 1 for the increasing series and supplement 2 for the decreasing series.

CSR were selected based on type (genuine versus pseudo) and length (absolute length). Genuine CSR were preferred over pseudo CSR, thus in case any genuine CSR was identified, the shortest genuine CSR was chosen, also in case a shorter pseudo CSR was identified. Only in case no genuine CSR was identified, the shortest pseudo CSR was selected.

In case multiple CSR of equal type and length were identified, CSR were selected based on uniqueness (as compared to other categories) and validity (for other categories):

For example a simplified selection procedure (final selection shown in gray):

	Reference	**Shortest Overall**	**Shortest Without Division**	**Shortest Without Potentiation**	**Shortest Without Concatenation**
	1-23-45+6+78-9	1-23-45+6+78-9	1-23-45+6+78-9	1-23-45+6+78-9	
		-12-3+45+67-89	-12-3+45+67-89	-12-3+45+67-89	
		1*2/3*45+67-89		1*2/3*45+67-89	
8		1^23-45+6*78/9			
		1^2+34-5+67-89	1^2+34-5+67-89		
					1*2^3/4+5*6-7-8-9
					1+2+3-4+5*6-7-8-9

Reasoning;

- Only one reference CSR available. Try to select other CSR for the other categories.
- Only one CSR within the “Shortest Overall” category that does not fit within the “Without division”, “Without Potentiation” and “Without Concatenation” categories.
- Only one CSR within the “Without division” category that does not fit within the “Without Potentiation” and “Without Concatenation” categories.
- Only one CSR within the “Without Potentiation” category that does not fit within the “Without division” and “Without Concatenation” categories.
- Only one CSR within the “Without Concatenation” category that does not fit within the “Without Potentiation” and “Without division” categories.

Number of increasing CSR for the numbers from 0 up to 11111:

Category	Genuine Available	Genuine Unavailable	Pseudo * Available	None Available
Overall	11111	1	0	1
Without Division	11110	2	0	2
Without Potentiation	11053	59	50	9
Without Concatenation	10569	543	340	203

** Pseudo CSR available in case no genuine CSR available*

Missing increasing CSR:

	Only pseudo CSR available	No CSR available
Without Division		10958,11027
Without Potentiation	5818,6538,6988,7526,7924,7987,8170,8269,8324,8468,8561,8564, 8797,8824,8860,8966,8986,9202,9220,9236,9254,9258,9304,9382, 9716,9772,9781,9886,9904,9914,9916,9920,9931,10016,10018, 10082,10267,10298,10310,10388,10490,10550,10645,10676, 10748,10844,10918,10984,11030,11072	8312,9238,9986,10838,10840,10886, 10958,11002,11027
Without Concatenation	3308,3820,4262,4444,4732,4749,4835,4894,5222,5288,5314,5317, 5333,5350,5429,5486,5528,5613,5674,5708,5709,5771,5790,5811, 5843,5884,6022,6330,6388,6662,6747,6773,6789,6798,6812,6818, 6844,6853,6854,6863,6934,6974,6976,6988,6997,7286,7314,7321, 7329,7334,7340,7358,7364,7388,7430,7437,7456,7458,7465,7467, 7484,7486,7526,7537,7571,7591,7612,7621,7628,7654,7664,7676, 7699,7716,7724,7732,7907,7923,7924,7949,7950,7961,7962,7963, 7969,7977,8013,8018,8020,8027,8030,8035,8038,8040,8042,8044, 8062,8069,8269,8341,8366,8393,8422,8437,8492,8508,8558,8588, 8589,8590,8598,8618,8637,8644,8654,8656,8698,8716,8723,8725, 8726,8734,8762,8781,8799,8800,8813,8836,8841,8860,8866,8878, 8887,8890,8899,8914,8922,8942,8948,8957,8958,8959,8967,8987, 8989,9041,9042,9049,9092,9122,9184,9238,9319,9425,9426,9427, 9507,9509,9518,9526,9553,9563,9568,9570,9571,9584,9592,9597, 9618,9619,9628,9631,9634,9680,9705,9707,9714,9715,9716,9722, 9723,9724,9725,9741,9742,9787,9795,9797,9798,9802,9803,9817, 9823,9824,9881,9883,9890,9892,9896,9903,9916,9919,9924,9931, 9932,9934,9939,9941,9944,9946,9950,9957,9958,9968,9969,9970, 9987,10022,10023,10036,10046,10047,10048,10049,10052,10074, 10077,10086,10094,10117,10154,10202,10253,10257,10266,10283, 10284,10286,10288,10309,10346,10347,10355,10356,10372,10379, 10380,10401,10447,10452,10462,10466,10470,10477,10480,10482, 10483,10484,10490,10492,10502,10508,10509,10514,10517,10525, 10526,10534,10535,10538,10542,10545,10550,10558,10559,10560, 10562,10570,10573,10576,10579,10599,10614,10616,10622,10628, 10631,10632,10635,10670,10671,10675,10677,10712,10713,10717, 10739,10740,10741,10747,10756,10766,10770,10775,10780,10787, 10792,10798,10804,10807,10820,10826,10832,10846,10849,10859, 10861,10865,10867,10875,10883,10885,10906,10907,10909,10964, 10983,10992,11000,11010,11029,11045,11063,11065,11078,11090, 11096,11104,11105,11107	4948,5276,5296,5307,5522,5710,5773, 5794,5812,6746,6819,6836,6964,6980, 6982,7322,7330,7394,7408,7414,7436, 7438,7466,7468,7538,7574,7576,7594, 7598,7643,7645,7646,7898,7915,7916, 7958,7960,7986,8012,8438,8486,8548, 8555,8556,8572,8573,8597,8608,8635, 8692,8780,8782,8786,8803,8818,8851, 8867,8896,8898,8962,8966,9050,9113, 9424,9428,9445,9446,9448,9452,9470, 9506,9508,9533,9535,9542,9562,9572, 9573,9574,9578,9598,9607,9608,9616, 9626,9643,9644,9646,9650,9655,9687, 9688,9706,9713,9733,9740,9788,9808, 9813,9814,9885,9886,9893,9902,9908, 9915,9923,9938,9947,9948,9949,9977, 9978,9986,10012,10040,10058,10068, 10069,10076,10091,10093,10102,10118, 10316,10317,10342,10357,10402,10436, 10451,10453,10468,10469,10474,10475, 10516,10552,10568,10571,10572,10577, 10588,10589,10597,10598,10604,10606, 10613,10615,10618,10621,10633,10634, 10636,10645,10669,10678,10715,10733, 10757,10759,10771,10784,10805,10813, 10825,10831,10833,10834,10838,10843, 10844,10847,10852,10856,10858,10860, 10868,10958,10970,10972,10986,10987, 10991,10996,11002,11012,11036,11037, 11038,11047,11054,11055,11066,11068, 11072,11077,11081,11082,11083,11095, 11108

Number of decreasing CSR for the numbers from 0 up to 11111:

Category	Genuine Available	Genuine Unavailable	Pseudo * Available	None Available
Overall	11112	0	0	0
Without Division	11108	4	2	2
Without Potentiation	11079	33	28	5
Without Concatenation	10891	221	173	48

** Pseudo CSR available in case no genuine CSR available*

Missing decreasing CSR:

	Only pseudo CSR available	No CSR available
Without Division	9686,10802	9668,11038
Without Potentiation	5819,7166,7195,7222,7682,8276,8285,8293,8482,8528,9302,9497, 9532,9626,9733,9949,10022,10310,10412,10468,10545,10667, 10768,10802,10805,11029,11038,11056	8258,9668,9970,10316,10498
Without Concatenation	2135,4723,4867,5278,5284,5294,5451,5791,6026,6098,6286,6294, 6296,6314,6332,6358,6366,6378,6415,6423,6467,6469,6599,6649, 6780,6854,6938,6943,6944,6956,6981,7036,7052,7077,7082,7084, 7093,7147,7413,7438,7444,7564,7598,7933,8251,8310,8365,8426, 8457,8467,8490,8503,8552,8553,8563,8573,8596,8607,8620,8651, 8718,8849,8921,8932,8943,8957,8961,8962,9022,9032,9121,9122, 9131,9133,9155,9176,9200,9202,9302,9311,9415,9421,9424,9470, 9515,9570,9573,9574,9579,9619,9646,9650,9664,9667,9688,9692, 9733,9737,9748,9824,9878,9884,9893,9915,9922,9923,9927,9931, 9947,9950,9958,9968,9974,9980,10021,10022,10054,10061,10068, 10076,10084,10142,10171,10177,10227,10228,10245,10257,10267, 10276,10309,10310,10419,10464,10482,10486,10488,10490,10492, 10588,10684,10697,10699,10704,10735,10736,10738,10748,10749, 10766,10768,10798,10805,10823,10844,10848,10946,10989,10996, 11003,11010,11029,11030,11037,11039,11054,11056,11057,11058, 11062,11077,11092,11095	6404,6523,7034,7078,8363,8492,8572, 8944,8989,9508,9542,9556,9578,9634, 9643,9644,9678,9885,10052,10069, 10460,10474,10480,10516,10526,10544, 10564,10597,10671,10715,10732,10733, 10741,10742,10751,10753,10757,10758, 10775,10784,10814,10831,10832,10858, 11006,11044,11066,11068

Authors also provide CSR for numbers from 11111 up to 2147483647 (32-bit integer limit). See supplement 3 for the increasing series and supplement 4 for the decreasing series.

Availability for numbers from 11111 up to 2147483647:

	Genuine Available	Pseudo Available *
Increasing	544312	284380
Decreasing	767467	385935

** Pseudo CSR available in case no genuine CSR available*

Authors provide genuine CSR with reversible digits and reversible characters for the numbers from 0 up to 11111 (see supplement 5 for both categories). For example:

Reversible Digit CSR				Reversible Character CSR			
25	98-76-54/3+21	12-34-56/7+89	59	25	1^23456+7+8+9	9+8+7+65432^1	65456
26	12+34*5-67-89	98+76*5-43-21	414	26	12*3/4-5-67+89	98+76-5-4/3*21	141
27	12/3+45+67-89	98/7+65+43-21	101	27	12-3*4+5-67+89	98+76-5+4*3-21	160
28	123-45-67+8+9	987-65-43+2+1	882	28	1^234+5-67+89	98+76-5+432^1	601
29	12+34+5+67-89	98+76+5+43-21	201	29	123+45-67-8*9	9*8-76-54+321	263
30	123+4-56/7-89	987+6-54/3-21	954	30	9+87+6-54+3-21	12-3+45-6+78+9	135
31	123-45+6*7-89	987-65+4*3-21	913	31	9-87*6+543+2-1	1-2+345+6*78-9	803
32	12-3+45+67-89	98-7+65+43-21	178	32	12-3+45+67-89	98-76+54+3-21	58
33	12+34+56-78+9	98+76+54-32+1	197	33	98+76-54*3+21	12+3*45-67+89	169
34	12-34+5/6*78-9	98-76+5/4*32-1	61	34	1/2*34-5-67+89	98+76-5-43*2/1	83
35	98-76*5-4+321	12-34*5-6+789	625	35	12*3/4-56-7+89	98+7-65-4/3*21	12
36	12+34-56/7/8-9	98+76-54/3/2-1	164	36	987-6*54*3+21	12+3*45*6-789	33
37	123+45-6*7-89	987+65-4*3-21	1019	37	123+45-6*7-89	98-7*6-54+321	323
38	12+3+45+67-89	98+7+65+43-21	192	38	12+3+45+67-89	98-76+54+3+21	100
39	98-7-6*5-43+21	12-3-4*5-67+89	11	39	98+7+6-54+3-21	12-3+45-6+7+89	144
40	-98-765+43*21	-12-345+67*89	5606	40	9-8*7+65+43-21	12-34+56+7*8-9	81

Number of reversible CSR for the numbers from 0 up to 11111:

	Genuine Available	Genuine Unavailable
Reversible Digit	11111	0
Reversible Character	11066	45

Missing reversible character CSR:

7364,7604,8051,8492,8939,8951,9524,9965,10084,10087,10172,10174,10228,10277,10309,10334,10411, 10543,10552,10582,10588,10589,10637,10706,10714,10715,10717,10747,10768,10786,10802,10807,10834, 10838,10844,10928,10958,10996,11038,11068,11069,11086,11093,11095,11108

Authors also provide genuine CSR with reversible digits and reversible characters for the numbers from 11111 up to 2147483647 (see supplement 6 and 7 respectively).

Availability for numbers from 11111 up to 2147483647:

	Genuine Available
Reversible digits	559514
Reversible characters	184259

For various numbers, genuine CSR of equal length were identified, for example:

Increasing - Length 14			
Result 161	**Result 174**	**Result 185**	**Result 191**
12*3*4-5-67+89	12*3+45+6+78+9	12+3*4+5+67+89	12+34+5+67-8+9
1+23+4*56-78-9	12-3+4+5+67+89	123-4+56-7+8+9	123-45+6*7+8-9
1-23+45*6-78-9	123-4+5+67-8-9	123+4-5-6+78-9	1-234+5*67+8+9
12*3/4*56/7+89	123*4-5*67+8+9	1+234-56+7+8-9	1*23*4+5-67+89
12-3*4+5+67+89	1+2*3-456+7*89	123-4-5*6+7+89	1+23*4-56-7+89
123+4*5*6+7-89	1-234+5*67+8*9	123+4+56*7/8+9	12+34*5+6-78+9
1+234-5/6*78-9	123+4*5*6-78+9	12-3+4*5+67+89	1+23+45+67-8-9
123-4-5-6*7+89	123+4-5+6*78/9	12-3+45+6*7+89	123+4+56/7/8-9
12/3/4*5+67+89	1+234+5-67-8+9	1-2+34+56+7+89	123-4+5+67-8*9
12/3-4+5+67+89	123-4+56/7*8-9	12/3*45-67+8*9	123-45-6+7*8-9
1*2+34+56+78-9	1*2+34+56-7+89	1+2-345+67*8-9	12+34+56/7*8+9
1*234-5-67+8-9	12*3*45/6-7-89	1+2*34*5-67-89	123-4-5-67+8*9
1*234-56/7*8-9	123/4*56/7-8*9	1*2+34*56/7-89	1*2-34-5+67+89
12*3/4+56+7+89	1^23*45*6-7-89	1^23+45+67+8*9	1*2-3*4*56+789
1*23+45+6+78+9	12+3^4-56/7+89	1+2*345/6+78-9	12+3^4-56-7+89

Decreasing - Length 14			
Result 72	**Result 123**	**Result 124**	**Result 125**
9+8+76*5-4-321	9+8+76+54-3-21	98+76-54+3+2-1	98+76-5-43-2+1
9+8*76-543-2^1	98+76-5*4-32+1	98/7+65+43+2/1	98+76-54+3+2^1
9+8*76-543-2*1	9*8*7-6-54-321	98/7+65+43+2*1	98/7-6+54+3*21
98-76+5+43+2^1	9*87-654-3*2/1	9*87-654-3-2^1	98-7-6*5+43+21
9+87-65+43-2^1	9-87-6*5*4+321	98-7-6+54/3+21	98+7-65+43*2-1
98+7-6-5-43+21	98+7*6+5-43+21	98+76-5-43-2/1	98+76-54+3*2-1
98-7-65+43+2+1	98+76-5-43-2-1	9+87+6+54-32^1	98+76-54+3+2/1
98-76+54-3-2+1	9+87+6+54-32-1	98+76-5-43-2^1	98+7-65+4^3+21
9+8+76-54+32+1	9-8-7+65+43+21	98-7+6+5+43-21	98-7*6+5+43+21
9+87+6-54+3+21	9*8-76*5+432-1	98+7+65-43-2-1	9+87+65-4-32^1
9-87+65+4^3+21	98+7+6^5/432^1	9+87+65-4-32-1	98+7+65-43-2^1
9-87+65+43*2-1	98-7+65-4*3-21	98+76-5-43-2*1	9+87+6+54-32+1
98-76+5+43+2*1	98/7+65+43+2-1	9+87+6+54-32/1	9*8-76*5+432+1
9+87-65+43-2*1	98/7+654/3/2/1	9+87+6+54-32*1	9+87+65-4-32/1
9+87-65+43-2/1	98/7+654/3/2*1	98+7+6^5/432+1	98+7+65-43-2/1
98/7*6*54/3/21	98/7*6+54/3+21	9+8-76+54*3+21	9+87+65-4-32*1
98+7+6-54/3-21	98+7+6^5/432/1	9*8-76*5+432*1	98+7+65-43-2*1
98-76+5+43+2/1	98+7+6^5/432*1	9*8-76*5+432^1	98+76-54+3+2*1
9+8*76-543-2/1	9*87-654-3*2^1	98/7+654/3/2+1	9*8+76-54+32-1
98-7-6^5/432-1	9*87-654-3-2-1	9*87-654-3-2/1	98/7+65+43+2+1

For various numbers, genuine CSR of consecutive length were identified, for example:

	Increasing				
	Length 12	**Length 13**	**Length 14**	**Length 15**	**Length 16**
1	1+23-45-67+89	1^2^(345+6789)	1^2^(34*567-89)	1^(2^3+4^5-6789)	1^(2^345+6-7-8+9)
2	123+4-56-78+9	12/3+45+6*7-89	1+2^3+45-6*78/9	1*2^3+4-56/7/8-9	1+2+3-4*5+6-7+8+9
3	123-45-6-78+9	1+23-4+5+67-89	1*2^3+45-67+8+9	1^2+3^4+5-67-8-9	1^2+3*4*5/6-7+8-9
5	12-34+5-67+89	12*3-4-5+67-89	1+2^3*4*5-67-89	(1-2)^345*67+8*9	1+2-3-4+5-6-7+8+9
6	12+34+56-7-89	123+4-56+7-8*9	1^2-3*4-5-67+89	1/2/3*4/56*7*8*9	1+2*3-4+5+6-7+8-9
7	1^23456+7+8-9	1/2/3*456-78+9	1+2^3*4+56+7-89	1+2^3-45+6*7-8+9	1-2+3+4+5+6+7-8-9
9	12-34-56+78+9	1+2-34-56+7+89	1^(23*4+5678)*9	1^(2-3*456*78)*9	1^(2-3/4*567*8)*9
10	123-45-67+8-9	123+4-5*6-78-9	1^(2345+6-78)+9	(1*23+45-67)^8+9	1^(2^345+6^7-8)+9
11	123*4-56*7-89	1*23*4+56/7-89	1*2*34+5*6-78-9	12+3+4*(5-6)^789	1^2-3-4+5+6+7+8-9
12	123-45-67-8+9	12+345-6*7*8-9	12+3^4-5+6+7-89	1*2^3/4+56/7/8+9	1-2+3-4*5-6*7+8*9
13	1-234+5*67-89	123-4*5+6-7-89	12+3^4-56-7-8-9	1-234*(5-6)/78+9	1+2-3+4-5+6+7-8+9
15	123-45+6-78+9	12*3-4+5+67-89	1*2^3*4+5+67-89	1*2*3*4-56+7*8-9	12+3+(4-5-6+7)^89
18	12-34-56+7+89	1-23+45+67-8*9	12*3/4/56*7*8+9	1^2-3^4+5+6+78+9	1^2+3^4-5+6+7-8*9
19	12+34-5+67-89	1-2*345+6+78*9	1*2*3^4-56-78-9	1^2+3^4+5-67+8-9	1^2-3+4+5+6+7+8-9
20	12+34+56+7-89	12+3-45+67-8-9	1^234*5*6+7-8-9	1*2+3^4+5-67+8-9	1*2-3*4+5+6*7-8-9
21	1*2*345-678+9	123-4-5-6-78-9	1*2^3-4-5-67+89	1*2^3*4*5-67-8*9	1-2*3-4+5+6*7-8-9
22	1+2*345-678+9	12-3-4-5-67+89	12+3^4-5-67-8+9	1+2^3+4-56-7+8*9	1-2^3+4-5+6+7+8+9
23	1^23*45+67-89	1+2-3+45+67-89	12*3*4-56-7*8-9	1*2^3*4/56*7*8-9	1/2*3*4-5*6+7*8-9
24	1^23456*7+8+9	1+2+3*45*6-789	1*2*3^4-56+7-89	1+2^3+45-6-7-8-9	1^(2+345+6)*7+8+9
25	1^23456+7+8+9	1-2+3+45+67-89	1^2+3+4-5-67+89	1*2^3/4-56+7+8*9	1^2+3-4-5+6+7+8+9
26	12+34*5-67-89	12-3+4-56+78-9	1^2+34*56/7/8-9	1*23*4+5-6-7*8-9	1/2*3*4*5+6+7-8-9
27	1^234-56-7+89	1^2+3+45+67-89	1^2+3-4+5-67+89	1+2*3^4-5-6*7-89	1-2*3+4*5+6+7+8-9
28	123-45-67+8+9	1*2*34+56-7-89	1*2^3/4-56-7+89	1+2*3^4-56-7-8*9	1-2*3*4*5/6+7*8-9
29	12+34+5+67-89	1+2+3+45+67-89	1*2^3-45+67+8-9	1+2+3^4-5-67+8+9	1-2^3+4*5+6-7+8+9
30	123+4-56/7-89	1^23*4-56-7+89	1^2^345*6+7+8+9	1^2+3^4+5*6+7-89	(1-2)^345*6*7+8*9
31	123-45+6*7-89	12*3+45-67+8+9	1*23*4+5-67-8+9	1-2*3+4/56*7*8*9	1*2*3*4+5-6+7-8+9
32	12-3+45+67-89	1*23-4-56+78-9	1^2+34*5-67-8*9	1*2*34+5-6*7-8+9	1^2*3*4+5*6+7-8-9
33	12+34+56-78+9	12*34-56*7+8+9	1^2-34-5*6+7+89	1+2^3+4*5*6-7-89	1-2-3*4+5-6+7*8-9
34	1*2345/67+8-9	123+4-5-6+7-89	1^2+3*45-6-7-89	1^2+3^4-56+7-8+9	1-2+3+4*5+6+7+8-9
35	1+2345/67+8-9	1^23*4-56+78+9	1*2345*67^(8-9)	1*2-3+4/56*7*8*9	1^2+3*4+5*6-7+8-9
36	1*2345/67-8+9	1^23+4-56+78+9	1^234+5+6+7+8+9	1*2-34*(5-6)^789	1-2+3*4-5+6+7+8+9
37	123+45-6*7-89	12+34+56-7*8-9	1*23*4-5-67+8+9	1^2^3+4/56*7*8*9	1^2-3-4*5-6+7*8+9
38	12+3+45+67-89	123*4+5-6*78+9	1^2+34*5/6+78/9	1-2+3+4/56*7*8*9	1+2*3-4+5+6+7+8+9
41	1^234-56+7+89	12*3-45+67-8-9	12+3^4-5+6*7-89	1*2^3*4/56*7*8+9	1^(2+3-4)-56+7+89
45	1-23+45-67+89	12-3-4-56+7+89	1*2^3*4-56+78-9	1^2+3+45+6+7-8-9	1-2*3+4*5+6+7+8+9
46	123+4+56/7-89	12/3+4*5-67+89	1^2+3+4*5-67+89	1^2-3^4-5+6*7+89	1^2*3^4+5*6-7*8-9
47	1+23+45+67-89	12*3*4-56/7-89	12+3^4-56-7+8+9	12+3^4-5-6*7-8+9	1-2+3+4*5+6*7-8-9
48	1^2345-6*7+89	1^2-34-56/7+89	1*2^3+45+67-8*9	1-2+3^4-56+7+8+9	1+2+3^4+5+6-7*8+9
50	1^2345*67-8-9	1-2+34-5-67+89	1+2^3*4-5-67+89	1*2^3/4+56-7+8-9	1+2+3-4+5+6*7-8+9
51	1^2345+67-8-9	12+34*5-6*7-89	12*3*4*5/6-78+9	1^23+4*5+6+7+8+9	1+2+3*4-5+6*7+8-9
52	1*2345/67+8+9	12-3-45+6-7+89	1^2+3-456+7*8*9	1*2*3*4*5-67+8-9	1+2^3/4*5-6+7*8-9

Increasing				
	Length 16	**Length 17**	**Length 18**	**Length 19**
237	1+2*3^4+5/6*78+9	1+2+3+4+5*6*7+8+9	1+2+3^(4+5-6)*78/9	1^2-3+4^(5+6-7)-8-9
259	1+2^3*4*5*6-78*9	1-2*3*4+5*6*7+8*9	(1+2+3-4)^5*67/8-9	1*(2-3+4)^5+6-7+8+9
288	1*2*3^4-5+6*7+89	1-2+3+4+5*6*7+8*9	(1-2-3)^4+56-7-8-9	1/2^3*(4-5+6-7)^8*9
311	1*2*3*45-6+7*8-9	1*(2+34*5)+67+8*9	1*(2-3+4)^5+67-8+9	(-12/3)^4-56/-7*8-9
336	1^2+3-4+5*67-8+9	1*2+3*4-5+6*7*8-9	(1-2-3)^4+56+7+8+9	1*2^3+4^(5+6-7)+8*9
338	1+2^3*4*5*6-7*89	1-2+3+4+5+6*7*8-9	(-12+3^4-5*6)*78/9	(-1-2*34+5*6)*-78/9
377	1+2*3*4+5*67+8+9	1-2^3-4*5*6+7*8*9	(1-2-3)^4+56+7*8+9	1*2*3^(4+5-6)*7+8-9
382	1*2+3^4+5*6*7+89	1*2^3*4+5+6*7*8+9	1*(2-3+4)^5+67+8*9	1-(-2-3^4+5)*6-78-9
607	1*23*4+5+6+7*8*9	(1+2)^3-4+567+8+9	(1-2+3)^4*5+67*8-9	1+(2+3)^4-5-6-7+8-9
609	1*2*3*4+5/6*78*9	12*3*4+5*(6+78+9)	1/2^(3-4-5)+67*8+9	(-1+2+3^4+5)*6+78+9
611	1+2+3*4^5/6+7+89	12*(3-4)^5^6+7*89	(-12/-3)^4*5-678+9	1+2^(3+4)*5+6*7-8*9
626	1*2^3/4-5+6+7*89	1-2+3+4*5*6+7*8*9	1+(2+3)^4-5-67+8*9	1*(2+3)^4+5+6+7-8-9
803	1^2+3*45*6-7+8-9	12*34+5+6*(7*8+9)	(-12+3^4+56)*7-8*9	(1+2+3)^4+5+6-7*8*9
835	1+2*3^4-5*6+78*9	1-2-3+4*5*6*7+8-9	1*(2-3+4)^5*6-7*89	1+(2+3)^4+5*6*7+8-9
864	1/2^3*4^5*6+7+89	1+2*3+4*5*6*7+8+9	1+2*(3+4)*56+7+8*9	(-1+2^3+4*5)*6+78*9
923	1*2+345+6*(7+89)	(123+4*5)*6+7*8+9	(1*2*3+4)*5*6+7*89	(1/2+3+4*5*6-7)*8-9
961	12*3^4+5-6+7-8-9	1-2-3+4^5+6-7*8-9	1*(2+3)^4+5*67-8+9	(-1*-2^3+4^5)/6+789
971	1+23*4*5+6+7*8*9	1+2-3+4^5-6-7*8+9	1*2+3*4*(5+67+8)+9	(-1-2^3)/-4*56*7+89
974	1^2+34*5*6-7*8+9	1+2^3+4^5+6-7*8-9	(1+2-3+4)^5-67+8+9	(1*2*3)^4+5-6*7*8+9
997	1+2*3*4*5*67/8-9	1^2-3+4^5-6*7+8+9	1^2-3*(4-5*67+8-9)	1+2*(3*4*5+6)*7+8*9
1023	1+2+345+(67+8)*9	1-2*3+4^5-6-7+8+9	1+2-34*5*6*(7-8)^9	1*2-3+4^(5-6+7+8-9)
1035	1*(2+34+5)*6+789	1+2+3^(4-5+6)+789	1+(2+3)^4+56*7+8+9	(1+2)^3+4^5-6+7-8-9
1036	12*3^4+5-6-7+8*9	1+2-3+4^5+6+7+8-9	1^2-3*(-45*6-78)-9	1^(2-3)*4^5+6+7+8-9
1049	1+2^3+4*5*6*78/9	1+2-3+4^5+6*7-8-9	1/(2+3)^-4+5*67+89	(1+2-3+4)^5+6*7-8-9
1062	12*3^4+5+6+7+8*9	1-2*3+4^5+6*7-8+9	1/2*3^(4+5-6)*78+9	(-1*-2+3^4+56)*7+89
1073	(123+45)*6+7*8+9	1-2-3+4^5+6+7*8-9	1*(2+3)^4-56+7*8*9	1+2^(3+4+5)-6*7*8*9
1074	1^2-3+4^5+6*78/9	1+2*3+4^5+6*7-8+9	(1+2-3+4)^5+67-8-9	(1+2+3)^4*5/6-7-8+9
1076	12*3+4^5+6-7+8+9	1-2^3+4^5-6-7+8*9	(1+2-3+4)^5+6*78/9	(1+2*3^4-5+6)*7-8*9
1087	1*2+34*5*6+7*8+9	1^2+3+4^5-6-7+8*9	1^(2-3)*4^5-6+78-9	(-1-2^3/4)*-56*7-89
1092	1*2*(3+456+78+9)	1+2^3+4^5-6+7*8+9	(1+2-3+4)^5+67-8+9	(1+2)^3+4^5-6+7*8-9
1139	1^23+4^5+6*7+8*9	1^2^3+4^5+6*7+8*9	(1*2+3+4*5)*6*7+89	1^2+(-3+4*5)*67+8-9
1169	1+2+3+4^5+67+8*9	1*(-2+34)*56-7*89	1-2^3/-4*(567+8+9)	(-1+2+3^4+56+7)*8+9
1171	1-234*5*(6-7)^89	(1+2+3)^4-56-78+9	1*2+3+4+5+(6+7)*89	1-(-2-3^4+5)*6+78*9
1177	1^2+3*4*56+7*8*9	1+2^3*(45+6+7+89)	1+2+3*4+5+(6+7)*89	(1+2+3)^4-5-6*7-8*9
1180	(123+4)*5+67*8+9	1+23*45+6*(7+8+9)	1^2-3*(4-56*7-8)-9	1+2^3-4*-5*(67-8)-9
1207	1+2*3*(45+67+89)	1*(2+3)*4*56+78+9	1-(2*-3+4)*567+8*9	(1-2-3)^4*5+6-7-8*9
1230	1234-5+(6-7)^8^9	1*2+(3*4+5)*67+89	(1-2-3)^4*5-67+8+9	(1+2+3)^4+5-6-7*8-9
1250	(1+234)*5+6+78-9	1-2+3/4*5*6*7*8-9	(1+2+3)^4-56-7+8+9	(1^2+3)^4*5+6*7-8*9
1266	1^2-3+4*5*67-8*9	1-2*(3-4^5-6)-789	1*23*(4+5)*6+7+8+9	(1-2-3)^4*5-6-7+8-9
1290	(123+45+6)*7+8*9	1+(2+3)^4-5+678-9	(12+3*4+5)*6*7+8*9	(1-2+3+4)^5/6-7-8+9
1304	(12+3)*45+6+7*89	1*(2+3)^4+56+7*89	(1+2+3)^4-56/7/8+9	(1-2+3+4)^5/6+7-8+9

	Decreasing				
	Length 12	**Length 13**	**Length 14**	**Length 15**	**Length 16**
0	98-76-54+32*1	98-7-6-54-32+1	9+8-76+54+3+2^1	9+8*76-5^4+3^2-1	9+8+7+6-5*4*3/2^1
4	98-7-65-43+21	9+87-65+4-32+1	9+8+7-65+43+2^1	9+8*7-65-4+3^2-1	9-8*7-6+5*4*3-2-1
9	9+87-65-43+21	9+8-7-65+43+21	9*(8-7)^65432/1	9-8*7-6*5+43*2*1	9+8-7+6*5-4^3/2+1
11	98/7-6*54+321	9+8-7+65-43-21	98/7-65+4^3-2*1	9+8+7*6-54+3*2^1	9*8+7-6-5*4*3-2*1
15	98/7+65-43-21	98+76-54*3+2+1	98/7-65+4^3+2^1	98-7*6*5+4^3*2-1	9-8*7-6+5+4^3-2+1
17	98/7+6*54-321	9+87-65+4+3-21	98/7+65-4^3+2^1	9+8*(7-6)^5432/1	9-8-7*6+5*4*3-2^1
18	98+7-65-43+21	98+7-65-4+3-21	9-87+6+5+4^3+21	9*8+7-65-4+3^2-1	9-8*7-6+5+4^3+2/1
25	98-76-54/3+21	9+8+7+65-43-21	9+87-6*5-43+2^1	9-8*76+5^4-3+2*1	9+8*7-6*5-4*3+2/1
30	98-7+65*4-321	98+7-6-5-43-21	98-7-65-4+3^2-1	98-7+6-5-4^3+2^1	9+8*7-6*5-4-3+2/1
31	9-876-5+43*21	98-76-5-4-3+21	98-76-5+4*3+2^1	9-8*76+5^4+3+2^1	9*8-7-6-5-4*3*2+1
35	98-76*5-4+321	98-76-5*4+32+1	9+87-65-4+3^2-1	9+8-7*6+54+3*2^1	9-8+7+6+5*4+3-2/1
36	987-6*54*3+21	9*8+7-65+43-21	98-76+5+4+3+2^1	9-8*76+5^4+3^2+1	9*8-7*6+5-4+3+2/1
39	98-76-5+43-21	98-76-5+4-3+21	98-7-6-54+3^2-1	9-87-6-5+4^3*2*1	9*8-7-6-5-4*3-2-1
40	9*8*76-5432/1	98-7-65-4-3+21	9+87*6/54*3+2^1	98/7-6-5+4*3^2+1	9*8-7-6-5*4+3-2/1
41	9*8*76-5432+1	98-76+5-4-3+21	98-7-6-54+3^2+1	9-8*76+5*4^3*2/1	9+8-7-6+5+4^3/2/1
43	98-76+54-32-1	98+7+65-4*32+1	9+8*7-65+4^3-21	9-8-7*6*5+4*3*21	9*8-7-6-5-4-3*2-1
44	98-76+54-32*1	98-76-5-4+32-1	9+8+7-65+4^3+21	98+7+6-5-4^3+2^1	9*8+7-6-5*4*3/2+1
45	98+76*5-432-1	9+87-65-4-3+21	9+8*7-65+43+2^1	9*8+7-65+4^3/2-1	9+8+7+6+5+4+3*2^1
46	98+76*5-432/1	98-76-5-4+32+1	98/7-6-5+4^3-21	9*8+7-65+4^3/2*1	9+8-7-6*5+4^3+2/1
47	987+6-5^4-321	98-76+5-4+3+21	9+8+76-54+3^2-1	9-8-76-5+4^3*2-1	9*8+7+6*5-4^3+2^1
48	98-7-65+43-21	98/7*6-54-3+21	98/7*6+5-43+2^1	98/7+6-5+4^3/2+1	9*8+7-6*5+4-3-2/1
49	98-76+5+43-21	98+7-65-4*3+21	98-76-5+4^3/2*1	9-8*7+65+4^3/2-1	9+8+7+6+5+4*3+2^1
50	98*7-654-3+21	9-8+76-5-43+21	98+7-6-54+3+2^1	98/7+6-5+4*3^2-1	9+8-7+6*5+4+3*2^1
51	9-87*6+543+21	9-8+7+65-43+21	9-87+6-5+4*32*1	9-8*7+65+4^3/2+1	9*8-7+6+5-4*3*2-1
52	98-76+54-3-21	9-8-76*5+432-1	98-76-5+4*3^2-1	98/7+6-5+4*3^2+1	9-8+7+6*5/4*3*2-1
53	9+87-65+43-21	9-8-76*5+432*1	9-87+65+4^3+2^1	9-8*7+65+4*3^2-1	9-8+7+6*5+4*3+2+1
54	987-6*5-43*21	98+7*6-54-32*1	98-76-5+4*3^2+1	98*7-6-5^4-3+2^1	9+8-7+6*5/4*3*2-1
56	98*7-654+3+21	9-8+76-54+32+1	98/7-6+5+4^3-21	9+8-7*6-5+43*2*1	9*8-7-6-5+4-3+2-1
57	98/7+65-43+21	9-87-6+54*3-21	98-7-65+4^3/2-1	9*8-76-5+4^3+2^1	9+8+7+6*5+4-3+2^1
58	98-76+54+3-21	9+8-76+54+3*21	98-76+5+4^3/2-1	9*8-76+5*4*3+2^1	9*8-7+6-5-4-3-2+1
61	98-76+54/3+21	98-7+6-54-3+21	9-8*7+65+4^3-21	9-87+6+5+4^3*2*1	9-8+7-6+5*4*3-2+1
62	98+7-65+43-21	98+7-65+4-3+21	98-76+5+4*3^2-1	98/7+6+5+4*3^2+1	9*8-7+6+5-4*3-2^1
63	98*7-654+32-1	98-76+5+4+32*1	9+87-65+4^3/2*1	9*(8-7)^654/3*21	9*8-7-6-5+4+3*2-1
64	98*7-654+32/1	9+8*7-65+43+21	98-76+5+4*3^2+1	9+87+6*5-4^3+2^1	9*8-7+6-5+4-3*2^1
66	9*87-654-3*21	98-7/6*54+32-1	9+87-65+4*3^2-1	9+8*7*6/54*3^2+1	9*8+7-6-5+4-3*2/1
73	987-6-5-43*21	98-76+5+43+2+1	98+7-65+4^3/2+1	98+7*6-5-4^3+2^1	9*8+7-6+5-4*3/2+1
74	98-7*65+432-1	9-87+65+43*2+1	9+8-76+5+4*32*1	9+8-76+5+4^3*2/1	9+8-7+6+5*4*3-2^1
75	98-7*65+432/1	98-76+54-3+2^1	98+7+6+5-43+2^1	98*7+6-5^4+3^2-1	9-8+7+6+5*4*3+2-1
76	98-7*65+432+1	98/7-65+4*32-1	9*8-76-5+4^3+21	9-8+76-5-4+3^2-1	9+8+7*6+5+4+3^2-1
79	9-876+5^4+321	9+87+6-54+32-1	98+7+6-5+4-32+1	9-87+6*5+4^3*2-1	9*8-7+6-5+4*3+2-1
81	98-76-5+43+21	98-76+54+3+2^1	9-87*6+5^4-32+1	98/7+6-5+4^3+2^1	9*8+7-6*5+4^3/2*1
83	987-6+5-43*21	98+7-65+4^3-21	98-76-5+4^3+2^1	9-8+7-6-5+43*2*1	9+8*7+6*5-4-3^2+1

	Decreasing			
	Length 16	**Length 17**	**Length 18**	**Length 19**
3	9*8-76-5+4+3^2-1	9+8+7-6*5+4+3+2*1	(9-8-7+6)^5/43+2+1	9-8^(7-6-5+4)*3*2*1
12	9+8-76+5+4^3+2^1	9-8+7+6-5+4-3+2^1	9*8-76+(5-4+3)^2*1	9-(8+7-6-5-4)^3+2+1
19	9-8+76-5*4*3+2^1	9+8+7*6-5-4*3^2+1	9^(8+7-6-5-4)-3+21	9+(8+7-6-5-4+3)^2+1
20	9-87-6*5+4^3*2/1	9+8*7-6*5/4*3*2*1	9+8+7^(6+5-4*3)*21	9+(-87-6*5+4^3*2)*1
22	9*8-76-5+4^3/2-1	9*8-7-6-5-4^3/2/1	9-87+(6+5-4+3)^2*1	(-9-8*76+5^4+3)*2*1
23	9*8-76-5+4^3/2*1	9-8+7+6-5+4*3+2*1	9-87+(6+5-4+3)^2+1	9*8*(7-6)^5/4+3+2^1
24	9+8*7-65+4*3*2*1	9+8-7+6-5+4*3+2-1	9+8+7*(65-4^3)^2*1	9+8+7-(6-5+4-3-2)^1
27	98/7+6-5+4+3^2-1	9*8-7-6*5*4/3+2^1	98-76+5*4^(-3+2+1)	9*8-(-7+65-4-3^2)*1
28	9-8*7-6-5+43*2*1	9+8*7-6*5*4/3+2+1	98/7+6+5+(4-3+2)^1	98/7+6+(-5+4+3^2)*1
29	98/7+6-5+4+3^2+1	9+8*7+6*5-4^3-2^1	98/7-6+5+4^(3-2+1)	9*8*7*6^(5-4-3)*2+1
32	9-8*76+5^4+3*2^1	9+8+7+6+5-4+3-2*1	98/7-6*5+(4+3)^2-1	9-8+7-(6-5-4)^3-2-1
34	9-8*76+5^4+3^2-1	9+8*7-6-5*4-3*2+1	98/7-6*5+(4+3)^2+1	9*8-7*6+(5-4-3)^2*1
37	9+8*7-65+4*3^2+1	9*8-7-6*5-4+3*2^1	9*(8+7+6*5-43)^2+1	9-8+7-(6-5-4)^3+2^1
38	9-87-6-5+4^3*2-1	9+8*7-6-5*4-3+2^1	98/7+6*(5-4-3)^2*1	9-8+7+6*5*4^(3-2-1)
42	98+7-6+5-4^3+2^1	9+8+7+6+5*4-3^2+1	9-8-7-(6-5-4)^3+21	9+8+(7-6-5-4+3)^2*1
55	9-8*7+65+4*3^2+1	9*8-7+6-5-4*3+2-1	9+8*7+(6-54/3+2)^1	9*8^(7-6-5+4)*3*2+1
59	98-7+6*5-4^3+2^1	9+8+7+6+5+4*3*2/1	98+(-76+5+4^3/2)*1	9+8*7-6^(5-4-3+2+1)
60	98/7+6+5+4*3^2-1	9*8+7+6-5*4-3-2/1	9+8+7+6^(5*4+3-21)	9*8+7+6-5*(4+3-2^1)
68	9+8+7+6+5+4*3+21	9*8+7-6+5-4*3+2*1	9+8+76-5*(4+3-2^1)	9*8+7-6-5*4^(3-2-1)
69	9-8-7+65+4+3*2^1	9-8+7-6+5+4^3-2^1	9+87-6*5+(4-3+2)^1	9*8-7-6+(5+4+3-2)^1
71	9-8+7-65+4^3*2*1	9-8+7+6-5+4^3-2*1	98+7-6*5-4*(3-2^1)	9-8*7-6+5^(4-3+2)-1
72	98*7+6-5^4+3+2^1	9-8-7+6+5+4^3+2+1	9-87+6+(5+4+3)^2/1	9*8*(7+6-5-4-3)^2/1
77	98*7+6-5^4+3^2+1	9+8-7+6*5+4*3^2+1	98-7*6+5+4^(3-2+1)	9-8-76/5*(-4-3+2)^1
80	9-87+6*5+4^3*2*1	9*8+7+6-5+4-3-2+1	9-8*7+65+(4^3-2)*1	98+7-6*5+(-4+3^2)*1
82	9+8+7+6+5*4+32^1	9-8*7+6-5+4^3*2/1	9-8+76+(5-4-3)^2+1	(9-8+7-6-5)^4+3-2*1
84	9-8-76+5*4^3/2-1	9*8-7-6+5*4+3+2^1	98/7*6/5*(4+3-2)^1	98-(-76+5+4^3)*-2*1
86	9+8+7-65+4^3*2-1	9*8-7-6+5*4+3*2+1	9+87-6-5-(4-3-2)^1	9*8-7+6+5*(4-3+2)^1
103	9-8+76-5+4^3/2-1	9-8+76+5*4+3/2^-1	9+8+76+(5+4+3-2)^1	9-8*7+6+(5+4+3)^2*1
110	98/7*6+5*4+3*2^1	9*8+7*6+5-4-3-2/1	98/7+6*(5-4+3)^2*1	9-8+(-7+6*5+43*2)*1
112	98-7+6+5+4+3*2^1	9*8+7*6-5+4-3+2^1	9+8+76*5/4^(3-2)*1	9+87+6-(-5+4-3^2)*1
117	9+87+6+5+4+3+2+1	9*8+7+6-5+4*3^2+1	98-7+6*5-4*(3-2^1)	9+87+6+5/(4-3+2)^-1
118	9-87*6+5^4+3*2^1	9+8*7-6+5*4*3-2+1	9+87+6+(5-4+3)^2/1	9+(8-7+6-5+4)^3/2+1
123	9-8*7+6+54*3+2^1	9+8+7-6*5+4^3*2+1	9-8+7+65+(4+3)^2+1	9+8+7+(6+5-4+3)^2-1
125	(98+76-54+3+2)^1	9*8+7*6+5*4-3^2^1	9+87-6+(5+4-3)^2-1	9+8-7*6+5+(4*3)^2+1
126	98+7+6+5+4+3+2+1	9-8*7-6+5*4*3^2-1	9+87-6+(5+4-3)^2*1	9-8+7-6+5^(4-3+2)-1
127	9+8*7-65+4^3*2-1	9+8*7+6*5+4^3/2^1	98+7+6+(5-4+3)^2/1	9-87*6+5/-4^-3*-2*1
129	9*8-7-65+4^3*2+1	98/7+65+(4+3)^2+1	9-8*76+(5+4)^3-2+1	9*8+(-76+5+4^3*2)*1
130	98/7-6-5+4^3*2-1	9*8+7*6+5*4-3-2+1	98+7-(6-5-4)^3-2*1	9-8+7+(6-5*4+3)^2+1

For various numbers, various genuine CSR of equal length were identified.
For various numbers, various genuine CSR of consecutive length were identified.

More interestingly, for various numbers, sets of genuine CSR of equal length with specific operations at consecutive indexes were identified, for example:

Result 3 - Length 19

Addition	Subtraction	Multiplication	Division	Potentiation
1+2-(-3+45-6*7)*89	1-(-23+4+5)*6+7-89	1*2+3-(-4-56+78)/9	1/2+3-4/56/7^(8-9)	1^234+5+6-(-7+8)*9
12+3-4*5+(-6+78)/9	12-(-3+4+56-7*8)*9	12*34-(-5-6+7*8)*9	12/(3+4+5)-6+7-8+9	12^(-3+4)-56/7+8-9
(-1+2-3)*45+6+78+9	1-(-23+4+5)*6+7-89	1-2*(-34-5)+6+7-89	1+2/(-3*4-56+78-9)	(-1^23+4*5-67)/8+9
12-3+4-5/(6+7-8)-9	12+3-4*5+(-6+78)/9	1-23*4+5+(-6+7)*89	(-12/-3+45*6-7)/89	12-3^-4*(56-7*8)-9
12/(3+4+5)-6+7-8+9	(-1+2-3)*45+6+78+9	1^(-2*345)-6+7-8+9	1+2-3/(4-5*6)*78-9	1+2-3^4*(5+67-8*9)
1-(-23+4+5)*6+7-89	1-2*(3-4)+5+67-8*9	12+3-4*5+(-6+78)/9	1+2*-3/(45+6-78)*9	1+2*34^(-5-67+8*9)
12/(3+4+5)-6+7-8+9	1*2+3-(-4-56+78)/9	12-3^-4*(56-7*8)-9	(-1-23)/4-56/7+8+9	1*2+345^(-6+7+8-9)
1-(-23+4+5)*6+7-89	1-2*(-34-5)+6+7-89	(-1+2-3)*45+6+78+9	1-2+3+45/(6+7-8)/9	(-1+2-3)^4+56-78+9
123+4+5+6+(-7-8)*9	(-1-23)/4-56/7+8+9	1-2*(34+5*6-7*8-9)	1-2*(3-45/6+7-8)-9	1*2*34-56^(-7+8)-9
(-1+2+3)*4+56-78+9	12/(3+4+5)-6+7-8+9	1+2+3+45-6*(7-8+9)	1^23^4+5-6/(7-8)-9	1^2+(-3+4)^567-8+9
(-1+2-3)*45+6+78+9	1^234+5+6-(-7+8)*9	1-(-23+4+5)*6+7-89	12-(-3+4-56/7+8)*9	12-3^4+5+67^(-8+9)
12/(3+4+5)-6+7-8+9	(-12/-3+45*6-7)/89	1+2-(-3+45-6*7)*89	(-1-23)/4-56/7+8+9	1-2*3-(-4+5)^678+9
1-(-23+4+5)*6+7-89	123+4+5+6+(-7-8)*9	12-(-3+4+56-7*8)*9	12+3-4-5/(-67/8+9)	1+23*4-(-5+6)^7-89
(-1-23)/4-56/7+8+9	12/(3+4+5)-6+7-8+9	(-1-23)/4+56-7*8+9	(-1^23+4*5-67)/8+9	1+2*3-4/(-5+6)^789
1+2+3+45-6*(7-8+9)	1-(-23+4+5)*6+7-89	1+2-(-3+45-6*7)*89	(-12/-3+45*6-7)/89	1+2*(-3-4+56/7)^89
12/(3+4+5)-6+7-8+9	1+2-3/(4-5*6)*78-9	1^234+5+6-(-7+8)*9	12+3-4*5+(-6+78)/9	1+2+34*(-56/7+8)^9

Authors provide 28856 of these sets for the numbers for the numbers from 0 to 11111.
See supplement 8 for the increasing series and supplement 9 for the decreasing series.

Availability for the numbers from 0 to 11111:

	Addition	Subtraction	Multiplication	Division	Potentiation
Increasing	3853	3600	3415	627	859
Decreasing	4847	4832	4667	1287	869

Authors did not optimize for CSR uniqueness, thus published sets contain duplicate CSR, even when unique CSR were available. Authors tried to present CSR in their simplest form, however, authors do not guaranty CSR are in their simplest form (as previously stated).

Various sets for the numbers from 1 to 10 are shown on the subsequent pages.

For various numbers, genuine CSR with specific operations at consecutive indexes:

Result 1		Length 17	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+(-2+3+4-5)/6789	1-(-2+3+4-5)/6789	1*23^(-4+5)+67-89	1^(2-3^4)^567^-89
12+3/(45/6-7)-8-9	12-3*(-4+56)/78-9	(1*23+45-67)^8^-9	(1^234+56-7*8)^-9
1*2+(3+4-56/7)^89	1^(-2/3)^4^-56789	1-2*(-345-6)/78-9	1^2^(-3*4)^-56789
(-12+3*4)*567-8+9	1^(2-3^4)^567^-89	12-3*(-4+56)/78-9	1^23^(-4*5)^-6789
1-(-2+3+4-5)/6789	1^(23-4^56)^7^-89	1^(-2*(3-456789))	1^234^(-5*6)^-789
(1^234+56-7*8)^-9	1^(234-5^6)^7^-89	1^(-23*4)^5^-6789	1^(2-3^4)^567^-89
1-(-2+3+4-5)/6789	1^234^(-5*6)^-789	1^2^(-3*4)^-56789	1^(23-4^56)^7^-89
12-3*(-4+56)/78-9	1^2345^(-6*7)^-89	1^2^(-34*5)^-6789	1^(234-5^6)^7^-89
1^2^(34^5+678)^-9	1^23456^(-7*8)^-9	1^2^(-345*6)^-789	1^(2-3^4)^567^-89
1^234-(-56+7*8)*9	1^2^3456^(-7/8)^9	1^2^(-3456*7)^-89	1^2^(-3*4)^-56789
1^2345^(6^7+8)^-9	1^2^(-3*4)^-56789	1^2^(-34567*8)^-9	1^(234-5^6)^7^-89
1-23*(4+5-6)+78-9	1^2^(-3*45)^-6789	1^234-(-56+7*8)*9	1^2^(-3*456)^-789
1^(-2345)-6+7+8-9	1^2^(-3*456)^-789	1^-2345/(6-7)*8+9	1^(2-3^4)^567^-89
1^(-2-3-4-5678+9)	1^(2-3^4)^567^-89	1^2-34*(5+67-8*9)	1^(2-3^4)^5678^-9
1^234+(-5-67)/8+9	1^(2-3^4)^5678^-9	1^234-(-56+7*8)*9	(1/(2-3)^45678)^9

Result 2		Length 17	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+234/(5+6+7+8)/9	(-123+45)/-6*7-89	1*2-345*(6-7-8+9)	1^2345-(-6+7)*8+9
12+34/(5-6)+7+8+9	12-3*(-45+67+8)/9	12*(-3+45)/6+7-89	12^(3-45+6*7)-8+9
1+2+3/(45+6-78)*9	1-2-3/(45-6)*78+9	1*2*3+4*(5-6)^789	1^2^-3-(4-5)^6789
(-12+3^4-56)*7-89	12*(-3+45)/6+7-89	12-3*(-45+67+8)/9	1^(2^3+45)^67-8+9
(-123+45)/-6*7-89	1^(-2-3/4567)-8+9	1-234*-5/(6+7)-89	1^(23^4+56)^7-8+9
1^2345+(-6+7+8)/9	1^2345-(-6+7)*8+9	1*2-34*(5+67-8*9)	(-12+3^4-56)*7-89
(-123+4+56+7)/8+9	1^(-234-5/67)-8+9	1*2-345*(6-7-8+9)	1*2*345^(6-7-8+9)
1+234/(5+6+7+8)/9	(-12+3^4-56)*7-89	1*23+4+5*(67-8*9)	1-(-2+3)^4567*8+9
12-3*(-45+67+8)/9	1-2-3/(45-6)*78+9	1^(-2+345*67)-8+9	1-(2+3-4)^567*8+9
1^2345-(-6+7)*8+9	(-123+45)/-6*7-89	12/(-34+56*7/8-9)	1^(2^3+45)^67-8+9
1-234*-5/(6+7)-89	1/2-3/(4+56-78)*9	1-(2+34+5-6*7)^89	1^(2^3+456)^7-8+9
1^2345+(-6+7+8)/9	1-(2^3-4-5)^-6789	(-123+45)/-6*7-89	1^2^-3-(4-5)^6789
12+34/(5-6)+7+8+9	1^(2^3+45)^67-8+9	1^2345-(-6+7)*8+9	1^23^-4-(5-6)^789
1*2-345*(6-7-8+9)	(-123+45)/-6*7-89	1*2-34*(5+67-8*9)	1+2+(3+4-56/7)^89
1^2345-(-6+7)*8+9	12-34^(-56+7*8)-9	1/2-3/(4+56-78)*9	1-(23-45+6+7+8)^9

Result 3		Length 17	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+23+4+5*(67-8*9)	(-1-2+3*45)*6-789	1*2-(3+4-56/7)^89	1^234+5-6*(7-8)-9
12+3*45-6*(7+8+9)	12-3*(-45-6+78)/9	12*34^(-56+7*8)-9	12^(3^4-5-67-8)-9
1^2+34/(-5-67+89)	(-1-2+3*45)*6-789	1-2*3^4/(56/7-89)	1*2^(3+4)-56-78+9
1+23+4+5*(67-8*9)	1-23-4*(5+6)+78-9	12-3*(-45-6+78)/9	12-3^(-4*5-67+89)
(-1-2+3*45)*6-789	123/(-4-5+67-8-9)	12/(3*4*5-67+8)-9	12*34^(-56+7*8)-9
1+23+4+5*(67-8*9)	12-3*(-45-6+78)/9	1-23-4*(5+6)+78-9	1+2/(3^4+56/7)*89
1+2-3+4+(5-6)^789	1^234+5-6*(7-8)-9	(-1-2+3*45)*6-789	1+2/345^(6-7-8+9)
1+2/(3^4+56/7)*89	1^2+34/(-5-67+89)	1+23+4+5*(67-8*9)	12-(3-4)^56-7+8-9
1-23-4*(5+6)+78-9	12-3*(-45-6+78)/9	1^234+5-6*(7-8)-9	1+(2+3-4)^567-8+9
12*34^(-56+7*8)-9	12-3^(-4*5-67+89)	1+2*345/(6*7*8+9)	12/3-(4-5)^67*8-9
12-3*(-45-6+78)/9	1^(-23)-4*5-67+89	(-1-2+3*45)*6-789	1-2*3-(4-5)^678+9
1-23-4*(5+6)+78-9	1^234+5-6*(7-8)-9	12*34^(-56+7*8)-9	12-3^4*(5-6)^78/9
12-3^(-4*5-67+89)	(-1-2+3*45)*6-789	12/3-(4-5)^67*8-9	1^23*4-(-5+6)^789
12+3*45-6*(7+8+9)	123/(-4-5+67-8-9)	1+23+4+5*(67-8*9)	1*2-(3+4-56/7)^89
1^(-2345)-6+7-8+9	1-23-4*(5+6)+78-9	12-(3+4-56/7)^8*9	1+2-34*(56/7-8)^9

Result 4		Length 17	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2*34+56/(7-8)-9	(-1+23-45+67-8)/9	1*2*34/(-5-67+89)	1^234-5+(-6+78)/9
12+3/(4-5)+67-8*9	12-3*(45-6*7)-8+9	12*3-45+6-7/(8-9)	12^3/(-45+6*78+9)
(-1+23-45+67-8)/9	1^(-2)+34+56-78-9	1-2*(34+5-6)+78-9	1*2^(34-56+7+8+9)
1/(2+3)*45+67-8*9	12*3-45+6-7/(8-9)	1-23*(45-6*7)+8*9	12+3^(-4+56/7)-89
1^(-2+345)/6*78-9	1^234-5+(-6+78)/9	12+(3*4-5-6)^78-9	123+4^5/(6-7)/8+9
1-2*(3+45-6)+78+9	(-1+23-45+67-8)/9	1^(-23*45)/6*78-9	1+2+34^(56-7*8)^9
1^234-5+(-6+78)/9	12+3/(4-5)+67-8*9	1/(2+3)*45+67-8*9	12/3*45^(6-7-8+9)
12+3^(-4+56/7)-89	1-23*(45-6*7)+8*9	1+23+4*5*(6-7)^89	1^2345-6^(-7+8)+9
(-1+23-45+67-8)/9	1^234-5+(-6+78)/9	12^3/(-45*6+78*9)	1+2+(3-4)^567*8+9
1-2*(3-45)+6-78-9	123+4^5/(6-7)/8+9	1-23*(45-6*7)+8*9	12/3-(4-5)^67+8-9
1^234-5+(-6+78)/9	(1-2)^345*6-7+8+9	12^3/(-45+6*78+9)	1^23+45-6/7^(8-9)
1-2*(34+5-6)+78-9	(-1+23-45+67-8)/9	12+34^(-56+7*8)-9	12+(3*4-5-6)^78-9
1-23*(45-6*7)+8*9	12-3*(45-6*7)-8+9	1+2+(3-4)^567*8+9	1^23*4/(-5+6)^789
12^3/(-45+6*78+9)	12+3^(-4+56/7)-89	12^3/(-45*6+78*9)	1+23+4*5*(6-7)^89
12-3*(45-6*7)-8+9	1-2*(34+5-6)+78-9	1-23*(45-6*7)+8*9	1^234-5+(-6+78)/9

Result 5		Length 17	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+23*4/(5-6)+7+89	1-234/(5+6+7)+8+9	1*(-2-3*4)*56+789	1^234-5/(6-7)+8-9
12+3*(-4+56)/78-9	12-3-4*(-5+6)^789	(1*2-3)^45*67+8*9	12^(3+4-5)-67-8*9
(-1+2*34+56-78)/9	123-4-5*(6+7+8)-9	123*4-(-5+67)*8+9	1-2^3/(4+56-78)*9
12-3+4+(5-6)^78-9	12-3-4*(-5+6)^789	12+3*(-4+56)/78-9	12+3^4-(5-6)^7-89
(-123+4*5)*6+7*89	1^234-5/(6-7)+8-9	(-1+2*34+56-78)/9	(1-2)^3*45+67-8-9
1^23*4+(-5+6)^789	12+3*(-4+56)/78-9	12+3*4*56/(-7-89)	1-23/4^(5-6)+7+89
1-2+3+4+(5-6)^789	123*4-(-5+67)*8+9	123-4-5*(6+7+8)-9	1+(2-3)^45-67+8*9
1-234/(5+6+7)+8+9	1/2+3/(4-56)*78+9	1-2^3/(4*5+67-89)	12-(3-4)^56-7-8+9
123*4-(-5+67)*8+9	1/2+(-345-6)/78+9	1^23-4+56*7^(8-9)	1+2-(3-4)^567-8+9
1-234/(5+6+7)+8+9	1^234-5/(6-7)+8-9	(-123+4*5)*6+7*89	1*23+(4-5)^67-8-9
1+23*4+5-(6+78+9)	(-1+2*34+56-78)/9	1-2/(345+6)*-78*9	1-2*3+(4-5)^678+9
123-4-5*(6+7+8)-9	1-2/(345+6)*-78*9	(-123+4*56-7*8)/9	1*2*3-(-4+5)^6789
1-234/(5+6+7)+8+9	12+3*4*56/(-7-89)	123*4-(-5+67)*8+9	1^23*4+(-5+6)^789
1+23*4/(5-6)+7+89	1+23*4-(5-6)^7-89	(-123+4*5)*6+7*89	12+3-4-5+(6-7)^89
1-234/(5+6+7)+8+9	1^234-5/(6-7)+8-9	1-2^3/(4+56-78)*9	1^2345*6-(-7+8)^9

Result 6		Length 17	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2*(-3-4)*56+789	(-12+34-5)*6-7-89	1*2*34+5+67/(8-9)	1^2+3^4-5-6-7*8-9
12+3-4*(56-7*8)-9	12-3-(-45-6+78)/9	12*3-45-6/(7-8)+9	(1^23+4)/5-67+8*9
1^2+3^4-5-6-7*8-9	123-4*(-5+6)*7-89	1-2*(34-5+6+7)+89	1+2^3-4-(5-6)^789
(-12+34-5)*6-7-89	12-3-(-45-6+78)/9	12-3*(-4*5-67+89)	12-3^4/(5-6)-78-9
(-123+4)/56-7/8+9	1+2*(-3-4)*56+789	123-4*(-5+6)*7-89	1^2+3^4-5-6-7*8-9
1-(-23+45)/6+78/9	12-3-(-45-6+78)/9	12+3-4*(56-7*8)-9	123-45^(-6+7)-8*9
1^(-234+5)-67+8*9	123-4*(-5+6)*7-89	1-23-45*(6-7)-8-9	1/(2-3)^456*7+8-9
12+3*(-4+5)^678-9	12-3*(-4-56+78)/9	12-3*(-4*5-67+89)	12+(3-4)^5+67-8*9
123-4*(-5+6)*7-89	12-3-(-45-6+78)/9	1^23/(4-5*6)*78+9	12*3-45/6^(7-8)/9
1-2*(34-56+7+8)-9	12-3*(-4*5-67+89)	(-12+34-5)*6-7-89	1+23+(4-5)^67-8-9
12-3-(-45-6+78)/9	(-123+4)/56-7/8+9	(-1+2)^3456*7+8-9	12+3*(-4+5)^678-9
1-2*(34-56+7+8)-9	(-12+34-5)*6-7-89	123-4*(-5+6)*7-89	1+2*3-(-4+5)^6789
12-3*(-4*5-67+89)	1-23-45*(6-7)-8-9	1^2+3^4-5-6-7*8-9	1+2^3-4-(5-6)^789
1-2*(34-5+6+7)+89	123-4*(-5+6)*7-89	12+3-45/(-67+8*9)	12/3/4-5*(6-7)^89
(-123+4)/56-7/8+9	1-23-45*(6-7)-8-9	(1^23+4)/5-67+8*9	1^2345*6/(-7+8)^9

Result 7		Length 17	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+234/(-5*6+78-9)	(-1-23)/4-56+78-9	1*2*3+(-4+5)^6789	1^234+(-5+67-8)/9
12+34+5*6/(7-8)-9	12-3-(-4-56+78)/9	12*3-(4+56/7+8+9)	(1^-23-4)*5-67+89
(-1+23)*4+56/7-89	(-1-23)/4-56+78-9	1-2*(34+5+6)+7+89	1-2^(3-4+5)-67+89
(-12+34+56-7-8)/9	12-3-(-4-56+78)/9	1*23*4+5+6-(7+89)	1^23^-4^-56+7+8-9
1^234+(-5+67-8)/9	12/(3-4)*-56/7-89	123-4*(5+6*7)+8*9	1-234^(-5+6)/78+9
1^(-23+456)+7+8-9	12-3-(-4-56+78)/9	1-2*(3*4-56)+7-89	12+3/4^(5-6)*7-89
(-12+34+56-7-8)/9	1^234+(-5+67-8)/9	(-1+23)*4+56/7-89	1-(2-3)^45-67+8*9
123-4*(5+6*7)+8*9	12-3-(-4-56+78)/9	12/(3-4)*-56/7-89	12+(3-4)^56-7-8+9
1^234+(-5+67-8)/9	(-1-23)/4-56+78-9	(1^-23-4)*5-67+89	1^(23-45)^6+7+8-9
12/(3/4-56+7*8)-9	(-12+34+56-7-8)/9	123-4*(5+6*7)+8*9	12-3+(4-5)^67+8-9
12-3-(-4-56+78)/9	(1^-23-4)*5-67+89	1^234+5-6-7*(8-9)	1*2-3-(4-5)^678+9
(-1-23)/4-56+78-9	(-12+34+56-7-8)/9	12/(3/4+56-7*8)-9	1*2*3+(-4+5)^6789
123-4*(5+6*7)+8*9	1^2-3*(45+6*7-89)	1^23/(4-56/7)*8+9	1-2+3+4-(5-6)^789
1-2*(34+5+6)+7+89	1^234+5-6-7*(8-9)	12/3+4+5/(67-8*9)	12+3-4-5-(6-7)^89
1^23/(4-56/7)*8+9	(-1-23)/4-56+78-9	123-4*(5+6*7)+8*9	1^2345*6+(-7+8)^9

Result 8		Length 17	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2*3+(-4+5)^6789	(-1+2)*34+56+7-89	1*2-3*(45+6*7-89)	1^234-5*(6+7)+8*9
12+34*5/(6*7-8)-9	12-3-45/(6+7-8)/9	12*3-4+5*(6+7)-89	(1^23^4+56+7+8)/9
(-1+2)*34+56+7-89	1-2-34*(56-7*8)+9	1-2*(-3+4)^5678+9	1^2^-3456/(7-8)+9
12*3+45/(6-7)+8+9	12-3-45/(6+7-8)/9	1+23*4+5+6-(7+89)	1^23^-456/(7-8)+9
12*-3+45/(6-7)+89	1-234-5*(6-7*8)-9	1*2-3*(45+6*7-89)	(1^23^4+56+7+8)/9
12*3-4+5*(6+7)-89	1^234^-56/(7-8)+9	(-1+2)*34+56+7-89	(-1+2)^3456*7-8+9
(1^23^4+56+7+8)/9	1^2345^-6/(7-8)+9	1-234-5*(6-7*8)-9	1/(2-3)^456*7-8+9
1^(-2345+6)*7-8+9	12/3+4*(-5+6)^789	12/(3-4)*5+67-8+9	12-(3-4)^5+67-8*9
(-1+2)*34+56+7-89	1^(-2)+34-5+67-89	12/3-4+56*7^(8-9)	1-23+45/6^(7-8)/9
12-3-45/(6+7-8)/9	1-234-5*(6-7*8)-9	12+34*5/(6*7-8)-9	1-2*(-3+4)^5678+9
12*3-4+5*(6+7)-89	12*-3+45/(6-7)+89	1*2-3*(45+6*7-89)	1+2-3-(4-5)^678+9
(-1+2)*34+56+7-89	12-3-45/(6+7-8)/9	1-234-5*(6-7*8)-9	1+2*3+(-4+5)^6789
1^234-5*(6+7)+8*9	12/(3-4)*5+67-8+9	12-3-(4-5)^67*8-9	12/3+4*(-5+6)^789
12*-3+45/(6-7)+89	(-1+2)*34+56+7-89	12*3/4+5/(67-8*9)	12-3+4+5*(6-7)^89
1-2-34*(56-7*8)+9	1-234-5*(6-7*8)-9	1^234-5*(6+7)+8*9	12-34-5*6/(7-8)^9

Result 9		Length 17	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2+3+4+(5-6)^789	(-12/-3-4)/5678+9	1*(-2+3*45)*6-789	1^234/(5-6)-7+8+9
12+(-34+5-67)/8+9	12-3/(4-56/7)*8-9	12*(-34-5)/6+78+9	(1^-2+3-4)^5678+9
(-1+2^3/4)^5678*9	(1^-2+3-4)^5678+9	1-2*(3*45-67-8*9)	(-1^23-4+5)/678+9
(-12+3+4+5)*678+9	12+(-34+5-67)/8+9	12-3*(4-56/7+8)+9	12+3^4-5*(6-7)-89
(1^-2+3-4)^5678+9	(-12/-3-4)/5678+9	(1^23*4-5)^-678*9	(1^23^4+5-6)^78+9
(-12+3+4+5)*678+9	(-1^23-4+5)/678+9	(-12+3*4)*56^78+9	(1^234^5+6-7)^8+9
1^-2345+(-6+78)/9	12-3/(4-56/7)*8-9	12+34-5*6+7*(8-9)	1^(-2-3^4-5678)*9
(-12+3+4+5)*678+9	1^234/(5-6)-7+8+9	12+3^4-5*(6-7)-89	1^(-23-4^5-678)*9
12+34-5*6+7*(8-9)	1^-2345+(-6+78)/9	(-12+3*4)*56^78+9	(1^2+3-4)^5/678+9
(-1^2345-6+7)/8+9	(1^-2345+6-7)^8+9	(-12/-3-4)*5678+9	(1^-2+3-4)^5678+9
1^-2345+(-6+78)/9	1^234/(5-6)-7+8+9	(-12+3+4+5)*678+9	(1^-23+4-5)^678+9
12-3*(4-56/7+8)+9	1^234+5+6/(7-8)+9	12-3*(4+56-7*8)+9	(1^-234+5-6)^78+9
1^234/(5-6)-7+8+9	1*(-2+3*45)*6-789	12-3/(4-56/7)*8-9	(1^-2345+6-7)^8+9
1^234+56/7/(-8+9)	1^234+56/-7*(8-9)	1-2*(3*45-67-8*9)	12-3-(4-5-6+7)^89
1+2+3+4+(5-6)^789	12-3/(4-56/7)*8-9	(1^23*4-5)^-678*9	12-34+5*6-(7-8)^9

Result 1		Length 18	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2+3+(-45-67)/8+9	(-1+23+45)/-67*8+9	1*(-2^3+4+5)^-6789	1^(-2-3^4)^567^-89
12+(-34+5/-6*78)/9	1^-234+(-56+7*8)*9	12*(-34-5)/6+7+8*9	12^3-(-4+5^6-78)/9
(-1+23+45)/-67*8+9	1^(-2-3^4)^567^-89	1-2*(-3+4+5-6)*789	1^2^(34-5^6)^7^-89
1^(2+34-5^6)^7^-89	1^(2-3^4)^-567^-89	1^(2*34-5^6)^7^-89	1^23^(4-5^6)^7^-89
1^(23+4-5^6)^7^-89	1^(-2-3^4)^567^-89	1^(23*4-5^6)^7^-89	1^234^(-56/7)^-8^9
1^-234+(-56+7*8)*9	1^(234-5^6)^-7^-89	1^(-23*4)^-5^-6789	1^(2-3^4)^-567^-89
1/(-2^3+4+5)^-6789	1^(-234-5^6)^7^-89	1^(-234*5)^-6^-789	1^(-2-3^4)^567^-89
1^(2-3^4+5)^67^-89	1^-234+(-56+7*8)*9	1^(2-3^4*5)^67^-89	1^(234-5^6)^-7^-89
1/(-2^3+4+5)^-6789	1^(-2/3)^-4^-56789	1^234^(-5*-6/78)^9	1^(-234-5^6)^7^-89
1^(2-3^456+7)^8^-9	1^(2-3^4)^-567^-89	1^(234-5^6*7)^8^-9	1^(-2-3^4)^567^-89
1^-234+(-56+7*8)*9	1^(-2/345)^-6^-789	1^2^(-3/-45*6)^789	1^(234-5^6)^-7^-89
1^2345^(-6^7+8)^-9	1^(234-5^6)^-7^-89	1^2^(-3/-456*7)^89	1^(-234-5^6)^7^-89
1^(2^345^-6^7+8)^9	1^(-2/3)^-45^-6789	1^-234+(-56+7*8)*9	1^(2-3^4)^567^8^-9
(-12+3-4)*5+67+8-9	1^(-2/3)^-456^-789	(-1+23+45)/-67*8+9	1^(-2-3^4)^567^-89
(-1-23)*4-56/-7+89	1^(-2-3^4)^567^-89	1-23*(-4+5+6-7)*89	1^(-2-3^4)^5678^-9
(-1+23+45)/-67*8+9	1^(-2-3^4)^5678^-9	1^-234+(-56+7*8)*9	1^(2*3-45+6+7^8)^9

Result 2		Length 18	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+23-4+(-5-67)/8-9	1-2^3/(4-56/7)+8-9	1*2+3-(-45-6+78)/9	1^-2345-(-6+7)*8+9
12+(-3-4-56)/7+8-9	12-34/(-5+6)+7+8+9	12*(-3+4)^56+7-8-9	(1^-23*-4-56+78)/9
(-1+23-4)*5-6+7-89	(-1-23)*4+5+6+78+9	1-2*(-3-4*5+67)+89	1-2^3/(4-56/7)+8-9
12+3+(-45+6+7)/8-9	12+(-3-4-56)/7+8-9	12-3*(-4+5*6+7)+89	1^(2^3-4/56)^7-8+9
(-1+2+34)/5+67-8*9	(-123-4*5)*-6/78-9	1^(-2*-345)^67-8+9	1^2+3^4/(5-6)-7+89
1-2/(3+4-56/7)+8-9	(-1+23-4)*5-6+7-89	1+23-4*(-5+67)/8+9	1^(2^3^4+56)^7-8+9
1^-2345+(-6+7+8)/9	12-34/(-5+6)+7+8+9	(-123-4*5)*-6/78-9	1*2*345^(-6+7+8-9)
1-2*(-34+5)/6-78/9	1-2^3/(4-56/7)+8-9	1-2*(3+4*5)-6*7+89	1^(-23+4^5*67)-8+9
12-34/(-5+6)+7+8+9	1^-2345-(-6+7)*8+9	1-2*(-3-4*5+67)+89	12+(-3+4)^56*7-8-9
1-2*34+(-5+6)*78-9	1+23-4+(-5-67)/8-9	(-123-4*5)*-6/78-9	(1^23*4-5)^6^7-8+9
1^-2345-(-6+7)*8+9	(-123-4*5)*-6/78-9	1-(-23+45+6*7)/8+9	1^(-23*-45)^67-8+9
12-34/(-5+6)+7+8+9	1^-2-3/(45+6-78)*9	(-1+2+3*45+6*7)/89	1^(2^3-4/56)^7-8+9
1^-2345+(-6+7+8)/9	12+3-4*5/(6+7-8)-9	1-2*34+(-5+6)*78-9	1+(2^3/4+5-6)^7^89
12-34/(-5+6)+7+8+9	(-1+2+34)/5+67-8*9	1^-2345-(-6+7)*8+9	1*2+3-4+(-5+6)^789
1-2*(-3-4*5+67)+89	(-1+23-4)*5-6+7-89	1*2+(-3+45-6*7)*89	1+(2^3/4+5-6)^7^89
12-34/(-5+6)+7+8+9	1-2^3/(4-56/7)+8-9	(-1+2+34)/5+67-8*9	1+(2^3/4+5-6)^78^9

Result 3		Length 18	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2-(-3+45-6*7)*89	1-(-23+4+5)*6+7-89	1*2+3-(-4-56+78)/9	1^234+5+6-(-7+8)*9
12+3-4*5+(-6+78)/9	12-(-3+4+56-7*8)*9	12*34-(-5-6+7*8)*9	12^(-3+4)-56/7+8-9
(-1+2-3)*45+6+78+9	1-(-23+4+5)*6+7-89	1-2*(-34-5)+6+7-89	(-1^23+4*5-67)/8+9
12-3+4-5/(6+7-8)-9	12+3-4*5+(-6+78)/9	1-23*4+5+(-6+7)*89	12-3^-4*(56-7*8)-9
12/(3+4+5)-6+7-8+9	(-1+2-3)*45+6+78+9	1^(-2*345)-6+7-8+9	1+2-3^4*(5+67-8*9)
1-(-23+4+5)*6+7-89	1-2*(3-4)+5+67-8*9	12+3-4*5+(-6+78)/9	1+2*34^(-5-67+8*9)
12/(3+4+5)-6+7-8+9	1*2+3-(-4-56+78)/9	12-3^-4*(56-7*8)-9	1*2+345^(-6+7+8-9)
1-(-23+4+5)*6+7-89	1-2*(-34-5)+6+7-89	(-1+2-3)*45+6+78+9	(-1+2-3)^4+56-78+9
123+4+5+6+(-7-8)*9	(-1-23)/4-56/7+8+9	1-2*(34+5*6-7*8-9)	1*2*34-56^(-7+8)-9
(-1+2+3)*4+56-78+9	12/(3+4+5)-6+7-8+9	1+2+3+45-6*(7-8+9)	1^2+(-3+4)^567-8+9
(-1+2-3)*45+6+78+9	1^234+5+6-(-7+8)*9	1-(-23+4+5)*6+7-89	12-3^4+5+67^(-8+9)
12/(3+4+5)-6+7-8+9	(-12/-3+45*6-7)/89	1+2-(-3+45-6*7)*89	1-2*3-(-4+5)^678+9
1-(-23+4+5)*6+7-89	123+4+5+6+(-7-8)*9	12-(-3+4+56-7*8)*9	1+23*4-(-5+6)^7-89
(-1-23)/4-56/7+8+9	12/(3+4+5)-6+7-8+9	(-1-23)/4+56-7*8+9	1+2*3-4/(-5+6)^789
1+2+3+45-6*(7-8+9)	1-(-23+4+5)*6+7-89	1+2-(-3+45-6*7)*89	1+2*(-3-4+56/7)^89
12/(3+4+5)-6+7-8+9	1+2-3/(4-5*6)*78-9	1^234+5+6-(-7+8)*9	1+2+34*(-56/7+8)^9

Result 4		Length 18	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+(-2+3+4)*5+67-89	1-(-2*-34-5*67)/89	1*(-2^3+45+67)/8-9	1^-234-5+(-6+78)/9
12+3*(-45+6+7+8)/9	1^-234-5+(-6+78)/9	12*3-45+6+7^(-8+9)	12^(-3+4)+56/7/8-9
1^2+(-3-45+67+8)/9	1-(-2*-34-5*67)/89	1-2*3-4*(56-7*8)+9	1-2^-3*(45+67)+8+9
12-3+(-4+5)*67-8*9	1-2^-3*(45+67)+8+9	12-3*(-4-5*6+7)-89	12+3^4+5*6-7*(8+9)
1+(-2+3+4)*5+67-89	1^2-(-34+5-67)/8-9	1-(-2*-34-5*67)/89	1+2+3^4/(5-6)-7+89
1+(-23+4+5)*6+78+9	1^-234-5+(-6+78)/9	1-2^-3*(45+67)+8+9	1^-234^5+6/(7-8)+9
1+(-2+3+4)*5+67-89	1^2+(-3-45+67+8)/9	1-2*3-4*(56-7*8)+9	12/3*45^(-6+7+8-9)
1^-234-5+(-6+78)/9	12-3*(-4-5*6+7)-89	12-3*4-5*(6-7)+8-9	1-2^-3/4^-5+6*7+89
1+2+34/(5+6+7)-8/9	1-(-2*-34-5*67)/89	1^23+45-6*-7*(8-9)	12-(-3+4)^56*7+8-9
1^2+(-3-45+67+8)/9	1^-234-5+(-6+78)/9	12-3*(-4-5*6+7)-89	1+2*(-3+4)^567-8+9
1+2+34/(5+6+7)-8/9	12-3*4-5*(6-7)+8-9	1-(-2*-34-5*67)/89	12*3-45+6+7^(-8+9)
1^-234-5+(-6+78)/9	1+2*-3/(4+56-78)*9	1^23+45-6*-7*(8-9)	1-2-3-(-4+5)^678+9
1+(-23+4+5)*6+78+9	12-3-4*5-6*(7-8)+9	1-2*3-4*(56-7*8)+9	12+(-3*4+5+6)^78-9
1-2^-3*(45+67)+8+9	12-3+(-4+5)*67-8*9	1+2-3/(45-6*7)*8+9	1*2-3+4+(-5+6)^789
1+2+3^4/(5-6)-7+89	12-3*(-4-5*6+7)-89	1^2+3-4*(5+67-8*9)	1+2+(-3-4+56/7)^89
1+(-23+4+5)*6+78+9	1^2-(-34+5-67)/8-9	12-3+(-4+5)*67-8*9	12/3+4*(-56+7*8)^9

Result 5		Length 18	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+(-2+34+5+67)/8-9	(-12-34*5)*-6/78-9	1*-23/(45-6+7)*8+9	1^23^4-5/(6-7)+8-9
12+3/(4+5-6)-7+8-9	1^-234-5/(6-7)+8-9	12*3-4*(5+6+7-8)+9	(1^23+4)/-5*67+8*9
(-1+2-3)*4-56+78-9	1+(-2+34+5+67)/8-9	(-1*-23-45)/6+78/9	1-2^3*45/(-6+78)+9
12-3+4-56/-7*(8-9)	(-12-34*5)*-6/78-9	1-23*4+(-5+6)*7+89	1^23^4-5/(6-7)+8-9
1+(-2+34+5+67)/8-9	12/(3-4+5)-6+7-8+9	1-2^3*45/(-6+78)+9	1+(-2^3+45+67)/8-9
(-12+3+45+6)/7+8-9	1^23^4-5/(6-7)+8-9	12-(-3*-45+6-78)/9	12+3-4^(-56/7+8)-9
12+3/(4+5-6)-7+8-9	12-(-3*-45+6-78)/9	(-12-34*5)*-6/78-9	1-23-45^(-6+7)+8*9
1+(-2+34+5+67)/8-9	1^23+4-(-56+7*8)/9	(-1+2-3)*4-56+78-9	(-1-2+3)^45-67+8*9
12-(-34+5+6+7)/8-9	12+3/(4+5-6)-7+8-9	12/(3-4-5*6+7)*8+9	(-12/3+4)^5-67+8*9
12-(-3*-45+6-78)/9	12/(3-4+5)-6+7-8+9	(-12-34*5)*-6/78-9	12+3+(4-5)^6*7-8-9
12+3/(-45/6+7)+8-9	1^23^4-5/(6-7)+8-9	1-2*(34+5-6*7-8+9)	1-2*34+5+67^(-8+9)
12/(3-4+5)-6+7-8+9	12+3/(4+5-6)-7+8-9	12-3+4-56/-7*(8-9)	1-2*3+(-4+5)^678+9
(-1*-23-45)/6+78/9	1+2+3-45/(6+7-8)/9	1^23+4-(-56+7*8)/9	1+23*4+(-5+6)^7-89
1^23^4-5/(6-7)+8-9	12/(3-4+5)-6+7-8+9	1^234+5+(-6+7)*8-9	1*2^3-4+(-5+6)^789
1-23*4+(-5+6)*7+89	12-3+4-56/-7*(8-9)	1-2*(3+4+56+7-8*9)	12-3*4+5/(-6+7)^89
12/(3-4+5)-6+7-8+9	1^23^4-5/(6-7)+8-9	(-1-2+3)*45-67+8*9	1+2^(-3+45-67)*8^9

Result 6		Length 18	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2+34+5/(6-7)*8+9	(-1-2/3)*45-6+78+9	1*23-4-5-(-6+78)/9	1^2+3+(-4-56+78)/9
12+(-34-5)*-6/78-9	12-3*(-45+6*7+8)+9	12*3+4-5*(6+7-8)-9	(1^23+4-56*-7/8)/9
1+2+34+5/(6-7)*8+9	(-1-2/3)*45-6+78+9	123*4+(-5+67-8)*-9	(-1^23^4+56+7-8)/9
1^23+(-45+6+7)/8+9	12+(-34-5)*-6/78-9	1+23*-4/(5-6)-78-9	12+3^4-(-5+6)*78-9
1^2+3+(-4-56+78)/9	1+23*-4/(5-6)-78-9	12+(3*-4-5)*6+7+89	1^(-2^3*45)-67+8*9
1+2+34+5/(6-7)*8+9	1^23+(-45+6+7)/8+9	1^23-4*5/(6+7-8)+9	(-1^23^4+56+7-8)/9
1+23+45+(-6+7-8)*9	12+(-34-5)*-6/78-9	(-12-3)*4+56-7+8+9	1^(-2+3^456)*7+8-9
1+2+3/(4+5)-6+78/9	1^23-(-4-56+7+8)/9	(-1-2/3)*45-6+78+9	1^(-2+34^56)*7+8-9
1^23+(-45+6+7)/8+9	1^2+3+(-4-56+78)/9	1^(2+34^5*6)*7+8-9	1^(-23+45^6)*7+8-9
1^2+(-34-5+6+78)/9	1+23*-4/(5-6)-78-9	12+(-34-5)*-6/78-9	(1^23*4-5)^6*7+8-9
1^23+(-45+6+7)/8+9	1+2+34+5/(6-7)*8+9	(-12-3)*4-5*6+7+89	1+2*34-56-7^(-8+9)
1^2+3+(-4-56+78)/9	(-12-3)*4+56-7+8+9	1^(-2+3^456)*7+8-9	1-2-3+(-4+5)^678+9
1+2+3/(4+5)-6+78/9	1+23*-4/(5-6)-78-9	12+3^4-(-5+6)*78-9	1^23-4+(-5+6)^78*9
(-12-3)*4+56-7+8+9	1-23+45^(-6+7)-8-9	1+2+34+5/(6-7)*8+9	1-2+3+4*(-5+6)^789
(-12-3)*4-5*6+7+89	12-3+4+56/(-7+8-9)	123*4+(-5+67-8)*-9	12+3-4-5*(-6+7)^89
1+2+34+5/(6-7)*8+9	12+(-34-5)*-6/78-9	1+23+45+(-6+7-8)*9	1-2+3+4-(56-7*8)^9

Result 7		Length 18	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+23-4-5-(-6+78)/9	(-123+4+5*6)*-7/89	1*2+3+(-4-56+78)/9	1^23-(-4+56)/-78*9
12+3+4-(-5-6)*7-89	12-3-4/(5+6-7)+8-9	(1*-23+4)*5+6+7+89	(1^2-3)^4+56/7-8-9
1^2+3+(-45-6+78)/9	(-1-234-5)/6+7*8-9	1-2*(3+4-5+67-8*9)	(-1^23+45-6*7)*8-9
12+3+4-(-5-6)*7-89	12-3-4/(5+6-7)+8-9	12-3*4-5*(6+7)+8*9	1^23^4+(-5+67-8)/9
(-123+4+5*6)*-7/89	(-1+2-3*4)*56+7*89	1-2-3*(45-6*7)+8+9	1^(23^4+5)^6+7+8-9
1^-234+(-5+67-8)/9	1^23-(-4+56)/-78*9	(-12+3*4+56)/7+8-9	(-1^23^4+5+67-8)/9
(-123+4+5*6)*-7/89	12+34+(-5+6-7)*8+9	(-1+2-3*4)*56+7*89	(1^2-3)^4+56/7-8-9
1^23-(-4+56)/-78*9	1^-234+(-5+67-8)/9	12+3+4-5*(6-7)-8-9	1+(-2+3)^456*7+8-9
12-3-4/(5+6-7)+8-9	1^234+5-(-6+7)*8+9	(-123+4+5*6)*-7/89	1^(2^3+4)^56+7+8-9
1^-234+(-5+67-8)/9	1+23-4-5-(-6+78)/9	(-1+2-3*4)*56+7*89	1^(-234/5)^6+7+8-9
1^234+5-(-6+7)*8+9	12-3-4/(5+6-7)+8-9	(-1^23+45-6*7)*8-9	1+23*(-4+5)^67-8-9
1+23-4-5-(-6+78)/9	12+3+4+(5*-6-78)/9	(-123+4+5*6)*-7/89	1^2-3+(-4+5)^678*9
1^234+5+(-6+7+8)/9	1^23-(-4+56)/-78*9	12+3+4-(-5-6)*7-89	1/2*34-(-5+6)^78-9
12-3-4/(5+6-7)+8-9	12+3+4-5*(6-7)-8-9	12+34+(-5+6-7)*8+9	1/2*3*4+(-5+6)^789
(-12-3-4)*5+6+7+89	12+3+4-(-5-6)*7-89	(-1+2-3*4)*56+7*89	12/3/4+5+(-6+7)^89
12+34+(-5+6-7)*8+9	12-3-4/(5+6-7)+8-9	1^23-(-4+56)/-78*9	12-34+5*6-(-7+8)^9

Result 8		Length 18	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+23/(4-5)-6*7+8*9	(-1+23+45+6+7-8)/9	1*2+3+(-45-6+78)/9	1^-234-5*6/(7+8)+9
12+(3/-4*-56-78)/9	12-(-3-4*5+67-8)/9	12*3/4-5/(-67+8*9)	(1^-23^4+56+7+8)/9
(-1+23+45+6+7-8)/9	123-4*5+(-6-7)*8+9	1-2*(34+5)+6+7+8*9	1^2^3^-456-7*(8-9)
(-12+3*4-56/7)/8+9	12-(-3-4*5+67-8)/9	12-3*(-4*5-6)+7-89	1^23^4^-56-7*(8-9)
1^(-2+3^456)*7-8+9	1-(-2-3)*4+56-78+9	123-4*5+(-6-7)*8+9	1^2^3^-456-7*(8-9)
(-1+23+45+6+7-8)/9	12-(-3-4*5+67-8)/9	(-1-2)*3+4-56+78-9	1^2^34^-56-7*(8-9)
123-4*5+(-6-7)*8+9	1^2-3*(-4+56)/78+9	(-12-3)*4+5-6+78-9	1^2^345^-6-7*(8-9)
(-1-2)*3+4-56+78-9	1^2^345^-6-7*(8-9)	12-(-3-4*5+67-8)/9	1^(2^3+4^56)*7-8+9
(-1+23+45+6+7-8)/9	123-4*5+(-6-7)*8+9	(12/-3+4)*56+7-8+9	1^(-23-45^6)*7-8+9
12-(-3-4*5+67-8)/9	(-1-2)*3+4-56+78-9	1/(23-4*5)*6+7+8-9	(12-3-4-5)^6+7-8+9
(-1+23+45+6+7-8)/9	(-12-3)*4+5-6+78-9	12-34*5/(-6*7+8)-9	12-3*(-4+5)^67+8-9
1-2*(34+5)+6+7+8*9	1+(-2-3)*4+5-67+89	12-3*4+56/-7*(8-9)	1+2-3-(-4+5)^678+9
(-12-3)*4+5-6+78-9	12-(-3-4*5+67-8)/9	12/3+4-(-56+7*8)*9	12-3*4-(-5+6)^78+9
12-3*4/(5+6-7)+8-9	(-1+23)*4-56/7-8*9	123-4*5+(-6-7)*8+9	1*2+3+4-(-5+6)^789
1+(-2-3)*4+5-67+89	12-3*(-4*5-6)+7-89	1/-2*34-5*(67-8*9)	12-3+4-5*(-6+7)^89
123-4*5+(-6-7)*8+9	(-12-3)*4+5-6+78-9	1+23/(4-5)-6*7+8*9	12/3+4-(-56/7+8)^9

Result 9		Length 18	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+23+45-6*(-7+8+9)	(-1^23-4+5)*-678+9	1*(-2+3+4-5)*678+9	1^(2-3^4)^56^-78*9
12+3+(-4+56)/-78*9	1^-234/(5-6)-7+8+9	12*(-3+4+5-6)*78+9	(1^-234+5-6)^7^8+9
(-1+23+4+56+7-8)/9	(1^-234+5-6)^7^8+9	1-2*(3+45+6*-78/9)	(-1^23-4+5)*-678+9
12+3+(-4+56)/-78*9	1^(2-3^4)^56^-78*9	12-3*(4-5+6+7-8)+9	12+3^4+5/(-6+7)-89
1^234+(-5+6)*7-8+9	1^234-(-5+6+7)/8+9	1+2-3*(45+6-7*8)-9	(-1-2^3+4+5)*678+9
1^-234+56/-7*(8-9)	(-1^23-4+5)*-678+9	12-3-4*(5+6+7)+8*9	1^(2-3^4)^56^-78*9
(1^-234+5-6)^7^8+9	(-1^-23-4+5)/678+9	1+2^3-4*(5+67-8*9)	1^2^(34^5+6)^-78*9
(-1^23-4+5)*-678+9	(-1^2345-6+7)*-8+9	(-1+23-4*5)/6+78/9	1^(-2/3)^4^-5678*9
(-1^-23-4+5)/678+9	1^-234/(5-6)-7+8+9	1+23+45-6*(-7+8+9)	1^(2-3^4)^56^-78*9
(-1^2345-6+7)*-8+9	1^-234+56/-7*(8-9)	1^2-3*(4+5*6-7)+89	(1^23+4-5)^6*7^8+9
(-1^-2345-6+7)/8+9	12-3-45/(-6-7+8)-9	(-1^23-4+5)*-678+9	(1^2^3+4-5)^6*78+9
12+(-3+45)/6+7-8-9	1^-234/(5-6)-7+8+9	1^-234+56/-7*(8-9)	1^(2-3^4)^56^-78*9
12-3-45/(-6-7+8)-9	1^(2-3^4)^56^-78*9	(-1^2345-6+7)*-8+9	1^(2-3^4)^567^-8*9
1^-234/(5-6)-7+8+9	1^(2-3^4)^567^-8*9	1-2/(34-5-6-7)*8+9	(1^-234+5-6)^7^8+9
1+23+45-6*(-7+8+9)	1^-234+56/-7*(8-9)	12+3^4+5-(-6+7)*89	12-3+(-4+5+6-7)^89
1^-234/(5-6)-7+8+9	12-3-45/(-6-7+8)-9	1^(2-3^4)^56^-78*9	12-3+4*(-56/7+8)^9

Result 1		Length 19	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+(-2+3+4-5)/-6*789	1-2-3/(4-5-6)*7+8-9	1*(2^3+4-5-6)^-7^89	1^(-2-3^4)^-567^-89
12+3/(-4+5)-6-7+8-9	1^-2^(34-5^6)^7^-89	12*(-3-4)*-5/6-78+9	(1^-23^-4-56/7+8)^9
(-1+2+3-4)/-567-8+9	1^(-2-3^4)^-567^-89	1-2*-345*(-6+7+8-9)	1^2^(-34-5^6)^7^-89
1^(2+34-5^6)^-7^-89	1^(2-3^4+5)^-67^-89	1^(2*3-4^56*7)^8^-9	1^23^(4-5^6)^-7^-89
1^(23+4-5^6)^-7^-89	1^(-2-3^4)^-567^-89	1^(-2*34-5^6)^7^-89	1^2^3^(4-5^6)^7^-89
1^(2+3+4-5^6)^7^-89	1^23^(-4-5^6)^7^-89	1^(-23*4-5^6)^7^-89	1^(2-3^4+5)^-67^-89
1-(-2+3+4-5)/-6*789	1^(2+34-5^6)^-7^-89	1^2^(-3*-4/5)^-6789	1^(-2-3^4)^-567^-89
1^(2-3^4+5)^-67^-89	1^-2^(34-5^6)^7^-89	1^(2-3^4*5)^-67^-89	1^(-2-34^56)^-7^-89
(-12/-3+4+5+67)/8-9	1^2^(-34*-5/6)^-789	(-12-3+4)*-56/-7+89	1^(2+34-5^6)^-7^-89
1^(2-3^4+5+6)^7^-89	1-2-3/(4-5-6)*7+8-9	1^(234-5^6*7)^-8^-9	1^(-2-3^4)^-567^-89
1^(2-3^4+56+7)^8^-9	1^(-2-3^4)^-567^-89	1^(2*3-4^56*7)^8^-9	1^(2-3^4+5)^-67^-89
1^2^(-3^-456+7)^-89	1^(2-3^4+5)^-67^-89	1^2^(-3*-456*7)^-89	1^(2+34-5^6)^-7^-89
1^2^(-3^-4567+8)^-9	1^(2+34-5^6)^-7^-89	1-2-3/(4-5-6)*7+8-9	1^-2^(34-5^6)^7^-89
1-2*-345*(-6+7+8-9)	1^(2-3^4)^567^-8^-9	1-2*-34*(-56+7*8)/9	(((1-2)^34567)^8)^9
1-2-3/(4-5-6)*7+8-9	1^(-2^-34^5+6)^-789	(-1^-2345*-6-7)*8+9	1^(-2-3^4)^-567^-89
(-12-3+4)*-56/-7+89	1^(-2-3^4)^-567^-89	1-(-2+3+4-5)/-67*89	1^(-2-3^4)^-5678^-9
(-1^-2345*-6-7)*8+9	1^(-2-3^4)^-5678^-9	1-(-2+3+4-5)/-678*9	((12/3-4)*56-7+8)^9

Result 2		Length 19	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2+3-4/(5-6)-7+8-9	(-1+2)*-3-45+67-8-9	1*2-34*(-56/-7-8)*9	1/2+3-4*(-5+67/8)/9
12+3*-4+5-6/(7-8)-9	12-3*(-4*-5+6)/78-9	(1*-2+3+4*5+67)/8-9	12/3-45*-6/(7+8)/-9
1+2+3-4/(5-6)-7+8-9	1+2-3/(4-5)+6+7-8-9	1-2*-3/(4-56)*-78/9	1-2/-3*(4+5)+67-8*9
1+23+(-4+5)/-6*78-9	1-2*-3/(4-56)*-78/9	12-3*(-4*-5+6)/78-9	1+23/4-5-6/(-7-8-9)
1^-23+4+5-(-6+78)/9	1+2+3-4/(5-6)-7+8-9	1-2-3*(-45+6+7)/8-9	1+2-3/(4-5)+6+7-8-9
1-(-23+4+5+6+7-8)/9	12-3*(-4*-5+6)/78-9	(-1+2)*-3-45+67-8-9	1-2*-3/(4-56)*-78/9
1^-23+4+5-(-6+78)/9	(-1+2)*-3-45+67-8-9	1+2^3-4*5+6-7*(8-9)	1+2+3-4/(5-6)-7+8-9
1+23+(-4+5)/-6*78-9	1+2-3/(4-5)+6+7-8-9	12-3*(-4*-5+6)/78-9	(-1-2-3)/-4*56+7-89
1-2+3-(-4+5+6-7)/89	1+2+(-345-6*-7*8)/9	1^23-4*-5*6-7*(8+9)	1^(-2^3-4/56)^7-8+9
1-(-23+4+5+6+7-8)/9	1+2+3-4/(5-6)-7+8-9	1^2-3/(4-5*6+7-8)*9	1+2+3+4-56/7^(-8+9)
1+2-3/(4-5)+6+7-8-9	1^2+3/(4-5)-6-7+8+9	1+2+(-345-6*-7*8)/9	1+23+(-4+5)/-6*78-9
(-1+2)*-3-45+67-8-9	1+2+(-345-6*-7*8)/9	12-3-4*5+6+7*(-8+9)	1+2-(-3-4+56/7+8)/9
1+2-3/(4-5)+6+7-8-9	1+2+3-4/(5-6)-7+8-9	1-2*-3/(4-56)*-78/9	1-2^(-3+4)*56/7+8+9
(-1-2-3)/-4*56+7-89	1-2*-3/(4-56)*-78/9	1+2+(-345-6*-7*8)/9	12-3*(-4*-5+6)/78-9
1+2+3-4/(5-6)-7+8-9	1+2-3/(4-5)+6+7-8-9	1^-23-4/(5+6-7)*8+9	1+2+3-4+(-5-67)/8+9
12-3-4*5+6+7*(-8+9)	(-1-2-3)/-4*56+7-89	1+2+3-4/-5*(67-8*9)	1-2+3-(-4+5+6-7)/89
1^2+3/(4-5)-6-7+8+9	1+2+3-4/(5-6)-7+8-9	1-2+3+45+(-6-7+8)*9	1+2+(-345-6*-7*8)/9

Result 3		Length 19	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2^3-4/(5-6)+7-8-9	(-1-2/-3*45+67)/8-9	1*2+3+4-(-5+67-8)/9	1^23+4-5-6/(-7+8)+9
12+3-(-4+56-7*-8)/9	1^-234+5+6-(-7+8)*9	12*3+4+5-6*7^(-8+9)	12^(-3+4+5-6-7+8)-9
1-2+3+4+5-(-6+78)/9	1+2-34*(-56/-7-8)*9	(-1*-2)^3+45-67+8+9	1+2^3-4/(5-6)+7-8-9
1^23+4-5-6/(-7+8)+9	12+3-(-4+56-7*-8)/9	12-3*-4*(-56/7+8)-9	12+3^4+(-5-6-7+8)*9
1+2^3+(-4+56)/-78*9	1+2^3-4/(5-6)+7-8-9	1+2-3*(-4+5+6-7)/89	1^2+3^4+56+(-7-8)*9
(-1*-2+3)*4+5+67-89	1^23+4-5-6/(-7+8)+9	1+2-34*(-56/-7-8)*9	(-1*2)^3+4+56/7+8-9
1-2+3+4+5-(-6+78)/9	1+2^3+(-4+56)/-78*9	12-3*-4*(-56/7+8)-9	(-1*-2)^3+45-67+8+9
12+3-(-4+56-7*-8)/9	1^23+4-5-6/(-7+8)+9	(-1-2/-3*45+67)/8-9	(-1-2)/3^-4+5*67-89
(-1*-2)^3+45-67+8+9	1-2*(-345-6*-7*8)/9	1-2-3/-45*(-67-8)+9	1+2+3-4+5^(6-7-8+9)
1+2-34*(-5+6+7-8)/9	1+2^3-4/(5-6)+7-8-9	1+(-23+4-5*6-7)/8+9	1-23+4+5*6^(-7+8)-9
(-1-2/-3*45+67)/8-9	12+3-(-4+56-7*-8)/9	1-2*(-345-6*-7*8)/9	12-3-(-4+5)^6*7-8+9
1+23-4*5-(-6+7+8)/9	1^23+4-5-6/(-7+8)+9	1+2+(-3+45-6*7)*8^9	1+2*3+4-56/7^(-8+9)
1+2^3-4/(5-6)+7-8-9	1+2-3*(-4+5+6-7)/89	12+3-(-4+56-7*-8)/9	12+3+4+(-5+6)^7-8-9
1^23+4-5-6/(-7+8)+9	1+2-34*(-56/-7-8)*9	1-2*(-345-6*-7*8)/9	1+2-(-3+4+5-6)^7/89
(-1*-2)^3+45-67+8+9	1+2^3-4/(5-6)+7-8-9	1+2+(-3+45-6*7)*8^9	12+(-3+4+5-6)*7^8-9
1^2-3/-45*(6+7+8+9)	(-1*-2+3)*4+5+67-89	1+2-3/-4*(5+67-8*9)	1-2+3-4+5/(-6+7)^89
1^23+4-5-6/(-7+8)+9	1+2^3-4/(5-6)+7-8-9	1+2-34*(-56/-7-8)*9	1+2+(-3+45-6*7)*8^9

Result 4		Length 19	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2-(-345-6*-7*8)/9	1-2-3/(-45/6+7)+8-9	1*2+3*-4/(5-67+8)*9	1^-2+(-3-45+67+8)/9
12+(-3-4)/56+7/-8*9	1^-2+(-3-45+67+8)/9	12*-3/4+5+(-6+78)/9	12^(-3+4)*5/6-7-8+9
(-1+2+34-56)/-7-8+9	1-2-3/(-45/6+7)+8-9	(-1*-2-34)*-5-67-89	1+2^3-(-45+6+7)/8-9
1^-2+(-3-45+67+8)/9	(-1*-2-34)*-5-67-89	12-3*4+5+(-6+7)*8-9	1^23^4*5+(-6+7)*8-9
(-1+2+34-56)/-7-8+9	1+2-(-345-6*-7*8)/9	12-34*(-5-6+7)/-8+9	1^2^3^-45+6/(7-8)+9
12-3*4+5+(-6+7)*8-9	(-1*-2-34)*-5-67-89	(-1+2)*-3*45+67+8*9	1^-2-3^4+5/(6-7)+89
1+2-(-3+4+56+7)/8+9	1-2-3/(-45/6+7)+8-9	(-12+3)*4-56*-7/8-9	1-2-3-4^(-56+7*8)+9
12-3-4*5+6+(-7+8)*9	(-1+2+34-56)/-7-8+9	(-1+23-4*5-6*7)/8+9	12-3-4-5^(-6+7+8-9)
1+2-(-3+4+56+7)/8+9	1+2-(-345-6*-7*8)/9	(-1+2)*-3*45+67+8*9	(-12+3*4)^5-6-7+8+9
12+3-4*(-5+6)*7+8+9	1-(-2+34)/-56*7+8-9	(-1*-2-34)*-5-67-89	1-2-34+5*6^(-7+8)+9
1^-2+(-3-45+67+8)/9	(-1*-2-34)*-5-67-89	1+2-(-345-6*-7*8)/9	1+2-(3+4-5)^6+7*8+9
1-2-3/(-45/6+7)+8-9	1-2*-34-56*(-7+8)-9	(-12+3)*4-56*-7/8-9	1+2+3-(-4+5)^67+8-9
1+2-3*4+5+(-6+78)/9	(-1*-2-34)*-5-67-89	1-(-2+34)/-56*7+8-9	1+23-4+(-5+6)^7-8-9
1-2*-34-56*(-7+8)-9	1^-2+3-45*(6-7-8+9)	1+2-(-345-6*-7*8)/9	1+2-3-4-(-5+6)^78+9
1-2-3/(-45/6+7)+8-9	12+(-3-4)/56+7/-8*9	12+3-(-4-5)*6-7*8-9	12+3+4-5-(-6+7)^8-9
1^-2+3-45*(6-7-8+9)	(-1*-2-34)*-5-67-89	1^2+3-(-4+5+6-7)*89	1-2+3-4+5+(-6+7)^89
(-1+2+34-56)/-7-8+9	1-2-3/(-45/6+7)+8-9	12+(-3-4)/56+7/-8*9	1+2-3+4-(-56/7+8)^9

Result 5		Length 19	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2-3/(4-5-6)*7+8-9	1-2^3-4/(5-6)+7-8+9	1*2+3-(-4+5+6-7)/89	1^-23^4-5/(6-7)+8-9
12+(-3+4+56/-7*8)/9	1^-23^4-5/(6-7)+8-9	12*(-3*4+5+6)^7+8+9	12^(-3+4)+5-6-7-8+9
(-1+2^3+45)*-6/78+9	1+2-3/(4-5-6)*7+8-9	(-1*-2*-34+56)*7+89	1-2^3-4/(5-6)+7-8+9
1-23+45*-6/(-7-8)+9	(-1*-2*-34+56)*7+89	12-3*-4*5-67*(-8+9)	12-3^(-4+5)+6+7-8-9
1^-23+4-(-56+7*8)/9	1-2^3-4/(5-6)+7-8+9	(-1-2*-3*4-56+78)/9	1^-23^4-5/(6-7)+8-9
(-1/-2+3)*-4*56+789	(-1-2*-3*4-56+78)/9	(-1*-2*-34+56)*7+89	(-1*2)^3+4+56-7*8+9
(-1+2^3+45)*-6/78+9	1^-23^4-5/(6-7)+8-9	12-(-34*-5-6*7)/8+9	(-1/-2)^3*45+67/8-9
1-2-3/(4+5+6-7)*8+9	1+2-3/(4-5-6)*7+8-9	(-1-2*-3*4-56+78)/9	1+2+3-45^(-6+7+8-9)
(-12*-3+4+5+67)/8-9	1^-23+4-(-56+7*8)/9	(-1/-2+3)*-4*56+789	1*2-3^4-5^(-6+7)+89
1-2-3/(4+5+6-7)*8+9	1+2-3/(4-5-6)*7+8-9	1-2+3+45-6*-7*(8-9)	1/2+3-45/6^(-7+8)+9
1^-2+(-3-45+6+78)/9	1-2+3+45-6*-7*(8-9)	(-1+2^3+45)*-6/78+9	12+3+(-4+5)^6*7-8-9
1^-23+4-(-56+7*8)/9	1^-23^4-5/(6-7)+8-9	(-1/-2+3)*-4*56+789	12-3+4+56/-7^(-8+9)
1-2^3-4/(5-6)+7-8+9	(-1*2)^3+4+56-7*8+9	1+2-3/(4-5-6)*7+8-9	12-3-4-(-5+6)^7-8+9
1^-234+5-(-6+7+8)/9	1-23+45*-6/(-7-8)+9	(-1*-2*-34+56)*7+89	12+(3+4)*(5-6)^-789
1^-23^4-5/(6-7)+8-9	1-2^3-4/(5-6)+7-8+9	1-2-3/(4+5+6-7)*8+9	1+23-4-5-(-6+7)^8-9
(-1*-2*-34+56)*7+89	1-2+3+45-6*-7*(8-9)	1+2-3+4+5/(-67+8*9)	1+2^-34/(56/7+8)^-9
1-2^3-4/(5-6)+7-8+9	1^-23^4-5/(6-7)+8-9	1+2+3^4+56+(-7-8)*9	12-3-4-(-5+6+7-8)^9

Result 6		Length 19	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+(-2*-34-56)*-7+89	(-1^23*-4-56)/-78*9	1*(2*-3+45)*-6/78+9	1^2-3/(-45/6+7)+8-9
12+3+4-5+(-6+78)/-9	1^-23+(-45+6+7)/8+9	12*-3+45+6-(-7+8)*9	(1^2^3+4-5)^6+7+8-9
(-1+2)*-3-4-56+78-9	1^2-3/(-45/6+7)+8-9	(-1*-2)^3*4+56+7-89	(-1^23*-4-56)/-78*9
12+3+4-5+(-6+78)/-9	(-1*-2)^3*4+56+7-89	12-3*4+5-(-6+7)*8+9	1^-2^3-(-45-67)/8-9
1/(-2+3)-4-56-7+8*9	1^-23-(-4-56+7+8)/9	1+(-2*-34-56)*-7+89	(1^23^4*-5+6)*7+8-9
12-3*4+5-(-6+7)*8+9	1+(-2*-34-56)*-7+89	(-1^23*-4-56)/-78*9	(-12+3^4-5*6+7+8)/9
1-23+45+(-6+7)*-8-9	1^2-3/(-45/6+7)+8-9	1+(-2-3*4+56)/7+8-9	(-1*-2)^3*4+56+7-89
12+3+4-5+(-6+78)/-9	1/(-2+3)-4-56-7+8*9	12+3-(-4*-5-6)*7+89	1^(-2+34^5/6)*7+8-9
(-1^-23^4+56+7-8)/9	1+(-2*-34-56)*-7+89	(-1*-2)^3*4+56+7-89	1^(-2+3+4^56)*7+8-9
1^-23+(-45+6+7)/8+9	1/(-2+3)-4-56-7+8*9	1+(-2-3*4)*5+6+78-9	(-1-2+3)*4^56+7+8-9
1-23+45+(-6+7)*-8-9	12+3-(-4*-5-6)*7+89	1^23+(-4-56*-7/8)/9	(-1^23*4+5)^6*7+8-9
1^2-3/(-45/6+7)+8-9	1^23+(-4-56*-7/8)/9	1-2*-34+56+7*(-8-9)	1+2+3+(-4+5)^67+8-9
1^-2+(-34-5+6+78)/9	1/(-2+3)-4-56-7+8*9	1+(-2*-34-56)*-7+89	12-3-4*(-5+6)^7-8+9
(-1*-2)^3*4+56+7-89	1+(-2*-34-56)*-7+89	1-23+45+(-6+7)*-8-9	1+2-3-4+(-5+6)^78+9
1^2-3/(-45/6+7)+8-9	1-23+45+(-6+7)*-8-9	1^23-(-45/-6-7)*8+9	12+3+4-5+(-6+7)^8-9
1+(-2*-34-56)*-7+89	(-1*-2)^3*4+56+7-89	1+2+3*4^(-5-67+8*9)	1^2^3^4+5^(-6+7)^89
1^-23+(-45+6+7)/8+9	1^2-3/(-45/6+7)+8-9	1/(-2+3)-4-56-7+8*9	1-2+3+4-(-56/7+8)^9

Result 7		Length 19	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+(-234-5*-6*7)/8+9	1-2-3/(4+5)*6-7+8+9	1*-2*3-(-45+6-78)/9	1^-23-(-4+56)/-78*9
12+(-3-4)*5-6*7+8*9	12-3+4-5/(-6+7)+8-9	(1*-2+34+5*6-7+8)/9	(1^2-3)^4+56/-7+8-9
(-1+2-3*45)/-67*8-9	1-2-3/(4+5)*6-7+8+9	1-2*-3*(-45+6)/78+9	(-1^-23+456)/-7+8*9
12-3+4-5/(-6+7)+8-9	(-1^-23+456)/-7+8*9	12-3*-4*(-5+6)*7-89	1^23^-4+(-5+67-8)/9
(-1-2+34-5)*-6/78+9	1^-23-(-4+56)/-78*9	1^2-3*4-(-5-67)/8+9	1-(-2^3+4+56)/-78*9
1^-234+5+(-6+7+8)/9	12-3+4-5/(-6+7)+8-9	1-2*-3*(-45+6)/78+9	(-1^23^4-56/-7*8)/9
(-1^-23+456)/-7+8*9	1^-23-(-4+56)/-78*9	12-3*-4*(-5+6)*7-89	(-1^-23^4+5+67-8)/9
1-2-3/(4+5)*6-7+8+9	(-1-2+34-5)*-6/78+9	1+23+4-5*6+(-7+8)*9	1^(-2*34^5)^6+7+8-9
1^-23-(-4+56)/-78*9	12-3*-4*(-5+6)*7-89	1+(-234-5*-6*7)/8+9	12*(-3+4)^5*6+7-8*9
12-3-(-4+5+6)/7+8-9	12-3+4-5/(-6+7)+8-9	1-(-23+4-5*6)/7+8-9	1^2^(-3/4)^56+7+8-9
12-3*-4*(-5+6)*7-89	1+2+3+4+5-(-6+78)/9	1-2-3/(4+5)*6-7+8+9	(-1^23*4+5)^6+7+8-9
12-3+4-5/(-6+7)+8-9	(-1-2+34-5)*-6/78+9	1+(-234-5*-6*7)/8+9	1+2+3*4-56/7^(-8+9)
(-1^-23-4*5+6+78)/9	1-2-3/(4+5)*6-7+8+9	12-3+4-(-5+6)*7-8+9	(-1^23+4+5-6)^7/8-9
1^-234+5+(-6+7+8)/9	1^-23-(-4+56)/-78*9	12-3*-4*(-5+6)*7-89	1-2-(-3*4+5+6)^78+9
12-3+4-5/(-6+7)+8-9	12-3+4-(-5+6)*7-8+9	1^-234+5-(-6+7)*8+9	1+23-4-5+(-6+7)^8-9
(-1+2*3)*-4+5-67+89	12-3*-4*(-5+6)*7-89	1+2*3+(-4+5+6-7)*89	1+2+3-4+5/(-6+7)^89
1-2-3/(4+5)*6-7+8+9	12-3+4-5/(-6+7)+8-9	(-1^-23+456)/-7+8*9	12-3-4-5+6+(-7+8)^9

Result 8		Length 19	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+(2-3)*4-5+6-7+8+9	1-2+3^(4+5+6-7-8)*9	1*2+3+4*5+(6-7)*8-9	1^2+3+(4-5)*6-7+8+9
12+((3+4*5)-67+8)/9	(1-2)^(3^456+7*8)+9	(1*2-3*4+5+6)*7-8+9	-1^(2-3*4+5/6*78)+9
1^2+3+(4-5)*6-7+8+9	-12-3/(4-5-6)*7+8+9	1+2*3+((4-5)^678)^9	(-1^(23+456)-7)/8+9
1+(2+3*4-5)*6-7*8+9	1+(2-3)*4-5+6-7+8+9	12-3*-4-5*(6+7-8)+9	(1*2^3)^(4-5)^678^9
1^2+3+(4-5)*6-7+8+9	1^2+3-4-(5-6)*7-8+9	(1-2)*(3-4)^-5678+9	(1-2)^(3^456+7*8)+9
1^2+(3+4+5)*6-7*8-9	12-3-(-4+5)^(67^89)	(1*2-3*4+5+6)*7-8+9	(-1*2)^3*(4-5)^6789
1^2*3+4+5^(6-7-8+9)	1^2+3-4-(5-6)*7-8+9	1+(2-3)*4-5+6-7+8+9	(1*2^3)^(4-5)^678^9
1^2+(3+4+5)*6-7*8-9	1^2+3+(4-5)*6-7+8+9	12+((3+4*5)-67+8)/9	(1-2)^(3^456+7*8)+9
1*2+3+4*5+(6-7)*8-9	1+(2-3)*4-5+6-7+8+9	(-12/3-4)*(5-6)^789	1^2*3+4+5^(6-7-8+9)
(1*2-3*4+5+6)*7-8+9	1^2+3-4-(5-6)*7-8+9	-1^(23-456*(7+8))+9	-1^(2-3^4)^56^-78+9
1+(2-3)*4-5+6-7+8+9	12+((3+4*5)-67+8)/9	1^2+3+(4-5)*6-7+8+9	12-3-(-4+5)^(67^89)
(1-2)^(3^456+7*8)+9	1*2+3+4*5+(6-7)*8-9	-12/-3*(45-6*7+8-9)	1+2*3+((4-5)^678)^9
(-12+34)*5-(6+7+89)	1+(2-3)*4-5+6-7+8+9	1^2+3-4-(5-6)*7-8+9	(1*2^3)^(4-5)^678^9
12+((3+4*5)-67+8)/9	1^2*3+4+5^(6-7-8+9)	(1-2)^(3^456+7*8)+9	-1^(2-3^4)^567^-8+9
1+(2-3)*4-5+6-7+8+9	1^2+3-4-(5-6)*7-8+9	1^2+(3+4+5)*6-7*8-9	12-3-(-4+5)^(67^89)
1^2*3+4+5^(6-7-8+9)	(1-2)^-3456-7*(8-9)	-1*(23+4+5*6+7-8*9)	12+(3-4+5)*(6-7)^89
(1-2)^(3^456+7*8)+9	1^2+(3+4+5)*6-7*8-9	1-2+3^(4+5+6-7-8)*9	(1*2^3)^(4-5)^678^9

Result 9		Length 19	
Addition	**Subtraction**	**Multiplication**	**Potentiation**
1+2+3+4*5+(6-7)*8-9	1-(2*3-4)*5-6+7+8+9	1*2+3+(4-5)*6-7+8+9	1^2*(3-4-5)/6-7+8+9
(1+2-3)*456^(7-8)+9	(1-2-3)/4*5+6+7-8+9	-1*(-2+3+4-5)*678+9	-1^-2345-6*(-7-8)/9
1*2+3+(4-5)*6-7+8+9	(12-3*4)*56^(7-8)+9	1^2*(3-4-5)/6-7+8+9	(-1^234*(5-6))^78*9
1^(2+3-4-5+6)+7-8+9	(1+2-3)*456^(7-8)+9	1-(2*3-4)*5-6+7+8+9	(1+2^3)^(4-5)^678^9
1*2+3+(4-5)*6-7+8+9	1^234-(5-6)/(7-8)+9	(12-3*4)*56^(7-8)+9	(1-2)^3456*(-7+8)*9
(1+2-3+4-5)^6+7-8+9	1-(2*3-4)*5-6+7+8+9	(-1^23*(4-5))^678*9	-12*-3^4*(56-7*8)+9
12-3/(4+5)*-6*7-8-9	1^-23+4-5/(6-7)+8-9	(1+2-3)*456^(7-8)+9	(1+2^3)^(4-5)^678^9
1^(2-3+4+5-6+7-8)*9	1^2*(3-4-5)/6-7+8+9	(12-3*4)*56^(7-8)+9	(1+(2-3)^-45)/678+9
1+2+3+4*5+(6-7)*8-9	(-1+2)^(3-456^78)*9	1-(2*3-4)*5-6+7+8+9	(-1+2)^(3^45-678)*9
1^(2+3-4-5+6)+7-8+9	(1+2^3)^(4-5)^678^9	12-3/(4+5)*-6*7-8-9	((-1-2)/3)^-45678*9
(1-2-3)/4*5+6+7-8+9	1-(2*3-4)*5-6+7+8+9	1*2+3+(4-5)*6-7+8+9	(1+2-3)*456^(7-8)+9
1^(2-3+4+5-6+7-8)*9	1+2+3+4*5+(6-7)*8-9	-123-4+56/-7*(-8-9)	(12/-3+4)*-5^6*78+9
1-(2*3-4)*5-6+7+8+9	1^2*(3-4-5)/6-7+8+9	(1+2-3)^4*5*6*7*8+9	(1+2^3)^(4-5)^678^9
1^(2+3-4-5+6-7+8)*9	(1+2-3)*456^(7-8)+9	1^(2+3-4-5+6-7*8)*9	1^(2-3^4)^-567^-8*9
1-(2*3-4)*5-6+7+8+9	1^(2+3-4-5+6)+7-8+9	1+2+3+4*5+(6-7)*8-9	(-1*(2-3)^4567)^8*9
12-3-45*(6-(7+8)+9)	-123-4+56/-7*(-8-9)	-12/3/(4-5)-67-8*-9	12-3*(4/(5+6-7))^89
(1+2-3)*456^(7-8)+9	1+2+3+4*5+(6-7)*8-	1^(2+3-4-5+6-7+8)*9	(1+2^3)^(4-5)^678^9

Result 1		Division	
Lengh 18	**Length 19**	**Length 20**	**Length 21**
1/(-2^3+4+5)^-6789	1/(-2^3+4+5)^-67^89	1/(-2-3)^-4+5-6-7*89	1/-2+3-45/-6-(-7+8)*9
12/3+4*5/(6-7)+8+9	12/3+(-4+5*6)/-78*9	12/3+(-4*-5+6)/-78*9	12/3-4/-5*(-6*-7/8-9)
(-1/2^-3+4+5)^6789	(-1/-2+3)*4+56-78+9	1-2/-34*(-56/-7-8)*9	(-1/-2-3/4)*-56/7+8-9
1^(2/34-5^6)^7^-89	1^(2/3-4^56/7)^8^-9	1^(2/3-4^56/7)^-8^-9	1^(2/-3-4^56*7)^-8^-9
1^(23/4-5^6)^7^-89	1^(-2/34-5^6)^7^-89	1^(-2/34-5^6)^-7^-89	1^(-2/3-4-5^6)^-7^-89
1^(-23/4)^-5^-6789	1^(-23/4-5^6)^7^-89	1^(-23/4-5^6)^-78^-9	1^(-23/-4-5^6*7)^8^-9
1^(-234/5)^-6^-789	1^2^(-3/4)^-5^-6789	1^(-2^3/4-5^6)^7^-89	1^2^(-3/4-5^6)^-7^-89
1^(2-3^4/5)^67^-89	1^(2-3^4/5)^-67^-89	1^(2-3^4/5)^67^-8^-9	1^(-2*-3/4-5^6)^7^-89
1^((-23+4/5678)/9)	1^-2^(-34/5)^6^-789	1^-2^(-34/5)^-6^-789	1^2^(-345/6^-7^-8)^-9
1^(234-5^6/7)^8^-9	1^(234-5^6/7)^-8^-9	1^(2-3^4*5/6+7)^8^-9	1^(2-3^4*5/6+7)^-8^-9
1^2^(-3*-45/678)^9	1^(2/3-4^56/7)^8^-9	1^(2*3-4^56/7)^-8^-9	1^(-2*-3*-4/5)^6^-789
1^234^(-5*-6/78)^9	1^2^(-3*-456/7)^-89	1^(-2*34-5^6/7)^8^-9	1^(-2*34-5^6/7)^-8^-9
1+(2+3-4+5-6)/7*89	(-12-3+4)*-56/-7+89	1^2^(-3*-4*-5/67)^89	1^(2^-34-5^-6/7)^8^-9
1^-234+(-5-67)/8+9	(-1+2^3+4)*-56/7+89	(-1+2-3*4)*-56/-7+89	1^2^(-34*-5*-6/7)^-89
1^23-(-4+5+6-7)/89	(-12/-3+4+5+67)/8-9	(-1+23+4)*-5*-6/78-9	1^2^(-34*-5*-67/8)^-9
1^234-(-56/-7-8)/9	1^-2-(-3+45-6*7)/89	1^-23^-4-(-5-67)/8-9	1^(-2*-3^-4^-567/8)^9
	1^-234-(-56/-7-8)/9	1-2*(-3+4+5-6)*-7/89	1-2+(-3-45)/-6*-7/8+9
		1^-2-34*(-56/-7-8)/9	1+(-2+3+4-5)/-6*-7/89
			1+(-2+3+4-5)/-6*-78/9
9/(87-6)*-54/3+2+1	9/(8+7-6-54/3)*-2-1	9/8+(-7-6+5+4)*32^-1	9/(8-7)+6-5*4-3/-2^-1
98/7-65/(-4+3^2)/1	98/7+6+(-5+43)/-2*1	98/(7+6+5-4)+3/-2^-1	98/-7*(-6+5)/4-3+2^-1
9+8/(7-6-5/4)+3+21	9-8/(7+6-5-4)*3-2/1	9-8/-76*(-5+43)*-2^1	9-8/(7-6)*5-4^3*-2^-1
9-87/(6+5-4/3)+2-1	(-98/-7+6-5*4)*32+1	(-98/-7-6*5)*-4/32-1	(-98/-7+6-5*4)*-3/2+1
9-8-7/-654*(3-2-1)	9-8-7/(6+5-4)+3-2^1	9+8+7/(6-5*4)*-32*-1	9-8-7/-6*(-5-4+3^2)*1
9-8-76/-54*(3-2-1)	9+(-87/-6-54/3)*2-1	9-87*6/(-5*-4*3-2)+1	(-9-87/-6*5-4^3)*-2*1
9-8-765/-4*(3-2-1)	(-9-87)/-6*-5*4+321	9-8-7-6/(-5+4)+3-2*1	9+8-7-6/(5-4)*-3/-2*1
9+87/6-5/-4*(3-21)	98/7+6-5/4^(-3+2)+1	9+(-8-7)/-6*5-43/2+1	(-9+8+7)/-6-5*-4+3-21
9+8-7*6+5/(4-3)+21	98-7-6*-5/(4+3)*-21	9+(-87+6)/-54*-3*2+1	(-9*-8-7)/-65*4+3+2^1
98-76+5*-4/(3-2)-1	(-9+8+7-6)/5^-432+1	(-9+8+7-6)/-5*-432+1	(-9+8+7-6)/5^-4^-32+1
9-87/(6+5-4/3)+2-1	(-9-8*7+65)/4^-32+1	9+8-(-7+65)/4+3/-2*1	(-9+8-7)*-6/54+3^-2^1
9+(-87+65+4)/3-2^1	9+(-87/-6-54/3)*2-1	9-8+7-(-6+5)/-4*32+1	9+8+(-7-6*-5/4)*-32^1
(-9+87+6-5*4)/32-1	(-98-76*-5/4)/3+2^1	(-98-76*-5/4)/-3*2-1	9+(-8+76-5*4)/-3*2^-1
9+(-87+6*5+43)/2-1	98-7+6+(-5-43)/2^-1	9-8+76+(-5+43)/-2^-1	9+8+(-7+6)*-54/-3+2^1
9-8*(7+6+5*4-32/1)	(-9-8*7+65)*-43/2+1	(-98/-7-6*5)*-4/32-1	(-9*-8-7-65)*-4/-32+1
98-76-5*4+(-3+2)/1	(-9*-8+7-65+4+3)/21	9+(-8-7)/-6*5-43/2+1	(-9*-8-7-65)*-43/-2+1
	9-87-65+(-4*-3)^2/1	9-8*(-7+6+5-4+3-2/1)	(-9-8*7+65)*-4^-3/2+1
		9-8/-76*(-5+43)*-2/1	(-98/-7+6-5*4-3+2)/-1
			(-9-8+76+5)*-4^-3+2/1

Result 2		Division	
Lengh 18	**Length 19**	**Length 20**	**Length 21**
1/2+3*45/(-6+7+89)	1/2+3-4*(-5+67/8)/9	1/2-3*(-4/-56*7+8-9)	1/-2-3*(-45/-6-7-8)/9
12/(-34+5*6-7+8+9)	12/3-45*-6/(7+8)/-9	12/-3*(-4+5+6+7)/8+9	(1/-2+3)*-4*5-6*-78/9
1-2/(3+4-56/7)+8-9	1-2/-3*(4+5)+67-8*9	(-1/-2*-34+5*6)*7-89	1-2/-34*-5*(-6*7+8)-9
1^23/(-4/56*7-8+9)	1+23/4-5-6/(-7-8-9)	1-23/4+(-5+6-7)/-8*9	1*-2/3+(-45+6*7)*-8/9
12-34/(-5+6)+7+8+9	1+2-3/(4-5)+6+7-8-9	1*2-3/-4*(-56+7*8)/9	1-2-3/-45*(-6-7+8)*-9
1^23-4/(5+6-7)*8+9	1-2*-3/(4-56)*-78/9	(-1-2)/-3*-4*5-67+89	1-2*-3/4+5/-6/(7+8)*9
1^2+3^4/(5-6)-7+89	1+2+3-4/(5-6)-7+8-9	1^(-2^3/-4-5)^67-8+9	1-2-(-3/-4*-56+7+8)/9
12+3-4*5/(6+7-8)-9	(-1-2-3)/-4*56+7-89	(-1+23-4/-56*-7*8)/9	1+(-2+3)/-4*-56/7+8-9
(-1+2+34)/5+67-8*9	1^(-2^3-4/56)^7-8+9	1^(-2*-34/-56)^7-8+9	(-12-3+4)/-56*-7*-8-9
1^(-2-3-45/67)-8+9	1+2+3+4-56/7^(-8+9)	1-2+(-3-45/6)/-7*8-9	(-12-3)*-4/-5+6+7-8+9
1-2^3/(4-56/7)+8-9	1+23+(-4+5)/-6*78-9	12+3+(-4-5)/-6*-78/9	1^2^(-3*-45/6)^-7-8+9
12+(-3-4-56)/7+8-9	1+2-(-3-4+56/7+8)/9	1+2+3-4-(-56/-7-8)/9	1+2+3-(-4+5)/-6*-78+9
(-123-4*5)*-6/78-9	1-2^(-3+4)*56/7+8+9	(-1-2)*-34*-5/6+78+9	1^2^3-4*-5*-6/(7+8)+9
12+3+(-45+6+7)/8-9	12-3*(-4*-5+6)/78-9	(-1+2+3+4+5-6)/7-8+9	1-2^-3*-4*(-56/7-8)+9
(-1+2+3*45+6*7)/89	1+2+3-4+(-5-67)/8+9	(-12+34-5*6)*-7/-8+9	1+(-2+3)/-4*-56/7+8-9
1^-2345+(-6+7+8)/9	1-2+3-(-4+5+6-7)/89	(-1+23-4*5+6)*-7/8+9	1-2+3+(-4+5+6-7)/-8*9
	1+2+(-345-6*-7*8)/9	1*2+(-3+4+5-6)*-7/89	(-1-2^3/4+5+6)*-7/8+9
		1^-2-(-345-6*-7*8)/9	1-2-(-3+4+5+6+7+8)/-9
			1-2-(-3/-4*-56+7+8)/9
9/(8-7)*6-5*4-32*1	9/(8+7)*65-4/3^-2-1	9/(8+7+6*5-4/3^-2)+1	9/8-7*(-6+5)*-4/-32*1
98/-7*6-(-54-32)/1	98/7+(-6-54*3^-2)/1	98/7+(-6+5+4+3)*-2/1	98/7-6+(-5-4)/-3*-2^1
9-8/-76*(5-43)-2-1	9+8/(7+6-5)/-4*32+1	9+8/(7+6-5*4-3*-2)+1	9-8/(7+6-5)-4*-3/-2*1
9+87/(-6-5+4/32)+1	(-98/-7*-6+54+32)/1	9-87/6+(-5/-4+3)*2-1	(-98/-7-6*5)*-4*32^-1
(9-87/6+5)^4/32^-1	9/8-7/(6-5*4+3*2)*1	9*8-7/-6*(-54-3*2)/1	9/8-7/(6-54)*-3/-2^-1
9-8-76/(-5+43)+2+1	9+(-87/6+5/4*3*2)^1	9-8*-7/-6/(5-4)*3+21	9-8*-7/(6-5)*-4*32^-1
98-76-5/4^(-3+2^1)	(-9+87)/6-5*4+3^2^1	(-9+8+7/-6*54)/-32*1	(-9+8+7/-6*54)*-32^-1
9*8-7*65/(4+3/2+1)	(9*-8+7)/65+4-3+2*1	9-(-8+7)/-6*54+3-2+1	(-9+8+7)/-6*-5*4+3-21
98-7*6+54/(-3+2)/1	9-8*-7-65/(4-3)+2^1	9-8*-7*-6/(54-3*2)*1	98/-7+6*5/(-4-3*-2)+1
(-9+8+7-6)/543+2^1	(-98+76+54/3)*-2^-1	(-98-76*-5/4)/-3*2^1	9+(-8-7*6)/5+4-3-2*-1
(-9-8*7+65)/43+2*1	9+8/(7+6-5)/-4*32+1	(-9-8*7+65)/-4*3+2^1	(-9+8-7)*-6/54+3^-2+1
9+(-87+6+54)/3+2^1	(-98/-7+6-54/3)/2+1	(-9*-8-7-65)/-43+2^1	(-98/-7-6*5)/4-3*-2^1
(-9+8)*7+6-54/3+21	9+8+7+(-6-54)/3-2^1	(-98-76*-5/4)/-3*2^1	9-87-6*-5*(-4/-3*2)^1
9+8+(-76+5+43)/2-1	9+(-87+65)/4+3/-2*1	9-8-(-7+6+5-4)/-32+1	9+8+(-7+6)*-54/-3+2+1
98-7*-6*(-5-43)/21	(-98/-7+6-54/3)/2+1	(-9+8+7-6*5)*-4/32-1	9-8-(-7-6+5)*-4/-32*1
(-9-8*7+65)*43+2/1	9+8-7+(-6+54*-3)/21	9-8+(-7*-6+5-43)/2-1	9-8/(7+6-5)-4*-3/-2*1
	(-98/-7*-6+54+32)/1	(-9-8*-7-65+4)*-3/21	9+(-8+7+6-5+4)*-3/2-1
		(-9+8+7-6)*5^-43+2/1	(-98+76-5*-4+3)*-2/-1
			(-9+8+7-6)*-5^-43+2/1

Result 3		Division	
Lengh 18	**Length 19**	**Length 20**	**Length 21**
1/2+3-4/56/7^(8-9)	1/-2^-3/(4-56)*78-9	1/-2*3+(-45+6)/-78*9	1/-2+3-4/-56*-7*(8-9)
12/(3+4+5)-6+7-8+9	12/3+4-5*(-6+7+8)/9	12/-3*-4-5-(-6+78)/9	12/(-3*-4-5*-6)*7-8+9
1+2/(-3*4-56+78-9)	1+2/(-34+5-6*7+8*9)	(-1/-2)^-3+45-67+8+9	1+2/(-3/-4+5-6)-7+8+9
(-12/-3+45*6-7)/89	12-3/4-(-5+6-7)/8-9	12-3/-4*(-56-7*-8)-9	(-12/-3*-4+5*6)/7-8+9
1+2-3/(4-5*6)*78-9	(-1-2/-3*45+67)/8-9	1-2^3/-4*5-(-6+78)/9	1+2-3/-4*(-5+6+7-8)/9
1+2*-3/(45+6-78)*9	(-1-2)/3+45-6*7-8+9	1^-2-3/(-45+6*7)-8+9	1^-2-3/-45*(-6*7+8*9)
(-1-23)/4-56/7+8+9	1+2^3-4/(5-6)+7-8-9	(-12*-3/-4-5)*6+78+9	1+2/(-3/-4+5-6)-7+8+9
1-2+3+45/(6+7-8)/9	1-2*(3+4/-56*7-8)-9	1^-2^3+4/(5-6)+7+8-9	(-1-2*3)/-4*-56/7+8+9
1-2*(3-45/6+7-8)-9	1+23-4*-5/(6-7)+8-9	1-2*3-4-5/(-6+7)+8+9	1-2*-3*-4/(5*-6-78)*9
1^23^4+5-6/(7-8)-9	1^23+4-5-6/(-7+8)+9	(-1*-2-34)/-56*7+8-9	1+(-2^-3-4/56)*-7*8-9
12-(-3+4-56/7+8)*9	1+2-34*(-56/-7-8)*9	1^2^3+4-5-6/(-7+8)+9	1^-2^-3-4-5/(6-7)-8+9
(-1-23)/4-56/7+8+9	12-3*-4*(-56/7+8)-9	12-3^-4*(-56/-7-8)-9	1^-2^3+4-5-6/(-7+8)+9
12+3-4-5/(-67/8+9)	1+2^3+(-4+56)/-78*9	12-(-3+4+5-6)/-7*8-9	1+2-3^-4*(-56/-7-8)/9
(-1^23+4*5-67)/8+9	(-12+3-4*5-67)/-8-9	(-1^23*-4-5*6)/-78*9	1+2+(-3+4+5-6)/-7^-89
(-12/-3+45*6-7)/89	(-1-2/-3*45+67)/8-9	(-1/-2-3*4)*-56/7-89	(-1^-23*-4-5*6)/-78*9
12+3-4*5+(-6+78)/9	1+2-3*(-4+5+6-7)/89	12+(-3+4+5-6)*-7/8-9	1+2-3*(-4+5+6-7)/8^-9
	12+3-(-4+56-7*-8)/9	1+2+(-3+4+5-6)*-7/89	1+2-3*-4*(-5+6-7)/8+9
		(-12-3+4)*-5+6*-78/9	1^2-3-(-4-56*-7/8)/-9
			1+2-3^-4*(-56/-7-8)/9
9/(-87/6-5+43/2+1)	9/(8-7)-6-5+4+3-2^1	9/(8-7)^-654+3/-2^-1	9/(8-7)-6*5-4*-3/2^-1
98/7-(-65+43)/-2*1	98/-7+(-6+54)/3+2-1	98/7-6+5-4*(-3/-2+1)	98/-7*-6-(-54*-3/2)^1
9+8/(-7+6)^543+2*1	9-8/(7+6-5+4)*3^2^1	9-8/(7-6)*-5*-4/32-1	9-8/(7-6+5-4)*-3/-2*1
9-87/(6+5-4/3)+2+1	(-98/-7+6-54/3)*2-1	(-98/-7-6*5)*-4/32+1	9-87/6+5+(-4-3)*-2^-1
9+(87/-6+5)*4+32/1	9+8-7/(65-4^3)/2^-1	9-8-7/(-6-5+4)+3-2^1	9+8-7/-6*(-5*-4-32)*1
98-(-7/-6*54+32/1)	98+(-7/-6*-54-32)/1	98+(-7/-6+5)*-4*3-21	(-9-87/-6+5-4*3)*-2*1
9+8-7*6/(-54/3+21)	9-8+7-6/(5-4)/3-2-1	9/-8*-7/6-(-54/32)^1	9+8-(-7/-6+5+4/3)*2+1
9*8-76+5/(4-3)+2^1	98-76*-5/-4*(3-2^1)	9+(-8+7)/-6*-54*3+21	9+8-7*-6/(5+4-3)*-2^1
98+7+6+54/(-3/2+1)	(-9-87+6)/-54*3-2^1	9-8*-7*-6/(5+43)+2-1	(-9-87+6)/-5*-4/-3-21
98-76+5*-4/(3-2)+1	(-9+8+7-6)/-543+2+1	(-98-76*-5/4)/-3*2+1	(-98-76*-5/4-3)*-2^-1
9-87/(6+5-4/3)+2+1	9+8+(-7-65)/-4-32*1	98-7+(-6-5)/-4*-32^1	(-9+8+7)*-6/-54*3+2-1
9+8-7*6/(-54/3+21)	(-98/-7+6-54/3)*2-1	(-9+8+7+6-54/3)/-2*1	(-9+8+7+6-54/3)*-2^-1
(-9+87+6-5*4)/32+1	9-8+7-6/(5-4)/3-2-1	(-98-76*-5/4)/-3*2+1	(-9+8-7*6)*-5/43+2/-1
9+(-87+65)/4-3/2+1	98+7-6+(-5-43)/2^-1	9+8+7+(-6+5+4)/-3*21	98+(-7-6*-5*-4/3)*2-1
(-98+76+5-4)*-3/21	9+8-7-(-6+54/3)/2-1	(-98/-7-6*5)*-4/32+1	(-9-87+6)/-5*-4/-3-21
98+(-76-5*4+3-2)/1	98-76*-5/-4*(3-2/1)	9-8+7-6*(-5+4+3)/2+1	9-87-6*(-5-4)*-3/-2*1
	98+(-7/-6*-54-32)/1	(-98+76-5-4*-3*2)/-1	9-(-8+7-6+5-4*-3)/2-1
		98-7+(-6-5)/-4*-32/1	(-9+8-7*6)*-5/43+2/-1
			9-(-8+76-5*-4*-3-2)/1

For various numbers, genuine CSR with concatenations at consecutive indexes, for example:

Length 15			
102	**103**	**104**	**107**
12-(3-4)^567+89	12*3-4-5-6-7+89	12*3/4+5-6+7+89	12+3*4-5+6-7+89
1*23-4-5+6-7+89	1*23+4-5-6+78+9	1*23-4-5-6+7+89	1*23+4+56+7+8+9
1*2+34+56-7+8+9	1-2+34-5+6+78-9	1*2+34+5-6+78-9	1*2+34-5-6-7+89
1+2*3+45+67-8-9	1-2*3+45-6+78-9	1+2*3+45+6*78/9	1*2-3+45-6+78-9
12*3+4+56+7+8-9	1+2+34+56-7+8+9	12*3+4+56+7-8+9	1*23+4+56+7+8+9
1+2*3+45+67-8-9	12*3-4+5+67+8-9	1-2+34+5+67+8-9	1*2+34+5+67+8-9
12*3-4-5+6+78-9	1*23+4-5-6+78+9	1*2+34+5-6+78-9	1*23+4+5+6+78-9
12-(3-4)^567+89	12*3-4-5-6-7+89	12*3/4+5-6+7+89	12+3*4-5+6-7+89
108	**109**	**112**	**113**
12*(3-4)^5678*9	12+3*4-5-6+7+89	12*3-4+5+6+78-9	12+3*4+5+67+8+9
1+23+4+56+7+8+9	1*23+4*5+67+8-9	1*23+4-5-6+7+89	1*23+4+5-6+78+9
1+2+34+5+67+8-9	1*2+34+5+67-8+9	1*2+34-5-6+78+9	1-2+34+5+6+78-9
1-2*3+45+67-8+9	1-2-3+45+67-8+9	1*2-3+45+67-8+9	1*2+3+45-6+78-9
1+23+4+56+7+8+9	1*2+34+56/7*8+9	12*3-4+56+7+8+9	12*3+4+56/7*8+9
1*23-4+5+67+8+9	1*2+34+5+67-8+9	1*2-3+45+67-8+9	12+3*4+5+67+8+9
12*3+4+5-6+78-9	1*2+34*5+6-78+9	12*3-4+5+6+78-9	1*23+4+5-6+78+9
1+2*3+4+56/7+89	12+3*4-5-6+7+89	1*23+4-5-6+7+89	12*3-4+5-6-7+89
115	**116**	**118**	**119**
12*3-4-5+6-7+89	12*3/4+5+6+7+89	12^3*4-(5+6789)	12+3+4*56/7+8*9
1+23-4+5-6+7+89	1*23-4-5+6+7+89	1*23+4*5+6+78-9	1+23-4+5*6+78-9
1*2+34-5+67+8+9	1*2+34+56+7+8+9	1+2+34+5-6-7+89	1*2+34-5+6-7+89
1+2*3+45-6+78-9	1*2+3+45+67+8-9	1*2+3+45+67-8+9	1*2-3+45+6+78-9
1+2*34+56+7-8-9	1*2+34+56+7+8+9	1*2*34+56-7-8+9	12+3+4*56/7+8*9
1*2+34-5+67+8+9	1*2+3+45+67+8-9	1*2+3+45+67-8+9	12*3+4-5+67+8+9
1*23+4-5+6+78+9	1+2*34-5+6*78/9	12*3-4+5-6+78+9	1*2-3+45+6+78-9
1+23-4+5-6+7+89	12*3/4+5+6+7+89	12+3-4+5+6+7+89	1*2+34-5+6-7+89
120	**122**	**127**	**131**
12*3+4+56+7+8+9	12+3*4+5+6+78+9	12*3-4+5-6+7+89	12+3*4+5+6+7+89
1*23+4+5+6-7+89	1*23+4+5-6+7+89	1+23+4+5*6+78-9	1*23+4*5+6-7+89
1+2+34-5+6-7+89	1*2+34+5-6+78+9	1+2*34-5-6+78-9	1*2+34+5-6+7+89
1*2-3+45-6-7+89	1-2+3+45+6+78-9	1+2*3+45+6+78-9	1*2+3+45-6+78+9
12*3+4+56+7+8+9	12+3+4+56+7*8-9	1+2*34+56*7/8+9	1+2*34+56+7+8-9
1+2*3+45+67-8+9	1-2+34+5+67+8+9	1*23+4*5+67+8+9	1-2+3+45+67+8+9
12*3+4+5+6+78-9	1*2+34+5-6+78+9	1+2*34-5-6+78-9	1*2+3+45-6+78+9
1*23+4+5+6-7+89	1*23+4+5-6+7+89	12*3-4+5-6+7+89	1*2+34+5-6+7+89

References

1. https://arxiv.org/abs/1302.1479v1
   Natural Numbers from 44 to 1000 in terms of
   Increasing and Decreasing Orders of 1 to 9
   Inder J. Taneja. Wednesday 6 Feb 2013.

2. https://arxiv.org/abs/1302.1479v2
   Crazy Sequential Representation: Numbers from 44 to 4444 in terms of
   Increasing and Decreasing Orders of 1 to 9
   Inder J. Taneja. Tuesday 19 Mar 2013

3. https://arxiv.org/abs/1302.1479v3
   Crazy Sequential Representation: Numbers from 1 to 11111 in terms of
   Increasing and Decreasing Orders of 1 to 9
   Inder J. Taneja. Wednesday 5 Jun 2013

4. https://arxiv.org/abs/1302.1479v4
   More on Crazy Sequential Representation of Natural Numbers with Subtraction
   Inder J. Taneja. Monday 5 Aug 2013

5. https://arxiv.org/abs/1302.1479v5
   Crazy Sequential Representation: Numbers from 0 to 11111 in terms of
   Increasing and Decreasing Orders of 1 to 9
   Inder J. Taneja. Wednesday 8 Jan 2014