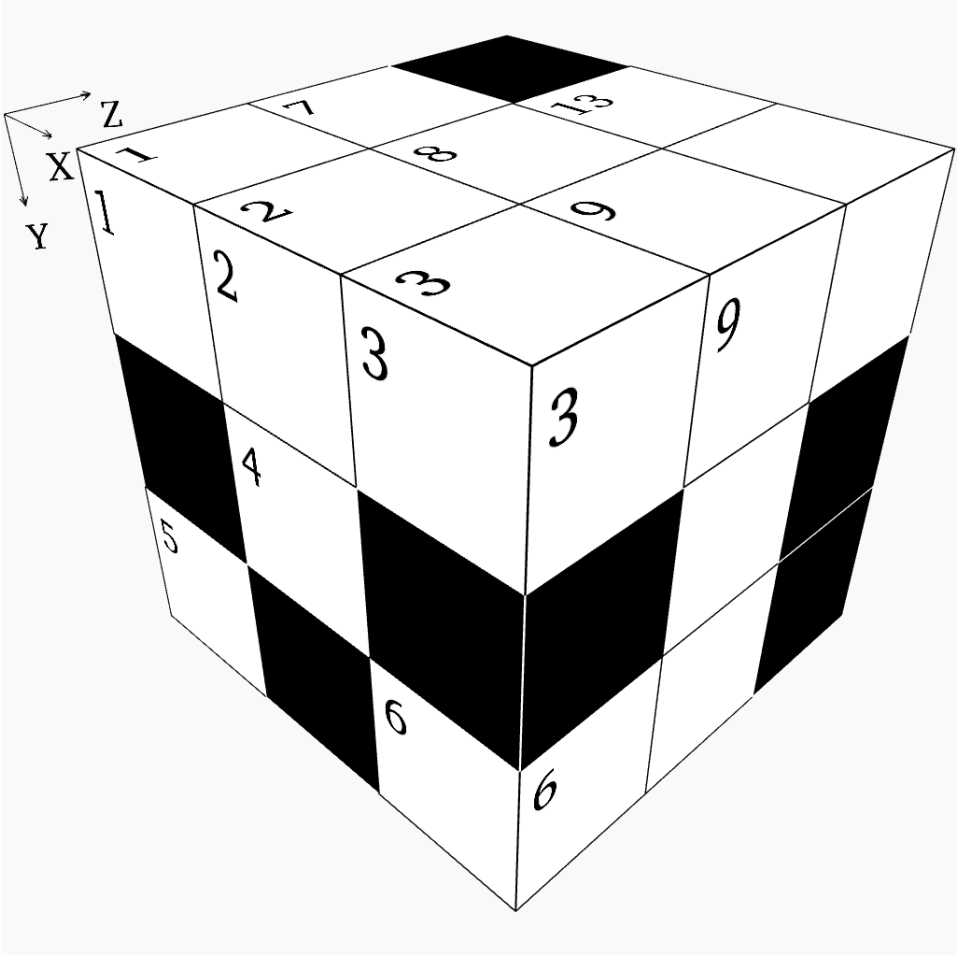
Difficulty: ★☆☆☆☆

Cube - Intermediate Puzzle #27

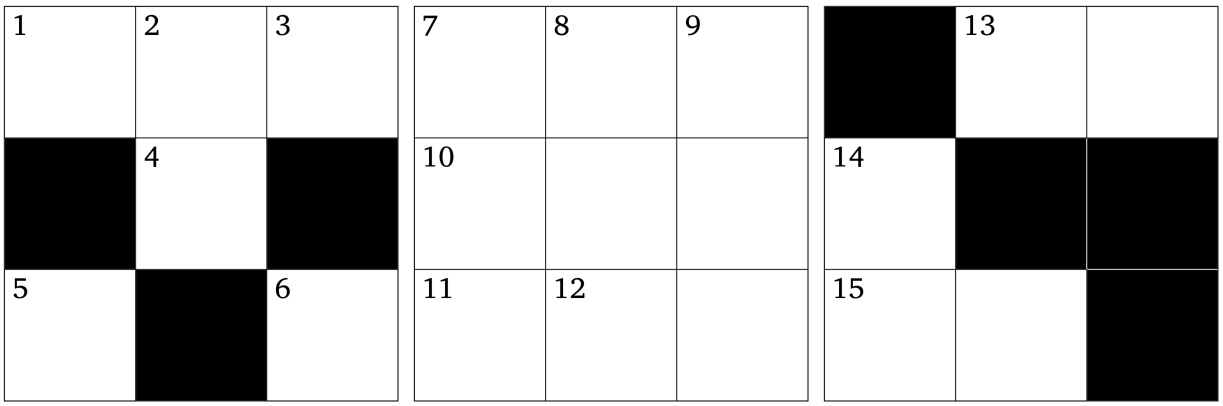


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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

1 Z1 plus X13
7 Same as Y7
10 Mean of Y9 and Y2
11 Six times a square
13 All digits are the same
15 Consecutive digits in descending order

Y Direction

2 Twice a prime number
7 Eleven times a prime number
8 Twice a prime number
9 Twenty-one times Z10
14 Mean of Z10 and Z6

Z Direction

1 Mean of Z12 and Y2
2 A prime number
3 Forty-seven less than X11
4 Mean of X15 and Z6
5 Half of Y8, then subtract Z12
6 Twice a prime number
10 A square
12 Twice X15

Solution: