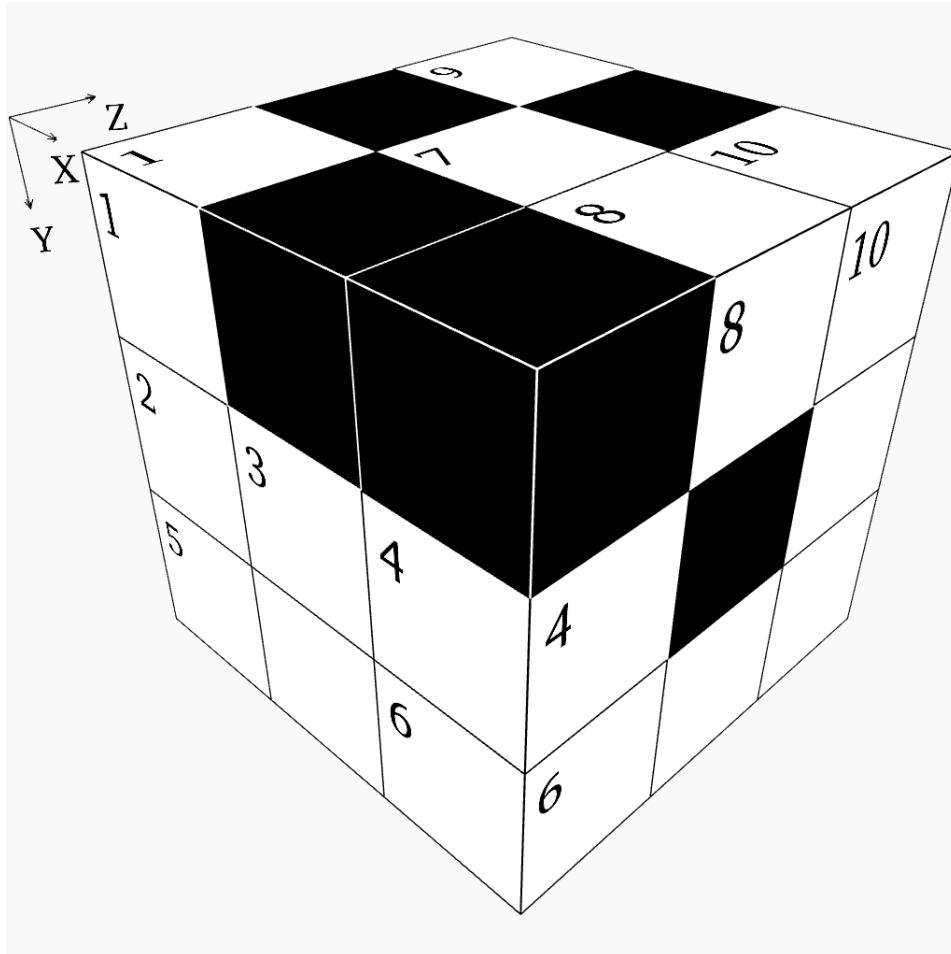# Cube - Intermediate Puzzle #39

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

2 Fourteen times Y7
5 Eleven times Z5
7 Half of X2, then subtract Z6
11 A prime number
13 Mean of Z5 and Z8

Y Direction

1 Z3 plus Y7
3 A square
4 Mean of Y7 and Z5
7 X13 minus X7
9 X13 reversed
10 X11 plus Y9
12 Two-thirds of X13

Z Direction

3 Twice a prime number
5 Z8 minus Y3
6 A prime number
8 Y12 plus Y4

Solution:

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