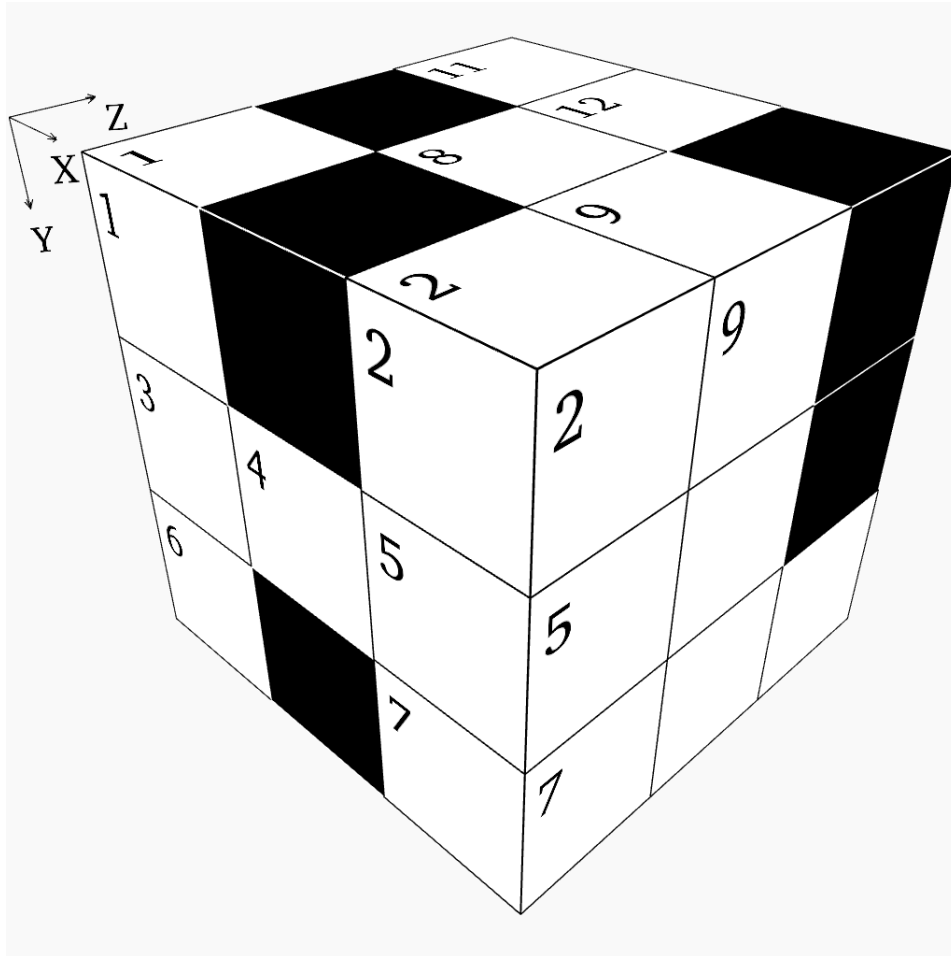# Cube - Intermediate Puzzle #26

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

3 Y2 minus Z2
8 All digits are the same
10 Z4 minus Y8
11 Three times a prime number
13 Twice a prime number
14 Mean of Z5 and Z6

Y Direction

1 Y9 minus X8
2 Consecutive digits unordered
8 Twice Z2
9 Twenty-three times a prime number
11 Z2 plus Z7
12 X13 plus half of X10

Z Direction

2 A square
4 Twice Z8
5 A square
6 Half of Y1
7 Y11 minus half of Y8
8 Mean of X10 and Y8

Solution:

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