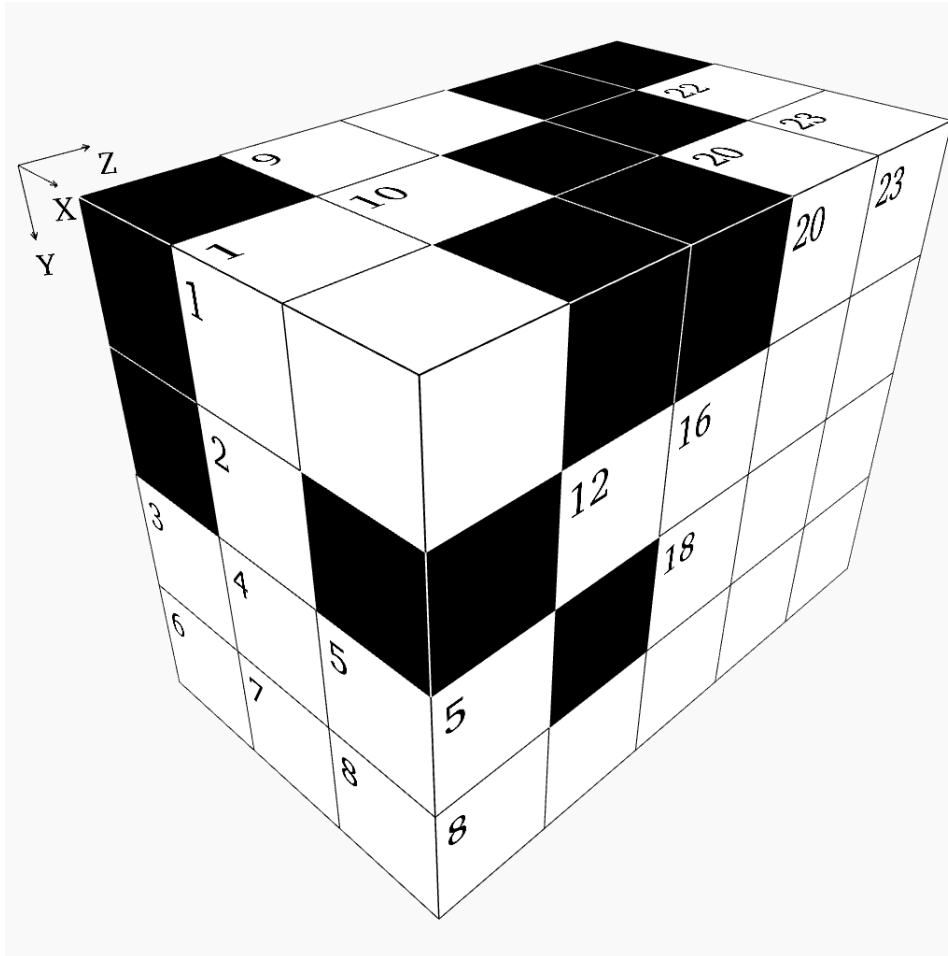# Box - Intermediate Puzzle #38

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 box pictured above and divide it into individual X-Y layers, we will get these planes:

X Direction

1 Its digits total Y3
3 X6 minus Z4
6 Z6 divided by Y5
9 Z20 plus X25
11 Twice a prime number
13 X22 plus Y24
14 Twice a square
15 X21 divided by Y17
19 Forty-two times a square
21 Thirteen times a prime number
22 Y17 reversed
24 Mean of X19 and X14
25 Y20 divided by Y24

Y Direction

1 Y9 minus Z1
3 Z7 divided by twenty-seven
5 X9 minus X25
9 X9 plus Y1
10 Y21 plus X11
16 Y23 divided by five
17 X1 divided by five
20 Rearranged digits of Y23
21 Mean of Y23 and X14
22 Z18 minus X6
23 Thirty times a prime number
24 Mean of Y17 and X1

Z Direction

1 Y3 plus X25
2 First two digits are the same as Y5
3 Thirty-nine times a square
4 X25 divided by five
6 A cube
7 Twenty-seven times Y5
8 One thousand fifty-two more than Z2
9 X22 plus Y22
18 Y23 divided by Z4
20 Z1 minus X25
21 Three times X22

Solution:

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