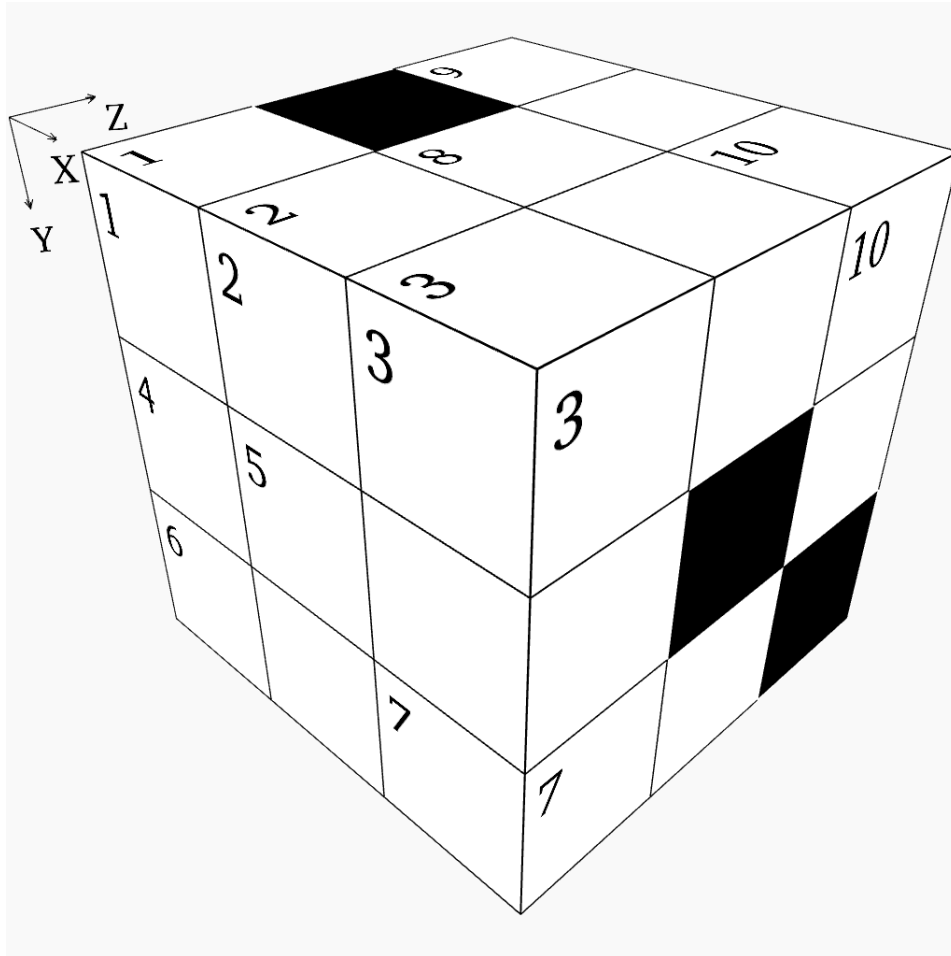# Cube - Challenging Puzzle #33

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		■

X Direction
1 Y3 minus half of Z6
4 Mean of Z3 and Y8
6 All digits are the same
8 Same as Y8
9 Mean of Z7 and Y1
11 Six times a square

Y Direction
1 Y9 plus Z7
2 Twice a prime number
3 Twice a prime number
8 Y10 reversed
9 Twice a prime number
10 A prime number

Z Direction
2 Three times a prime number
3 Twenty-one times Z5
5 X6 divided by X11
6 Twice a prime number
7 X9 minus half of Y9

Solution:

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