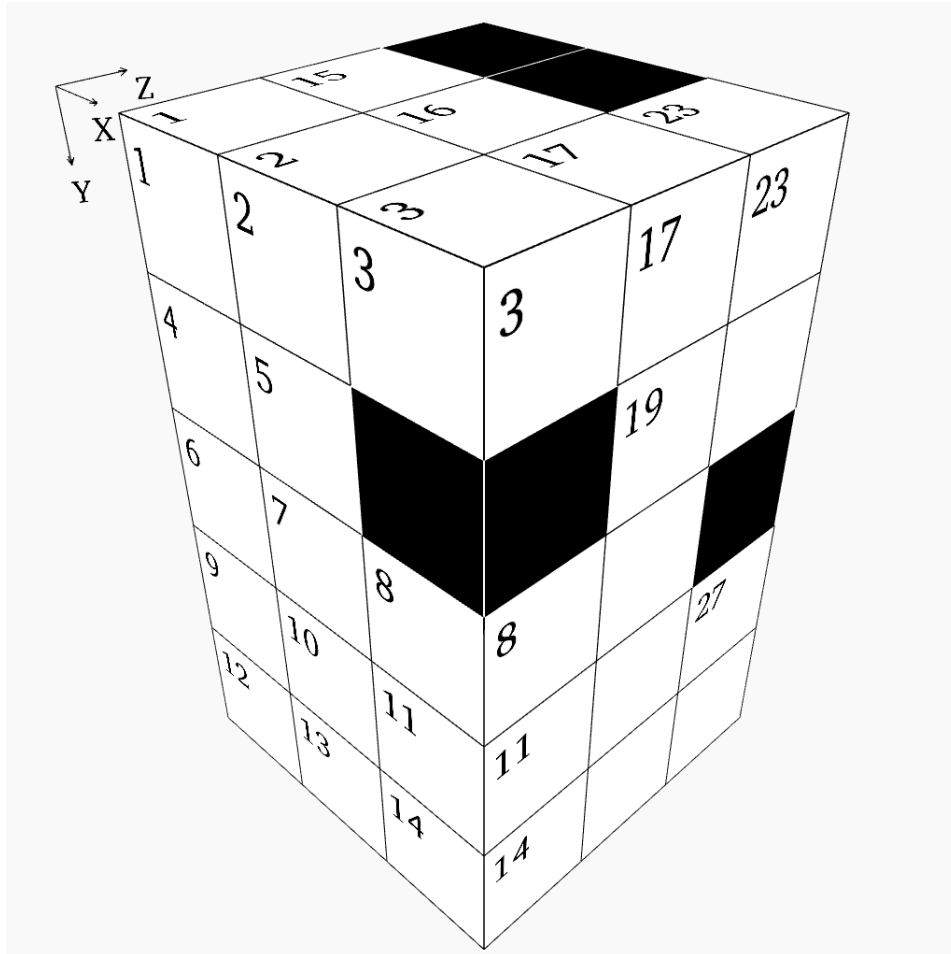# Box - Challenging Puzzle #3

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:

1	2	3
4	5	■
6	7	8
9	10	11
12	13	14

15	16	17
18		19
20		
21		
■	22	

■	■	23
24	25	
■		■
26	■	27
28		

X Direction

1 Z11 minus Y25
4 Z14 minus X1
6 Mean of X24 and Y8
9 A prime number
12 Mean of X15 and Z5
15 Mean of X24 and Y23
18 Mean of Z3 and Z4
20 X21 plus Y25
21 Fifty-four times a prime number
22 Mean of Z1 and Z6
24 X22 plus X6
28 X6 plus Y26

Y Direction

1 Five times a prime number
2 One thousand sixty-six less than Y1
8 Mean of X28 and X9
15 Fifty-nine times a prime number
16 Twelve thousand seven hundred seventy less than Y17
17 Z3 times X9
23 Five times a square
25 X22 divided by six
26 Mean of Z10 and Y27
27 Sum of digits in Y1

Z Direction

1 X18 minus half of Z13
2 Y26 plus Y27
3 X20 minus X1
4 X28 plus X9
5 Y23 plus X1
6 Z19 minus Y25
7 A prime number
8 A square
9 Mean of X9 and Z7
10 Y15 divided by Z6
11 Sixty-nine less than Z5
13 Eighty-eight times Y25
14 X21 minus Z8
19 Mean of Z2 and X22

Solution:

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