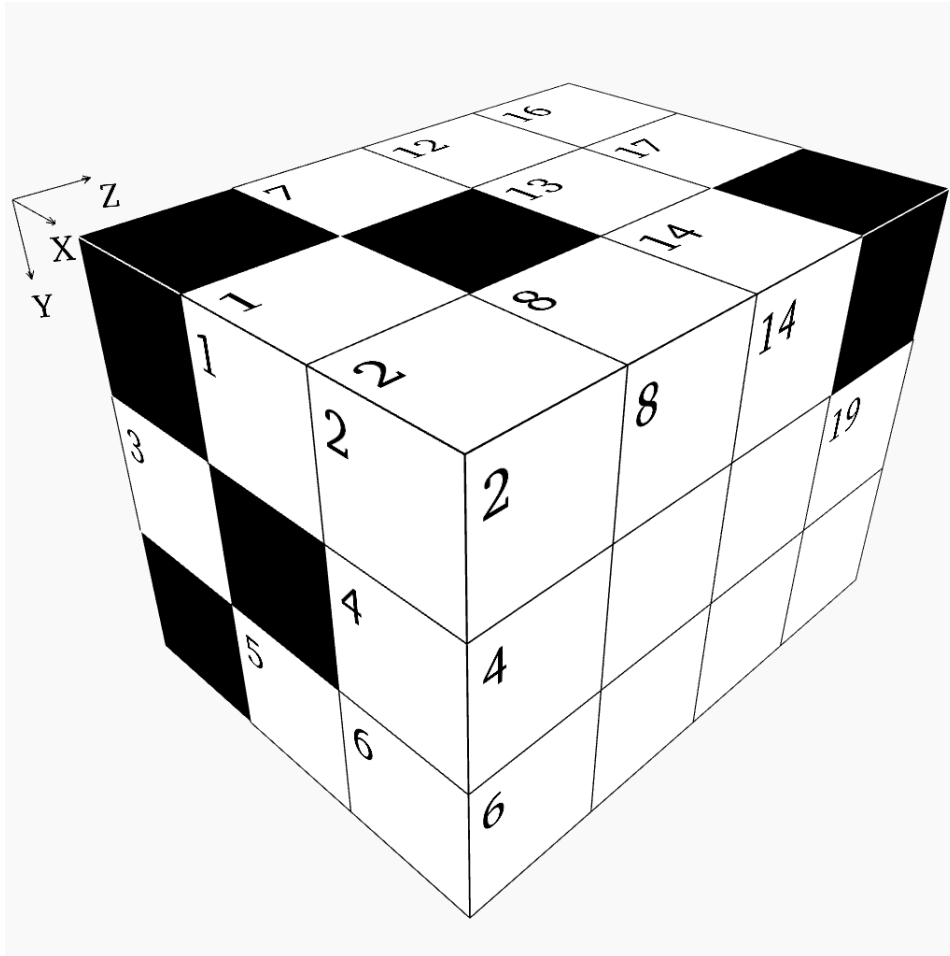# Box - Intermediate Puzzle #9

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 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 Z5 reversed
5 X12 divided by Z3
9 Twenty-four times Z3
11 Mean of X18 and Z3
12 Z7 plus Y17
15 X12 divided by four
16 Z7 minus X9
18 Six times a prime number

Y Direction
2 A cube
7 Mean of X9 and Z2
8 Nineteen times a prime number
10 A square
13 Three times X5
14 Fifteen times X16
16 X15 plus half of Y14
17 Twice Z5
19 Mean of Z5 and X15

Z Direction
2 X1 plus Y2
3 Z13 divided by eight
4 Twenty-four times Z11
5 Y8 divided by nineteen
6 Fifty-five times a prime number
7 Y14 minus Z2
10 Four times a prime number
11 Mean of Y2 and Y19
13 Y19 plus Z5

Solution:

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