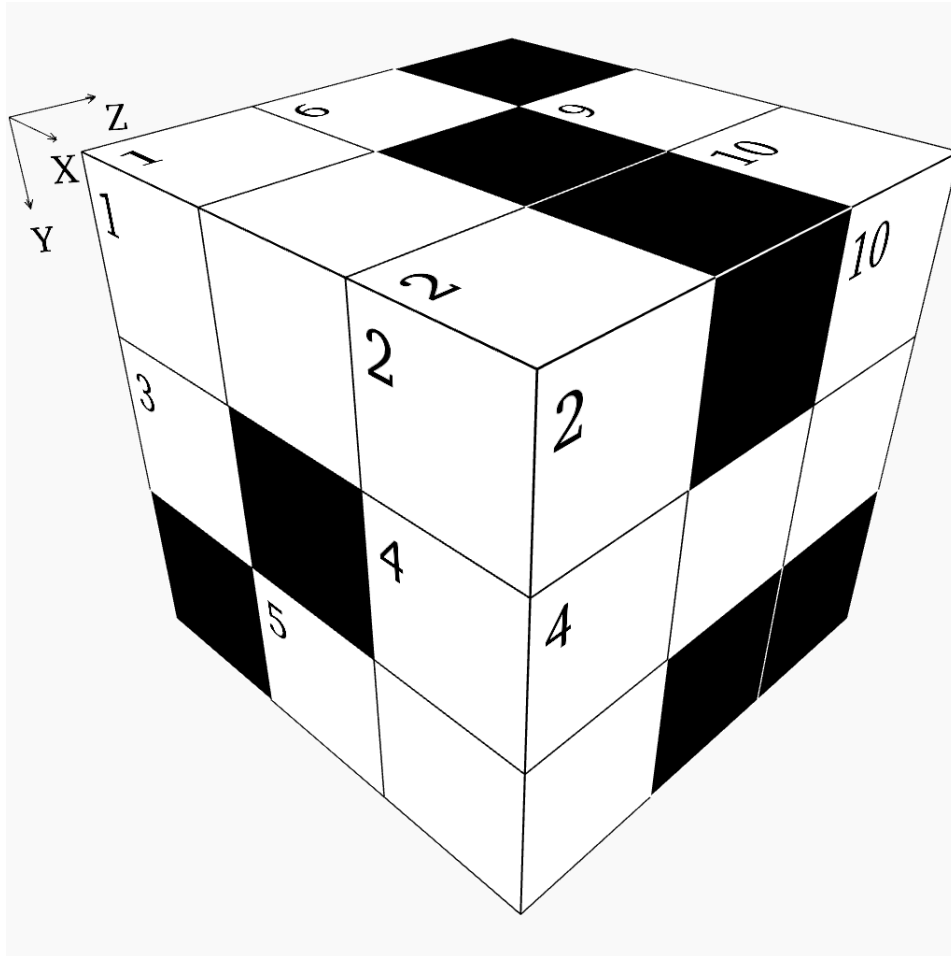# Cube - Intermediate Puzzle #21

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		■

X Direction

1 X11 plus Y6
5 Twice the result of Z5 minus Z8
7 Ten times a prime number
9 Mean of X5 and Y6
11 Thirty-eight times a prime number
12 Consecutive digits in ascending order

Y Direction

1 A square
2 Fifty-three times Y6
6 Three-fourths of X5
8 Twice X12
9 Seven times a square
10 All digits are the same
11 Z3 minus Y10

Z Direction

1 A square
3 Eight times X5
4 X7 plus X9
5 Three-fifths of Y9
8 Z1 plus X5

Solution:

8	8	6	1	■	■	■	1	4
1	■	3	2	9	0	8	7	4
■	1	6	■	0	■	4	5	■