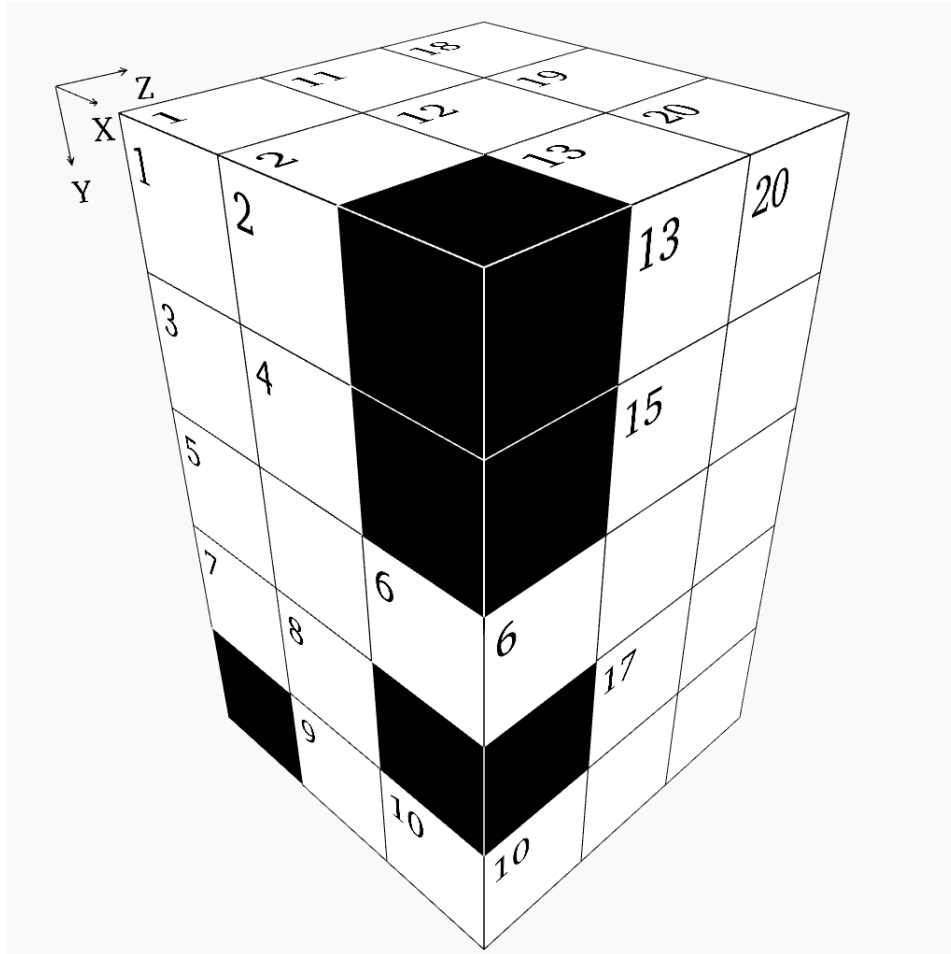Difficulty: ★☆☆☆☆

Box - Intermediate Puzzle #39

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 Y2 divided by Z6
3 Y18 divided by X24
5 Mean of X11 and Z7
7 Seventeen more than Z17
9 A cube
11 Forty-five times Z15
14 Three times a prime number
16 Seven times a prime number
18 Same as X5
21 Z3 minus half of Z4
22 Half of X18, then subtract Z17
24 Mean of X18 and Z4

Y Direction

1 Three times a prime number
2 Eighty-seven times X22
11 Sixty-one times a prime number
12 Z6 minus X22
13 Last two digits are the same as last two digits of Z2
19 Z4 divided by forty-five
20 Last two digits are the same as last two digits of X24
23 A square

Z Direction

1 X11 plus X7
2 Rearranged digits of Z10
3 X7 plus X24
4 A square
5 A prime number
6 X21 minus X3
7 One hundred forty-nine more than X18
8 Three-fifths of X21
10 X16 plus Z15
13 Mean of X1 and Y23
15 Three-fourths of Y19
17 Z4 minus X18

Solution:

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