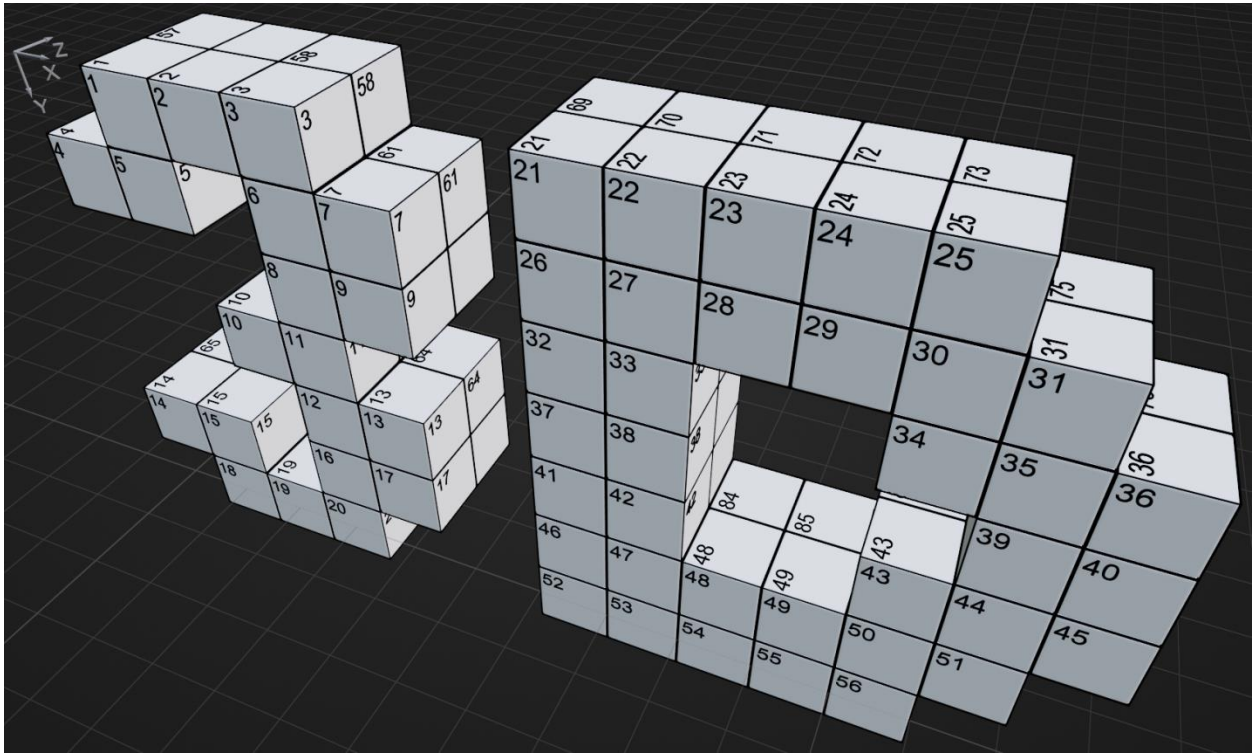# Logo

This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X, Y, and Z directions.

Rules:
1. "Words" may not start with a zero.
2. "Words" read from:
    a. X Direction: Left to right
    b. Y Direction: Top to bottom
    c. Z Direction: Front to back
3. There is one unique solution which satisfies all the given clues.
4. Some "words" may not have clues. They will be determined by the "words" which intersect them.

Planes

If we take the diagram pictured above and divide it into X-Y layers, we will have two planes.

This is the front plane:

■	1	2	3	■	■	21	22	23	24	25	■	■
4	5	■	6	7	■	26	27	28	29	30	31	■
■	■	■	8	9	■	32	33	■	■	34	35	36
■	■	10	11	■	■	37	38	■	■	■	39	40
■	■	■	12	13	■	41	42	■	■	43	44	45
14	15	■	16	17	■	46	47	48	49		51	■
■	18	19	20	■	■	52	53	54	55	56	■	■

And the rear plane:

■	57		58	■	■	69	70	71	72	73	■	■
59		■	60	61	■	74				75	■	■
■	■	■	62		■	76		■	■	77		78
■	■	63		■	■	79		■	■	■	80	
■	■	■		64	■	81		■	■	82		
65	66	■	67		■	83		84	85			■
■	68			■	■	86					■	■

Clues

X Direction

6	Same as Z49
8	Same as Y84
12	Y24 minus Z2
14	Same as Z21
16	Y73 divided by the result of Z27 minus X63
18	Y25 rearranged
34	Is a square
43	Is a prime number
46	Is a prime number
52	Y25 times Z50
57	Consecutive digits in descending order
60	Is a prime number
62	Z53 minus X10
63	Average of X60 and Z31
65	Y73 divided by Z47
69	X34 times Z50
74	Is a prime number
75	Is a square
76	Same as Z22
77	First and last digits are the same
79	Digits are the same
81	Same as Z23
83	Is a square
86	Fourth digit is sum of the first three

Y Direction

1	Same as Z32
3	Ten more than X68 times Y25 times Z47
7	Z49 reversed
8	Twice X60
15	X77 divided by the result of Z9 minus Z33
21	X69 times Z50, then add X57 and Z47
22	Is a prime number
23	Five more than Z9
24	Same as last two digits of X26
25	X57 rearranged
31	Is a prime number
36	Y78 minus X1
43	Consecutive digits in ascending order
44	Three more than X60 plus Y1
48	X77 divided by Z3
57	Same as Z28
58	First two digits are Z27 minus twice Z51
61	Is a prime number
64	X81 plus Z47
69	Is a prime number
70	Is a square
71	Same as Z29
72	Two less than Z35
73	X43 minus Z84
75	Is a square
82	Consecutive digits in descending order

Z Direction

1	Y23 minus twenty
2	Same as X60
3	Is a square
4	X39 minus Y61
7	Is a prime number
12	Average of Y1 and Z26
16	X8 minus Z56
21	X62 reversed
22	Same as X8
23	Y7 reversed
25	Two more than Y61
26	Three more than X10
27	One more than X39
38	Add X10 to Y7, then reverse the digits
42	Two thirds of X79
46	Is a square
47	Half of X10
48	Is a prime number
49	Y78 divided by Z46
50	Is a prime number
51	Is a square
52	Y43 minus X34
53	One less than Z49 plus Z46
56	X10 reversed

Solution is on next page

Solution

Front plane:

⬛	3	4	3	⬛	⬛	3	9	5	8	7	⬛	⬛
2	9	⬛	5	6	⬛	3	9	8	6	8	6	⬛
⬛	⬛	⬛	9	5	⬛	3	3	⬛	⬛	6	2	5
⬛	⬛	2	8	⬛	⬛	1	3	⬛	⬛	⬛	9	5
⬛	⬛	⬛	3	9	⬛	5	6	⬛	⬛	6	8	3
3	4	⬛	1	4	⬛	1	1	2	5	7	1	⬛
⬛	6	7	8	⬛	⬛	5	7	3	7	8	⬛	⬛

Rear plane:

⬛	8	7	6	⬛	⬛	4	5	6	2	5	⬛	⬛
2	0	⬛	4	7	⬛	1	6	0	0	8	1	⬛
⬛	⬛	⬛	4	3	⬛	9	5	⬛	⬛	8	2	8
⬛	⬛	5	4	⬛	⬛	9	9	⬛	⬛	⬛	9	9
⬛	⬛	⬛	5	7	⬛	5	6	⬛	⬛	4	9	6
4	2	⬛	3	0	⬛	6	4	9	6	3	6	⬛
⬛	3	2	7	⬛	⬛	3	1	5	9	2	⬛	⬛