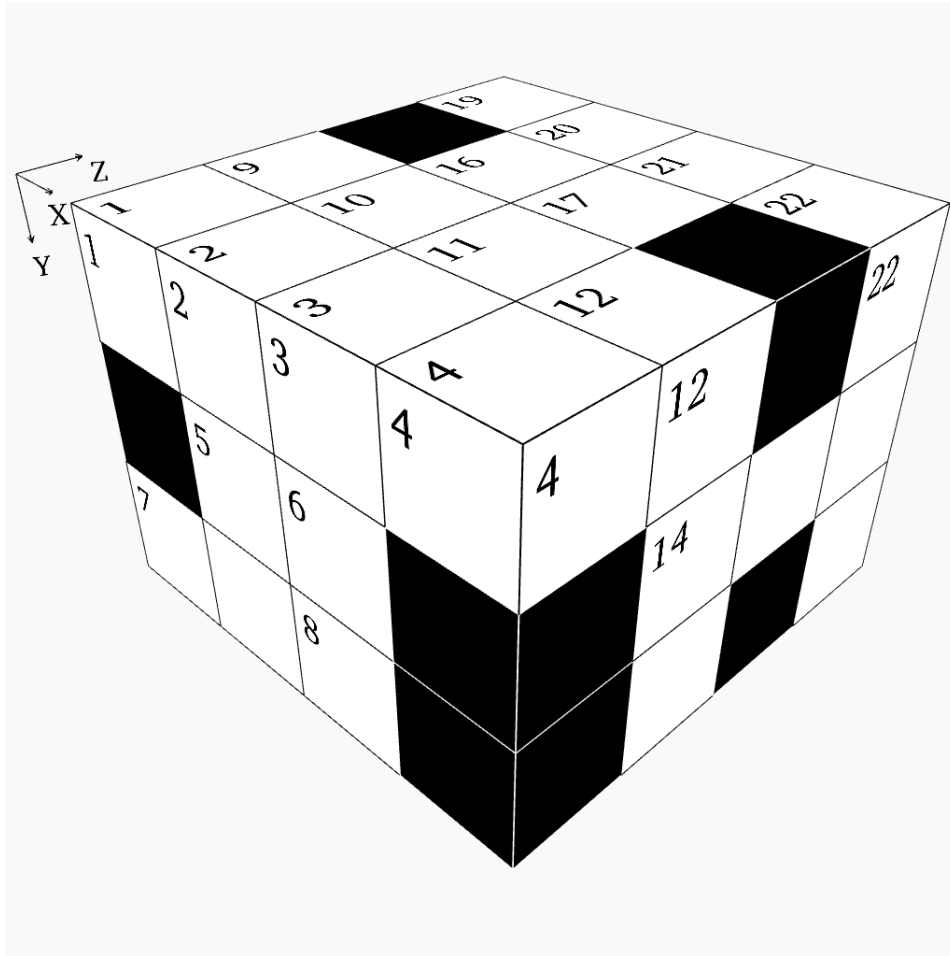# Box - Challenging Puzzle #21

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		9	10	11	12		■	16	17	■		19	20	21	22
■	5	6	■		13			14		18					23			
7		8	■			■	15				■		■		24			

X Direction

1 One thousand four hundred thirty-eight more than X23
5 Mean of Y10 and X15
7 X1 divided by Y18
9 A prime number
13 Y12 plus half of Y11
15 Y16 divided by four
16 Twice a prime number
18 Mean of Z3 and Y22
19 Five times a prime number
23 Eight hundred eighty-six more than Z7
24 X19 plus Z7

Y Direction

2 Y3 plus X15
3 Half of X23, then subtract Z8
9 A prime number
10 Twice the result of Z14 minus Y20
11 Twice a prime number
12 Rearranged digits of Z14
16 Y20 minus Z4
17 Mean of X19 and Y20
18 Z14 divided by ten
19 A square
20 A square
21 Fifty-two times Y18
22 A prime number

Z Direction

1 X16 minus X15
2 A prime number
3 Mean of Z5 and Y2
4 Y2 minus half of X16
5 Fourteen times a prime number
6 Four times X7
7 Fourteen times a prime number
8 Four times a prime number
13 Three-fifths of Z14
14 X7 minus Y2

Solution:

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