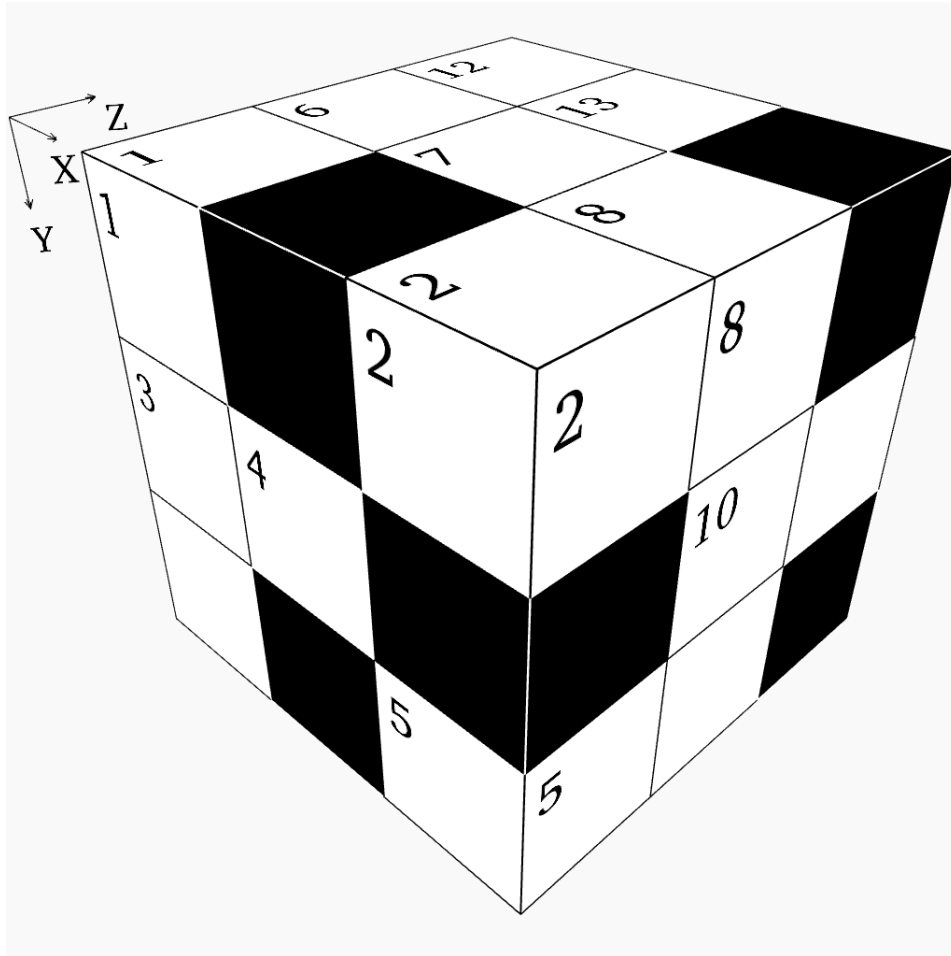# Cube - Intermediate Puzzle #50

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:

X Direction

3 Z1 minus X15
6 A prime number
9 X15 plus Z7
11 X9 divided by eight
12 Mean of X11 and Y6
14 Z3 plus Y6
15 Mean of X14 and Z11

Y Direction

1 Z5 plus Z7
6 A prime number
7 Nineteen times a square
8 Half of Y13, then subtract X3
13 Eight times a prime number

Z Direction

1 Mean of Y1 and Z2
2 X14 minus Y6
3 Mean of Z1 and Y6
4 A prime number
5 A prime number
7 Z1 minus X11
10 Twice the result of X11 plus X12
11 X14 divided by six

Solution:

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