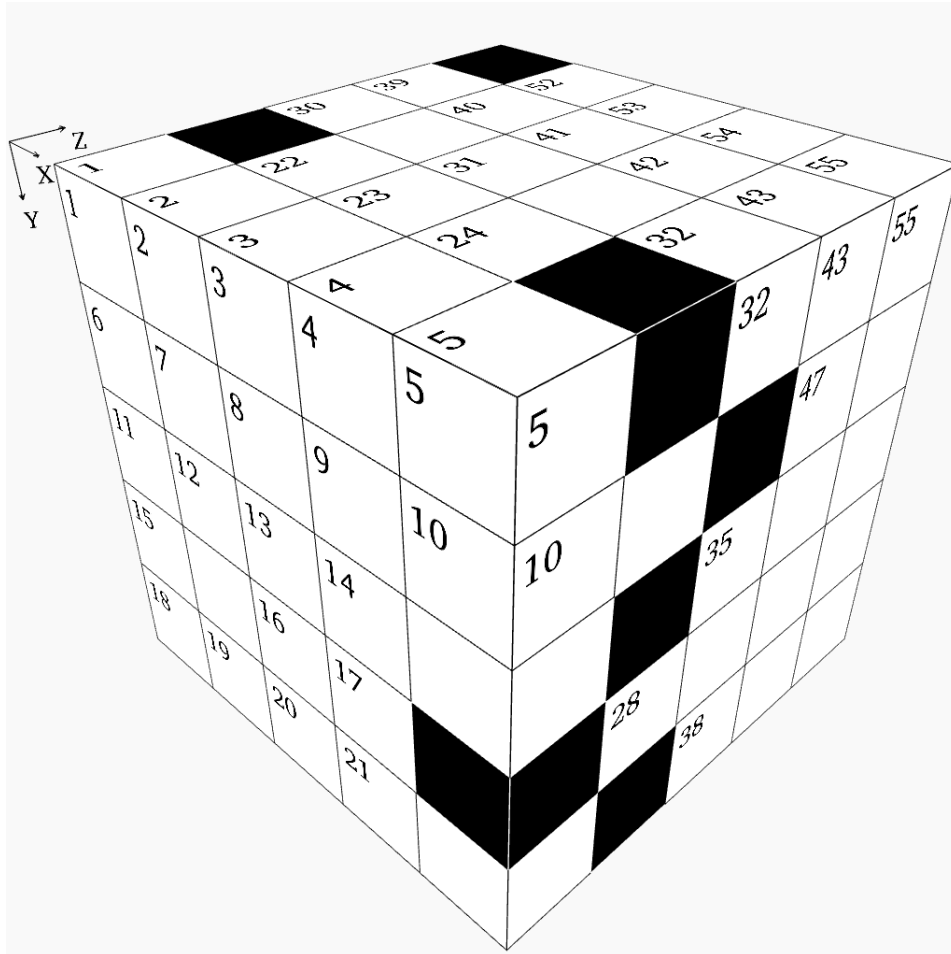# Cube - Hard Puzzle #28

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" in the X direction read from left to right.
3. "Words" in the Y direction read from top to bottom.
4. "Words" in the Z direction read from front to back.
5. There is one unique solution which satisfies all the clues given below.
6. Some "words" may not have clues. They will be determined by the "words" which intersect them.

If we take the cube pictured above and divide it into individual X-Y layers, we will get these planes:

X Direction

1 Six times a prime number
6 Last two digits are the same as Z9
11 A prime number
15 Twice the result of Z14 plus X48
18 Eight times a prime number
22 Three times Y39
25 Eighty-four times a prime number
26 Thirty-six times a prime number
27 Mean of Z35 and Y42
29 Eighty-seven times X33
30 Four thousand eighteen more than X39
33 Mean of Z48 and Z30
34 X49 plus Y54
37 X48 minus Y39
39 Five times a prime number
44 Eight times a prime number
48 X37 plus X57
49 Y40 minus X33
51 Z46 minus Y54
52 Twenty-one times a prime number
56 A prime number
57 X22 divided by three
58 Fourteen times a prime number
60 Twice a prime number

Y Direction

1 Four times a prime number
2 Seven times a square
3 A prime number
4 Z2 plus half of X18
5 X48 minus Y31
22 Twice the result of X30 minus Y23
23 Three times a prime number
24 Four times a prime number
25 Half of Z28, then subtract Y5
30 Twenty-six times a prime number
31 Y49 plus Y54
35 Z21 divided by X51
36 A cube
39 Same as X57
40 Y59 plus Z17
41 First three digits are the same as X27
42 Y43 divided by Z19
43 Ten thousand twenty-four more than Z16
49 Mean of Z10 and Y59
52 One thousand eight hundred fifty-five less than Y43
53 Eight thousand seventy-five less than Y4
54 Z7 minus Z19
55 Sixteen thousand five hundred ninety-nine more than X11
56 Four hundred ninety-six more than X52
59 Mean of Z13 and X33

Z Direction

2 Five times a prime number
3 Twice a prime number
4 Sixty-six times a prime number
6 Mean of Z16 and X33
7 Z13 plus Y31
8 X60 plus Y41
9 Three times Z13
10 Z7 minus Z46
11 Sixty-one times a prime number
12 Z6 divided by Z46
13 Four-fifths of X51
14 Three hundred twelve more than Y30
15 X27 minus Z48
16 Twelve times a prime number
17 A square
18 Mean of Z7 and Z47
19 X29 divided by Z18
20 X48 plus Y31
21 Y35 times Z49
28 Twenty-two times Y35
30 Z50 minus Z13
32 X11 minus Y1
35 Z4 minus Z3
38 Mean of Y39 and Z46
45 Twice the result of X34 minus Y36
46 Z49 plus Y54
47 X57 minus Z9
48 X49 plus Z19
49 Y31 minus Z50
50 Mean of X33 and Y49

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

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