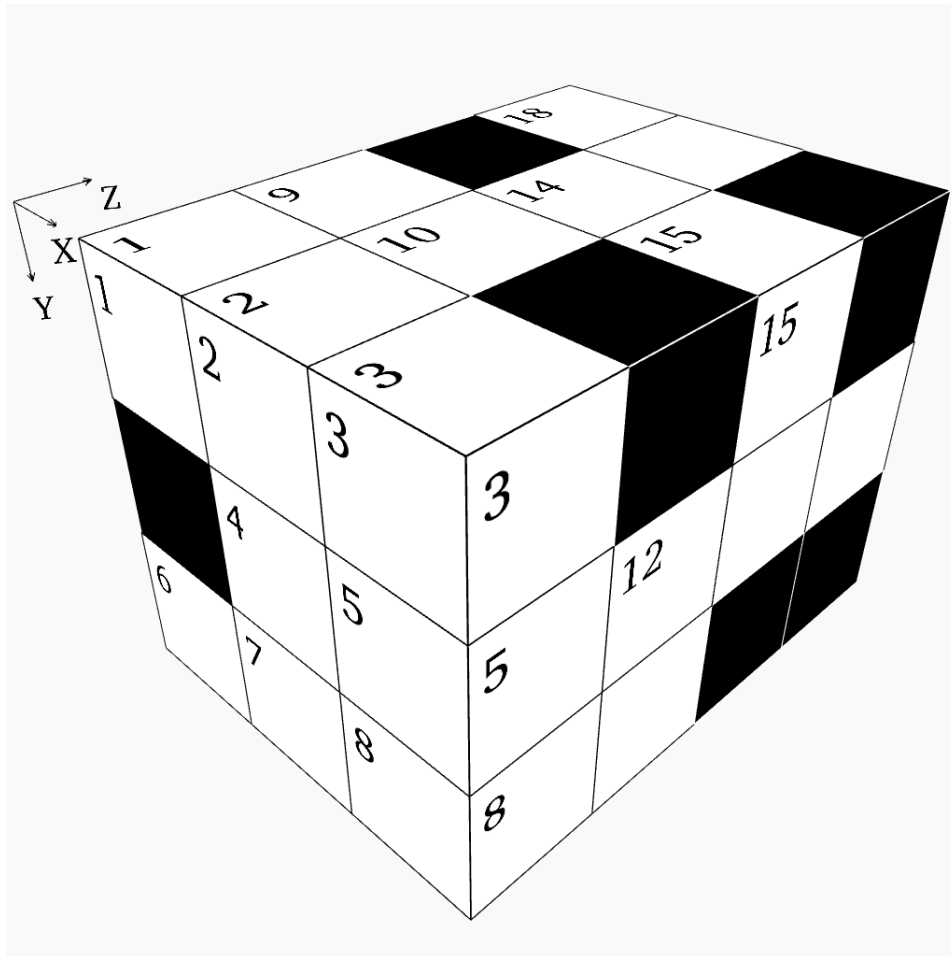# Box - Intermediate Puzzle #40

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		■

X Direction
1 Z11 minus X18
4 X13 divided by twenty-seven
6 Eight times a prime number
9 X17 plus half of Z4
11 Seven times a prime number
13 Mean of Y2 and Y3
14 Y18 minus X19
17 A square
18 X19 reversed
19 Mean of Z1 and Y15

Y Direction
2 Eight times X4
3 Z11 minus X9
9 X13 reversed
10 A prime number
12 Z6 minus Z5
15 A square
16 Same as Y12
18 X9 plus Z8

Z Direction
1 Y15 plus X4
2 Seven times a prime number
4 A square
5 Z6 minus Y16
6 Forty-one times a prime number
7 A prime number
8 Y15 minus Z4
11 A prime number

Solution:

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