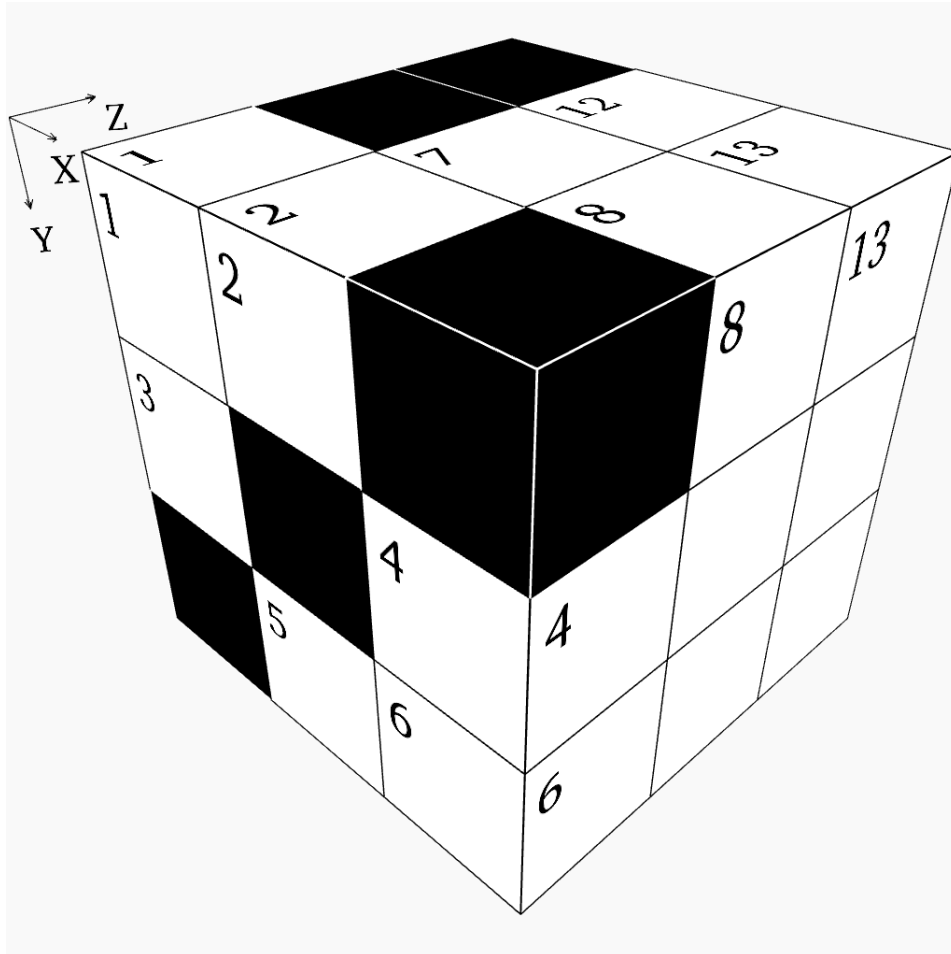# Cube - Intermediate Puzzle #43

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		
■	■	

X Direction

1 A prime number
5 Mean of Z3 and Z8
7 X12 minus Z10
9 Mean of Z2 and X1
11 X12 plus half of X7
12 X11 minus Z8
14 Y7 minus Y12

Y Direction

1 Z4 minus X5
4 Y1 minus X12
7 Ten times X7
8 Mean of Z6 and Y4
9 Z8 plus Y4
12 Twice a prime number
13 Three times a prime number

Z Direction

2 A prime number
3 A square
4 X11 plus Y12
5 Five times a square
6 A square
8 Y7 divided by twenty
10 Z3 divided by six

Solution:

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