Some $SCHUR^{TM}$ Examples: Using the RULE command

The **RULE** command in **SCHUR**$^{\text{TM}}$ can be a powerful tool in implementing algebraic formulae. Here we proceed through an advanced example, namely constructing a function that will evaluate the branching rule for

$$O(35) \rightarrow O(5) \times O(7) \tag{1}$$

The function may then be run for any mixed spinor irrep $[\Delta; \lambda]$ irrep of $O(35)$. Changing just three lines in the function gives results for and branching rule of the type

$$O(4rs + 2r + 2s + 1) \rightarrow O(2r + 1) \times O(2s + 1) \tag{2}$$

The basic branching rule follows from use of the results given in the paper

R. C. King, *J. Phys. A:Math. Gen.* **8**, 429 (1975)

$$[\Delta; \lambda] \rightarrow \sum_{\varepsilon, \zeta, \nu, \rho} [\Delta; ((s^r/\varepsilon\nu) \cdot ((\lambda/E \circ \zeta)/F\nu))] \times [\Delta; ((\tilde{\varepsilon}/\rho) \cdot (\zeta/F\rho))] \tag{3}$$

The above formula appears somewhat formidable and yet may be readily implemented in **SCHUR**$^{\text{TM}}$ using the function given below for the decomposition indicated in Eq. (1):-

```
rep
gr o35
enter rv1
dim rv1
setr1ch_spin rv1
exit
gr4o5o5o7o7
rule[3^2*rv1*0*0]sk2with e
rule last sum sk1conj3
rule last sum i2eq4
rule last sum sk1sk2
rule last sk2with f
contract1,2outer last
ch_spin gr1last
std_o gr1last
rule last sum sk2sk3
rule last sk3with f
contract2,3outer last
ch_spin gr2last
supoutpt false
std_o gr2last
dim last
stop
```

The numbers to the left of the function entries are solely for explanation here and DO NOT belong to the function. Let us now look closely at the above function. The first 6 rows are devoted to computing the dimension of the $O(35)$ irrep. Row 1 switches **SCHUR**$^{\text{TM}}$ to the REPMODE. Row 2 specifies the group as $O(35)$. Row 3 asks the user to enter an irrep of $O(35)$ e.g. $[\Delta; 31]$ would be entered simply as s31. Row 4 computes the dimension of the irrep. Row 5 removes the spin index from s31 and now rv1 = 31. Row 6 then returns **SCHUR**$^{\text{TM}}$ to the DPMode.

Row 7 resets the group as $O(5) \times O(5) \times O(7) \times O(7)$. Thus we have $s = 3$ and $r = 2$. rv1 plays the role of λ in Eq. (3). Row 8 now instructs **SCHUR**$^{\text{TM}}$ to do an $S-$function skew of the irrep of the second $O(5)$ group, treated as a $S-$function, with the $S-$function series E.

Row 9 instructs **SCHUR**$^{\text{TM}}$ to take the last result and skew $s^r = 3^2$ with the $S-$function series P. Row 10 then takes the last result and sums the effect of forming the skew of the "irrep" associated with the first group and the conjugate for the third group. That accomplishes the sum over the variable ε in Eq. (3). Row 11 does the corresponding sum over the variable ζ with $i2$ forming the inner product. We are now ready to carry out the sum over the variable ν as in Row 12 and then in Row 13 form the appropriate skew with the series D.

We have now completed the calculation for the two $O(5)$ groups and must combine the resulting $S-$functions under the operation of outer $S-$function multiplication to produce a list of single $S-$functions appropriate to tensor irreps of $O(5)$. The groups now appear as $O(5) \times O(7) \times O(7)$. We must now convert the $O(5)$ irreps into spinor irreps by first skewing the $S-$functions with the series Q via Row 15 and then inserting the spin index s via Row 16. This produces a list of $O(5) \times O(7) \times O(7)$ irreps with the $O(5)$ irreps not necessarily standard. These are made standard by issuing the command in Row 17.

The commands in Rows 18 to 23 complete the corresponding operations for $O(7)$. Row 24 instructs **SCHUR**$^{\text{TM}}$ to print to screen all further results. Had we placed Row 24 at the start of the function all actions would have been brought to the screen. Such an action can be helpful in testing a function. Row 25 completes the standardisation of the $O(7)$ irreps leaving the final result of the decomposition.

Row 26 computes the dimension of the resultant irreps which should agree with that found at the execution of Row 4. The final Row 27 stops the function. Below we give the voluminous output for the case considered here as an example. Running the function, here named 618.fn, proceeds in **SCHUR**$^{\text{TM}}$ as follows:-

```
(If you wish to EXIT, enter END)
(If you wish to obtain HELP, enter ?help)
DPrep Mode (with function)
DP>
->readfn1'618.fn'
=-
=-
=-
=-
=-
=-
DP>
->fn1
REP mode
Group is O(35)
enter rv1
->s31
dimension=23084400640
DPrep Mode (with function)
Group is O(35)
Groups are  O(5) * O(7) * O(7)
Groups are  O(5) * O(7)
```

where input instructions are indicated by $->$. The initial output is shown and the final output below has been produced as a table using **SCHUR**$^{\mathbf{TM}}$'s T$_{\mathrm{E}}$X commands. NB. Note that some of the coefficients of irreps are *negative* even though the dimension is computed correctly. As noted by King in his paper "The ambiguity in the distinction between spinor representations of $O(2k + 1)$ and their associates is carried over into these expressions".

$$O(35) \rightarrow O(5) \times O(7) \text{ decomposition for } [s31]$$

$[s;73][s;31]$
$+[s;73][s;3]$
$+[s;73][s;21]$
$+2[s;73][s;2]$
$+[s;73][s;1^2]$
$+2[s;73][s;1]$
$+[s;73][s;0]$
$+[s;72][s;41]$
$+[s;72][s;4]$
$+[s;72][s;32]$
$+[s;72][s;31^2]$
$+2[s;72][s;31]$
$+3[s;72][s;3]$
$+[s;72][s;2^2]$
$+[s;72][s;21^2]$
$+4[s;72][s;21]$
$+4[s;72][s;2]$
$+[s;72][s;1^3]$
$+3[s;72][s;1^2]$
$+4[s;72][s;1]$
$+2[s;72][s;0]$
$+[s;71][s;42]$
$+[s;71][s;41^2]$
$+[s;71][s;41]$
$+[s;71][s;4]$
$+[s;71][s;321]$
$+[s;71][s;32]$
$+2[s;71][s;31^2]$
$+4[s;71][s;31]$
$+2[s;71][s;3]$
$+[s;71][s;2^21]$
$+2[s;71][s;2^2]$
$+4[s;71][s;21^2]$
$+5[s;71][s;21]$
$+4[s;71][s;2]$
$+3[s;71][s;1^3]$
$+4[s;71][s;1^2]$
$+3[s;71][s;1]$
$+[s;71][s;0]$
$+[s;7][s;41^2]$
$+[s;7][s;41]$
$+[s;7][s;321]$
$+[s;7][s;421]$
$-[s;7][s;31^2]\#$
$+4[s;7][s;31^2]$
$+2[s;7][s;31]$
$+[s;7][s;32]$
$+2[s;7][s;2^21]$
$+[s;7][s;2^2]$
$-[s;7][s;21^2]\#$
$+[s;7][s;3]$
$+4[s;7][s;21]$
$+[s;7][s;2]$
$-[s;7][s;1^3]\#$
$+5[s;7][s;21^2]$
$+3[s;7][s;1^2]$
$+[s;7][s;1]$
$+[s;64][s;4]$
$+4[s;7][s;1^3]$
$+2[s;64][s;3]$
$+[s;64][s;2^2]$
$+[s;64][s;21^2]$
$+[s;64][s;31]$
$+5[s;64][s;2]$
$+[s;64][s;1^3]$
$+4[s;64][s;1^2]$
$+3[s;64][s;21]$
$+4[s;64][s;0]$
$+[s;63][s;5]$
$+3[s;63][s;41]$
$+6[s;64][s;1]$
$+3[s;63][s;32]$
$+3[s;63][s;31^2]$
$+9[s;63][s;31]$
$+4[s;63][s;4]$
$+2[s;63][s;2^21]$
$+5[s;63][s;2^2]$
$+6[s;63][s;21^2]$
$+12[s;63][s;3]$
$+20[s;63][s;2]$
$+7[s;63][s;1^3]$
$+17[s;63][s;1^2]$
$+19[s;63][s;21]$
$+11[s;63][s;0]$
$+2[s;62][s;51]$
$+2[s;62][s;5]$
$+22[s;63][s;1]$
$+4[s;62][s;41^2]$
$+8[s;62][s;41]$
$+9[s;62][s;4]$
$+3[s;62][s;42]$
$+5[s;62][s;321]$
$+9[s;62][s;32]$
$+11[s;62][s;31^2]$
$+2[s;62][s;3^2]$
$+22[s;62][s;3]$
$+[s;62][s;2^3]$
$+8[s;62][s;2^21]$
$+26[s;62][s;31]$
$-[s;62][s;21^2]\#$
$+24[s;62][s;21^2]$
$+42[s;62][s;21]$
$+16[s;62][s;2^2]$
$-[s;62][s;1^3]\#$
$+20[s;62][s;1^3]$
$+37[s;62][s;1^2]$
$+37[s;62][s;2]$
$+17[s;62][s;0]$
$+[s;61][s;52]$
$+2[s;61][s;51^2]$
$+37[s;62][s;1]$
$+2[s;61][s;5]$
$+[s;61][s;43]$
$+4[s;61][s;421]$
$+2[s;61][s;51]$
$+8[s;61][s;41^2]$
$+13[s;61][s;41]$
$+8[s;61][s;4]$
$+4[s;61][s;42]$
$+2[s;61][s;3^2]$
$+2[s;61][s;32^2]$
$+11[s;61][s;321]$
$+2[s;61][s;3^21]$
$-3[s;61][s;31^2]\#$
$+28[s;61][s;31^2]$
$+33[s;61][s;31]$
$+16[s;61][s;32]$
$+3[s;61][s;2^3]$
$-2[s;61][s;2^21]\#$
$+21[s;61][s;2^21]$
$+23[s;61][s;3]$
$-6[s;61][s;21^2]\#$
$+45[s;61][s;21^2]$
$-[s;61][s;21]\#$
$+22[s;61][s;2^2]$
$+37[s;61][s;2]$
$-7[s;61][s;1^3]\#$
$+38[s;61][s;1^3]$
$+57[s;61][s;21]$
$+45[s;61][s;1^2]$
$+36[s;61][s;1]$
$+14[s;61][s;0]$
$-[s;61][s;1^2]\#$
$+2[s;6][s;51^2]$
$+2[s;6][s;51]$
$+[s;6][s;431]$
$+[s;6][s;521]$
$+4[s;6][s;421]$
$+4[s;6][s;42]$
$-[s;6][s;41^2]\#$
$+[s;6][s;42^2]$
$+8[s;6][s;41]$
$+4[s;6][s;4]$
$+2[s;6][s;3^21]$
$+10[s;6][s;41^2]$
$+2[s;6][s;32^2]$
$-[s;6][s;321]\#$
$+14[s;6][s;321]$
$+2[s;6][s;3^2]$
$-4[s;6][s;31^2]\#$
$+26[s;6][s;31^2]$
$+25[s;6][s;31]$
$+11[s;6][s;32]$
$+4[s;6][s;2^3]$
$-3[s;6][s;2^21]\#$
$+20[s;6][s;2^21]$
$+11[s;6][s;3]$
$-7[s;6][s;21^2]\#$
$+41[s;6][s;21^2]$
$-[s;6][s;21]\#$
$+18[s;6][s;2^2]$
$+21[s;6][s;2]$
$-7[s;6][s;1^3]\#$
$+32[s;6][s;1^3]$
$+40[s;6][s;21]$
$+32[s;6][s;1^2]$
$+19[s;6][s;1]$
$+6[s;6][s;0]$
$-[s;6][s;1^2]\#$
$+[s;5^2][s;3]$
$+[s;5^2][s;21^2]$
$+2[s;5^2][s;21]$
$+[s;5^2][s;31]$
$+[s;5^2][s;1^3]$
$+3[s;5^2][s;1^2]$
$+4[s;5^2][s;1]$
$+3[s;5^2][s;2]$
$+[s;54][s;5]$
$+3[s;54][s;41]$
$+4[s;54][s;4]$
$+2[s;5^2][s;0]$
$+4[s;54][s;31^2]$
$+11[s;54][s;31]$
$+14[s;54][s;3]$
$+3[s;54][s;32]$
$+7[s;54][s;2^2]$
$+10[s;54][s;21^2]$
$+26[s;54][s;21]$
$+3[s;54][s;2^21]$
$+27[s;54][s;2]$

+ 12[s;54][s;1³]
− [s;53]#[s;4]
− 2[s;53]#[s;21²]
− 9[s;53]#[s;1²]
+ 3[s;53][s;51]
+ 16[s;53][s;41]
+ 19[s;53][s;32]
+ 3[s;53][s;2³]
+ 55[s;53][s;21²]
+ 51[s;53][s;1³]
− [s;52]#[s;5]
− 4[s;52]#[s;31²]
− 6[s;52]#[s;2²]
+ [s;52]#[s;1³]#
− 12[s;52]#[s;0]
+ 4[s;52][s;51²]
+ 10[s;52][s;421]
+ 39[s;52][s;4]
+ 34[s;52][s;321]
+ 131[s;52][s;31]
+ 69[s;52][s;2²1]
− 2[s;52][s;21]#
+ 127[s;52][s;1³]
+ 80[s;52][s;0]
− 3[s;51]#[s;41]
− 6[s;51]#[s;32]
− 2[s;51]#[s;2³]
− 27[s;51]#[s;21²]
− 21[s;51]#[s;1³]
− 9[s;51]#[s;0]
+ [s;51][s;53]
+ 14[s;51][s;51]
+ 4[s;51][s;42²]
+ 49[s;51][s;41²]
+ 12[s;51][s;3²1]
+ 84[s;51][s;321]
− [s;51][s;31]#
+ 30[s;51][s;2³]
+ 136[s;51][s;2²]
+ 294[s;51][s;21]
− 7[s;51][s;1²]#
+ 72[s;51][s;0]
+ [s;5][s;52²]
+ 8[s;5][s;51]
+ 4[s;5][s;43]
+ 21[s;5][s;42]
+ 21[s;5][s;4]
− [s;5][s;32²]#
+ 67[s;5][s;32]
+ 115[s;5][s;31]

+ 26[s;54][s;1²]
− 2[s;53]#[s;31]
− 6[s;53]#[s;21]
− 12[s;53]#[s;1]
+ 4[s;53][s;5]
+ 20[s;53][s;4]
+ 23[s;53][s;31²]
+ 18[s;53][s;2²1]
+ 105[s;53][s;21]
+ 97[s;53][s;1²]
− 3[s;52]#[s;41]
− 9[s;52]#[s;31]
− 9[s;52]#[s;21²]
− 12[s;52]#[s;1³]
+ [s;52][s;61]
+ 8[s;52][s;51]
+ 16[s;52][s;42]
+ 5[s;52][s;3²1]
+ 62[s;52][s;32]
+ 110[s;52][s;3]
+ 90[s;52][s;2²]
+ 235[s;52][s;21]
− 3[s;52][s;1²]#
− [s;51]#[s;51]
− 3[s;51]#[s;4]
− 9[s;51]#[s;31²]
− 9[s;51]#[s;2²1]
− 30[s;51]#[s;21]
+ [s;51]#[s;1²]#
+ [s;51][s;61²]
+ 4[s;51][s;521]
+ 8[s;51][s;5]
+ 21[s;51][s;421]
+ 60[s;51][s;41]
+ 18[s;51][s;3²]
+ 89[s;51][s;32]
+ 184[s;51][s;31]
− 14[s;51][s;2²1]#
− 36[s;51][s;21²]#
+ 196[s;51][s;2]
+ 234[s;51][s;1²]
+ [s;5][s;61²]
+ 4[s;5][s;521]
+ 4[s;5][s;5]
+ 5[s;5][s;42²]
− 3[s;5][s;41²]#
+ 3[s;5][s;3²2]
+ 19[s;5][s;32²]
− 18[s;5][s;31²]#
+ 64[s;5][s;3]

+ 31[s;54][s;1]
− 3[s;53]#[s;3]
− 9[s;53]#[s;2]
− 8[s;53]#[s;0]
+ 6[s;53][s;42]
+ 2[s;53][s;3²]
+ 58[s;53][s;31]
+ 37[s;53][s;2²]
+ 101[s;53][s;2]
+ 106[s;53][s;1]
− 3[s;52]#[s;4]
− 12[s;52]#[s;3]
− 24[s;52]#[s;21]
− 21[s;52]#[s;1²]
+ [s;52][s;6]
+ 10[s;52][s;5]
+ 21[s;52][s;41²]
+ 9[s;52][s;3²]
− 6[s;52][s;31²]#
+ 11[s;52][s;2³]
− 14[s;52][s;21²]#
+ 181[s;52][s;2]
+ 191[s;52][s;1²]
− 2[s;51]#[s;42]
− 2[s;51]#[s;3²]
− 18[s;51]#[s;31]
− 15[s;51]#[s;2²]
− 22[s;51]#[s;2]
− 31[s;51]#[s;1²]
+ [s;51][s;61]
+ 4[s;51][s;52]
+ 4[s;51][s;431]
+ 32[s;51][s;42]
+ 42[s;51][s;4]
+ 15[s;51][s;32²]
− 15[s;51][s;31²]#
+ 112[s;51][s;3]
+ 124[s;51][s;2²1]
+ 247[s;51][s;21²]
− 35[s;51][s;1³]#
− [s;51][s;1]#
+ [s;5][s;61]
+ 4[s;5][s;52]
+ [s;5][s;432]
− [s;5][s;421]#
+ 39[s;5][s;41²]
+ 14[s;5][s;3²1]
− 6[s;5][s;321]#
+ 116[s;5][s;31²]
− 3[s;5][s;2³]#

+ 16[s;54][s;0]
− 2[s;53]#[s;2²]
− 3[s;53]#[s;1³]
+ [s;53][s;6]
+ 6[s;53][s;41²]
+ 9[s;53][s;321]
+ 54[s;53][s;3]
− 2[s;53][s;21²]#
− 3[s;53][s;1³]#
+ 52[s;53][s;0]
− 4[s;52]#[s;32]
− 4[s;52]#[s;2²1]
− 21[s;52]#[s;2]
− 26[s;52]#[s;1]
+ 3[s;52][s;52]
+ 3[s;52][s;43]
+ 48[s;52][s;41]
+ 6[s;52][s;32²]
+ 83[s;52][s;31²]
− 4[s;52][s;2²1]#
+ 147[s;52][s;21²]
− 17[s;52][s;1³]#
+ 183[s;52][s;1]
− 3[s;51]#[s;41²]
− 6[s;51]#[s;321]
− 9[s;51]#[s;3]
+ 3[s;51]#[s;21²]#
+ 3[s;51]#[s;1³]#
− 21[s;51]#[s;1]
+ [s;51][s;6]
+ 8[s;51][s;51²]
+ 4[s;51][s;43]
− 3[s;51][s;41²]#
+ 3[s;51][s;3²2]
− 5[s;51][s;321]#
+ 138[s;51][s;31²]
− 2[s;51][s;2³]#
− [s;51][s;2²]#
− 6[s;51][s;21]#
+ 186[s;51][s;1³]
+ 182[s;51][s;1]
+ [s;5][s;531]
+ 9[s;5][s;51²]
+ 4[s;5][s;431]
+ 25[s;5][s;421]
+ 43[s;5][s;41]
+ 12[s;5][s;3²]
+ 70[s;5][s;321]
− [s;5][s;31]#
+ 27[s;5][s;2³]

$- 17[s;5][s;2^21]\#$

$- 35[s;5][s;21^2]\#$

$+ 106[s;5][s;2]$

$+ 140[s;5][s;1^2]$

$- 2[s;4^2]\#[s;31]$

$- 6[s;4^2]\#[s;21]$

$- 12[s;4^2]\#[s;1]$

$+ 2[s;4^2][s;42]$

$+ 2[s;4^2][s;3^2]$

$+ 35[s;4^2][s;31]$

$+ 23[s;4^2][s;2^2]$

$+ 64[s;4^2][s;2]$

$+ 72[s;4^2][s;1]$

$- 6[s;43]\#[s;4]$

$- 26[s;43]\#[s;3]$

$- 57[s;43]\#[s;21]$

$- 57[s;43]\#[s;1^2]$

$+ [s;43][s;6]$

$+ 12[s;43][s;5]$

$+ 24[s;43][s;41^2]$

$+ 11[s;43][s;3^2]$

$- 5[s;43][s;31^2]\#$

$+ 12[s;43][s;2^3]$

$- 13[s;43][s;21^2]\#$

$+ 266[s;43][s;2]$

$+ 274[s;43][s;1^2]$

$- 4[s;42]\#[s;51]$

$- 19[s;42]\#[s;41]$

$- 28[s;42]\#[s;32]$

$- 7[s;42]\#[s;2^3]$

$- 92[s;42]\#[s;21^2]$

$- 80[s;42]\#[s;1^3]$

$- 58[s;42]\#[s;0]$

$+ 4[s;42][s;6]$

$+ 13[s;42][s;51^2]$

$+ 7[s;42][s;431]$

$+ 73[s;42][s;42]$

$+ 120[s;42][s;4]$

$+ 29[s;42][s;32^2]$

$- 22[s;42][s;31^2]\#$

$+ 307[s;42][s;3]$

$+ 253[s;42][s;2^21]$

$+ 506[s;42][s;21^2]$

$- 56[s;42][s;1^3]\#$

$- [s;42][s;1]\#$

$- 3[s;41]\#[s;52]$

$- 4[s;41]\#[s;43]$

$- 31[s;41]\#[s;41]$

$- 8[s;41]\#[s;32^2]$

$- 68[s;41]\#[s;31^2]$

$+ 105[s;5][s;2^21]$

$+ 180[s;5][s;21^2]$

$- 33[s;5][s;1^3]\#$

$- [s;5][s;1]\#$

$- 2[s;4^2]\#[s;3]$

$- 8[s;4^2]\#[s;2]$

$- 7[s;4^2]\#[s;0]$

$+ 4[s;4^2][s;41^2]$

$+ 5[s;4^2][s;321]$

$+ 33[s;4^2][s;3]$

$- [s;4^2][s;21^2]\#$

$- 2[s;4^2][s;1^3]\#$

$+ 36[s;4^2][s;0]$

$- 7[s;43]\#[s;32]$

$- 8[s;43]\#[s;2^21]$

$- 54[s;43]\#[s;2]$

$- 66[s;43]\#[s;1]$

$+ 3[s;43][s;52]$

$+ 3[s;43][s;43]$

$+ 59[s;43][s;41]$

$+ 6[s;43][s;32^2]$

$+ 100[s;43][s;31^2]$

$- 4[s;43][s;2^21]\#$

$+ 188[s;43][s;21^2]$

$- 17[s;43][s;1^3]\#$

$+ 275[s;43][s;1]$

$- 4[s;42]\#[s;5]$

$- 22[s;42]\#[s;4]$

$- 35[s;42]\#[s;31^2]$

$- 33[s;42]\#[s;2^21]$

$- 141[s;42]\#[s;21]$

$+ 2[s;42]\#[s;1^2]\#$

$+ [s;42][s;62]$

$+ [s;42][s;53]$

$+ 32[s;42][s;51]$

$+ 11[s;42][s;43]$

$- 5[s;42][s;41^2]\#$

$+ 5[s;42][s;3^22]$

$- 9[s;42][s;321]\#$

$+ 279[s;42][s;31^2]$

$- 4[s;42][s;2^3]\#$

$- 2[s;42][s;2^2]\#$

$- 8[s;42][s;21]\#$

$+ 388[s;42][s;1^3]$

$+ 492[s;42][s;1]$

$- 3[s;41]\#[s;51^2]$

$- 10[s;41]\#[s;421]$

$- 19[s;41]\#[s;4]$

$- 34[s;41]\#[s;321]$

$- 91[s;41]\#[s;31]$

$- [s;5][s;2^2]\#$

$- 7[s;5][s;21]\#$

$+ 134[s;5][s;1^3]$

$+ 97[s;5][s;1]$

$- [s;4^2]\#[s;2^2]$

$- 4[s;4^2]\#[s;1^3]$

$+ 2[s;4^2][s;51]$

$+ 9[s;4^2][s;41]$

$+ 11[s;4^2][s;32]$

$+ [s;4^2][s;2^3]$

$+ 36[s;4^2][s;21^2]$

$+ 35[s;4^2][s;1^3]$

$- [s;43]\#[s;5]$

$- 9[s;43]\#[s;31^2]$

$- 15[s;43]\#[s;2^2]$

$+ 2[s;43]\#[s;1^3]\#$

$- 33[s;43]\#[s;0]$

$+ 4[s;43][s;51^2]$

$+ 10[s;43][s;421]$

$+ 53[s;43][s;4]$

$+ 39[s;43][s;321]$

$+ 176[s;43][s;31]$

$+ 83[s;43][s;2^21]$

$- [s;43][s;21]\#$

$+ 169[s;43][s;1^3]$

$+ 125[s;43][s;0]$

$- 9[s;42]\#[s;42]$

$- 5[s;42]\#[s;3^2]$

$- 78[s;42]\#[s;31]$

$- 58[s;42]\#[s;2^2]$

$- 121[s;42]\#[s;2]$

$- 131[s;42]\#[s;1^2]$

$+ [s;42][s;61^2]$

$+ 6[s;42][s;521]$

$+ 26[s;42][s;5]$

$+ 8[s;42][s;42^2]$

$+ 92[s;42][s;41^2]$

$+ 25[s;42][s;3^21]$

$+ 168[s;42][s;321]$

$- 2[s;42][s;31]\#$

$+ 60[s;42][s;2^3]$

$+ 318[s;42][s;2^2]$

$+ 701[s;42][s;21]$

$- 11[s;42][s;1^2]\#$

$+ 211[s;42][s;0]$

$- 4[s;41]\#[s;51]$

$- 13[s;41]\#[s;42]$

$- 7[s;41]\#[s;3^21]$

$- 53[s;41]\#[s;32]$

$- 65[s;41]\#[s;3]$

$+ 91[s;5][s;2^2]$

$+ 191[s;5][s;21]$

$- 7[s;5][s;1^2]\#$

$+ 35[s;5][s;0]$

$- 3[s;4^2]\#[s;21^2]$

$- 10[s;4^2]\#[s;1^2]$

$+ 2[s;4^2][s;5]$

$+ 11[s;4^2][s;4]$

$+ 14[s;4^2][s;31^2]$

$+ 11[s;4^2][s;2^21]$

$+ 68[s;4^2][s;21]$

$+ 68[s;4^2][s;1^2]$

$- 5[s;43]\#[s;41]$

$- 21[s;43]\#[s;31]$

$- 24[s;43]\#[s;21^2]$

$- 31[s;43]\#[s;1^3]$

$+ [s;43][s;61]$

$+ 9[s;43][s;51]$

$+ 19[s;43][s;42]$

$+ 6[s;43][s;3^21]$

$+ 78[s;43][s;32]$

$+ 154[s;43][s;3]$

$+ 120[s;43][s;2^2]$

$+ 324[s;43][s;21]$

$- 2[s;43][s;1^2]\#$

$- [s;42]\#[s;6]$

$- 9[s;42]\#[s;41^2]$

$- 18[s;42]\#[s;321]$

$- 61[s;42]\#[s;3]$

$+ 8[s;42]\#[s;21^2]\#$

$+ 9[s;42]\#[s;1^3]\#$

$- 124[s;42]\#[s;1]$

$+ 2[s;42][s;61]$

$+ 9[s;42][s;52]$

$+ [s;42][s;4^2]$

$+ 39[s;42][s;421]$

$+ 145[s;42][s;41]$

$+ 44[s;42][s;3^2]$

$+ 211[s;42][s;32]$

$+ 434[s;42][s;31]$

$- 22[s;42][s;2^21]\#$

$- 60[s;42][s;21^2]\#$

$+ 519[s;42][s;2]$

$+ 560[s;42][s;1^2]$

$- [s;41]\#[s;61]$

$- 4[s;41]\#[s;5]$

$- 15[s;41]\#[s;41^2]$

$- 9[s;41]\#[s;3^2]$

$+ 6[s;41]\#[s;31^2]\#$

$- 14[s;41]\#[s;2^3]$

$+\ 7[s;41]\#[s;2^21]\#$

$-\ 124[s;41]\#[s;21^2]$

$+\ 20[s;41]\#[s;1^3]\#$

$+\ [s;41]\#[s;1]\#$

$+\ [s;41][s;62]$

$+\ 2[s;41][s;531]$

$+\ 22[s;41][s;52]$

$+\ [s;41][s;4^21]$

$+\ 26[s;41][s;43]$

$+\ 108[s;41][s;42]$

$+\ 126[s;41][s;4]$

$+\ 64[s;41][s;3^21]$

$-\ 23[s;41][s;321]\#$

$-\ 56[s;41][s;31^2]\#$

$+\ 350[s;41][s;3]$

$+\ 444[s;41][s;2^21]$

$+\ 733[s;41][s;21^2]$

$+\ 562[s;41][s;2]$

$+\ 650[s;41][s;1^2]$

$-\ [s;4]\#[s;42]$

$-\ [s;4]\#[s;3^2]$

$-\ 10[s;4]\#[s;31]$

$-\ 11[s;4]\#[s;2^2]$

$-\ 15[s;4]\#[s;2]$

$-\ 21[s;4]\#[s;1^2]$

$+\ [s;4][s;62]$

$+\ [s;4][s;532]$

$+\ 16[s;4][s;521]$

$+\ 13[s;4][s;5]$

$+\ 19[s;4][s;431]$

$-\ 3[s;4][s;421]\#$

$+\ 118[s;4][s;41^2]$

$+\ 18[s;4][s;3^22]$

$-\ 6[s;4][s;32^2]\#$

$-\ [s;4][s;32]\#$

$-\ 6[s;4][s;31]\#$

$+\ 102[s;4][s;2^3]$

$+\ 289[s;4][s;2^2]$

$+\ 533[s;4][s;21]$

$+\ 340[s;4][s;1^3]$

$+\ 268[s;4][s;1]$

$-\ 5[s;3^2]\#[s;42]$

$-\ 4[s;3^2]\#[s;3^2]$

$-\ 64[s;3^2]\#[s;31]$

$-\ 43[s;3^2]\#[s;2^2]$

$-\ 104[s;3^2]\#[s;2]$

$-\ 111[s;3^2]\#[s;1^2]$

$+\ [s;3^2][s;61]$

$+\ 5[s;3^2][s;52]$

$+\ 4[s;3^2][s;431]$

$-\ 69[s;41]\#[s;2^21]$

$+\ 4[s;41]\#[s;21]\#$

$-\ 103[s;41]\#[s;1^3]$

$-\ 114[s;41]\#[s;1]$

$+\ 2[s;41][s;61^2]$

$+\ 2[s;41][s;53]$

$+\ 30[s;41][s;51^2]$

$+\ [s;41][s;4^2]$

$+\ 20[s;41][s;42^2]$

$-\ 9[s;41][s;41^2]\#$

$+\ [s;41][s;3^3]$

$+\ 68[s;41][s;3^2]$

$+\ 297[s;41][s;321]$

$+\ 457[s;41][s;31^2]$

$-\ 14[s;41][s;2^3]\#$

$-\ 6[s;41][s;2^2]\#$

$-\ 24[s;41][s;21]\#$

$-\ 110[s;41][s;1^3]\#$

$-\ 4[s;41][s;1]\#$

$-\ [s;4]\#[s;41^2]$

$-\ 4[s;4]\#[s;321]$

$-\ 5[s;4]\#[s;3]$

$+\ 3[s;4]\#[s;21^2]\#$

$+\ 3[s;4]\#[s;1^3]\#$

$-\ 15[s;4]\#[s;1]$

$+\ 3[s;4][s;61^2]$

$+\ 2[s;4][s;531]$

$+\ 13[s;4][s;52]$

$+\ [s;4][s;4^21]$

$+\ 16[s;4][s;43]$

$+\ 79[s;4][s;421]$

$+\ 123[s;4][s;41]$

$-\ 2[s;4][s;3^21]\#$

$+\ 73[s;4][s;32^2]$

$+\ 216[s;4][s;32]$

$+\ 349[s;4][s;31]$

$-\ 55[s;4][s;2^21]\#$

$-\ 100[s;4][s;21^2]\#$

$-\ [s;4][s;2]\#$

$-\ 19[s;4][s;1^2]\#$

$+\ 98[s;4][s;0]$

$-\ 8[s;3^2]\#[s;41^2]$

$-\ 12[s;3^2]\#[s;321]$

$-\ 55[s;3^2]\#[s;3]$

$+\ 4[s;3^2]\#[s;21^2]\#$

$+\ 5[s;3^2]\#[s;1^3]\#$

$-\ 110[s;3^2]\#[s;1]$

$+\ 2[s;3^2][s;6]$

$+\ 7[s;3^2][s;51^2]$

$+\ 7[s;3^2][s;43]$

$-\ 75[s;41]\#[s;2^2]$

$-\ 171[s;41]\#[s;21]$

$+\ 5[s;41]\#[s;1^2]\#$

$-\ 47[s;41]\#[s;0]$

$+\ 5[s;41][s;61]$

$+\ 3[s;41][s;52^2]$

$+\ 39[s;41][s;51]$

$+\ 4[s;41][s;432]$

$-\ 3[s;41][s;421]\#$

$+\ 146[s;41][s;41^2]$

$+\ 15[s;41][s;3^22]$

$-\ 5[s;41][s;32^2]\#$

$-\ [s;41][s;32]\#$

$-\ 5[s;41][s;31]\#$

$+\ 120[s;41][s;2^3]$

$+\ 435[s;41][s;2^2]$

$+\ 892[s;41][s;21]$

$+\ 534[s;41][s;1^3]$

$+\ 515[s;41][s;1]$

$-\ [s;4]\#[s;41]$

$-\ 4[s;4]\#[s;32]$

$-\ 2[s;4]\#[s;2^3]$

$-\ 19[s;4]\#[s;21^2]$

$-\ 15[s;4]\#[s;1^3]$

$-\ 7[s;4]\#[s;0]$

$+\ 2[s;4][s;61]$

$+\ 2[s;4][s;53]$

$+\ 22[s;4][s;51^2]$

$+\ [s;4][s;4^2]$

$-\ [s;4][s;42^2]\#$

$+\ 79[s;4][s;42]$

$+\ 69[s;4][s;4]$

$+\ 51[s;4][s;3^21]$

$-\ 28[s;4][s;321]\#$

$-\ 49[s;4][s;31^2]\#$

$+\ 188[s;4][s;3]$

$+\ 322[s;4][s;2^21]$

$+\ 505[s;4][s;21^2]$

$+\ 307[s;4][s;2]$

$+\ 379[s;4][s;1^2]$

$-\ 3[s;3^2]\#[s;51]$

$-\ 16[s;3^2]\#[s;41]$

$-\ 21[s;3^2]\#[s;32]$

$-\ 3[s;3^2]\#[s;2^3]$

$-\ 70[s;3^2]\#[s;21^2]$

$-\ 62[s;3^2]\#[s;1^3]$

$-\ 52[s;3^2]\#[s;0]$

$+\ [s;3^2][s;53]$

$+\ 19[s;3^2][s;51]$

$+\ 3[s;3^2][s;42^2]$

$+\ 17[s;41]\#[s;21^2]\#$

$-\ 114[s;41]\#[s;2]$

$-\ 134[s;41]\#[s;1^2]$

$+\ [s;41][s;621]$

$+\ 2[s;41][s;6]$

$+\ 13[s;41][s;521]$

$+\ 29[s;41][s;5]$

$+\ 16[s;41][s;431]$

$+\ 99[s;41][s;421]$

$+\ 206[s;41][s;41]$

$-\ 2[s;41][s;3^21]\#$

$+\ 83[s;41][s;32^2]$

$+\ 331[s;41][s;32]$

$+\ 553[s;41][s;31]$

$-\ 62[s;41][s;2^21]\#$

$-\ 121[s;41][s;21^2]\#$

$-\ [s;41][s;2]\#$

$-\ 25[s;41][s;1^2]\#$

$+\ 200[s;41][s;0]$

$-\ [s;4]\#[s;4]$

$-\ 5[s;4]\#[s;31^2]$

$-\ 7[s;4]\#[s;2^21]$

$-\ 20[s;4]\#[s;21]$

$+\ [s;4]\#[s;1^2]\#$

$+\ [s;4][s;621]$

$+\ [s;4][s;6]$

$+\ 4[s;4][s;52^2]$

$+\ 27[s;4][s;51]$

$+\ 5[s;4][s;432]$

$+\ 25[s;4][s;42^2]$

$-\ 12[s;4][s;41^2]\#$

$+\ [s;4][s;3^3]$

$+\ 51[s;4][s;3^2]$

$+\ 244[s;4][s;321]$

$+\ 318[s;4][s;31^2]$

$-\ 17[s;4][s;2^3]\#$

$-\ 7[s;4][s;2^2]\#$

$-\ 20[s;4][s;21]\#$

$-\ 81[s;4][s;1^3]\#$

$-\ 3[s;4][s;1]\#$

$-\ 3[s;3^2]\#[s;5]$

$-\ 19[s;3^2]\#[s;4]$

$-\ 28[s;3^2]\#[s;31^2]$

$-\ 23[s;3^2]\#[s;2^21]$

$-\ 117[s;3^2]\#[s;21]$

$+\ [s;3^2]\#[s;1^2]\#$

$+\ [s;3^2][s;61^2]$

$+\ 3[s;3^2][s;521]$

$+\ 17[s;3^2][s;5]$

$+\ 22[s;3^2][s;421]$

$+\ 44[s;3^2][s;42]$
$+\ 79[s;3^2][s;4]$
$+\ 16[s;3^2][s;32^2]$
$-\ 11[s;3^2][s;31^2]\#$
$+\ 209[s;3^2][s;3]$
$+\ 148[s;3^2][s;2^21]$
$+\ 309[s;3^2][s;21^2]$
$-\ 27[s;3^2][s;1^3]\#$
$+\ 336[s;3^2][s;1]$
$-\ 5[s;32]\#[s;52]$
$-\ 7[s;32]\#[s;43]$
$-\ 71[s;32]\#[s;41]$
$-\ 13[s;32]\#[s;32^2]$
$-\ 132[s;32]\#[s;31^2]$
$+\ 10[s;32]\#[s;2^21]\#$
$-\ 225[s;32]\#[s;21^2]$
$+\ 24[s;32]\#[s;1^3]\#$
$+\ [s;32]\#[s;1]\#$
$+\ [s;32][s;62]$
$+\ 2[s;32][s;531]$
$+\ 29[s;32][s;52]$
$+\ [s;32][s;4^21]$
$+\ 39[s;32][s;43]$
$+\ 156[s;32][s;42]$
$+\ 204[s;32][s;4]$
$+\ 87[s;32][s;3^21]$
$-\ 28[s;32][s;321]\#$
$-\ 59[s;32][s;31^2]\#$
$+\ 537[s;32][s;3]$
$+\ 561[s;32][s;2^21]$
$+\ 929[s;32][s;21^2]$
$+\ 837[s;32][s;2]$
$+\ 898[s;32][s;1^2]$
$-\ [s;31]\#[s;62]$
$-\ 4[s;31]\#[s;521]$
$-\ 11[s;31]\#[s;5]$
$-\ 8[s;31]\#[s;42^2]$
$-\ 54[s;31]\#[s;41^2]$
$-\ 26[s;31]\#[s;3^21]$
$-\ 134[s;31]\#[s;321]$
$+\ 3[s;31]\#[s;31^2]\#$
$-\ 55[s;31]\#[s;2^3]$
$-\ 213[s;31]\#[s;2^2]$
$-\ 399[s;31]\#[s;21]$
$-\ 221[s;31]\#[s;1^3]$
$-\ 236[s;31]\#[s;1]$
$+\ 4[s;31][s;62]$
$+\ [s;31][s;532]$
$+\ 40[s;31][s;521]$
$+\ 53[s;31][s;5]$

$-\ 2[s;3^2][s;41^2]\#$
$+\ 4[s;3^2][s;3^22]$
$-\ 5[s;3^2][s;321]\#$
$+\ 169[s;3^2][s;31^2]$
$-\ 3[s;3^2][s;2^3]\#$
$-\ [s;3^2][s;2^2]\#$
$-\ 3[s;3^2][s;21]\#$
$+\ 237[s;3^2][s;1^3]$
$+\ 145[s;3^2][s;0]$
$-\ 5[s;32]\#[s;51^2]$
$-\ 18[s;32]\#[s;421]$
$-\ 54[s;32]\#[s;4]$
$-\ 63[s;32]\#[s;321]$
$-\ 202[s;32]\#[s;31]$
$-\ 122[s;32]\#[s;2^21]$
$+\ 4[s;32]\#[s;21]\#$
$-\ 185[s;32]\#[s;1^3]$
$-\ 252[s;32]\#[s;1]$
$+\ 2[s;32][s;61^2]$
$+\ 3[s;32][s;53]$
$+\ 35[s;32][s;51^2]$
$+\ 2[s;32][s;4^2]$
$+\ 23[s;32][s;42^2]$
$-\ 9[s;32][s;41^2]\#$
$+\ 2[s;32][s;3^3]$
$+\ 102[s;32][s;3^2]$
$+\ 384[s;32][s;321]$
$+\ 590[s;32][s;31^2]$
$-\ 18[s;32][s;2^3]\#$
$-\ 8[s;32][s;2^2]\#$
$-\ 21[s;32][s;21]\#$
$-\ 105[s;32][s;1^3]\#$
$-\ 2[s;32][s;1]\#$
$-\ [s;31]\#[s;61]$
$-\ 8[s;31]\#[s;52]$
$-\ 2[s;31]\#[s;4^2]$
$-\ 32[s;31]\#[s;421]$
$-\ 82[s;31]\#[s;41]$
$-\ 39[s;31]\#[s;3^2]$
$-\ 151[s;31]\#[s;32]$
$-\ 256[s;31]\#[s;31]$
$+\ 21[s;31]\#[s;2^21]\#$
$+\ 49[s;31]\#[s;21^2]\#$
$+\ [s;31]\#[s;2]\#$
$+\ 10[s;31]\#[s;1^2]\#$
$-\ 95[s;31]\#[s;0]$
$+\ 5[s;31][s;61^2]$
$+\ 5[s;31][s;531]$
$+\ 46[s;31][s;52]$
$+\ [s;31][s;4^22]$

$+\ 55[s;3^2][s;41^2]$
$+\ 15[s;3^2][s;3^21]$
$+\ 98[s;3^2][s;321]$
$-\ [s;3^2][s;31]\#$
$+\ 33[s;3^2][s;2^3]$
$+\ 194[s;3^2][s;2^2]$
$+\ 453[s;3^2][s;21]$
$-\ 4[s;3^2][s;1^2]\#$
$-\ [s;32]\#[s;61]$
$-\ 11[s;32]\#[s;51]$
$-\ 29[s;32]\#[s;42]$
$-\ 13[s;32]\#[s;3^21]$
$-\ 109[s;32]\#[s;32]$
$-\ 157[s;32]\#[s;3]$
$-\ 149[s;32]\#[s;2^2]$
$-\ 353[s;32]\#[s;21]$
$+\ 4[s;32]\#[s;1^2]\#$
$-\ 107[s;32]\#[s;0]$
$+\ 6[s;32][s;61]$
$+\ 3[s;32][s;52^2]$
$+\ 58[s;32][s;51]$
$+\ 5[s;32][s;432]$
$-\ 4[s;32][s;421]\#$
$+\ 187[s;32][s;41^2]$
$+\ 20[s;32][s;3^22]$
$-\ 7[s;32][s;32^2]\#$
$-\ 2[s;32][s;32]\#$
$-\ 5[s;32][s;31]\#$
$+\ 148[s;32][s;2^3]$
$+\ 599[s;32][s;2^2]$
$+\ 1242[s;32][s;21]$
$+\ 668[s;32][s;1^3]$
$+\ 761[s;32][s;1]$
$-\ [s;31]\#[s;6]$
$-\ 6[s;31]\#[s;51^2]$
$-\ 8[s;31]\#[s;431]$
$-\ 53[s;31]\#[s;42]$
$-\ 59[s;31]\#[s;4]$
$-\ 30[s;31]\#[s;32^2]$
$+\ 17[s;31]\#[s;31^2]\#$
$-\ 160[s;31]\#[s;3]$
$-\ 187[s;31]\#[s;2^21]$
$-\ 320[s;31]\#[s;21^2]$
$-\ 268[s;31]\#[s;2]$
$-\ 297[s;31]\#[s;1^2]$
$+\ [s;31][s;62^2]$
$+\ 7[s;31][s;61]$
$+\ 10[s;31][s;53]$
$+\ 55[s;31][s;51^2]$
$+\ 3[s;31][s;4^21]$

$+\ 93[s;3^2][s;41]$
$+\ 27[s;3^2][s;3^2]$
$+\ 132[s;3^2][s;32]$
$+\ 282[s;3^2][s;31]$
$-\ 11[s;3^2][s;2^21]\#$
$-\ 30[s;3^2][s;21^2]\#$
$+\ 351[s;3^2][s;2]$
$+\ 365[s;3^2][s;1^2]$
$-\ [s;32]\#[s;6]$
$-\ 12[s;32]\#[s;5]$
$-\ 32[s;32]\#[s;41^2]$
$-\ 19[s;32]\#[s;3^2]$
$+\ 9[s;32]\#[s;31^2]\#$
$-\ 22[s;32]\#[s;2^3]$
$+\ 21[s;32]\#[s;21^2]\#$
$-\ 258[s;32]\#[s;2]$
$-\ 271[s;32]\#[s;1^2]$
$+\ [s;32][s;621]$
$+\ 5[s;32][s;6]$
$+\ 14[s;32][s;521]$
$+\ 48[s;32][s;5]$
$+\ 21[s;32][s;431]$
$+\ 124[s;32][s;421]$
$+\ 299[s;32][s;41]$
$-\ 3[s;32][s;3^21]\#$
$+\ 104[s;32][s;32^2]$
$+\ 468[s;32][s;32]$
$+\ 792[s;32][s;31]$
$-\ 69[s;32][s;2^21]\#$
$-\ 124[s;32][s;21^2]\#$
$-\ [s;32][s;2]\#$
$-\ 20[s;32][s;1^2]\#$
$+\ 306[s;32][s;0]$
$-\ 2[s;31]\#[s;53]$
$-\ 15[s;31]\#[s;51]$
$-\ 13[s;31]\#[s;43]$
$+\ 3[s;31]\#[s;41^2]\#$
$-\ 7[s;31]\#[s;3^22]$
$+\ 10[s;31]\#[s;321]\#$
$-\ 178[s;31]\#[s;31^2]$
$+\ 6[s;31]\#[s;2^3]\#$
$+\ 4[s;31]\#[s;2^2]\#$
$+\ 8[s;31]\#[s;21]\#$
$+\ 39[s;31]\#[s;1^3]\#$
$+\ [s;31]\#[s;1]\#$
$+\ 2[s;31][s;621]$
$+\ 6[s;31][s;6]$
$+\ 9[s;31][s;52^2]$
$+\ 85[s;31][s;51]$
$+\ 6[s;31][s;4^2]$

$+\,[s;31][s;43^2]$

$-\,2[s;31][s;42^2]\#$

$+\,266[s;31][s;42]$

$+\,248[s;31][s;4]$

$-\,8[s;31][s;3^21]\#$

$+\,222[s;31][s;32^2]$

$+\,702[s;31][s;32]$

$+\,1096[s;31][s;31]$

$-\,147[s;31][s;2^21]\#$

$-\,247[s;31][s;21^2]\#$

$-\,4[s;31][s;2]\#$

$-\,41[s;31][s;1^2]\#$

$+\,316[s;31][s;0]$

$-\,[s;3]\#[s;5]$

$-\,6[s;3]\#[s;41^2]$

$-\,5[s;3]\#[s;3^2]$

$+\,4[s;3]\#[s;31^2]\#$

$-\,7[s;3]\#[s;2^3]$

$+\,8[s;3]\#[s;21^2]\#$

$-\,44[s;3]\#[s;2]$

$-\,51[s;3]\#[s;1^2]$

$+\,3[s;3][s;621]$

$+\,2[s;3][s;6]$

$+\,12[s;3][s;52^2]$

$+\,50[s;3][s;51]$

$+\,3[s;3][s;4^2]$

$+\,48[s;3][s;43]$

$+\,192[s;3][s;421]$

$+\,252[s;3][s;41]$

$+\,53[s;3][s;3^22]$

$-\,26[s;3][s;32^2]\#$

$-\,6[s;3][s;32]\#$

$-\,13[s;3][s;31]\#$

$+\,237[s;3][s;2^3]$

$+\,562[s;3][s;2^2]$

$+\,968[s;3][s;21]$

$+\,573[s;3][s;1^3]$

$+\,443[s;3][s;1]$

$-\,2[s;2^2]\#[s;53]$

$-\,17[s;2^2]\#[s;51]$

$-\,13[s;2^2]\#[s;43]$

$+\,2[s;2^2]\#[s;41^2]\#$

$-\,7[s;2^2]\#[s;3^22]$

$+\,9[s;2^2]\#[s;321]\#$

$-\,154[s;2^2]\#[s;31^2]$

$+\,6[s;2^2]\#[s;2^3]\#$

$+\,3[s;2^2]\#[s;2^2]\#$

$+\,4[s;2^2]\#[s;21]\#$

$+\,21[s;2^2]\#[s;1^3]\#$

$-\,200[s;2^2]\#[s;1]$

$+\,15[s;31][s;432]$

$+\,71[s;31][s;42^2]$

$-\,27[s;31][s;41^2]\#$

$+\,5[s;31][s;3^3]$

$+\,168[s;31][s;3^21]$

$-\,80[s;31][s;321]\#$

$-\,116[s;31][s;31^2]\#$

$+\,634[s;31][s;3]$

$+\,929[s;31][s;2^21]$

$+\,1405[s;31][s;21^2]$

$+\,991[s;31][s;2]$

$+\,1111[s;31][s;1^2]$

$-\,[s;3]\#[s;52]$

$-\,2[s;3]\#[s;43]$

$-\,13[s;3]\#[s;41]$

$-\,5[s;3]\#[s;32^2]$

$-\,32[s;3]\#[s;31^2]$

$+\,4[s;3]\#[s;2^21]\#$

$-\,53[s;3]\#[s;21^2]$

$+\,9[s;3]\#[s;1^3]\#$

$-\,42[s;3]\#[s;1]$

$+\,2[s;3][s;62]$

$+\,2[s;3][s;532]$

$+\,33[s;3][s;521]$

$+\,28[s;3][s;5]$

$+\,[s;3][s;43^2]$

$-\,3[s;3][s;42^2]\#$

$+\,172[s;3][s;42]$

$+\,131[s;3][s;4]$

$-\,10[s;3][s;3^21]\#$

$+\,194[s;3][s;32^2]$

$+\,470[s;3][s;32]$

$+\,658[s;3][s;31]$

$-\,127[s;3][s;2^21]\#$

$-\,186[s;3][s;21^2]\#$

$-\,3[s;3][s;2]\#$

$-\,32[s;3][s;1^2]\#$

$+\,155[s;3][s;0]$

$-\,3[s;2^2]\#[s;521]$

$-\,14[s;2^2]\#[s;5]$

$-\,5[s;2^2]\#[s;42^2]$

$-\,51[s;2^2]\#[s;41^2]$

$-\,25[s;2^2]\#[s;3^21]$

$-\,117[s;2^2]\#[s;321]$

$+\,2[s;2^2]\#[s;31]\#$

$-\,43[s;2^2]\#[s;2^3]$

$-\,179[s;2^2]\#[s;2^2]$

$-\,341[s;2^2]\#[s;21]$

$-\,167[s;2^2]\#[s;1^3]$

$-\,78[s;2^2]\#[s;0]$

$+\,59[s;31][s;431]$

$-\,9[s;31][s;421]\#$

$+\,320[s;31][s;41^2]$

$-\,2[s;31][s;3^22]\#$

$+\,179[s;31][s;3^2]$

$+\,725[s;31][s;321]$

$+\,899[s;31][s;31^2]$

$-\,54[s;31][s;2^3]\#$

$-\,24[s;31][s;2^2]\#$

$-\,45[s;31][s;21]\#$

$-\,180[s;31][s;1^3]\#$

$-\,5[s;31][s;1]\#$

$-\,[s;3]\#[s;51^2]$

$-\,5[s;3]\#[s;421]$

$-\,7[s;3]\#[s;4]$

$-\,17[s;3]\#[s;321]$

$-\,39[s;3]\#[s;31]$

$-\,34[s;3]\#[s;2^21]$

$+\,2[s;3]\#[s;21]\#$

$-\,41[s;3]\#[s;1^3]$

$-\,16[s;3]\#[s;0]$

$+\,4[s;3][s;61^2]$

$+\,7[s;3][s;531]$

$+\,34[s;3][s;52]$

$+\,[s;3][s;4^22]$

$+\,19[s;3][s;432]$

$+\,64[s;3][s;42^2]$

$-\,21[s;3][s;41^2]\#$

$+\,6[s;3][s;3^3]$

$+\,137[s;3][s;3^21]$

$-\,69[s;3][s;321]\#$

$-\,98[s;3][s;31^2]\#$

$+\,354[s;3][s;3]$

$+\,668[s;3][s;2^21]$

$+\,912[s;3][s;21^2]$

$+\,534[s;3][s;2]$

$+\,631[s;3][s;1^2]$

$-\,[s;2^2]\#[s;61]$

$-\,7[s;2^2]\#[s;52]$

$-\,[s;2^2]\#[s;4^2]$

$-\,29[s;2^2]\#[s;421]$

$-\,83[s;2^2]\#[s;41]$

$-\,38[s;2^2]\#[s;3^2]$

$-\,140[s;2^2]\#[s;32]$

$-\,237[s;2^2]\#[s;31]$

$+\,16[s;2^2]\#[s;2^21]\#$

$+\,31[s;2^2]\#[s;21^2]\#$

$+\,[s;2^2]\#[s;2]\#$

$+\,4[s;2^2]\#[s;1^2]\#$

$+\,[s;2^2][s;621]$

$+\,66[s;31][s;43]$

$+\,230[s;31][s;421]$

$+\,399[s;31][s;41]$

$+\,61[s;31][s;3^22]$

$-\,21[s;31][s;32^2]\#$

$-\,5[s;31][s;32]\#$

$-\,17[s;31][s;31]\#$

$+\,309[s;31][s;2^3]$

$+\,891[s;31][s;2^2]$

$+\,1610[s;31][s;21]$

$+\,912[s;31][s;1^3]$

$+\,840[s;31][s;1]$

$-\,[s;3]\#[s;51]$

$-\,6[s;3]\#[s;42]$

$-\,4[s;3]\#[s;3^21]$

$-\,27[s;3]\#[s;32]$

$-\,27[s;3]\#[s;3]$

$-\,34[s;3]\#[s;2^2]$

$-\,72[s;3]\#[s;21]$

$+\,2[s;3]\#[s;1^2]\#$

$+\,[s;3][s;62^2]$

$+\,5[s;3][s;61]$

$+\,5[s;3][s;53]$

$+\,44[s;3][s;51^2]$

$+\,4[s;3][s;4^21]$

$+\,47[s;3][s;431]$

$-\,12[s;3][s;421]\#$

$+\,221[s;3][s;41^2]$

$-\,2[s;3][s;3^22]\#$

$+\,119[s;3][s;3^2]$

$+\,526[s;3][s;321]$

$+\,624[s;3][s;31^2]$

$-\,50[s;3][s;2^3]\#$

$-\,20[s;3][s;2^2]\#$

$-\,38[s;3][s;21]\#$

$-\,134[s;3][s;1^3]\#$

$-\,4[s;3][s;1]\#$

$-\,2[s;2^2]\#[s;6]$

$-\,6[s;2^2]\#[s;51^2]$

$-\,8[s;2^2]\#[s;431]$

$-\,51[s;2^2]\#[s;42]$

$-\,62[s;2^2]\#[s;4]$

$-\,25[s;2^2]\#[s;32^2]$

$+\,12[s;2^2]\#[s;31^2]\#$

$-\,153[s;2^2]\#[s;3]$

$-\,153[s;2^2]\#[s;2^21]$

$-\,256[s;2^2]\#[s;21^2]$

$-\,235[s;2^2]\#[s;2]$

$-\,242[s;2^2]\#[s;1^2]$

$+\,2[s;2^2][s;62]$

$+ 3[s;2^2][s;61^2]$
$+ 3[s;2^2][s;531]$
$+ 32[s;2^2][s;52]$
$+ 2[s;2^2][s;4^21]$
$+ 41[s;2^2][s;431]$
$- 6[s;2^2][s;421]\#$
$+ 213[s;2^2][s;41^2]$
$- [s;2^2][s;3^22]\#$
$+ 134[s;2^2][s;3^2]$
$+ 481[s;2^2][s;321]$
$+ 586[s;2^2][s;31^2]$
$- 36[s;2^2][s;2^3]\#$
$- 16[s;2^2][s;2^2]\#$
$- 22[s;2^2][s;21]\#$
$- 91[s;2^2][s;1^3]\#$
$- [s;2^2][s;1]\#$
$- 2[s;21]\#[s;61]$
$- [s;21]\#[s;52^2]$
$- 22[s;21]\#[s;51]$
$- 4[s;21]\#[s;432]$
$+ 3[s;21]\#[s;421]\#$
$- 82[s;21]\#[s;41^2]$
$- 19[s;21]\#[s;3^22]$
$+ 7[s;21]\#[s;32^2]\#$
$+ 3[s;21]\#[s;32]\#$
$+ 3[s;21]\#[s;31]\#$
$- 93[s;21]\#[s;2^3]$
$- 285[s;21]\#[s;2^2]$
$- 498[s;21]\#[s;21]$
$- 252[s;21]\#[s;1^3]$
$- 238[s;21]\#[s;1]$
$+ 5[s;21][s;62]$
$+ 3[s;21][s;532]$
$+ 57[s;21][s;521]$
$+ 61[s;21][s;5]$
$+ 3[s;21][s;43^2]$
$- 6[s;21][s;42^2]\#$
$+ 356[s;21][s;42]$
$+ 269[s;21][s;4]$
$- 24[s;21][s;3^21]\#$
$+ 381[s;21][s;32^2]$
$+ 942[s;21][s;32]$
$+ 1264[s;21][s;31]$
$- 235[s;21][s;2^21]\#$
$- 294[s;21][s;21^2]\#$
$- 5[s;21][s;2]\#$
$- 40[s;21][s;1^2]\#$
$+ 278[s;21][s;0]$
$- [s;2]\#[s;51^2]$
$- 4[s;2]\#[s;431]$

$+ 5[s;2^2][s;61]$
$+ 7[s;2^2][s;53]$
$+ 35[s;2^2][s;51^2]$
$+ 5[s;2^2][s;4^2]$
$+ 50[s;2^2][s;43]$
$+ 152[s;2^2][s;421]$
$+ 285[s;2^2][s;41]$
$+ 42[s;2^2][s;3^22]$
$- 15[s;2^2][s;32^2]\#$
$- 4[s;2^2][s;32]\#$
$- 9[s;2^2][s;31]\#$
$+ 194[s;2^2][s;2^3]$
$+ 598[s;2^2][s;2^2]$
$+ 1074[s;2^2][s;21]$
$+ 562[s;2^2][s;1^3]$
$+ 567[s;2^2][s;1]$
$- [s;21]\#[s;6]$
$- 7[s;21]\#[s;521]$
$- 16[s;21]\#[s;5]$
$- 18[s;21]\#[s;431]$
$- 72[s;21]\#[s;421]$
$- 130[s;21]\#[s;41]$
$+ 4[s;21]\#[s;3^21]\#$
$- 72[s;21]\#[s;32^2]$
$- 250[s;21]\#[s;32]$
$- 339[s;21]\#[s;31]$
$+ 48[s;21]\#[s;2^21]\#$
$+ 60[s;21]\#[s;21^2]\#$
$+ [s;21]\#[s;2]\#$
$+ 8[s;21]\#[s;1^2]\#$
$- 84[s;21]\#[s;0]$
$+ 5[s;21][s;61^2]$
$+ 12[s;21][s;531]$
$+ 71[s;21][s;52]$
$+ 2[s;21][s;4^22]$
$+ 38[s;21][s;432]$
$+ 120[s;21][s;42^2]$
$- 30[s;21][s;41^2]\#$
$+ 15[s;21][s;3^3]$
$+ 289[s;21][s;3^21]$
$- 131[s;21][s;321]\#$
$- 158[s;21][s;31^2]\#$
$+ 691[s;21][s;3]$
$+ 1242[s;21][s;2^21]$
$+ 1610[s;21][s;21^2]$
$+ 999[s;21][s;2]$
$+ 1115[s;21][s;1^2]$
$- [s;2]\#[s;53]$
$- 3[s;2]\#[s;51]$
$- 6[s;2]\#[s;43]$

$+ 5[s;2^2][s;6]$
$+ 5[s;2^2][s;52^2]$
$+ 63[s;2^2][s;51]$
$+ [s;2^2][s;43^2]$
$- 2[s;2^2][s;42^2]\#$
$+ 186[s;2^2][s;42]$
$+ 186[s;2^2][s;4]$
$- 6[s;2^2][s;3^21]\#$
$+ 146[s;2^2][s;32^2]$
$+ 489[s;2^2][s;32]$
$+ 756[s;2^2][s;31]$
$- 90[s;2^2][s;2^21]\#$
$- 136[s;2^2][s;21^2]\#$
$- 2[s;2^2][s;2]\#$
$- 18[s;2^2][s;1^2]\#$
$+ 215[s;2^2][s;0]$
$- [s;21]\#[s;531]$
$- 16[s;21]\#[s;52]$
$- [s;21]\#[s;4^21]$
$- 29[s;21]\#[s;43]$
$- 87[s;21]\#[s;42]$
$- 74[s;21]\#[s;4]$
$- 64[s;21]\#[s;3^21]$
$+ 21[s;21]\#[s;321]\#$
$+ 32[s;21]\#[s;31^2]\#$
$- 202[s;21]\#[s;3]$
$- 299[s;21]\#[s;2^21]$
$- 399[s;21]\#[s;21^2]$
$- 291[s;21]\#[s;2]$
$- 311[s;21]\#[s;1^2]$
$+ [s;21][s;62^2]$
$+ 10[s;21][s;61]$
$+ 15[s;21][s;53]$
$+ 76[s;21][s;51^2]$
$+ 8[s;21][s;4^21]$
$+ 99[s;21][s;431]$
$- 24[s;21][s;421]\#$
$+ 399[s;21][s;41^2]$
$- 6[s;21][s;3^22]\#$
$+ 261[s;21][s;3^2]$
$+ 1012[s;21][s;321]$
$+ 1138[s;21][s;31^2]$
$- 102[s;21][s;2^3]\#$
$- 41[s;21][s;2^2]\#$
$- 57[s;21][s;21]\#$
$- 191[s;21][s;1^3]\#$
$- 4[s;21][s;1]\#$
$- [s;2]\#[s;521]$
$- 2[s;2]\#[s;5]$
$- 3[s;2]\#[s;42^2]$

$+ [s;2^2][s;532]$
$+ 24[s;2^2][s;521]$
$+ 43[s;2^2][s;5]$
$+ 10[s;2^2][s;432]$
$+ 44[s;2^2][s;42^2]$
$- 15[s;2^2][s;41^2]\#$
$+ 4[s;2^2][s;3^3]$
$+ 118[s;2^2][s;3^21]$
$- 52[s;2^2][s;321]\#$
$- 66[s;2^2][s;31^2]\#$
$+ 453[s;2^2][s;3]$
$+ 599[s;2^2][s;2^21]$
$+ 891[s;2^2][s;21^2]$
$+ 676[s;2^2][s;2]$
$+ 730[s;2^2][s;1^2]$
$- [s;21]\#[s;62]$
$- 4[s;21]\#[s;53]$
$- 13[s;21]\#[s;51^2]$
$- 3[s;21]\#[s;4^2]$
$- 16[s;21]\#[s;42^2]$
$+ 3[s;21]\#[s;41^2]\#$
$- 2[s;21]\#[s;3^3]$
$- 69[s;21]\#[s;3^2]$
$- 223[s;21]\#[s;321]$
$- 277[s;21]\#[s;31^2]$
$+ 16[s;21]\#[s;2^3]\#$
$+ 8[s;21]\#[s;2^2]\#$
$+ 13[s;21]\#[s;21]\#$
$+ 43[s;21]\#[s;1^3]\#$
$+ [s;21]\#[s;1]\#$
$+ 4[s;21][s;621]$
$+ 5[s;21][s;6]$
$+ 19[s;21][s;52^2]$
$+ 100[s;21][s;51]$
$+ 10[s;21][s;4^2]$
$+ 111[s;21][s;43]$
$+ 365[s;21][s;421]$
$+ 498[s;21][s;41]$
$+ 115[s;21][s;3^22]$
$- 57[s;21][s;32^2]\#$
$- 16[s;21][s;32]\#$
$- 20[s;21][s;31]\#$
$+ 453[s;21][s;2^3]$
$+ 1074[s;21][s;2^2]$
$+ 1784[s;21][s;21]$
$+ 968[s;21][s;1^3]$
$+ 800[s;21][s;1]$
$- 2[s;2]\#[s;52]$
$- [s;2]\#[s;4^2]$
$- 11[s;2]\#[s;421]$

$-18[s;2]\#[s;42]$

$-13[s;2]\#[s;4]$

$-11[s;2]\#[s;32^2]$

$+5[s;2]\#[s;31^2]\#$

$-36[s;2]\#[s;3]$

$-57[s;2]\#[s;2^21]$

$-81[s;2]\#[s;21^2]$

$+8[s;2]\#[s;1^3]\#$

$-44[s;2]\#[s;1]$

$+4[s;2][s;62]$

$+5[s;2][s;532]$

$+53[s;2][s;521]$

$+31[s;2][s;5]$

$+4[s;2][s;43^2]$

$-9[s;2][s;42^2]\#$

$+253[s;2][s;42]$

$+158[s;2][s;4]$

$-20[s;2][s;3^21]\#$

$+313[s;2][s;32^2]$

$+635[s;2][s;32]$

$+816[s;2][s;31]$

$-191[s;2][s;2^21]\#$

$-234[s;2][s;21^2]\#$

$-4[s;2][s;2]\#$

$-32[s;2][s;1^2]\#$

$+149[s;2][s;0]$

$-5[s;1^2]\#[s;53]$

$-7[s;1^2]\#[s;51^2]$

$-4[s;1^2]\#[s;4^2]$

$-24[s;1^2]\#[s;43]$

$-55[s;1^2]\#[s;421]$

$-74[s;1^2]\#[s;41]$

$-24[s;1^2]\#[s;3^22]$

$+9[s;1^2]\#[s;32^2]\#$

$+3[s;1^2]\#[s;32]\#$

$+3[s;1^2]\#[s;31]\#$

$-79[s;1^2]\#[s;2^3]$

$-186[s;1^2]\#[s;2^2]$

$-269[s;1^2]\#[s;21]$

$-131[s;1^2]\#[s;1^3]$

$-32[s;1^2]\#[s;0]$

$+4[s;1^2][s;61^2]$

$+10[s;1^2][s;531]$

$+47[s;1^2][s;52]$

$+3[s;1^2][s;4^22]$

$+37[s;1^2][s;432]$

$+108[s;1^2][s;42^2]$

$-22[s;1^2][s;41^2]\#$

$+16[s;1^2][s;3^3]$

$+227[s;1^2][s;3^21]$

$+[s;2]\#[s;41^2]\#$

$-4[s;2]\#[s;3^22]$

$+5[s;2]\#[s;321]\#$

$-49[s;2]\#[s;31^2]$

$+3[s;2]\#[s;2^3]\#$

$+2[s;2]\#[s;2^2]\#$

$+2[s;2]\#[s;21]\#$

$-48[s;2]\#[s;1^3]$

$-16[s;2]\#[s;0]$

$+5[s;2][s;61^2]$

$+11[s;2][s;531]$

$+47[s;2][s;52]$

$+3[s;2][s;4^22]$

$+37[s;2][s;432]$

$+116[s;2][s;42^2]$

$-31[s;2][s;41^2]\#$

$+14[s;2][s;3^3]$

$+223[s;2][s;3^21]$

$-119[s;2][s;321]\#$

$-126[s;2][s;31^2]\#$

$+399[s;2][s;3]$

$+898[s;2][s;2^21]$

$+1111[s;2][s;21^2]$

$+585[s;2][s;2]$

$+681[s;2][s;1^2]$

$-[s;1^2]\#[s;62]$

$-[s;1^2]\#[s;52^2]$

$-14[s;1^2]\#[s;51]$

$-[s;1^2]\#[s;43^2]$

$+[s;1^2]\#[s;42^2]\#$

$-67[s;1^2]\#[s;42]$

$-39[s;1^2]\#[s;4]$

$+4[s;1^2]\#[s;3^21]\#$

$-63[s;1^2]\#[s;32^2]$

$-166[s;1^2]\#[s;32]$

$-206[s;1^2]\#[s;31]$

$+39[s;1^2]\#[s;2^21]\#$

$+42[s;1^2]\#[s;21^2]\#$

$+[s;1^2]\#[s;2]\#$

$+4[s;1^2]\#[s;1^2]\#$

$+[s;1^2][s;62^2]$

$+5[s;1^2][s;61]$

$+15[s;1^2][s;53]$

$+47[s;1^2][s;51^2]$

$+7[s;1^2][s;4^21]$

$+90[s;1^2][s;431]$

$-21[s;1^2][s;421]\#$

$+268[s;1^2][s;41^2]$

$-10[s;1^2][s;3^22]\#$

$+195[s;1^2][s;3^2]$

$-14[s;2]\#[s;41^2]$

$-12[s;2]\#[s;3^21]$

$-47[s;2]\#[s;321]$

$+[s;2]\#[s;31]\#$

$-19[s;2]\#[s;2^3]$

$-61[s;2]\#[s;2^2]$

$-95[s;2]\#[s;21]$

$+2[s;2]\#[s;1^2]\#$

$+2[s;2][s;62^2]$

$+5[s;2][s;61]$

$+11[s;2][s;53]$

$+55[s;2][s;51^2]$

$+7[s;2][s;4^21]$

$+86[s;2][s;431]$

$-21[s;2][s;421]\#$

$+297[s;2][s;41^2]$

$-8[s;2][s;3^22]\#$

$+188[s;2][s;3^2]$

$+778[s;2][s;321]$

$+790[s;2][s;31^2]$

$-93[s;2][s;2^3]\#$

$-36[s;2][s;2^2]\#$

$-45[s;2][s;21]\#$

$-140[s;2][s;1^3]\#$

$-3[s;2][s;1]\#$

$-[s;1^2]\#[s;61]$

$-8[s;1^2]\#[s;521]$

$-7[s;1^2]\#[s;5]$

$-5[s;1^2]\#[s;432]$

$-19[s;1^2]\#[s;42^2]$

$+3[s;1^2]\#[s;41^2]\#$

$-3[s;1^2]\#[s;3^3]$

$-55[s;1^2]\#[s;3^21]$

$+24[s;1^2]\#[s;321]\#$

$+21[s;1^2]\#[s;31^2]\#$

$-102[s;1^2]\#[s;3]$

$-204[s;1^2]\#[s;2^21]$

$-248[s;1^2]\#[s;21^2]$

$-143[s;1^2]\#[s;2]$

$-158[s;1^2]\#[s;1^2]$

$+3[s;1^2][s;621]$

$+2[s;1^2][s;6]$

$+17[s;1^2][s;52^2]$

$+61[s;1^2][s;51]$

$+9[s;1^2][s;4^2]$

$+83[s;1^2][s;43]$

$+268[s;1^2][s;421]$

$+291[s;1^2][s;41]$

$+112[s;1^2][s;3^22]$

$-57[s;1^2][s;32^2]\#$

$-21[s;2]\#[s;41]$

$-17[s;2]\#[s;3^2]$

$-49[s;2]\#[s;32]$

$-67[s;2]\#[s;31]$

$+8[s;2]\#[s;2^21]\#$

$+14[s;2]\#[s;21^2]\#$

$-57[s;2]\#[s;2]$

$-62[s;2]\#[s;1^2]$

$+4[s;2][s;621]$

$+3[s;2][s;6]$

$+20[s;2][s;52^2]$

$+66[s;2][s;51]$

$+8[s;2][s;4^2]$

$+77[s;2][s;43]$

$+282[s;2][s;421]$

$+311[s;2][s;41]$

$+104[s;2][s;3^22]$

$-54[s;2][s;32^2]\#$

$-13[s;2][s;32]\#$

$-19[s;2][s;31]\#$

$+365[s;2][s;2^3]$

$+730[s;2][s;2^2]$

$+1115[s;2][s;21]$

$+631[s;2][s;1^3]$

$+447[s;2][s;1]$

$-[s;1^2]\#[s;531]$

$-11[s;1^2]\#[s;52]$

$-[s;1^2]\#[s;4^21]$

$-22[s;1^2]\#[s;431]$

$+3[s;1^2]\#[s;421]\#$

$-59[s;1^2]\#[s;41^2]$

$+[s;1^2]\#[s;3^22]\#$

$-60[s;1^2]\#[s;3^2]$

$-183[s;1^2]\#[s;321]$

$-172[s;1^2]\#[s;31^2]$

$+19[s;1^2]\#[s;2^3]\#$

$+9[s;1^2]\#[s;2^2]\#$

$+8[s;1^2]\#[s;21]\#$

$+21[s;1^2]\#[s;1^3]\#$

$-103[s;1^2]\#[s;1]$

$+4[s;1^2][s;62]$

$+4[s;1^2][s;532]$

$+48[s;1^2][s;521]$

$+29[s;1^2][s;5]$

$+5[s;1^2][s;43^2]$

$-9[s;1^2][s;42^2]\#$

$+250[s;1^2][s;42]$

$+143[s;1^2][s;4]$

$-22[s;1^2][s;3^21]\#$

$+307[s;1^2][s;32^2]$

$- 114[s; 1^2][s; 321]\#$

$- 108[s; 1^2][s; 31^2]\#$

$+ 364[s; 1^2][s; 3]$

$+ 837[s; 1^2][s; 2^2 1]$

$+ 991[s; 1^2][s; 21^2]$

$+ 516[s; 1^2][s; 2]$

$+ 585[s; 1^2][s; 1^2]$

$- [s; 1]\#[s; 53]$

$- 2[s; 1]\#[s; 51]$

$- 5[s; 1]\#[s; 431]$

$- 12[s; 1]\#[s; 421]$

$- 7[s; 1]\#[s; 4]$

$- 14[s; 1]\#[s; 3^2 1]$

$+ 5[s; 1]\#[s; 321]\#$

$+ 5[s; 1]\#[s; 31^2]\#$

$+ 4[s; 1]\#[s; 2^3]\#$

$+ 2[s; 1]\#[s; 2^2]\#$

$+ 2[s; 1]\#[s; 21]\#$

$- 28[s; 1]\#[s; 1^3]$

$+ 2[s; 1][s; 62^2]$

$+ 4[s; 1][s; 61]$

$+ 10[s; 1][s; 53]$

$+ 46[s; 1][s; 51^2]$

$+ 8[s; 1][s; 4^2 1]$

$+ 86[s; 1][s; 431]$

$- 26[s; 1][s; 421]\#$

$+ 236[s; 1][s; 41^2]$

$- 12[s; 1][s; 3^2 2]\#$

$+ 165[s; 1][s; 3^2]$

$+ 682[s; 1][s; 321]$

$+ 636[s; 1][s; 31^2]$

$- 100[s; 1][s; 2^3]\#$

$- 35[s; 1][s; 2^2]\#$

$- 36[s; 1][s; 21]\#$

$- 97[s; 1][s; 1^3]\#$

$- [s; 1][s; 1]\#$

$- [s; 0]\#[s; 43]$

$- [s; 0]\#[s; 41]$

$- [s; 0]\#[s; 32^2]$

$- 3[s; 0]\#[s; 31^2]$

$- 2[s; 0]\#[s; 2^3]$

$+ [s; 0]\#[s; 21^2]\#$

$- 2[s; 0]\#[s; 1^3]$

$+ 2[s; 0][s; 621]$

$+ 4[s; 0][s; 532]$

$+ 22[s; 0][s; 521]$

$+ 5[s; 0][s; 5]$

$+ 4[s; 0][s; 43^2]$

$- 8[s; 0][s; 42^2]\#$

$+ 82[s; 0][s; 42]$

$+ 746[s; 1^2][s; 321]$

$+ 718[s; 1^2][s; 31^2]$

$- 96[s; 1^2][s; 2^3]\#$

$- 35[s; 1^2][s; 2^2]\#$

$- 37[s; 1^2][s; 21]\#$

$- 106[s; 1^2][s; 1^3]\#$

$- [s; 1^2][s; 1]\#$

$- [s; 1]\#[s; 521]$

$- [s; 1]\#[s; 5]$

$- 6[s; 1]\#[s; 43]$

$- 15[s; 1]\#[s; 42]$

$- [s; 1]\#[s; 3^3]$

$- 15[s; 1]\#[s; 3^2]$

$- 41[s; 1]\#[s; 321]$

$- 40[s; 1]\#[s; 31^2]$

$- 17[s; 1]\#[s; 2^3]$

$- 43[s; 1]\#[s; 2^2]$

$- 61[s; 1]\#[s; 21]$

$- 31[s; 1]\#[s; 1^2]$

$+ 4[s; 1][s; 621]$

$+ [s; 1][s; 6]$

$+ 22[s; 1][s; 52^2]$

$+ 47[s; 1][s; 51]$

$+ 7[s; 1][s; 4^2]$

$+ 73[s; 1][s; 43]$

$+ 265[s; 1][s; 421]$

$+ 238[s; 1][s; 41]$

$+ 113[s; 1][s; 3^2 2]$

$- 66[s; 1][s; 32^2]\#$

$- 17[s; 1][s; 32]\#$

$- 13[s; 1][s; 31]\#$

$+ 336[s; 1][s; 2^3]$

$+ 567[s; 1][s; 2^2]$

$+ 800[s; 1][s; 21]$

$+ 443[s; 1][s; 1^3]$

$+ 270[s; 1][s; 1]$

$- [s; 0]\#[s; 421]$

$- [s; 0]\#[s; 3^2 2]$

$+ [s; 0]\#[s; 321]\#$

$- 5[s; 0]\#[s; 31]$

$+ [s; 0]\#[s; 2^2 1]\#$

$- 6[s; 0]\#[s; 21^2]$

$- 3[s; 0]\#[s; 1^2]$

$+ [s; 0][s; 62]$

$+ 6[s; 0][s; 531]$

$+ 16[s; 0][s; 52]$

$+ 2[s; 0][s; 4^2 2]$

$+ 22[s; 0][s; 432]$

$+ 56[s; 0][s; 42^2]$

$- 9[s; 0][s; 41^2]\#$

$- 15[s; 1^2][s; 32]\#$

$- 15[s; 1^2][s; 31]\#$

$+ 351[s; 1^2][s; 2^3]$

$+ 676[s; 1^2][s; 2^2]$

$+ 999[s; 1^2][s; 21]$

$+ 534[s; 1^2][s; 1^3]$

$+ 379[s; 1^2][s; 1]$

$- 2[s; 1]\#[s; 52]$

$- [s; 1]\#[s; 4^2]$

$- 3[s; 1]\#[s; 42^2]$

$- 11[s; 1]\#[s; 41^2]$

$- 5[s; 1]\#[s; 3^2 2]$

$+ 2[s; 1]\#[s; 32^2]\#$

$+ [s; 1]\#[s; 32]\#$

$- 45[s; 1]\#[s; 31]$

$+ 10[s; 1]\#[s; 2^2 1]\#$

$+ 8[s; 1]\#[s; 21^2]\#$

$- 29[s; 1]\#[s; 2]$

$- 20[s; 1]\#[s; 1]$

$+ 3[s; 1][s; 62]$

$+ 6[s; 1][s; 532]$

$+ 48[s; 1][s; 521]$

$+ 20[s; 1][s; 5]$

$+ 6[s; 1][s; 43^2]$

$- 12[s; 1][s; 42^2]\#$

$+ 210[s; 1][s; 42]$

$+ 103[s; 1][s; 4]$

$- 25[s; 1][s; 3^2 1]\#$

$+ 312[s; 1][s; 32^2]$

$+ 528[s; 1][s; 32]$

$+ 603[s; 1][s; 31]$

$- 183[s; 1][s; 2^2 1]\#$

$- 182[s; 1][s; 21^2]\#$

$- 3[s; 1][s; 2]\#$

$- 19[s; 1][s; 1^2]\#$

$+ 80[s; 1][s; 0]$

$- 2[s; 0]\#[s; 42]$

$- 2[s; 0]\#[s; 3^2 1]$

$- 6[s; 0]\#[s; 321]$

$- [s; 0]\#[s; 3]$

$- 5[s; 0]\#[s; 2^2 1]$

$- 5[s; 0]\#[s; 21]$

$- [s; 0]\#[s; 1]$

$+ 2[s; 0][s; 61^2]$

$+ 4[s; 0][s; 53]$

$+ 18[s; 0][s; 51^2]$

$+ 4[s; 0][s; 4^2 1]$

$+ 40[s; 0][s; 431]$

$- 12[s; 0][s; 421]\#$

$+ 95[s; 0][s; 41^2]$

$+ 614[s; 1^2][s; 32]$

$+ 757[s; 1^2][s; 31]$

$- 181[s; 1^2][s; 2^2 1]\#$

$- 196[s; 1^2][s; 21^2]\#$

$- 4[s; 1^2][s; 2]\#$

$- 21[s; 1^2][s; 1^2]\#$

$+ 119[s; 1^2][s; 0]$

$- [s; 1]\#[s; 51^2]$

$- [s; 1]\#[s; 432]$

$+ [s; 1]\#[s; 421]\#$

$- 16[s; 1]\#[s; 41]$

$+ [s; 1]\#[s; 3^2 1]\#$

$- 14[s; 1]\#[s; 32^2]$

$- 41[s; 1]\#[s; 32]$

$- 22[s; 1]\#[s; 3]$

$- 48[s; 1]\#[s; 2^2 1]$

$- 53[s; 1]\#[s; 21^2]$

$+ 4[s; 1]\#[s; 1^3]\#$

$- 5[s; 1]\#[s; 0]$

$+ 4[s; 1][s; 61^2]$

$+ 13[s; 1][s; 531]$

$+ 42[s; 1][s; 52]$

$+ 4[s; 1][s; 4^2 2]$

$+ 44[s; 1][s; 432]$

$+ 116[s; 1][s; 42^2]$

$- 21[s; 1][s; 41^2]\#$

$+ 18[s; 1][s; 3^3]$

$+ 220[s; 1][s; 3^2 1]$

$- 116[s; 1][s; 321]\#$

$- 107[s; 1][s; 31^2]\#$

$+ 272[s; 1][s; 3]$

$+ 761[s; 1][s; 2^2 1]$

$+ 840[s; 1][s; 21^2]$

$+ 379[s; 1][s; 2]$

$+ 447[s; 1][s; 1^2]$

$- [s; 0]\#[s; 431]$

$- [s; 0]\#[s; 41^2]$

$- 3[s; 0]\#[s; 3^2]$

$- 5[s; 0]\#[s; 32]$

$+ [s; 0]\#[s; 2^3]\#$

$- 5[s; 0]\#[s; 2^2]$

$- 2[s; 0]\#[s; 2]$

$+ [s; 0][s; 62^2]$

$+ [s; 0][s; 61]$

$+ 11[s; 0][s; 52^2]$

$+ 17[s; 0][s; 51]$

$+ 3[s; 0][s; 4^2]$

$+ 30[s; 0][s; 43]$

$+ 113[s; 0][s; 421]$

$+ 84[s; 0][s; 41]$

$+ 32[s;0][s;4]$ $+ 9[s;0][s;3^3]$ $- 7[s;0][s;3^2 2]\#$ $+ 55[s;0][s;3^2 2]$

$- 12[s;0][s;3^2 1]\#$ $+ 96[s;0][s;3^2 1]$ $+ 69[s;0][s;3^2]$ $- 33[s;0][s;32^2]\#$

$+ 140[s;0][s;32^2]$ $- 54[s;0][s;321]\#$ $+ 287[s;0][s;321]$ $- 8[s;0][s;32]\#$

$+ 204[s;0][s;32]$ $- 44[s;0][s;31^2]\#$ $+ 244[s;0][s;31^2]$ $- 5[s;0][s;31]\#$

$+ 217[s;0][s;31]$ $+ 87[s;0][s;3]$ $- 48[s;0][s;2^3]\#$ $+ 145[s;0][s;2^3]$

$- 80[s;0][s;2^2 1]\#$ $+ 306[s;0][s;2^2 1]$ $- 16[s;0][s;2^2]\#$ $+ 215[s;0][s;2^2]$

$- 72[s;0][s;21^2]\#$ $+ 316[s;0][s;21^2]$ $- 14[s;0][s;21]\#$ $+ 278[s;0][s;21]$

$- [s;0][s;2]\#$ $+ 119[s;0][s;2]$ $- 35[s;0][s;1^3]\#$ $+ 155[s;0][s;1^3]$

$- 6[s;0][s;1^2]\#$ $+ 149[s;0][s;1^2]$ $+ 80[s;0][s;1]$ $+ 21[s;0][s;0]$

Dimension s;31 = 23,084,400,640

TermSum = 1836

CoeffSum = 108621