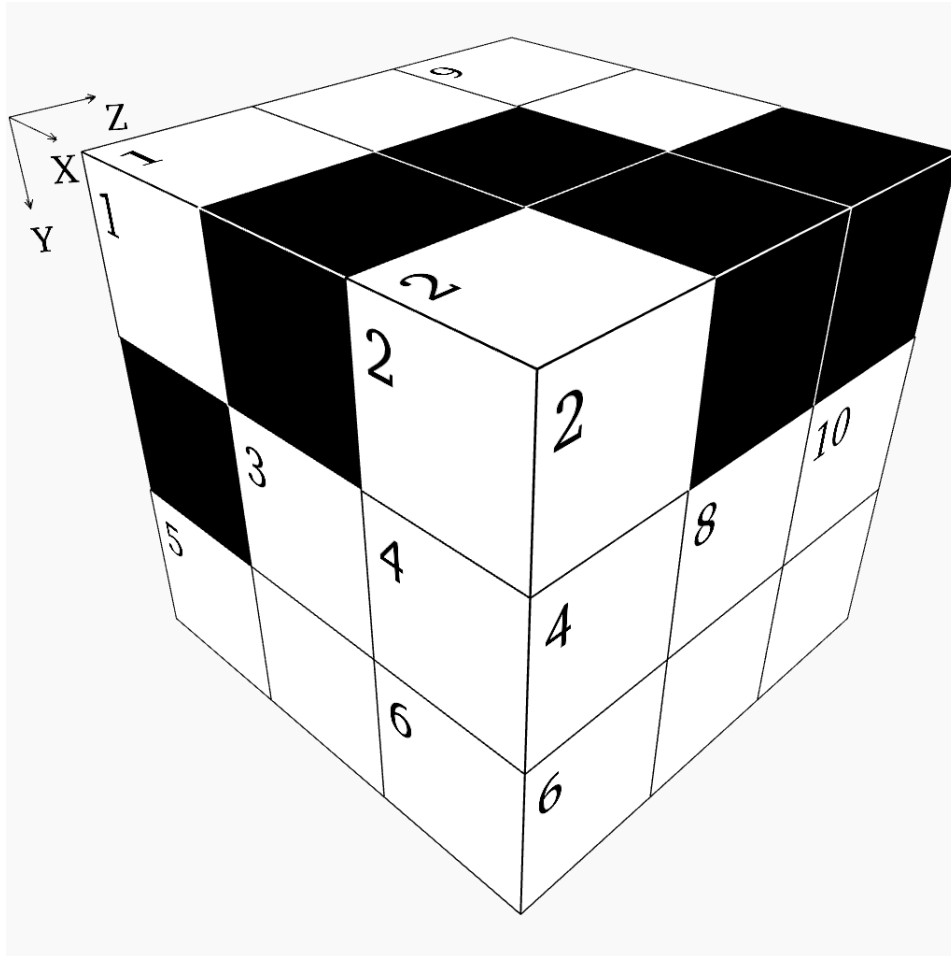# Cube - Intermediate Puzzle #17

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 Mean of Y8 and Z3
5 Half of X11, then subtract Y10
7 Z3 reversed
9 A square
11 Forty less than Z4

Y Direction
2 A prime number
3 A prime number
8 Y2 minus Y9
9 Twenty-eight times a prime number
10 All digits are the same

Z Direction
1 X3 plus half of X7
3 Mean of Y10 and Z5
4 Twice a prime number
5 A square
6 Fifty-six times a prime number

Solution:

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