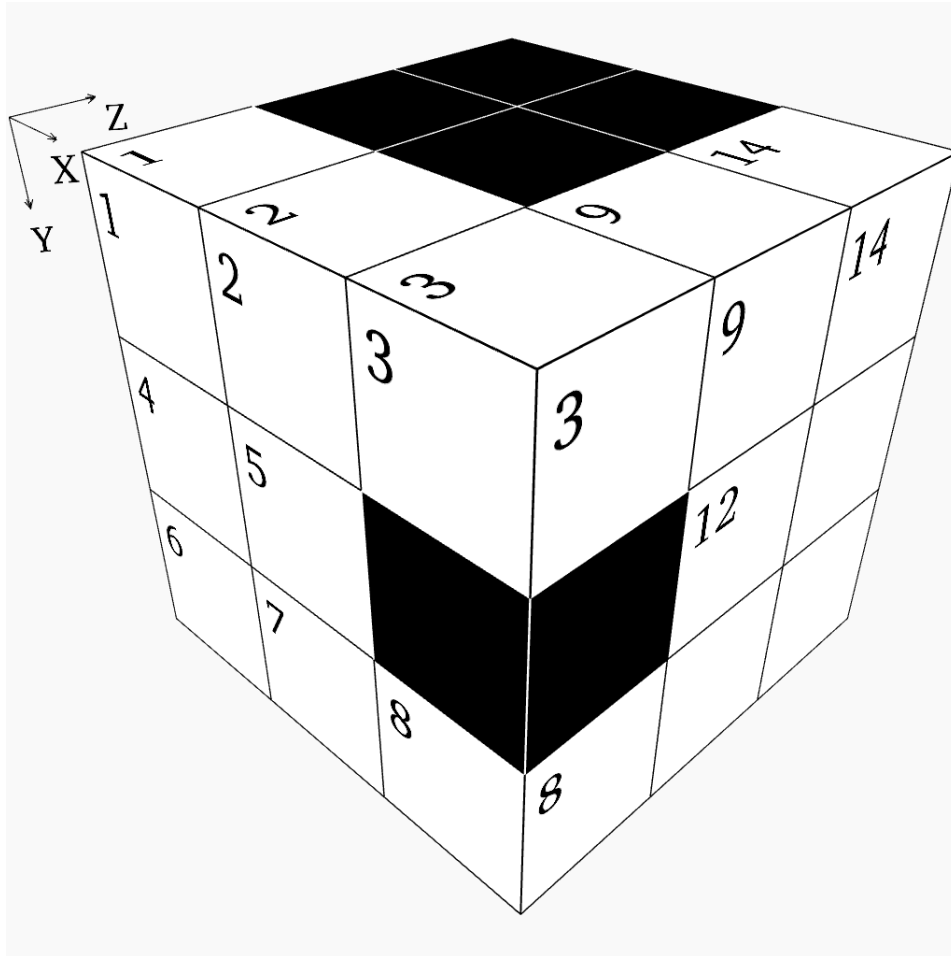# Cube - Intermediate Puzzle #42

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		■	■	9		■	■	14
4	5	■		10	11	12		15	■	
6	7	8		■	13			16		

X Direction

1 Twenty-eight times Z12
4 Twice the result of X10 minus Z5
6 Eleven times a square
10 A square
13 Ten times a square
16 Z4 reversed

Y Direction

1 Two more than X1
2 Consecutive digits in ascending order
9 Mean of Z7 and Y11
11 Y14 divided by thirteen
14 Thirteen times a prime number
15 Half of Y1, then subtract X16

Z Direction

3 X6 minus half of X1
4 X16 reversed
5 Twice a prime number
7 A prime number
8 X4 plus Y11
12 Z8 minus X13

Solution:

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