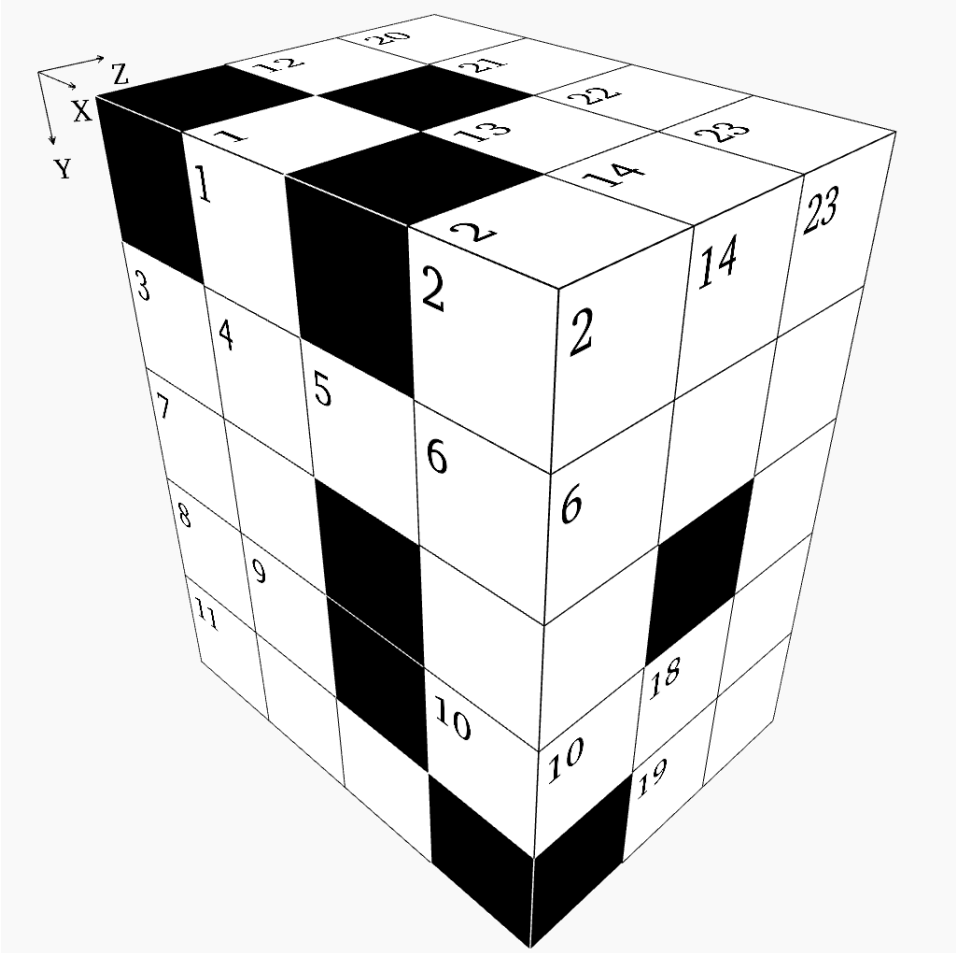
Difficulty: ★★☆☆☆

Box - Challenging Puzzle #24

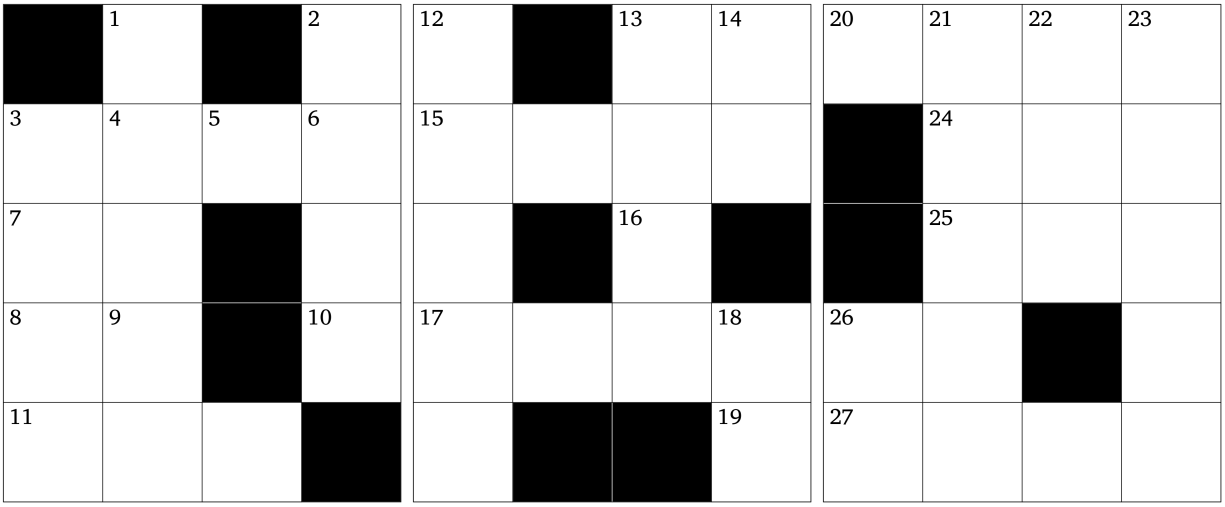


This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

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 box pictured above and divide it into individual X-Y layers, we will get these planes:



X Direction

3 Sixty-two times a prime number
7 Half of Y18
8 Z16 minus Z12
11 Z11 minus Z7
13 Y14 reversed
15 Twice a prime number
17 A prime number
20 Seventeen times Z6
24 Twice a prime number
25 X15 minus Y3
26 Mean of Z19 and Z3
27 X20 minus X11

Y Direction

1 Y23 plus Z9
2 First two digits are the same as Z13
3 X24 times Y14
12 Y13 times Z7
13 Four times a prime number
14 Mean of X7 and Y26
18 Y2 divided by Z19
21 Eleven times a prime number
22 Five times a prime number
23 Fifty-seven times a prime number
26 Y14 plus X13

Z Direction

2 First two digits are the same as Z13
3 Mean of X26 and Y26
4 A prime number
5 Z4 minus half of Z10
6 Y14 plus Z5
7 Z12 minus Z13
8 Twice a prime number
9 Twice a prime number
10 Fourteen times a prime number
11 Mean of Z6 and X24
12 Z7 plus X13
13 Two-thirds of Y18
16 Three times a square
19 Three times a prime number

Solution: