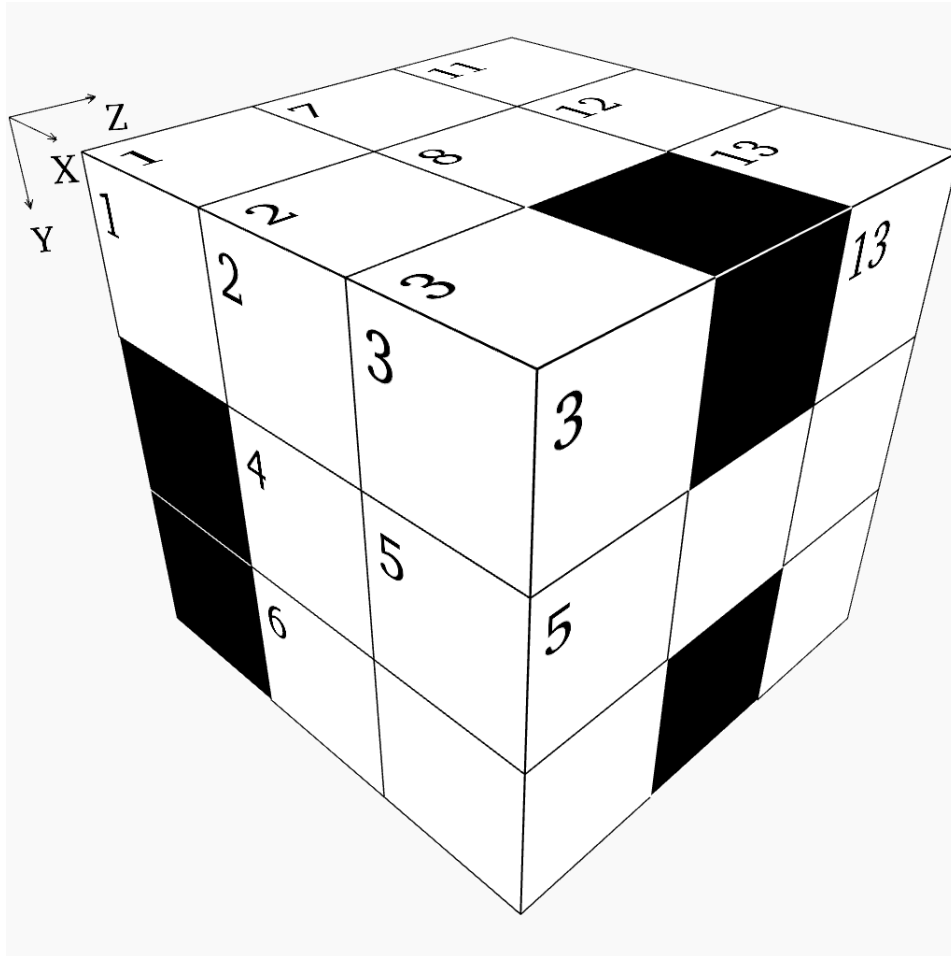# Cube - Intermediate Puzzle #46

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 A prime number
4 Twice Z10
6 Mean of X7 and Y8
7 A prime number
9 Three times a square
11 Fifteen times a prime number
14 Last two digits are the same as X7
15 Half of Y11, then subtract Z10

Y Direction

2 Mean of Z5 and Y13
3 Mean of Z2 and X1
8 A prime number
11 Twice a prime number
12 A square
13 Twenty-seven times a prime number

Z Direction

1 Z4 plus X9
2 Thirteen times a prime number
4 X11 minus X7
5 Sixty-four less than X11
10 All digits are the same

Solution:

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