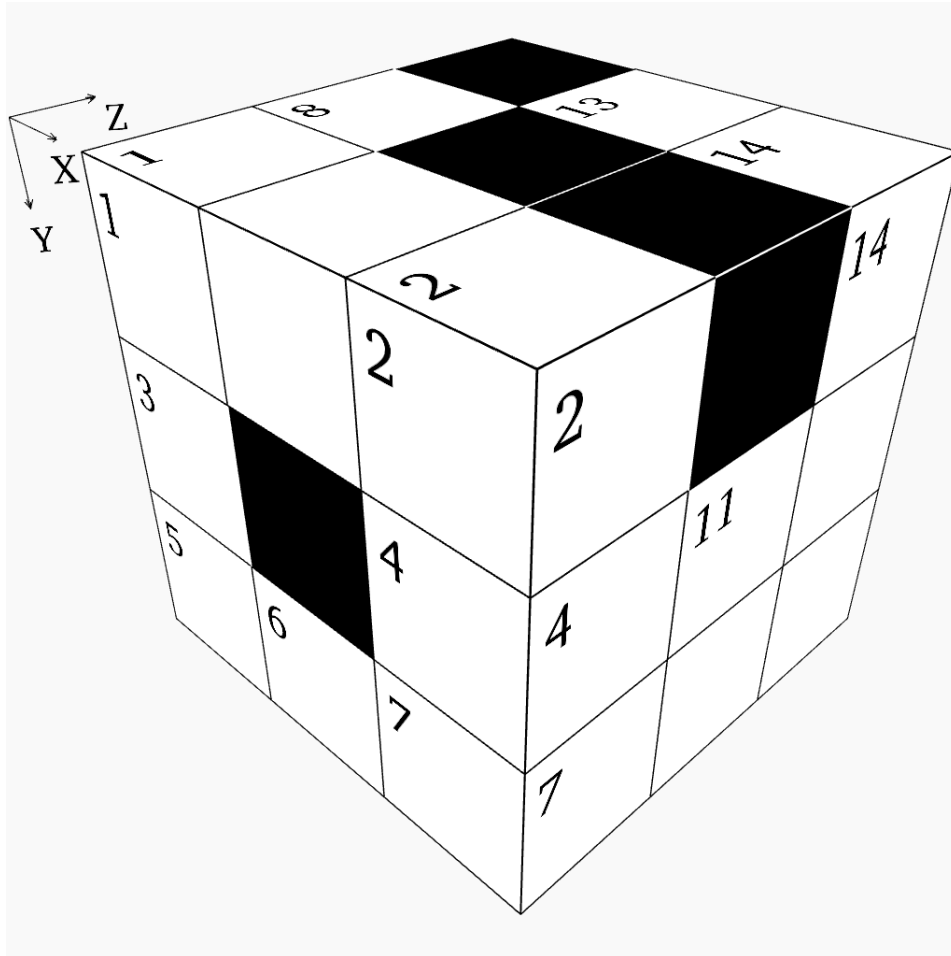Difficulty: ★☆☆☆☆

Cube - Intermediate Puzzle #9

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 cube 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	

X Direction

1 Y1 plus half of X13
5 Twelve times a prime number
9 Three times X13
12 Two less than Z7
13 Four times a prime number
15 A square

Y Direction

1 Seven times a prime number
2 Nineteen times X13
8 Z1 plus half of Y10
10 Y8 minus Y11
11 A square
14 Six times a prime number

Z Direction

1 Mean of Y11 and Y8
3 A prime number
4 Z6 plus half of Z7
5 X9 minus Y8
6 A square
7 Mean of Z3 and Y1

Solution:

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