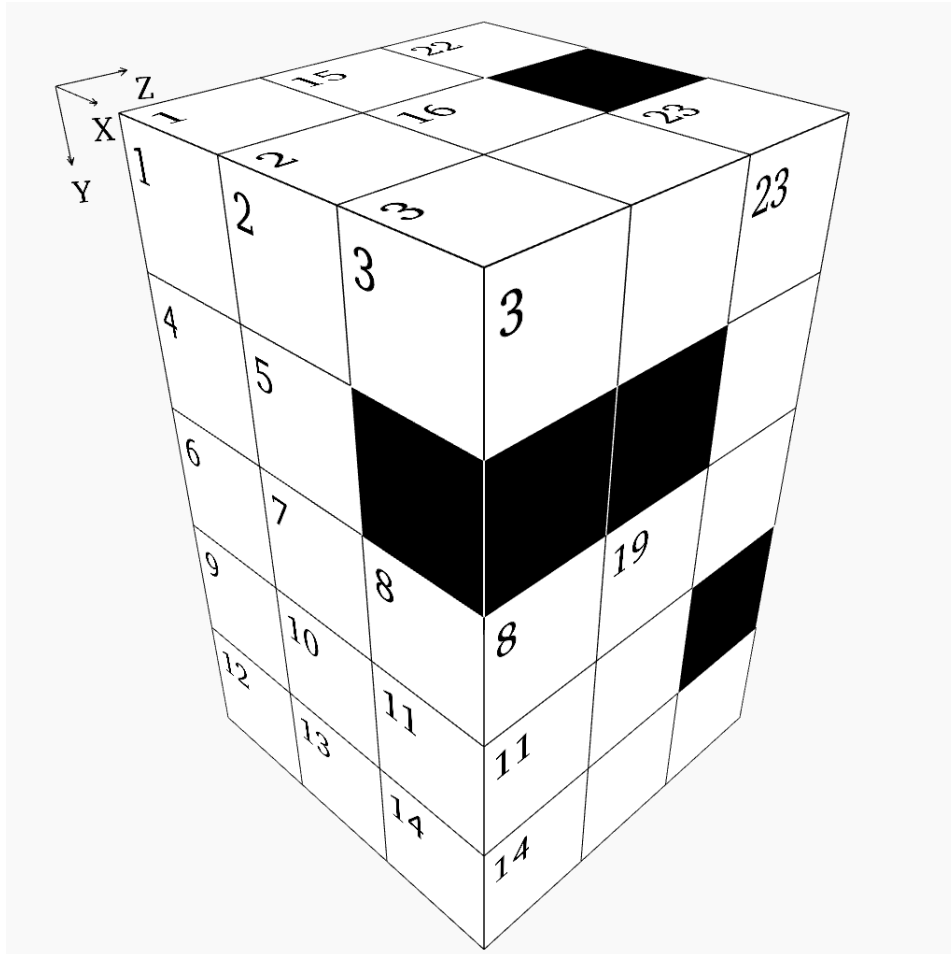# Box - Challenging Puzzle #35

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		■
	■	

X Direction

1 Twice the result of X18 minus Z7
4 A square
6 Z8 plus X15
9 A prime number
12 Mean of Z6 and X24
15 Mean of Z6 and X24
17 X4 plus X24
18 Z13 plus X12
20 A prime number
21 Z10 minus Z4
24 Mean of Z7 and Z13

Y Direction

1 A prime number
2 A prime number
8 Mean of X18 and Z5
15 First three digits are the same as Z4
16 Ten times a prime number
19 X6 plus X1
22 A prime number
23 Half of Y16, then subtract Y15

Z Direction

1 Two-thirds of Z4
2 Y23 minus X18
3 Twice the result of X15 plus Z12
4 Z12 minus X4
5 A square
6 Seven times Z13
7 Mean of Y8 and X24
8 Mean of X6 and Z11
9 Rearranged digits of X1
10 Twice the result of Z14 plus X4
11 Z8 minus X15
12 Y23 minus Z13
13 X18 minus X15
14 Rearranged digits of Y19

Solution:

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