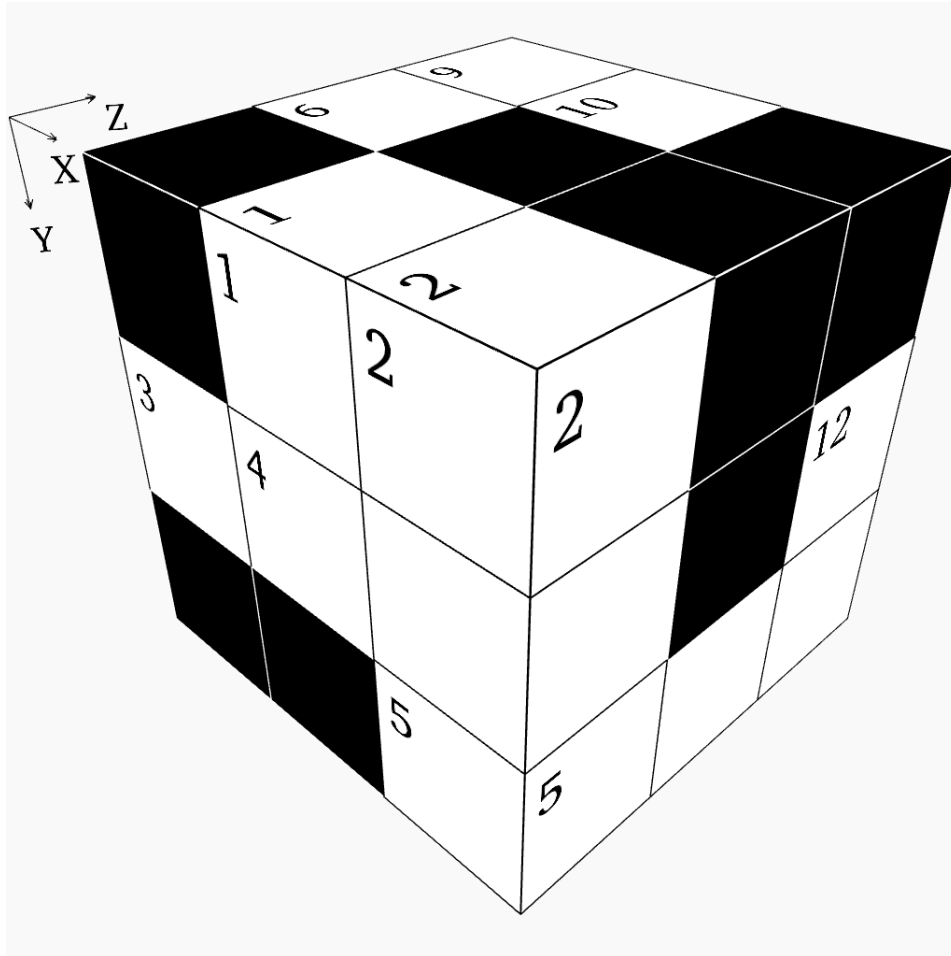# Cube - Intermediate Puzzle #32

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		

X Direction
1 Twelve times a prime number
3 Twice the result of Y2 minus X1
7 Three times a prime number
9 Twice a prime number
11 Four times a prime number
13 Thirteen times Z6

Y Direction
1 All digits are the same
2 Y9 minus Z5
6 Y12 plus Y1
9 Sixty more than X11
10 Mean of Z4 and X7
12 A cube

Z Direction
3 A prime number
4 A prime number
5 Z3 minus Z8
6 A prime number
8 Four times a prime number

Solution:

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