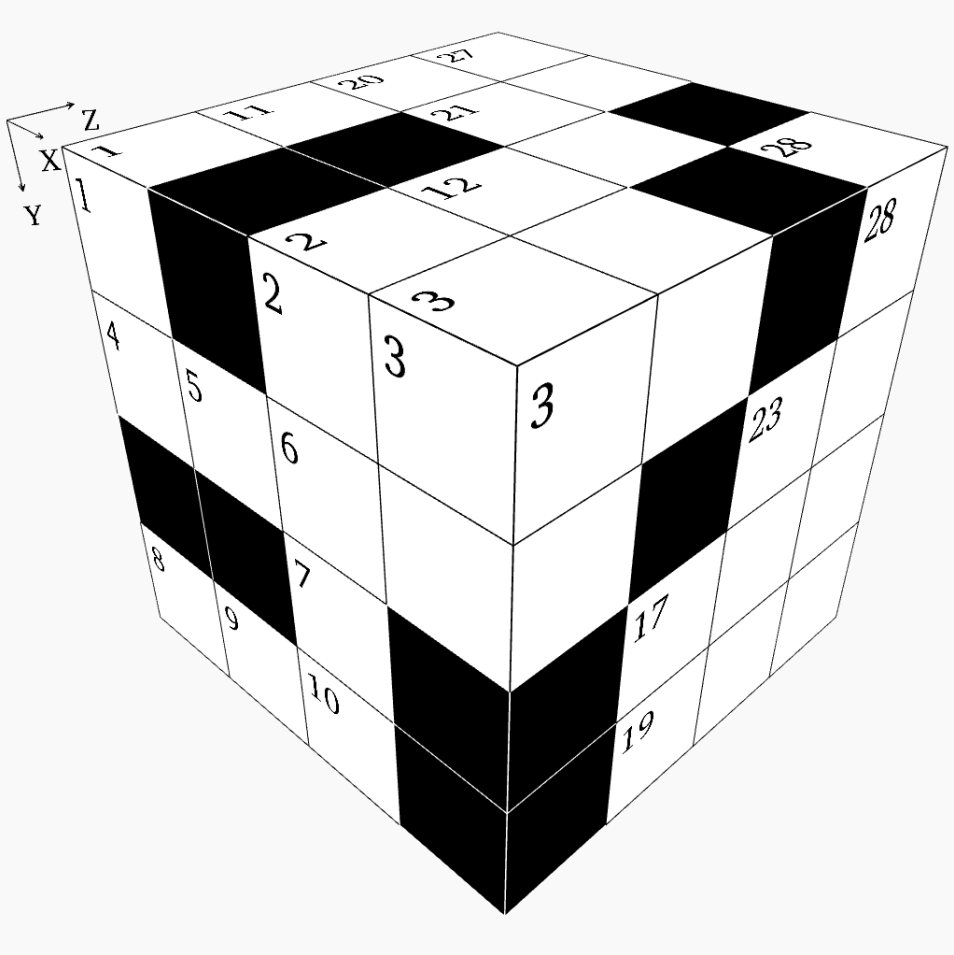
Difficulty: ★★☆☆☆

Cube - Challenging Puzzle #37

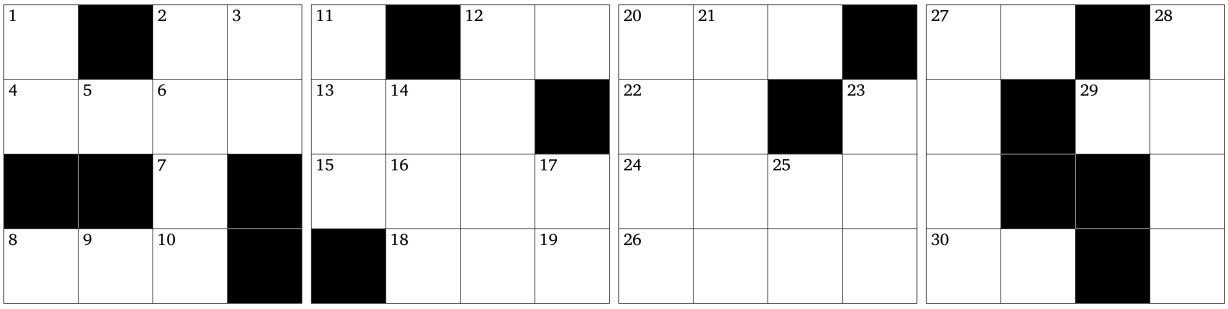


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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

2 Z15 minus Z5
4 Seven times a prime number
8 Thirteen times a prime number
12 Mean of X22 and Y1
13 Sixty-eight less than Y14
15 A prime number
18 Y17 times X2
20 Y17 plus X22
22 Z21 plus Y1
24 X13 times Y3
26 Eighty-five times a prime number
27 X20 minus half of Y1
29 A square
30 X22 divided by six

Y Direction

1 X27 minus Z23
2 Mean of X4 and X30
3 Mean of Z16 and X29
11 X12 plus half of Z10
12 Fifty-six times a prime number
14 X18 minus X30
17 Mean of Y1 and X29
20 Three hundred forty-nine more than Y28
21 Y11 times X30
23 Mean of X8 and Y17
25 Z26 plus X30
27 Its digits total X29
28 X15 minus X26

Z Direction

1 Twenty-nine times a prime number
2 A prime number
3 A square
4 Z9 plus Z5
5 Z19 minus Z16
6 Mean of X12 and X29
7 Z5 minus Y1
9 Ninety-seven times X30
10 Z23 plus X22
15 Three times a prime number
16 X22 divided by five
17 Twenty times Z3
19 Two-fifths of Z4
21 Mean of Y3 and Y17
23 A square
26 Mean of Z10 and Z3

Solution: